WASTE MANAGEMENT IN UGANDA's OIL AND GAS SECTOR: AN ANALYSIS OF THE REGULATORY FRAMEWORK

BY

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A DISSERTATION SUBMITTED TO THE FACULTY OF LAW IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER OF LAWS OF OIL AND GAS OF INSTITUTE OF PETROLEUMSTUDIES KAMPALA WITH AFFLIATION TO UGANDA CHRISTIAN UNIVERSITY.

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DECLARATION

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

Signed: _____

Date: _____

APPROVAL

This is to certify that, this dissertation entitled "Waste Management in Uganda's Oil and Gas Sector: An Analysis of the Regulatory Framework" has been done under my supervision and now it is ready for submission.

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LIST OF ACRONYMS

DRC	Democratic Republic of Congo
EIA	Environmental Impact Assessment
IOC	Independent Oil Companies
MEMD	Ministry of Energy and Mineral Development
MWE	Ministry of Water and Environment
NEA	National Environment Act
NEMA	National Environment Management Authority
NEMP	National Environmental Management Policy
NOC	National Oil Company
NODPSP	National Objectives and Directive Principles of State Policy
NOGP	National Oil and Gas Policy
OAG	Office of the Auditor General
PA	Protected Area
PAU	Petroleum Authority of Uganda
PSA	Production Sharing Agreement

SEA	Strategic Environment Assessment
STOIIP	Stock Tank Oil Initially in Place
UNBS	Uganda National Bureau of Standards
UWA	Uganda Wildlife Authority
WCA(s)	Waste Consolidated Area(s)

REGULATORY INSTRUMENTS CITED

A. International Instruments

1996 Protocol to the Convention on the Prevention of marine Pollution by Dumping of Wastes and Other Matters, 1971

Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, 1998

Basel Convention on the control of Transboundary Movement of Hazardous Wastes and their Disposal, 1989

Convention on Biological Diversity, 1992

Minamata Convention on mercury, 2013

Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights

Rio Declaration on Environment and Development, 1992

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 1998

Stockholm Convention on Persistent Organic Pollutants, 2001

B. Regional Instruments

The Bamako Convention on the Ban of the Import into Africa and the control of Transboundary Movement and Management of Hazardous wastes within Africa, 1991

C. Domestic Instruments

Constitution of the Republic of Uganda, 1995 cap. 1, Laws of Uganda 2000

Policy documents

The National Environment Management Policy, 2017

The National Oil and Gas Policy for Uganda, 2008

The Uganda National Land Policy, 2013

The Uganda Wildlife Policy, 2014

Acts of Parliament

The National Environment Act, 2019, Act 2 of 2019

The Occupational Health and Safety Act, 2006, Act 9 of 2006

The Petroleum (Exploration, Development and Production) Act, 2013, Act 3 of 2013

The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013, Act 4 of 2013

The Water Act, cap 152, Laws of Uganda

Regulations

The National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations, S.I. No.5, 1999.

The National Environment (Waste Management) Regulations, S.I No. 52, 1999

The Petroleum (Exploration, Development and Production) (Health, Safety and Environment) Regulations, S.I. No.46, 2016.

The Petroleum (Exploration, Development and Production) Regulations, S.I. No. 47, 2016

The Petroleum (Refining, Conversion, Transmission and Midstream Storage) (Health, Safety and Environment) Regulations, S.I. No. 35, 2016

The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Regulations, S.I. No.36, 2016

The Petroleum (Waste Management) Regulations, S.I No.3, 2019

The Water (Waste Discharge) Regulations, S.I No.20, 1998

Other Guiding documents

The MoGLSD Occupational Safety and Health Inspection Checklist, 2017

The UNBS Waste Management – Requirements (Uganda Standard), 2017

The UWA Operational Guidelines for Oil and Gas Exploration and Production in wildlife protected areas, 2014

ABSTRACT

The discovery of viable quantities of oil and gas deposits in Uganda's Albertine Graben generated a lot of excitement regarding the potential benefits to accrue from the sector. However, there are concerns regarding Uganda's preparedness to safeguard the environment ─ through regulation ─ from being destroyed by sector-related activities especially considering the ecological and biodiversity significance of the Albertine Graben. Key among these is the management of wastes that will be generated at the different stages of the sector.

Accordingly, this study sought to analyze Uganda's regulatory framework relating to the management of wastes from the oil and gas sector. Generally, it is noted that a number of positive developments in the regulatory framework for management of oil and gas wastes including: completion of the review of the applicable environmental management laws in order to address oil and gas activities which had hitherto not been covered; enactment of petroleum-specific waste management regulations; development of waste management requirements and standards; development of guidelines for oil and gas operations in protected areas; licensing of oil companies; among others. There are also interventions from non-state actors such as the UN Environment Office which is currently involved in capacity building of key stakeholders in best practices of oil and gas waste management.

The analysis concludes that these frameworks largely reflect the best practices of oil and gas waste management, and therefore, to that extent Uganda is ready to sustainably exploit her resource. This

is however subject to the country addressing the few identified enduring gaps especially in terms of institutional capacities to enforce these standards.

CHAPTER ONE

INTRODUCTION

"No modern society can run smoothly without oil and gas."
— *Antonio* Bhardwaj[1]

1.0 A note on the study focus and relevance

This dissertation presents findings of a study which sought to analyse Uganda's regulatory framework relating to the management of wastes from the oil and gas sector in order to contribute to sustainable exploitation of the resource which, as experience from other countries reveal, can easily turn into a curse if not well managed. The study was conceived on a background that the excitement around the potential gains from Uganda's emerging oil and gas sector should be juxta posed with its potential negative effects especially on the environment due to a failure to effectively manage wastes thereby generated.[2]

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[1] Antonio Bhardwaj, 'Challenges and Solutions in an Upstream and Downstream Oil and Gas Operation,' *Think Oil* (29 November 2013) <https://globalenergy.pr.co/65678-challenges-and-solutions-in-an-upstream-and-downstream-oil-and-gas-operation> accessed on 2 November 2018.

[2] Lodungi *et al,* A review in Oil Exploration and Production Waste Discharges According to Legislative and Waste Management Practices Perspective in Malaysia, International Journal of Waste Resources, (2016) Vol. 7. Issue 1, 1. Doi: 10.4172/2252-5211.1000260. See also, Joseph Kimuli Balikuddembe, Disaster risk Management and Oil Production in Uganda: Need for a win to win approach, In Put Paper prepared for the Global Assessment Report on Disaster Risk Reduction, 2015.

Such an inquiry is important in view of the fact that the country's oil deposits are located in an area that is very rich in biodiversity and which is home to a number of sensitive ecosystems[3] including: ten (10) out of the country's total of twenty two (22) critical wildlife protected areas (PAs) in the form of national parks[4] and reserves[5]; Forest Reserves such as Bugoma and Budongo as well as fisheries resources with an annual contribution of over 18.75% of the country's total fish catch from constituent water bodies including Lakes[6] and rivers[7]; fertile soils for cultivation of crops such as beans, maize and cotton especially along the foots of Mt. Rwenzori; as well as fields suitable for communal grazing of livestock which is an important activity both as a source of food and cash sale income in areas such as Semliki flats in Ntoroko county, Busongora County in Kasese District.[8]

As such, ensuring proper management of wastes produced at different stages of the oil and gas sector becomes a priority concern for Uganda which risks losing these critical resources if oil

[3] NEMA, Environmental Sensitivity Atlas for the Albertine Graben, 2009; NEMA, Operational Waste Management Guidelines for Oil and Gas Operations, June 2012, at 2. See also, Pascal Kwesiga, 'Keeping Oil Waste out of Ecosystem' *New Vision, Oil and Gas Journal* (Kampala, 16 January 2020) 26.

[4] These include: Murchison Falls, Queen Elizabeth, the Rwenzori Mountains, Kibale, Semliki, Bwindi and Mgahinga.

[5] These include: Ajai and East Madi in the extreme north-east of the Graben; Bugungu and Karuma in Buliisa and Masindi Districts respectively; Tooro-Semliki, Kabwoya and Kyambura in the mid-way region; as well as Kigezi in the extreme south-west of the region.

[6] Namely Lake Albert, Lake Edward and Lake George.

[7] Namely Albert Nile, Waki, Wambabya, Semliki and Kazinga Channel.

[8] NEMA, Environmental Sensitivity Atlas for the Albertine Graben, 14. <www.nemaug.org/atlas/Sensitivity_Atlas_2009_May.pdf> accessed 20 December 2019.

development is not well planned for to in order to prevent and/or mitigate the negative effects of the sector on the environment.

1.1 Background

1.1.1. Oil discovery in Uganda: A double edged sword

Uganda recently discovered petroleum deposits in the Albertine Graben estimated to be 6 billion barrels Stock Tank Oil Initially in Place (STOIIP) with 1.0 billion barrels of recoverable reserves at current conditions.[9] This news generated a lot of excitement among Ugandans[10] for example due to projections made by economists suggesting that exploitation of these resources will result into an average annual revenue of USD 1.5bn from oil royalties, annual fees, the State's share of the oil profit and corporate income tax[11]. About 70% of these proceeds were prearranged to be invested in building the country's infrastructure.[12] Overall, there is hope that the oil and gas sector

[9] PAU, 'Petroleum Production' <https://pau.go.ug/e-r/production/ugandas-petroleum-resources/> accessed 10 January 2020.

[10] Ben Shepherd, *Oil in Uganda: International Lessons for Success* (Royal Institute of Internal Affairs, 2013) < https://www.chathamhouse.org/sites/files/chathamhouse/public/Research/Africa/0113pr_ugandaoil.pdf> accessed 20 September 2019.

[11] <http://www.energyandminerals.go.ug/downloads/licencestotullowandtotal.pdf> accessed 15 March 2018.

[12] Duncan Clarke, Africa: Crude Continent (Profile Books Ltd, London 2010).

will help fast-track Uganda' leap to lower middle income status[13] by 2022, in addition to doubling the country's economy size by 2025.[14]

1.1.2 A note on the economics of oil

"No modern society can run smoothly without oil and gas", notes Bhardwaj.[15] This observation goes to highlight the continuing relevance of the oil and gas sector in the global economy: oil and gas resources have relevance in a number of industries[16], infrastructure projects, transport[17], road works, and other domestic uses[18]. As such, the global demand for oil tends to be increasing[19]. In

[13] The National Planning Authority benchmarks the World Bank's definition of middle-income countries as: "nations with annual per-capita gross national income ranging between USD 1,025 and USD12, 615." See National Planning Authority (NPA), 'ROADMAP TO ATTAINING MIDDLE INCOME STATUS FOR UGANDA' <http://npa.ug/wp-content/uploads/ROADMAP-MIDDLE-INCOME-STATUS-FOR-UGANDA.pdf on November 1> accessed 8 November 2019.

[14] It is projected that by 2025, Uganda's GDP, which is currently $30billion, will hit $70billion (Shs254.72 trillion). This is much higher than the $41 billion projected by the same time without oil. See, Samuel Sanya, 'Oil to double economy size in 2025' *New Vision* (Kampala, 23 January 2019) 60.

[15] Antonio Bhardwaj, 'Challenges and Solutions in an Upstream and Downstream Oil and Gas Operation,' *Think Oil* (29 November 2013) <https://globalenergy.pr.co/65678-challenges-and-solutions-in-an-upstream-and-downstream-oil-and-gas-operation> accessed on 2 November 2018.

[16] As fuel and lubricants for machines.

[17] As fuel for vehicles and airplanes, etc.

[18] For example in the form of cooking Gas.

[19] See Oil & Gas, Oil demand to exceed 100mbpd in 2020: OPEC, posted Jan 23, 2020. <https://www.oilandgasmiddleeast.com/drilling-production/35881-oil-demand-to-exceed-100mbpd-in-2020-opec> accessed on 7 February 2020.

2019, for instance, OPEC projected that the demand for oil was to increase by an additional 1.22mbpd to 100.98mbpd.[20]

Such a trend is motivation for emerging oil economies such as Uganda with resources that are ripe for exploitation.

1.2 Statement of the Problem

In order for Uganda to sustainably exploit her oil and gas resources, there is need to ensure that the environment is safeguarded from the potential negative effects of oil and gas activities especially at the level of waste generation, handling and management. This in turn requires having in place a comprehensive regulatory framework with clear guidelines on the minimum standards with which to deal with the large volume of waste that will be be produced during the production phase, as well as capacity to enforce them. However, although it is clear that Uganda's actual oil production will soon be touching the surface, whether or not the country is ready to manage wastes to be generated by the oil and gas sector is yet to be ascertained. [21] This is not helped by the fact that already, sections of communities in the Albertine region and competent organs of the State such as the Office of the Auditor General and the Parliamentary Committee on natural resources have previously undertaken inquiries into, and published reports highlighting gaps in the country's waste management practices especially during the initial stages of the sector.

[20] Id.

[21] See, for example, Ssekika Edward, 'Can NEMA bite oil companies?' *The Observer* (Kampala, 4 March 2014).

In light of the fact that more and more quantities of wastes will be generated upon commencement of actual oil production, this study was undertaken in order to attempt an examination Uganda's readiness to manage wastes from the oil and gas sector.

1.3 Objectives of the study

Overall, the study seeks to contribute to sustainable exploitation of Uganda's oil and gas resources through efficient management of wastes generated at the different stages of the value chain.

The specific objectives were:

i. To highlight Uganda's legal and institutional framework relating to management of wastes from the oil and gas sector;
ii. To examine the effectiveness of Uganda's regulatory framework in facilitating proper management of wastes from the oil and gas sector; and
iii. To propose reforms in Uganda's regulatory framework relating to the management of wastes from the oil and gas sector.

1.4 Research questions

Accordingly, the study's interrogation attempted to answer the following set research questions:

a) What is the current scope of Uganda's existing regulatory framework on the management of wastes from the oil and gas sector?
b) How effective is Uganda's regulatory framework in facilitating proper management of wastes from the oil and gas sector?
c) Which reforms need to be made in Uganda's regulatory framework in order to facilitate efficient management of wastes that will be generated by the oil and gas sector?

1.5 Justification

Coming at a time when Uganda is just a few steps shy of commencing actual oil production where the highest volume of wastes will be generated, this study effectively contributes to Uganda's initiatives to ensure sustainable exploitation of her oil and gas resource and is in line with a number of Sustainable Development Goals including: 12 on responsible consumption and production; 14 on protection of the life below water; as well as 15 on protection of life on land.

1.6 Scope of the study

The study focused on the readiness of Uganda to manage wastes that will be generated from the oil and gas sector. That interrogation involved a review of both the laws in place as well as the capacities of the key institutions responsible for its enforcement.

1.7 Significance of the study

It is hoped that this study will inform stake holders in the oil and gas industry of the soundness of Uganda's regulatory framework on oil waste management in view of the associated environmental issues. This is in addition to informing the making of necessary reforms relating to the oil and gas sector generally and specifically to the management of wastes thereby generated. Furthermore, the study will contribute to the body of academic literature on management of oil wastes. To this extent, it can be used as a basis for further academic research.

1.8 Methodology

1.8.1 Study design

The study was undertaken primarily through a doctrinal research methodology involving a review of the relevant legislation, policies and regulations relating to the country's petroleum sector

generally as well as environmental management. This is in addition to other secondary literature in the form of books, papers, journal articles and other commentaries on oil and gas waste management both in the context of Uganda's oil and gas sector and that of one African country, Nigeria, which was sampled as a comparative case study of how the issue under investigation has been handled in other African countries.

In addition to the regulatory framework, the study also had a field-work element involving conducting semi-structured interviews with key stakeholders to oil and gas waste management. These were drawn from Kampala, which is the capital city of Uganda and where all the key stakeholders such as government institutions, international oil and private companies, civil society organisations either have their head offices or, at least, are represented by an office.

1.8.2 Study Area and population

The field-work arm of the study was done in Kampala and targeted a total of 20 respondents representing key stakeholder categories deemed to be central to oil and gas waste management including: the national Environment Management Authority (NEMA); the Petroleum Authority of Uganda; the independent oil and gas companies (IOCs); licensed oil and gas waste handling and management companies; the Ministry of Gender, Labour and Social Development (MoGLSD) which conducts the inspections for health and safety; Ministry of Water and Environment (MWE) the Uganda Wildlife Authority (UWA) which is in charge of managing protected areas some of which have sites for oil and gas activities; the judiciary which is expected to adjudicate disputes related to poor waste management; communities living around oil and gas activities, and local government officials of districts in the Albertine Graben and other key informants such as lawyers with presumed knowledge on key issues of interest to the study.

However, not all categories in the target population were finally reached during the fieldwork either due to the researcher's resource constraints which hindered her from making visits to the Albertine Graben ─as was the case with local government officials from the districts in the Albertine Graben as well as communities members surrounding relevant oil and gas activities─ or on account of unavailability of the desired respondents within the time specified for the study ─as was the case with the Petroleum Authority of Uganda, as well as some IOCs and waste management and handling companies.

Resultantly, only eleven (11) respondents[22] out of a total of the targeted total of twenty (20) were interviewed. These respondents were distributed as follows: NEMA (01); MoGLSD (03); waste management and handling companies (02); Uganda Wildlife Authority (01); judiciary (01); a lawyer (01); as well as a Kampala affiliated resident of Hoima district (01). Although this population represents just slightly above 50% of the target population, the researcher was able to gather useful insights which are reflected in her assessment of the country's readiness to effectively regulate oil and gas wastes. In any case, gaps in the categories not represented were mitigated through an extensive literature search on the capacities of the respective institutions as well as their published reports where available. Relatedly, the central pillar of the assessment is the regulatory framework which the researcher managed to access and review as reflected in chapter Four.

1.8.3 Sample and Sampling Techniques

Given the scope and nature of this study, most of the categories of respondents that were required in order to provide insights on the country's readiness to effectively regulate wastes from the oil and gas sector were easy to determine from the onset. These included: technical officials from the

[22] See list of respondents marked Annexure B.

national Environment Management Authority (NEMA); the Petroleum Authority of Uganda; independent oil and gas companies; licensed oil and gas waste handling and management companies; the Ministry of Gender, Labour and Social Development (MoGLSD); the Uganda Wildlife Authority (UWA);the ministry of Water and Environment (MWE); local government officials of districts in the Albertine Graben and representative communities; as well as the judiciary. As such, the study's primary approach was that of purposively selecting the known officers, organisations or individuals falling within these categories. However, in the course of implementing the study, there were newer respondents recommended to be interviewed by the primary category on the basis of their relevancy to the study. As such, snow-ball sampling became part of the sampling techniques used.

However, as already highlighted in the preceding sub sections, some categories such as local government officials from the districts in the Albertine Graben as well as communities were not reached on account of the researcher's resource limitations which hindered her from making visits to the Albertine Graben. Furthermore, views from the Petroleum Authority of Uganda, some IOCs and waste management and handling companies were not captured on account of a failure to secure an interview appointment with their designated officers in spite of the numerous efforts and follow ups made by the researcher.

1.8.4. Data Collection methods

1.8.4.1 Interviews

As already highlighted, the study involved in-depth interviews with key stakeholders. The interviews were done face to face lasting between 45 minutes and 1 hour. However, for some of the respondents with whom it was not possible to hold physical meetings, or where there was need for follow up on issues that needed more clarification, phone interviews of between 20 to 30

minutes were used. These interviews followed an interview guide[23] which was developed by the researcher and tested in order to ascertain its clarity and reflection of the issues that needed to be captured. The observations made during the testing of the research guide were captured in the final draft which was then examined on the actual respondents to the study.

1.8.4.2 Documentary review

Since the study was an analysis of Uganda's regulatory framework on management of wastes from the oil and gas sector, there was need to review a number of relevant good industry standards and practices, guidelines, regulations as well as lessons that needed to be benchmarked from the international, regional and even at the domestic level. These include:

i. International instruments providing for obligations in respect to environmental management generally and waste management in the oil and gas sector specifically;
ii. Books and articles published in reputable journals on the subjects of environmental management, wastes management and specifically oil and gas waste management in different contexts that is; internationally, regionally, case studies of different countries, as well as commentaries on Uganda as listed in the bibliography;
iii. Uganda's laws, policies, guidelines, standards and regulations issued in respect of environmental management in the oil and gas sector as detailed in the list of statutes.
iv. Reports of government Ministries and institutions such as NEMA, Auditor General, Parliament;
v. Reports of Non-government organisations and other CSOs;
vi. Media publications commenting on relevant developments in Uganda's oil and gas sector.

[23] See Annex A.

1.8.5 Data processing and Analysis

The data gathered in the course of this study mainly included notes taken during the interviews as well as summaries of the laws, policies and commentaries from the literature review. This was transcribed and organised into the major themes focused on by the study before being summarized ahead of the analysis which was done through the lenses of a comparison with the standards set by different instruments and the lessons emerging from the country which was selected for benchmarking.

1.8.6 Research procedures and Ethical considerations

In keeping with the requirements of doing research stipulated by the Uganda Christian University, the researcher obtained necessary authorisation to undertake the study. Furthermore, since the research also involved interaction with select human subjects, the researcher ensured that the consent of the participants is sought before taking part in the study, and that each individual understands the nature of the study as an academic enquiry, as well as its purpose and objectives in order to facilitate their free and informed consent.. Since some of the officers spoke to were not necessarily the heads of their institutions, the researcher adopted a strategy of paying courtesy calls to the heads of the institutions on the appointment dates for the interviews which had been booked in advance.

In order to allow for the convenience of some sources whose schedules could not allow them to attend the physical appointment due to unforeseen circumstances beyond their control, the researcher allowed room for the conducting of phone interviews given the rigidity of the timelines within which the research needed to be completed. Furthermore, some of the researchers gave sensitive information especially relating to the gaps in institutions and governance. As a guarantee

of their security, the researcher promised that the individual identities of the sources will not be exposed by the research report. This has been maintained.

1.9 Theoretical framework

There are two major dimensions relating to waste management theories. On the one hand is the proposition that waste should be prevented. This proposition is represented by the zero-waste/waste prevention theories which are grounded on the idea that the cheapest measure of handling waste is not generating it all in the first place.[24] A juxta position is thereby made, between "waste that is not generated" [25] and therefore "cannot create any problems"[26] and the approach of reducing waste which is "potentially more dangerous".[27] In fact, the theory regards waste as evidence of poor design.[28]

Another form of this theory is the approach of Cradle-to-Cradle/Cradle-to-Grave which focuses on designing industrial which facilitates recycling and reuse of waste products through closed.[29] It is acknowledged that while it may not be possible to completely do away with waste due to

[24] O.P. Kharbanda and E.A. Stallworthy, Waste management: Towards a sustainable society, 1990, Gower Publishing Group.

[25] Ibid.

[26] Ibid.

[27] Candice Anderson, 'Zero Waste: Theory and Practice' available at <https://recycle.ab.ca/wp-content/uploads/2012/10/CandiceAnderson.pdf> accessed 17 November 2019.

[28] Ibid.

[29] McDonough *et al,* Applying the principles of green engineering to cradle-to-cradle design, *Environmental Science and Technology,* Vol. 37(23). Doi: 10.1021/s0326322.

factors such as the costs necessary to meet that objective, it provides a guiding framework towards eliminating waste.[30]

The second proposition is that waste should be managed, hence the waste management theory. This theory acknowledges the fact that there are processes which will ultimately result into generation of waste.[31] It therefore focuses on preventing waste from causing harm to human health and the environment.[32] Considering the nature of the oil and gas industry, one cannot purport to completely do away with generation of waste throughout the value chain as required by the zero wastes/prevention theory. Indeed, the reality of difficulty in 'totally' doing away with waste is evidenced by a range of legislative and policy enactments which prescribe the contours within which waste should be managed.[33] This study, therefore, is grounded on both theories.

Both of these theories are relevant to this study in as far as the applicable regulatory frameworks in place both promote prevention of waste while at the same time acknowledging its inevitability at some stages of the sector in which case it requires proper management.

1.10 Limitations of the Study

The major limitation of this study is the fact that it was conducted and concluded before commencement of actual oil production. As such, the analysis is short of local live examples of

[30] Nwanyanwu *et al*, 111 citing Snow and Dickinson (2001).

[31] Ibid.

[32] Ibid.

[33] Pongrácz, E. 2002. Re-defining the Concepts of Waste and Waste Management: Evolving the Theory of Waste Management. Doctoral Dissertation. University of Oulu, Department of Process and Environmental Engineering. Oulu University Pres: Oulu. Accessed at <http://herkules.oulu.fi/isbn9514268210/> accessed 15 November 2019.

scenarios of how waste management at the production phase of the sector is being approached. In the alternative, the study focused on an assessment of the breadth of the country's legal, policy and institutional framework in place *vis a vis* the minimum standards of oil waste management generated from a review of literature and international best practices as well as lessons picked from relatable contexts. Importantly a pre-production assessment is in itself a fundamental step that can be a basis for analyses in future studies as to whether or not adequate steps will have been taken to improve on the country's capacity to manage oil wastes in lieu of the recommendations made by the current study.

Furthermore and as already highlighted in the earlier subsections of this chapter, some of the respondents designated to be interviewed were not available within the duration set by the University for completion of the research. The researcher delivered letters to the respective offices and subsequently made several attempts to establish the status of appointments requested for, in vain. In the face of the delays and envisaged decline, the researcher decided to maximize the available time by reading by reading the available information on the website of these respondents whilst hoping for a confirmation which, ultimately, did not happen.

Lastly is the fact that the researcher did not manage to secure funding required to enable her make physical visits to the Albertine Graben. In addition to depriving the researcher of the opportunity to interview a section of key stakeholders highlighted as part of the study's target population namely the district local authorities and communities, the researcher's perspective remained void of a firsthand perspective of the study area which would have been provided by a site seeing opportunity. In order to counter this limitation, the researcher managed to generate a fairly detailed coverage of the relevant issues in the existing literature including a reports from the Office of the Auditor General, the Civil Society Coalition on Oil and Gas, media publications. Even as the

researcher recognises that the available data could easily expose her to a predetermined narrative, there is confidence gained from an effort made to collaborate some of the critical information on the region through inquiries from her professional and social networks some of whom have a fair knowledge of the region under study.

1.11 Chapter Synopsis

The dissertation is structured into five chapters. **Chapter One** is this this introduction which lays down the background to, states the problem, objectives, research questions methodology and theoretical framework of the study. **Chapter Two** then follows with a highlight of the findings from a literature search on the key aspects of the study. On its part **Chapter Three** highlights the contents of the major regulatory instruments applicable to waste management in the context of Uganda's oil and gas sector, while the evaluation of that framework is done in **Chapter Four**, followed by **Chapter Five** which presents the study's concluding observations as well as proposals on how Uganda can reform her regulatory framework for oil and gas waste management in order to achieve sustainable exploitation of her oil and gas resource.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the findings from a review of the literature relating to oil and gas waste management in Uganda.

2.2 States' obligation to regulate activities with potential impact on environment

Birne and others[34] allude to environmental protection, including through effective management of wastes, being a big concern for the global community. This, they note, is evidenced by the transition of environmental regulation into an independent body of international law.[35] This is so much so that even in the human rights discourse, the indispensability of a decent environment for the enjoyment of other human rights is now widely acknowledged.[36] Yet, without deliberate steps towards conserving the environment, a decent environment cannot be achieved.

This work highlights putting in place effective legal systems as one of the key steps that need to be taken by states in order to guarantee environmental protection.[37] It is therefore important to understand the regulatory framework put in place by Uganda in relation to environmental

[34] Patricia Birnie, Alan Boyle & Catherine Redgwell, *International Law and the Environment* (3rd edition, Oxford University Press 2009).

[35] Id.

[36] Id.

[37] Id., 1.

conservation generally and effective management of wastes from the oil and gas sector specifically.

Notably, it is the regulatory framework which prescribes the minimum standards. In this regard, the Uganda National Bureau of Standards (UNBS) Waste Management Requirements Standards document defines waste management as,

> all the activities and actions required to manage waste from its generation to its final disposal. This includes amongst other things, collection, storage, transportation, treatment and disposal of waste together with monitoring and regulation. It also encompasses the legal and regulatory framework that relates to waste management encompassing guidance on recycling.[38]

This Standard acknowledges the inevitability of waste at different stages for example during the extraction of raw materials, processing of those raw materials into immediate and final products, or other human activities including mining and petroleum.[39]

The same position was made by the Ministry of Energy and Mineral Development and the Ministry of Water and Environment[40] in their Strategic Environmental Assessment (SEA) of Oil and Gas in the Albertine Graben (2013).[41] In that awareness, these Ministries stressed a need to effectively manage oil wastes by ensuring among others: that there is in place stringent management

[38] UNBS, Waste management standards – Requirements: Uganda Standard, US 1662 (1st ed) 2017, ii.

[39] Id.

[40] MEMD & MWE, Strategic Environmental Assessment (SEA) of Oil and Gas in the Albertine Graben (2013), 99. Available at <https://pau.go.ug/site/assets/files/1116/seaforagugandafinalreport.pdf> accessed 18 November 2019.

[41] id.

procedures for these wastes and insistence on their implementation; adopting relevant technology and other sound management practices in order to reduce on accidental events from the wastes.[42]

In view of the fact that different oil companies tend to adopt different methods of waste management[43], it is important to understand whether the government of Uganda has in place the different frameworks in which the standards are defined.

Bainomugisha *et al*[44] caution that standard-setting in oil and gas waste management should never be left to the discretion of oil companies in view of their inherent predisposition with profit maximisation. This is because companies will most likely lean towards exploiting the loopholes wherever they are discovered in order to minimize the usually huge costs of complying with the environment standards *proprio motu*.

That work also recommended a number of legal reforms that need to be taken in Uganda's oil and gas sector including imposition of an obligation on oil companies to contribute to a fund to cater for redressing oil-related environmental problems and on the Government to use some of the revenues to address oil related environmental problems, such as oil pollution.[45] Whether or not such progressive suggestions have since been adopted is what this study seeks to ascertain.

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[42] Id.

[43] Nwanyanwu *et al.*, 112-113.

[44] Arthur Bainomugisha, Hope Kivengere & Benson Tusasirwe, Escaping the Oil Curse and Making Poverty History: A Review of The Oil And Gas Policy and Legal Framework for Uganda, *ACODE Policy Research Series, No. 20, 2006.*

[45] Id.

2.2 What exactly is the potential harm from oil wastes?

The impact of waste stretches from human health to the environment and other natural resources.[46] According to Ferronato and Torreta, effective waste management is mostly affected by a range of factors including negative economic legislatives, as well as limitation sin the political, operational and technical capacities.[47] It also highlights a number of undesirable consequences associated with a failure to manage wastes including contamination of air, soil and water which may be hazardous thus resulting into fatalities.[48]

There are different forms of wastes which can be generated from the oil and gas sector. These generally include: formation water (PFW) which accounts for 98% of the exploration and production waste whose plumes are harmful to some marine systems; drilling fluids and chemicals[49] which are used in the removal of cuttings from holes and controlling the back pressure in order to prevent blowouts, maintaining hole integrity in order to permit casing installation as well as lubricating the drill bit; crude oil from the extraction process which usually contains metals whose negative impact on the environment is attracting concerns from environmentalists around the world; drilling muds (sludge) which usually contain metals such as Barium (Ba) which are contaminants to temperate and tropical marine ecological processes when they bio-accumulate or bio-magnify up food webs; and toxic gases such as sulphur and nitrogen oxides, ammonia, acid

[46] M Thébault, 'International Law and the question of waste in developing Countries' (1998) <http://cerdi.org/uploads/sfCmsContent/html/323/thebault.pdf> accessed 14 May 2019.

[47] Navaro Ferronato and Vincenzo Torretta, 'Waste management in Developing Countries: A Review of Global Issues,' Int J Environ Res Public Health. 2019 Mar; 16(6): 1060. doi: 10.3390/ijerph16061060.

[48] Id.

[49] These are categorized into three namely: water-based (which is the commonest one used), oil-based and synthetic based.

mist, fluorine, as well as carbon dioxide which is produced during the flaring of natural gas in order to breakdown methane to carbon dioxide all of which affect the air quality.[50]

In attempt to paint a picture of the magnitude of waste oil, Nwanyanwu *et al* suggest, for example, that as much as a million litres of water can be compromised by just a single liter of waste oil.[51] Notably, waste oil displays some hazardous properties that are potentially harmful to aquatic life[52] and can severely contaminate soils when left on the ground.[53] This work further cites an example of the Niger Delta region of Nigeria which suffered a range of negative consequences arising from oil spills and gas flaring including cancers, infertilities among inhabitants, high mortality rates among others.[54] Such experiences provide sufficient inspiration to emerging oil producing countries such as Uganda to plan ahead in order to avoid similar consequences.

2.3. Difficulties associated with managing wastes from the oil and gas sector

Just as is the case with other types of waste, managing oil wastes is far from an easy task. In this regard, Lodungi's reference to the experience of Malaysia is instructive. Despite having in place legislation which provides for the appropriate waste management practices, the conducting of these

[50] Lodungi, *supra,* 5. See, aslo, MEMD & MWE (2013), MEMD & MWE, Strategic Environmental Assessment (SEA) of Oil and Gas in the Albertine Graben (2013), 103-104. Available at <https://pau.go.ug/site/assets/files/1116/seaforagugandafinalreport.pdf> accessed 18 November 2019.

[51] See Nwanyanwu *et al,* Oil and Gas multinational companies' activities in Nigeria: The Challenges in methods of waste management in Niger Delta, *Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT)* Vol. 9, Issue 9 Ver. 11 (Sep. 2015), 109-117, 109. Doi: 10.9790/2402-0992109117.

[52] Id.

[53] Id.

[54] Id., 110.

practices in Malaysia is still not effective on account of a range of factors such as a knowledge gap on waste management, limited commitment of the agencies that manage waste management which does not encourage the companies to comply, inadequacies in the requisite waste management technology, as well as the high costs associated with managing petroleum wastes.[55]

These observations present valuable lessons which can be relied on by Uganda's reform process to which this study seeks to make a contribution. Therefore, while it is acknowledged that dealing with wastes generated through industrial processes such as the oil and gas sector is challenging[56], the government of Uganda must ensure to avoid the potential negative effects of wastes to the greatest extent possible.[57]

2.4. Conclusion

The foregoing review has highlighted the fundamental importance of regulating wastes from the oil and gas sector. While it acknowledges that doing so is a challenging task, as has been witnessed in other oil producing countries such as Malaysia, states have an overarching duty to put in place regulatory measures to ensure that the environment is safeguarded from the potential negative effects of the sector on the environment.

[55] Lodungi, *supra*, 5-6.

[56] Lodungi *et al*, 4.

[57] MEMD & MWE, *supra*, 99.

CHAPTER THREE

HIGHLIGHT OF UGANDA'S EXISTING REGULATORY FRAMEWORK RELATING TO MANAGEMENT OF WASTES FROM THE OIL AND GAS SECTOR

3.0 Introduction

This chapter presents the existing regulatory framework in Uganda relating to the management of wastes from the oil and gas sector. This framework ranges from the Constitutional and policy framework through Acts of Parliament on the environment generally and waste management in the oil and gas sector specifically, regulations and guidelines as well as other standard documents as outlined below.

3.1. Constitutional and Policy Framework

In Uganda, the broader framework for management of the environment ─ which informs waste management as a management and conservation approach ─ is prescribed by the 1995 Constitution, which is the supreme law of the land[58] as well as the relevant policies which detail the strategies through which the Constitutional aspirations are intended to be achieved. The two fore most policies in this regard are the National Oil and Gas Policy of 2018 and the National Environment Management Policy of 2017. Additional provisions are contained in relevant policies relating to wildlife, water resources, land and forestry.

3.1.1 Constitution of the Republic of Uganda, 1995

Under the 1995 Constitution, the relevant provisions in relation to the environment are found both within the National Objectives and Directive Principles of State Policy (NODPSP) as well as the substantive provisions. That is:

[58] Constitution of the Republic of Uganda, 1995 cap. 1, Laws of Uganda 2000, Article 2(1).

a) National Objectives and Directive Principles of State Policy (NODPSP)

Under Principle No. XIII of the NODPSP, the government of Uganda is seized with the duty to protect, on behalf of the people of Uganda, the country's important natural resources including land, water, wetlands, minerals, oil, fauna and flora.

Additionally, Principle XXVII sets a number of standards that are key including the requirement to manage the country's natural resources in a way that meets the development and environmental needs of present and future generations of Ugandans.[59] In that regard, the state is enjoined to take appropriate measures to prevent or minimize the potential damage and destruction of land, air, water and other resources from pollution and other causes.[60] The state, including local governments, also have a duty to promote and implement energy policies that facilitates environmental preservation and basic needs of the people.[61] This Principle also requires the state to conserve natural resources in addition to promoting their rational use in order to safeguard and protect the biodiversity of Uganda.

b) Substantive provisions

The above principles are buttressed by a number of provisions in the substantive part of the Constitution including: Article 39 which guarantees the right to a clean and healthy environment; Article 237 which imposes an obligation on Parliament to enact laws by which the government or local government shall fulfil their custodial role as custodians and protectors of the country's natural resources for the common good of all people; as well as Article 245 which mandates

[59] Principle Objective XXVII (i).

[60] Id.

[61] Principle Objective XXVII (iii).

Parliament to legislate the measures intended for the protection, preservation and sustainable management of the environment and to facilitate environmental awareness.

The study notes that the above Constitutional provisions, in addition to protecting the right to a clean and healthy environment, facilitate the enjoyment of several other rights including: the right to life[62] which is protected by preventing or minimizing all activities in relation to natural resource exploitation that may be potentially harmful to life either directly or indirectly; the right to property[63] in terms of the collective ownership of the environment and natural resources; the right to education[64] through the promotion of environmental awareness among citizens which empowers them to actively participate in civic activities relating to environmental protection, conservation and sustainable exploitation[65]; as well as economic rights[66] meaning that those whose livelihoods are dependent on resources such as land and fisheries continue to do so without them being destroyed by activities related to natural resource development and exploitation. It is within this context that the management of oil and gas wastes is situated.

Through the above provisions, the Constitutional framework in Uganda provides a sufficient guarantee for sustainable exploitation of the country's oil and gas resources since all activities relating thereto are expected to align to the constitution. It follows that any gaps in the subordinate

[62] Article 22.

[63] Article 26.

[64] Article 30.

[65] Article 38. Indeed, through increased awareness about the oil and gas sector, there are a number of citizen groups which have been formed for the sole purpose of advocating for among others sustainable utilization of the oil resources and equity in the sharing of the benefits. These have since constituted themselves into the Civil Society Coalition on Oil and Gas which is just one example.

[66] Article 40.

laws would be regarded a failure on the part of the respective institutions to address them rather than lack of an enabling constitutional framework.

3.1.2 The National Oil and Gas Policy, 2008

The principal guiding policy framework for the management of the country's oil and gas sector is the National Oil and Gas Policy (NOGP) approved in 2008.[67] This Policy highlights a need to ensure that the sector's activities are implemented in a manner that conserves the environment and biodiversity.[68] In order to counter the potential negative effects of oil and gas activities on the environment and biodiversity, the Policy identifies a number of actions that need to be taken including: upgrading the relevant legislation to address activities in the oil and gas sector; strengthening capacities of institutions such as such as the National Environment Management Authority (NEMA)[69]; the Uganda Wildlife Authority (UWA)[70]; the Auditor General, which are mandated to manage the environmental and biodiversity impacts of oil and gas activities; as well

[67] Uganda National Oil and Gas Policy, 2008. Accessible at https://pau.go.ug/site/assets/files/1136/nationaloilandgaspolicyforuganda.pdf.

[68] Objective 9.

[69] The key roles of NEMA under the policy include: coordinating environmental impact assessments for work with other stakeholders to monitor and audit oil and gas activities; ensuring and monitoring compliance of activities with environmental guidelines; harmonizing national performance standards on environmental sustainability with international standards among others. NOGP, *supra,* 52.

[70] UWA is envisaged to among others: monitor the compliance of oil and gas activities to regulations governing wildlife protected areas; harmonizing national and international performance standards on wildlife protected areas; participating in evaluation of EIAs and audit of activities; authorizing oil and gas operations in protected areas; as well as monitoring how the activities affect wildlife.

as developing key tools such as environmental sensitivity maps, oil and spill contingency plans for the production areas and transportation corridors, among others.

One of the strategies identified by the policy is the monitoring and testing of water quality and food in order to police unacceptable levels of pollutants and toxins such as lead and mercury.[71]

It also sets to collaborate with other policies in order to "support the review, updating and implementation of waste disposal standards together with the establishment and enforcement of the necessary monitoring, evaluation and control mechanisms."[72] It also commits to collaborate with other relevant policies to support the measures aimed at controlling release of hazardous gases, chemical wastes and spills into the atmosphere, water bodies, aquifers and soils which will ensure that water remains safe for animals, fish and human consumption."[73]

Furthermore, the policy requires the government to ensure availability of relevant government ministries such as the Ministry Responsible for Water and Environment[74]; the Ministry

[71] NOGP, Id.

[72] Id.

[73] Id.

[74] The roles of this Ministry include: ensuring that oil and gas activities conform to the requirements of the policies on the protection and utilization of water bodies and aquifers; managing the potential impacts of toxins and developing relevant infrastructures such as laboratories to handle the same; monitoring the impact of oil and gas activities on the quality of ground and surface water bodies, as well as the surrounding flora and fauna; issuing water permits in order to regulate water use and pollution load into water bodies and ensuring the compliance to those permits; ensuring compliance of activities and practices to Uganda's commitments under cooperative frameworks in relation to basin-wide trans-boundary water resource management; participating in the monitoring and management of oil spill emergencies, among others. NOGP, 49.

Responsible for Forests and Wetlands[75]; the Ministry of Tourism and Wildlife[76]. The Policy also envisages an active role of the Civil Society and cultural Institutions.

3.1.3 The National Environment Management Policy, 2017

The leading policy framework in relation to environmental management in Uganda is the National Environment Policy, 2017. It is this policy which defines how different issues relating to the environment generally. The policy seeks among others to promote sustainable economic and social development that enhances environmental quality. It requires that for all projects with the likelihood of having adverse impacts upon the country's socio-cultural, physical and biological environment, an impact assessment has to be made prior to their authorisation. These assessments must detail not only the impacts, but also the strategies that will be adopted in the mitigation of those impacts. The assessments are intended to enable the regulating authority to advise project implementers on how best to align their activities to national obligations to protect the environment and biodiversity.

In specific reference to the oil and gas sector, the NEMP sets out "to ensure that oil and gas activities are undertaken in a manner that conserves the environment and biodiversity." This is

[75] This Ministry is charged with among others: ensuring self-monitoring by the oil companies for compliance with wastewater effluent standards together with ground and surface water quality standards; as well as participating in monitoring and management of oil spill emergencies. See NOGP 2008, at 49.

[76] This Ministry is required to ensure among others: ensure that oil and gas policies are in harmony with policies for the development and utilization of forest resources; ensure that the manner in which the oil and gas activities preserves and enhance forest reserves and wetlands; as well as collaborating with relevant stakeholders to monitor the impact of oil and gas activities on the natural resources under its management. See NOGP, id.

proposed to be achieved through a number of strategies including: operationalizing the Oil and Gas sector environmental monitoring plan; coordinating the implementation of the Oil spills contingency plan; strengthening institutional arrangement for managing environmental aspects of the sector; developing waste management regulations for the oil and gas sector among others. This study acknowledges that some of the strategies such as that of developing waste management regulations have already been implemented which is an important step.

It is noteworthy that this policy emanated from the process of upgrading NEMA's overall regulatory framework to cater to new and emerging environmental issues and challenges that were not sufficiently covered under the old regime. It is further noted that the process for the development of a new policy framework was widely consultative involving both stakeholder engagements and a public call for submission of views regarding the draft.[77] This level of engagement was necessary since it was highly recommended by previous assessments of NEMA for example by the Office of the Auditor General in order to facilitate comprehensive coverage of the issues relating to the oil and gas sector.

3.1.4 The National Land Policy, 2013

The National Land Policy, 2013 also includes some objectives that are relevant to waste management in the oil and gas sector. The notable one in this regard is that of ensuring planned, environmentally-friendly, affordable, and orderly development, including infrastructure developments on land which could be interpreted to include developments in the oil and gas sector.

[77] See, for example, NEMA, Have Your Say!!! The National Environment Management Policy (NEMP) Framework Review, May 4, 2015. <http://nema.go.ug/content/have-your-say-national-environment-management-policy-nemp-framework-review> accessed 23 July 2019.

This way, the policy contributes towards the maintenance of land quality and productivity which would otherwise be degraded for example through poor regulation of oil and gas wastes which are known to contaminants.

The significance of this policy cannot be overemphasized. Land is a source of livelihood for as much as over 80% of the country's population that are generally involved in subsistence agriculture. This makes it a critical resource for Uganda's social and economic wellbeing and, therefore, one which must be protected from potential contamination by wastes from the oil and gas sector.

3.1.5 The Uganda Wildlife Policy, 2014

Just like the National Environment Policy, 2017, the Wildlife Policy emerged out of a review of the old policy of 1999 in order to address among others the oil and gas sector considering that there is a domination of protected areas in the Albertine Graben. This Policy recognises the oil and gas sector as one of the challenges that it has to contend with, especially in terms of minimizing its potential negative impacts including waste management. It thus puts a number of strategies including: cooperation with the relevant stakeholders such as the line ministry in charge of oil and gas and oil companies in order to ensure co-existence of wildlife with the sector's activities; creating capacity of wildlife sector institutions to monitor impacts of activities in the oil and gas sector.[78]

[78] Objective 7 (a).

3.2. Relevant Statutory enactments

In the exercise of its mandate under Article 79 and the specific duties imposed on it under Articles 237 and 245 of the 1995 Constitution of the republic of Uganda, the Parliament of Uganda has over the years enacted a number of laws to provide for the management of the environment as well as oil and gas sector as which also includes the issue of waste management as highlighted below:

3.2.1 The National Environment Act, 2019

The principal legislation relating to environmental management in Uganda is the National Environment Act, 2019 which was enacted on 24 February, 2019, thereby repealing cap 153. The object of this Act is provided for in its long title as seeking, among others, "to address environmental concerns arising out of petroleum activities and midstream operations."

In relation to waste, the Act generally provides for the responsibility of producers or handlers of waste to manage their waste as prescribed by the management hierarchy and regulations, including taking precautions to ensure that they prevent or, if it is inevitable, to minimize pollution from that waste.[79] Other key notable provisions include: establishment of an Environmental Protection Force[80]; district Environment Management structures to monitor environmental compliance at the local level[81]; the duty to put in place emergency contingency response plans against pollution[82]; notification of acute pollution to the authority[83]; conducting of environmental and Social Impact

[79] Section 96.

[80] Section 25.

[81] Sections 26-28.

[82] Section 89.

[83] Sections 90-92

Assessments[84]; offences for illegal management of waste[85]; establishment of environmental standards[86] among others.

3.2.2 Obligations under the upstream and midstream laws

As noted above, the National Environment Management Act 2019 provides that the regulation of waste management practices in the oil and gas sector will be done either under the Petroleum (Exploration, Development and Production) Act, 2013 or the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013 depending on the stage where the wastes are produced. It should be noted that most of the provisions in these two regulations are the same in material particular. As such, only key the provisions of the upstream law and regulations are highlighted here.

On its part, the Petroleum (Exploration, Development and Production) Act outlines a number of ways in which it seeks to achieve its foremost objective of operationalizing the NOGP including "ensuring public safety and protection of public health and the environment in petroleum activities."[87] The Act enjoins all those it regulates to ensure that they comply with all applicable environmental principles and safeguards when managing the production, storage, treatment and disposal of wastes from petroleum activities.[88] It further mandates NEMA to make regulations for

[84] Sections 130-134; 136,137.

[85] Section 163;

[86] Part IX.

[87] Section 1 (e).

[88] Section 3.

the management of the production, transportation, storage, treatment and disposal of petroleum wastes[89]. It is also prohibited to engage in waste management without a license issued by NEMA.[90]

Furthermore, the Act requires licensees of petroleum production to carry out environmental impact assessments in which they indicate the potential impacts of their activities on the environment, this including wastes, as well as the mitigation strategies.[91] Under section 88 (2) (a) licensees are enjoined to conduct their activities in a proper manner including ensuring that they control the flow of petroleum or gas waste into the surrounding environment and, where pollution occurs, to treat or disperse it responsibly. Finally is the requirement on operators to take precautions to prevent pollution[92] including from wastes.

3.3 The Petroleum (Waste Management) regulations

In order to effectively manage wastes in the oil and gas sector, the Petroleum (Waste Management) Regulations were issued on 1st February, 2019 pursuant to common section 3(8) of the upstream law. The regulations apply to those involved in the production, importation, exportation, transportation, storage, treatment or disposal of petroleum waste; as well as those in the construction and operation of petroleum waste management facilities.[93]

A wide range of important issues relating to oil and gas waste management is catered to under the regulations including: licensing; classification; storage; treatment and disposal; decommissioning; among others. This is in addition to the requirement to abide by the prescribed principles of waste

[89] Id.

[90] Id.

[91] Section 76.

[92] Section 141 (a) (ii).

[93] Clause 2.

management namely: harm prevention, preventing of pollution, precautionary approach, ensuring resource efficiency among others.[94]

The regulations prohibit oil companies from engaging in waste management while at the same time imposing on them an obligation to ensure their appropriate and secure management. This is done in order to avoid conflict of interest on the part of oil companies. They also contain strict requirements and conditions for licensees including financial security and the licenses thereby issued in order to ensure compliance with the standards at all times including during situations of emergences that may need immediate response.

3.4. Standards and Guidelines

The study notes that there are other notable developments in the area of standard setting and guidance by sector payers which are central in the effective management of oil and gas wastes as exemplified below:

3.4.1 UNBS Waste Management – Requirements (Uganda Standard), 2017

In 2017, the Uganda National Bureau of Standards (UNBS) issued Uganda requirement standards for management of both hazardous and non-hazardous waste at the different stages of the sector[95] that is; from collection, storage, transportation, treatment and disposal of waste. It provides for a range of options that should be considered in the management of waste include reduction, reuse, and recycling; as well as the recommended treatment technologies including composition, incineration, plasma gratification, energy recovery, sanitary landfills among others and the type of

[94] Clause 3.
[95] Uganda National Bureau of Standards (UNBS), Waste Management – Requirements (Uganda Standard), 2017.

waste to which each best applies. These standards will be key in ensuring that the compliance of the involved as well as effective assessment thereof by the regulatory authorities.

3.4.2 Uganda Wildlife Authority (UWA) Operational Guidelines for Oil and Gas Exploration and Production in wildlife protected areas, 2014

The Operational Guidelines for Oil and Gas Exploration and Production in wildlife protected areas issued by UWA in 2014 seek, among others, to minimize the long and short-term negative impacts of oil and gas developments on the integrity of protected areas and associated ecological processes and tourism in addition to coordinating and regulating petroleum activities within the protected areas. They thus require oil and gas operations within protected areas to be conducted in line with the provisions of the Wildlife Act and take precedent over companies' Environment Impact Assessments where there is a contradiction between the two tools.

In that regard, UWA is mandated to monitor oil activities in order to ensure that the companies comply with requirements laid down under the guidelines and permits. It is also noted that companies have to consult UWA at all stages during EIA processes. This window provides the authority an opportunity to identify and highlight any potential risks to the protected areas associated with waste management.

Below is a highlight of some of the major provisions of these guidelines.

Responsibility for damage on health and environment

Companies are required to meet all the costs of any wildlife health problem that results directly from their activities as agreed upon between them and UWA.[96] In the case of environmental damage in protected areas that cannot be mitigated vide the measures provided for under the EIAs and conditions of approval of activities imposed by NEMA, the Guidelines require companies to compensate UWA.[97]

Waste management

In terms of the specific provisions on waste management, the guidelines require that before commencement of activities involving generation of waste in protected areas, companies should first obtain permits for its storage, transportation and discharge. They also prescribe the management practices that should be observed in respect to different types of waste.

On their part, drilling wastes are required to be removed from the protected areas immediately after the drilling exercise with a period of one month. The disposal of these wastes is to be done outside of the protected areas using such methods as may be recommended by NEMA.

In the case of domestic waste generated as a result of human presence in the camps and at all drill sites, it is required that all non-biodegradable wastes under this category be transported outside of protected areas to the areas where they will be recycled, reused or finally disposed in accordance with the management standards outlined in the National Environment (Waste Management) Regulations of 1999 and the National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations, 1999.

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[96] Guideline 5.4.11.

[97] Guideline 5.4.9.

Pollution

In order to protect animals which may be endangered either as a result of pollution from, or directly accessing wastes generated within the protected areas, the Guidelines require Companies to seal off their waste management facilities and to ensure that no wildlife accesses them.[98] Routine water tests are also required to be done by the companies which, in addition, must disseminate information of the results of these tests to enable them determine the next course of action.

Waste tracking

In order to ensure that waste is not recklessly dumped in remote areas of the protected areas which may be distant from administrative units, the Guidelines provide for a waste tracking arrangement which require companies *"…to display documentation of the movement of waste (dispatch and delivery notes from approved waste handling agencies specifying quantities and categories) from the generating facility to the point of disposal."*[99]

Restoration

Furthermore, the Guidelines place emphasis on restoration and decommissioning of sites, including those for handling of waste. In addition to the obligation imposed on companies under the EIAs to rehabilitate sites, the Guidelines acknowledge the notoriety of non-compliance with that obligation. It is for this reason that they introduce additional requirements including timelines

[98] Guideline 5.4.4.

[99] Guideline **5.4.5.**

within which restoration has to be done[100], binding companies to the polluter pays principle as well as requiring official handover of the restored sites to UWA post certification, among others.[101] Importantly, the entire responsibility of restoration is placed on the companies and has to be in accordance with an approved restoration plan.[102]

Interviews with UWA officials reveal that the issuance of these guidelines has helped to counter the continuation of harmful waste management practices seen in the past for example keeping wastes in the contamination areas which led to death of animals. The lessons learnt from these developments led to reforms, including development of guidelines on oil and gas operations in protected areas.

UWA also developed a sensitivity Atlases for the protected areas in the Albertine Graben in order to help identify areas that are sensitive for wild life such as watering points for the animals, breeding pits for animals, congregation points for animals. This is in addition to creating a specific unit to monitor the oil and gas activities through on ground monthly visits weekly reports from the field staff.

[100] That is; within three months of cessation of activity or in accordance with the timelines provided for under the EIA whichever is earlier.

[101] Guideline 5.4.10.

[102] Id.

3.4.3 Development of an Occupational Safety and Health Inspection in oil and gas waste management checklist by MoGLSD

This study noted, in the literature review, that there was no targeted framework for occupational safety and health in the oil and gas waste management. The study notes, however, the OSH Department of the Ministry of Gender, Labour and Social Development (MoGLSD) has since developed an Occupational Safety and Health Inspection Checklist (2017) in order to guide the conducting of Safety and Health Inspections in the Petroleum sector for their Compliance with the provisions of the Occupational Safety and Health Act, No. 9 of 2006[103].

This Checklist among others captures a range of data relating to compliance with among others: Waste management practices[104] including minimization strategies. Importantly, the checklist also captures the different types of waste that the reviewee generates, their segregation/sorting arrangements as well as details regarding storage, handling, transportation and disposal.

To this is added a review of other relevant areas such as Work Place Organisation in the form of registration with OSH Department, having a written signed Safety and Health Policy Statement, having in place a Safety and Health Programme for Risk Assessment and Management Plans, OSH Training; as well as House Keeping and Storage in terms of having in place a waste management schedule, mechanisms for safe and separate storage of dangerous objects and hazardous substances and safe and separate storage of flammable substances.

[103] This Act highlights the obligations of facility owners, including oil companies, in respect of managing the wastes generated on their premises in order to maintain a clean and healthy environment.

[104] Checklist, Item 19.

CHAPTER FOUR

EVALUATION OF UGANDA'S REGULATORY FRAMEWORK ON MANAGEMENT OF WASTES FROM THE OIL AND GAS SECTOR

4.0 Introduction

Effective waste management is key in ensuring that extraction of Uganda's petroleum resources does not lead to destruction of the ecological and biodiversity importance of the Albertine Graben.[105] However, that objective cannot be achieved without having in place an effective regulatory framework. As has been noted in Chapter three, Uganda has taken some steps in the direction of regulating wastes from the oil and gas sector. Accordingly, this chapter provides an evaluation of whether or not that framework is comprehensive enough to achieve the intended objective in order to provide a basis for proposals for reform in the case of gaps identified therein. The analysis is done through the lenses of the insights generated from a reading of the standards set by the international community as well as the experiences from a case study of Africa's leading oil producer, Nigeria.

4.1. A note on the international standards applicable to management of wastes

In regulating wastes from her oil and gas sector, Uganda is required to comply with the standards set by the different applicable instruments at the international and regional levels. The major instruments in this regard include:

[105] See NEMA, Environmental Sensitivity Atlas report, *supra*; The Institute of Resource Assessment (IRA) and the Pan-African START Secretariat (PASS), *Building African Capacity for Conserving Biodiversity in a Changing Climate in the Albertine Region Baseline Assessment* (2007); MEMD & MWE (2013), *supra*.

a) The Basel Convention on the control of Transboundary Movement of Hazardous Wastes and their Disposal, 1989 which aims to among others reduce generation of hazardous waste and to ensure that such waste is managed appropriately prior to disposal and to restrict irresponsible movement of waste across borders in order to protect the environment as well as lives[106];

b) The Stockholm Convention on Persistent Organic Pollutants, 2001 which among others, seeks to eliminate the production and regulated the management including the handling, collection, transportation ─including trans-border─ and storage of listed wastes in a non-hazardous manner[107], and requires member states to promote and facilitate public information, awareness and education relating to key issues that may be associated with waste such as the potential effect on health and the environment[108];

c) The 1996 Protocol to the Convention on the Prevention of marine Pollution by Dumping of Wastes and Other Matters, 1971 which imposes a duty on states to "individually and collectively protect and preserve the marine environment from all sources of pollution and take effective measures, according to their scientific, technical and economic capabilities, to prevent, reduce and where practicable eliminate pollution caused by dumping or incineration at sea of wastes or other matter"[109] as well as ensuring to take precautions against "dumping of wastes or other matter whereby appropriate preventative measures are taken when there is reason to believe that wastes or other matter introduced into the marine environment are likely to cause harm even when there is no conclusive evidence to prove

[106] Article 4.
[107] Article 6.
[108] Article 10.
[109] Article 2.

a causal relation between inputs and their effects" [110] in addition to prohibiting dumping and incinerating waste at sea in order to protect the environment[111].

d) The Convention on Biological Diversity, 1992 can also be invoked in this regard given the nature of the Albertine Graben. That convention essentially requires member states to develop national strategies, plans or programs for the conservation and sustainable use of biological diversity. As such, the frameworks such as the UWA operational guidelines on oil and gas operations in protected areas provide a framework within for the fulfillment of the requirements of this convention.

e) The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 1998 which protects state parties from the importation, into their borders, of unwanted hazardous chemicals.

f) The Minamata Convention on mercury, 2013 which provides for the protection of human health and the environment from anthropogenic emissions and releases of mercury compounds.

Important to highlight also is the Rio Declaration on Environment and Development, 1992 which lays down principles such as sovereignty of a state in exploiting its resources basing on its own policies in a manner that does not cause damage to another country's environment or areas beyond its national jurisdiction; the duty to take precaution in order to ensure that as less risks or hazards as possible and which can be dealt with, are experienced in the course of activities done within its territory; liability of a polluter for costs arising out of the damage done to the environment by their

[110] Article 3.
[111] Article 6.

pollution; sustainable exploitation of the resources; public participation; good governance as well as intergenerational equity. To this is added the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters**.**

Furthermore, there are Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights which among others require states and the business enterprises, including oil and waste companies, to ensure respect for human rights in the course of business activities in order to contribute to sustainable development.

At the African regional level, the standards for waste management are set by the Bamako Convention on the Ban of the Import into Africa and the control of Transboundary Movement and Management of Hazardous wastes within Africa. Article 04.3(j) of this Convention prohibits states from exporting hazardous wastes to another state which does not have the facilities for disposing of them in an environmentally sound manner. Pursuant to Article 04.3(m) 1, persons in charge of wastes have to be authorized by their country to transport, store or dispose of hazardous wastes. Most significantly, the convention prohibits importation into Africa of hazardous waste for any reason as well as dumping of such waste at sea.

4.2. Comparison with Nigeria's approach to management of wastes from the oil and gas sector

Nigeria is not only among, but also tops the list of Africa's largest oil producers with as much as 37 billion barrels of oil reserves.[112] Between 2015 and 2019, the country produced at least 2.5 million barrels of oil per day.[113]

[112] Other major oil producers in Africa include Angola (1.4 million barrels of oil per day), Algeria (1.3 million barrels of oil per day), Libya (1.2 million barrels of oil per day) which is also home to Africa's largest oil reserves and Egypt (630,000 barrels per day). See Herman K 'Top 5 Oil Producing Countries in Africa,' *Pumps Africa,* July 10, 2020. Accessed at http://www.pumps-africa.com/top-5-oil-producing-countries-in-africa/

[113] Id.

Just like Uganda' Nigeria has in place a broad regulatory framework on environmental conservation and specifically management of wastes generated by the oil and gas sector. Key among these include: the Environmental Impact Assessment Act, 1992 which requires all projects to be preceded by an EIA in order to among others outline: the potential impact of the activity on the environment as well as how they intend to prevent or mitigate them; the Environmental Guidelines and Standards for the Petroleum Industry in Nigeria which provide for the requirement for operators embarking on petroleum projects to produce environmental impact assessment reports on their proposed activities in order for them to be approved by the Department of Petroleum Resources, as well as authorisation of oil-related effluent discharges and oil-related project development; the Petroleum (Drilling and Production) Regulations which require prescribe licensees to adopt precautions to prevent pollution and dispose of waste from petroleum operations in accordance with applicable regulations, as may be approved by the Department of Petroleum Resources; the Associated Gas Re-injection Act which requires operators in the sector to obtain permission from the Minister of petroleum before flaring gas produced in association with oil; the Oil and Gas Pipelines Regulations providing for emergency plans to be implemented by those with licences to operate pipelines in order to ensure timely protection of the environment; the Flare Gas (Prevention of Waste and Pollution) Regulations 2018 which prohibits the routine flaring and venting of natural gas from any facility operated by such permit holder and from any Greenfield project; the Oil in Navigable Waters Act which criminalises irresponsible discharge of oil into waters; the Harmful Wastes (Special Criminal Provisions) Act[114] which criminalises the dumping of harmful waste in Nigerian territory with life imprisonment as the penalty for conviction on this

[114] Cap H1 Laws of Federation of Nigeria.

offence; the National Oil Spill Detection and Response Agency Act which penalises omission to timely report oil spillage and failure to clean up sites that may have been impacted.[115]

Despite having a broad framework in place, it was noted that wastes in Nigeria were still poorly managed which led to several negative consequences arising from oil spills and gas flaring including: cancers, infertilities among inhabitants, high mortality rates among others.[116] As a country that is mostly relying on the oil and gas sector; over 70% of GDP, it is suggested that much of the failure to enforce the regulatory framework is due to a fear to lose the investors, an approach that has been criticized for being counter-productive.[117]

Notably, Nigeria has faced several challenges especially with regards to ensuring compliance of the oil companies to the framework in place. For one, it has fueled insecurity in the area in form of sporadic conflicts for example in the Niger Delta during the 1970s and 1980s.[118] At the centre of these conflicts was a grievance relating to alienation of the Niger Delta from benefiting from oil revenues produced by their region.[119] More fundamentally, some of the conflicts are attributable to burdensome degradation of environment in the form of: oil spills from pipelines

[115] Udo Udoma & Belo-Osagire, Oil and gas environmental protection laws in Nigeria,

[116] Nwanyanwu *et al,* Oil and Gas multinational companies' activities in Nigeria: The Challenges in methods of waste management in Niger Delta, *Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT)* Vol. 9, Issue 9 Ver. 11 (Sep. 2015), 109-117, 110. Doi: 10.9790/2402-0992109117.

[117] Ekhator, Eghosa Osa, Public Regulation of the Oil and Gas Industry in Nigeria: An Evaluation, *Annual Survey of International & Comparative Law*, (2016) Vol. 21: Issue. 1, Article 6. Available at: http://digitalcommons.law.ggu.edu/annlsurvey/vol21/iss1/6

[118] See Martin Meredith, The State Of Africa: A History of The Continent Since Independence, Simon and Schuster (2011), 575.

[119] Id., 576.

which polluted the land and water ways; gas flaring which polluted the air; contamination of fishing resources and farmlands resulting into the loss of livelihood of farmers and fishermen.[120]

Related experiences have been witnessed in other countries such as Malaysia where the conducting of waste management practices is still not effective in spite of having in place a rather comprehensive regulatory framework. This is attributed to a range of factors such as a knowledge gap on waste management, limited commitment of the agencies that manage waste management which does not encourage the companies to comply, inadequacies in the requisite waste management technology, as well as the high costs associated with managing petroleum wastes.[121]

Such experiences provide sufficient inspiration to emerging oil producing countries such as Uganda that having in place a regulatory framework alone is not sufficient without it being backed by enforcement. Rather, regulatory frameworks are just one of the important steps that have to be taken.

4.3. Analysis of Uganda's regulatory framework

To appreciate the efficacy of the country's regulatory framework on waste management in the oil and gas sector, recourse also needs to be made to the observations and proposals for reform which were previously made by different stakeholders especially up to 2013/14. This is important because at the time of this study, which is over 7 years later, a number of developments have occurred which may have addressed the concerns. As such, the previous studies constitute a framework of analysis.

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[120] Id. See also, O.B. Akpomuvie, Tragedy of Commons: Analysis of Oil Spillage, Gas Flaring and Sustainable Development of the Niger Delta of Nigeria, Journal of Sustainable Development 2011, Vol. 4(2).

[121] Lodungi *et al*, *supra,* 5-6.

In 2013, the Ministry of Energy and Mineral Development in conjunction with the Ministry of Water and Environment published a report from a combined *Strategic Environmental Assessment (SEA) of Oil and Gas in the Albertine Graben.*[122] The report noted, in relation to waste management, that majority of the laws and regulations in place at the time had not envisaged some industrial activities such as such as petroleum developments in their designing.[123] Even some of the more focused initiatives such as the National Oil and Gas Policy (NOGP) had some critical gaps in spite of their generally comprehensive coverage of basic issues. For instance, it was noted that the NOGP did not provide sufficient guidance on issues such as: how to achieve amicable coexistence of the oil industry and protected and sensitive areas and fisheries yet Uganda has many of these resources; management of emissions and discharges related to the sector's routine operations; public and occupational health issues relating to the oil and gas sector among others.

As a way forward, that report made a number of recommendations on how the said omissions could be addressed including: a review of laws and regulations regarding protected areas and their protection status in order to among others take into consideration the extraordinary environmental value of the protected areas and the risks represented by the petroleum activities[124]; development of an Integrated Management Planning to be used as a basis for licensing petroleum activities that had not yet been licensed; amendment of laws, policies and regulations relating to fisheries, forestry as well as wetlands; strengthening strategies for protecting the Albertine Graben's sensitive aquatic ecosystems in addition to putting in place plans for the assessment, monitoring and allocation of the water resources to multiple uses; development of regulations on air, noise,

[122] MEMD & MWE, *supra,* 107.

[123] Id.

[124] Id.

vibration and discharge regulations that include the average thresholds and peak limits prescribed by the international standards; as well as establishment of accredited laboratory facilities to monitor and analyse the emissions and discharges from the petroleum industry.

In specific reference to waste management, the report noted that Uganda did not yet have in place the appropriate regulations and facilities for waste management. The specific concerns in this regard were: absence of guidelines and regulations relating to identification, selection and regulation of oil waste transporters and facility operators; the absence of adequate control on oil waste transportation; as well as lack of regulations or guidelines specifying the applicable kinds of equipment for waste handling. Beyond the absence of regulations and guidelines in respect to management of oil wastes, the assessment also noted that Uganda did not have in place the requisite local expertise and capital investments to manage oil wastes.

Accordingly, it was recommended that there should be: upgrading of Uganda's environmental regulations and making new guidelines in order to cater to key issues of the sector including those of a transboundary nature; strengthening the country's regulations relating to transportation of wastes, and making new guidelines for operators of waste facilities and transporters of waste; prioritizing the establishment of adequate infrastructures to handle oil wastes ahead of further activities; requiring waste handling and management to be done by independent third parties regulated by NEMA in order to avoid conflict of interest; targeting the regulatory frameworks for management of wastes to the different types of wastes capturing issues such as licensing, auditing, revoking of licenses/permits, chain of documentation, site management and transportation, as well as occupational safety and health. It was also proposed that the new regulations should cover

legacy waste which had been stored in the intermediate waste storage facilities which had been found to contain some heavy metals.[125]

One year later after the release of the foregoing report, the Office of the Auditor General (OAG) conducted an Environment Audit on NEMA's Regulation and Monitoring of Drilling Waste Management in the Albertine Graben.[126] The report from that audit raised gaps in the country's management of wastes that had so far been produced. These included a wanting regulatory framework for waste management as well as limitations in the capacity of the lead agency in waste management, NEMA, to enforce the set standards where they existed.[127]

Foremost, the audit noted that drilling happened ahead of the enactment of regulations on the management of an estimated 39,625 tones and 8,227 cubic meters of solid and liquid drilling waste stockpile produced by Tullow Oil and Total E&P respectively.[128] Resultantly, Ugandans and the environment were exposed to risk. Although this gap could have been bridged by the 2012 Operational Guidelines on waste management, the audit noted that this did not happen since there was no sufficient consultation between NEMA and the relevant stakeholders.

Worse still, it was reported that in the absence of regulatory guidance, the Oil companies made plans to dispose of the wastes using land farming and land spreading. However, NEMA objected,

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[125] Id., 103.

[126] OAG, Environment Audit on Regulation and Monitoring of Drilling Waste Management in the Albertine Graben by NEMA, 2014.

[127] *Ibid.*

[128] Office of the Auditor General, 2014. Report on the Regulation and Monitoring of Drilling Waste Management in the Albertine Region, March 2014, at 25. Available at <http://www.oag.go.ug/wp-content/uploads/2016/07/NEMA-waste-Management-final.pdf> accessed 05 August 2018.

observing that so doing would expose people, plants and animal species to components in the waste with the potential for bioaccumulation,[129] resulting in health risks.[130] Since there was, at the time, no waste handling company interested in treating the wastes, recourse was made to storing the oil wastes in designated Waste Consolidated Areas (WCAs).[131]

Accordingly, a number of waste consolidation areas (WCAs) were established at Ngara, Bugungu, Tangi, Kisinja and Kanara[132] and the oil companies started transporting the waste there. According to the audit, this mode of managing wastes created a double cost in terms of time, labor and money in the handling of these wastes. For example from 2010 to 2013 alone, it was estimated that a total of UGX 26.263 billion was spent by oil companies on drilling waste management activities.[133]

Although it was expected that the wastes would soon be relocated to designated areas for treatment and safe disposal, no treatment facility was established until 9 years later, during which period the wastes continued to be stored in the containerized sites.[134] Considering that waste management is

[129] Bioaccumulation connotes the gradual concentration or accumulation of a substance in the tissues of living things (plant or animal) due to frequent exposure and may go on until it reaches harmful concentrations. See Auditor general's Report, ibid.

[130] Auditor General Report, *supra.*

[131] *Ibid.* See also, Parliament of Uganda, *supra,* at 11.

[132] Auditor General Report, *supra.*

[133] Auditor General's Report, *supra*, at 28.

[134] The first 5 billion shillings worth waste treatment facility owned by EnviroServe was commissioned at Nyamasoga village in Hoima District on 23rd April, 2015.[134] This facility has a water treatment plant, a laboratory, hazardous landfill and auxiliary services.[134] However, the question as to whether the facility manages the wastes generated by the sector is observing the international standards and has the capacity to handle all wastes generated by the sector, is yet to be investigated. There is, therefore, a need to interrogate NEMA's subsequent steps in undertaking the deserving regulatory reforms relating to oil and gas waste

part of the recoverable expenditures under the Production Sharing Agreements (PSAs), poor regulation and handling of oil wastes has the potential to significantly reduce the revenue Uganda can earn from exploitation of her oil resources.[135]

The report also cited poor compliance of companies with the self-reporting requirements for example regarding how they were transporting waste.[136] Conversely, where companies managed to do submit some reports in this regard, NEMA did not carry out its independent verification tests of the waste samples from their activities meaning that there was no mechanism of/for corroborating the data from the oil companies.[137] Additionally, the oil companies did not submit regular bi-annual reports on the quality and quantity of wastes they had generated yet NEMA did not penalize them.[138] Additionally, the district environment officers did not inspect activities of oil companies mainly due to a lack of operational funding from their local governments.[139] It also cited Inadequate multi-stakeholder inspections yet even NEMA itself was not rigorous in sharing its inspection reports with the concerned parties, meaning that they could not easily know which areas needed reform and follow up.[140]

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management. See Francis Mugerwa, Hoima gets Oil Waste Treatment Facility, *Daily Monitor*, Thursday April 23, 2015. Available at <http://www.monitor.co.ug/News/National/Hoima-gets-oil-waste-treatment-facility/-/688334/2694724/-/io8ocy/-/index.html> accessed 15 May 2019.

[135] Byarugaba and Ssenyonjo, *supra.*

[136] Auditor General Report, *supra.*

[137] Id.

[138] Id.

[139] Id.

[140] Id.

Under such circumstances, the report noted, it was difficult for NEMA to provide assurance that the companies' oil waste management practices did not adversely affect the environment. Indeed, at one of the disposal centres in Bugungu, it was found that wastes had been piled up above ground and not properly tucked away.

As a way forward, the report made a number of recommendations that needed to be followed up by NEMA including: expediting the review of environmental legislation to incorporate management of waste from drilling activities; engaging oil companies as far as possible in order to among others enable treatment and disposal of waste by licensed companies; involving all relevant stakeholders in the development of its policies, legislation or guidelines; ensuring that IOCs carry out Self-Monitoring and report the findings to it as required and if necessary compel them to do so; expediting the proposal of permanently having its Environmental Monitoring staff stationed in the Albertine Graben in order to keep pace with the ongoing activities; as well as liaising with the Ministry of Energy and Petroleum Development to ensure that it is involved in assessing waste management expenditure proposals submitted by IOCs.[141]

Notably, a number of findings in the auditor General's report were confirmed by a 2015 report on Oil and gas sector waste management published by the Civil Society Coalition on Oil and Gas.[142] In addition, that report highlighted the fact that there was non-implementation of regulations relating to distance between facilities and human settlements/activity. It cited for example, that while the regulations prescribe a minimum of 1000 meters, the Bugungu and Kisinja plants were as proximate as between 10 to 500 meters.

[141] Id.

[142] Civil Society Coalition on Oil and Gas, The State of Oil and Gas Waste Management Facilities and Environmental Compliance in the Albertine Graben Region of Uganda, 2015, Research Paper No.2.

In addition to the foregoing reports, the observations made by the Report of the Natural Resources Committee of Parliament Report on the Petroleum Upstream Bill brings to light more concerns regarding NEMA's institutional capacity to manage wastes.[143] In this regard, it was noted that the Institution is severely underfunded in addition to the human resource gaps. By the time the Committee carried out its investigations, NEMA had only 2 environmental officers out of a total number of 30 that it required.[144]

Similarly, commentaries such as that by Kasimbazi[145] indeed highlight incidents of mismanagement of oil wastes which were not redressed by NEMA for example in Semliki Block 3B where wells were left abandoned, waste pits and flaring pits left uncovered and are now filled with waste and in some cases contaminated water. Under such circumstances, questions such as that posed by Sekika[146], as to whether NEMA has the capacity to regulate oil companies, cannot be more very relevant.

On the whole, the study notes that Uganda now has put in place an elaborate regulatory framework which provides sufficient guarantee for sustainable exploitation of the country's oil and gas resources. Of specific mention, the acknowledgment – in the NOGP - of the multi-sectoral nature

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[143] See Parliament of the Republic of Uganda, Report of the Parliamentary Committee on Natural Resources on The Petroleum (Exploration, Development and Production) Bill, August 2012. Available at <http://parliamentwatch.ug/wp-content/uploads/2015/03/NAR3-12-Petroleum-Exploration-Development-and-Production-Bill-2012.pdf> accessed 10 May 2018.

[144] *Ibid.*

[145] Emmanuel B. Kasimbazi, Environmental Regulation of Oil and Gas Exploration and Production in Uganda, *Journal of Energy & Natural Resources Law,* (2012) 30:2, 185-221.

[146] Ssekika Edward, Can NEMA bite oil companies? *The Observer,* 4th March, 2014.

of the industry and the fact that the MEMD alone or the Institutions and departments established thereunder cannot operate exclusive of other stakeholders such as NEMA, UWA, MWE among others in the area of environment management. This broad based approach to exploitation of oil and gas resources guarantees coordinated planning, consultations and engagements right from the onset which could explain the efforts especially legal reforms that have been taken by institutions such as UWA, UNBS among others who have since issued guidelines and standards that are aimed at proper management of wastes of the sector in a responsible manner.

It is also important to note that the policy expressly endorses the "polluter pays" principal of environmental conservation, meaning that the cost of redressing the negative impacts of wastes on the environment will be met by the companies.[147] This, beyond being punitive, is also a good motivation for the companies to comply with the set standards in order to avoid the envisaged consequences from poor waste disposal.

Furthermore, the study notes that the upgrading of NEMA's overall regulatory framework to cater to new and emerging environmental issues and challenges that were not sufficiently covered under the old regime is a positive development in view of the aspiration of the NOGP. It is further noted that the process for the development of a new policy framework was widely consultative involving both stakeholder engagements and a public call for submission of views regarding the draft.[148] This level of engagement was necessary so much so that it was highly recommended by previous assessments of NEMA. For illustration, the above cited report of the Office of the Auditor General

[147] Id., 38.

[148] See, for example, NEMA, Have Your Say!!! The National Environment Management Policy (NEMP) Framework Review, May 4, 2015. <http://nema.go.ug/content/have-your-say-national-environment-management-policy-nemp-framework-review> accessed 23 July 2019.

noted that such an approach would be key in facilitating a comprehensive coverage of the issues relating to the oil and gas sector.

On its part, the Wildlife Policy, 2014 is significant in ensuring a healthy coexistence of oil and gas activities with the species that are gazetted for conservation in the country's protected areas that are plenty in the Albertine Graben. Indeed, it is this policy which guided the review of the wildlife regulatory framework leading to a new Wildlife Act and the 2014 Operational Guidelines for Oil and Gas Exploration and Production in wildlife protected areas.

This study further notes that the coming into force of the UWA for Oil and Gas Exploration and Production in wildlife protected areas, 2014 arrays the concerns regarding the gaps in the NOGP for example in terms of its limited guidance on how to achieve the anticipated coexistence of oil and gas sector activities with conservation in protected areas.[149] As already highlighted in Chapter Two, most of the sites where the country's petroleum resource was discovered overlap with the country's wildlife and nature conservation areas with high biodiversity and sensitive ecosystems.[150] Coupled with a positive working relationship between UWA and other sector actors, these guidelines guarantee wildlife with protection from the potential negative effects of the oil and gas activities.

In view of the fact that the protected areas are the ones which constitute a unique capital for the country's tourism industry which ranks high among the country's foreign exchange earners, and the fact that exploitation of the oil and gas resources is important to facilitate achievement of the

[149] See MEMD & MWE, *supra.*

[150] UWA, Operational Guidelines for Oil and Gas Exploration and Production in Wildlife Protected Areas (2014), 9.

country's developmental ambitions, ensuring a sustainable balance was key. It remains to be seen whether the companies will observe the standards set by the guidelines in order to protect the resources in these areas from harm as was the case during the initial stages of the sector.

As regards the NEA Act, 2019, this study notes that although a late comer ─ which finds some formative activities already concluded ─, the NEA Act 2019 is a much welcome development in ensuring sustainable exploitation of the petroleum resources in Uganda. Unlike its predecessor, cap 153, which was generally believed to be insufficient to regulate oil and gas sector related activities, this Act makes a specific focus on the oil and gas sector. The study notes that the Act constitutes a positive response of the Parliament to the National Oil and Gas Policy's call for the upgrading of the regulatory framework on environmental management in order to reflect the dynamics presented by the oil and gas sector.

It is noteworthy that the National Environment Act, 2019 makes specific provision for management of wastes generated from the oil and gas activities at the upstream or midstream stage in keeping with the regulations passed under the upstream and midstream laws respectively.[151]

On their part, the upstream and midstream laws and regulations elaborately cover actors involved in waste generation and handling from production through the value chain up to treatment or disposal as well as those in the construction and operation of petroleum waste management facilities. The key provisions introduced by these Regulations include: requiring independent handling of wastes by third parties; the mode of monitoring and inspection of waste management; responsibility for waste management; as well as licensing, auditing, revoking of licenses/permits, chain of documentation, as well as occupational safety and health relating to wastes.

[151] Section 96 (3).

These frameworks therefore provide a firm basis for the enforcement of environmental regulations and standards that relate to waste management in the oil and gas sector.

4.4. Enduring issues and concerns

4.4.1 Pending revision of regulatory frameworks on water conservation

The study notes that despite numerous calls from different stakeholders, the process for review of relevant regulatory frameworks relating to water resources conservation in order to align them to the needs of the oil and gas sector has not yet been fast tracked. Notable among these is the Water Statute, 1995 and the Water (Waste Discharge) Regulations, 1998 with a view to reflecting the needs and dynamics of the oil and gas sector.

The slow pace of reform in this area is alarming considering the growing concerns, across the globe, over the potential damage of water quality by the oil and gas sector activities through "spills, leaks, inefficient treatment of waste water, and other contamination events."[152] Notably, the Albertine Waters are of significant importance not only to Uganda but also to other countries with whom Uganda shares Lake Albert which also feeds into the Nile River which has many downstream beneficiary countries.

In addition to the legal gap, there also appears to exist gaps in capacity of the Ministry of water to effectively regulate the water related aspects of oil and gas activities. In this regard, the Permanent Secretary of that Ministry is quoted, for example, citing an absence of the requisite equipment for

[152] See World Bank Group, 'Thirsty Energy (II): The Importance of Water for Oil and Gas Extraction,' 2016.<https://openknowledge.worldbank.org/bitstream/handle/10986/23635/Thirsty0energy0l0and0gas0extraction.pdf?sequence=1&isAllowed=y> accessed on 20 February, 2020.

detecting and identifying toxic waste in water.[153] This means that upon commencement, MWE cannot effectively execute their role of monitoring compliance of operators with the established standards.

Given the huge costs associated with management of wastewater right from the disposal stage, there are valid fears that Uganda's waters might end up being contaminated which may as well result into international conflicts with states such as the DRC with whom Uganda shares her border as well as Egypt and those other countries benefiting from the Nile.[154] Yet, as Clarke Observes, "another fight over oil resources in Africa between two states is the last thing that anyone wants."[155]

Furthermore, Uganda itself has internal unresolved conflicts attributed to a number of factors such as actual or perceived exclusion in the sharing of the national cake, ethnic tensions, and religious fundamentalisms.[156] These grievances can easily capitalize on the consequences of loopholes in the waste management practices and end up metamorphosing into serious opposition both to the activities of companies as well as the government itself.[157]

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[153] See Economic Policy Research Centre, 'Oil exploration requires protecting the environmental against damage.' <https://eprcug.org/press-media/eprc-in-the-news/404-oil-exploitation-requires-protecting-the-environmental-against-damage> accessed on 8 November 2019.

[154] See Edwin Mumbere, Dangers of using Nile water in Uganda's Oil Exploration, *Earthfinds*, March 14, 2019. Accessed at <http://earthfinds.co.ug/index.php/features/opinion/item/2118-dangers-of-using-nile-water-in-uganda-s-oil-exploration> on 17 November 2019.

[155] Clarke, *supra*, 327.

[156] Id. 327-8.

[157] Meredith, *supra*, 575.

In view of such concerns, there is a dire need for a clear legal framework that imposes obligations and sanctions on the companies involved in order to ensure compliance.

4.4.2 Capacity gaps of key sector players

There are a number of enduring concerns regarding Uganda's capacity to effectively manage wastes from the oil and gas sector. These concerns are mainly based on the bad precedent set during the initial stages of the oil and gas sector as well as the apparent imitations in the capacity of Uganda's waste management institutions generally as highlighted below.

a) NEMA

According to the NEMA officials interviewed for this study, NEMA is taking a number of steps in order to ensure effective execution of their mandates under the Act. The examples cited in this regard include: recruiting and exposing their staff in the audit and inspections department including through specialized training in oil and gas related issues such as waste management in addition to benchmarking visits to countries such as Norway and China.

Although the official expressed confidence in the sufficiency of the legal environment to regulate wastes, they highlighted significant challenges which still limit effectiveness including: lack of specific funding for oil and gas waste management which limits their ability to do regular monitoring; a relatively small staff capacity of only 4 persons in the monitoring and inspections department which is itself not solely focused on oil and gas waste; lack of a sufficient laboratory to undertake tests on oil wastes. The study notes that the limitations faced by NEMA go to the core of effective waste management. As a lead agency, that institution needs to be allocated more funding and personnel recruited. Similarly, the institution needs to be availed with a fully equipped laboratory with up to date technology required in regulating oil and gas activities.

To counter the current limitations relating to resource constraints, the institution is working on establishing an upcountry office in Masindi which is within the Albertine Graben in order to facilitate effective supervision of activities. In the meantime, they have been working with other sector agencies such as PAU, director Water, NFA, Department of Occupation Health and Safety of the Ministry of Gender, Labour and Social Affairs, Ministry of Lands, the Fisheries Department in Ministry of Agriculture, OPM for disaster management, local authorities, among others in order to complement their efforts.

b) Waste handling companies

The study notes that some licenses have been issued to companies such as White Nile, Enviroserve and Luwero Industries in order to handle the waste that will be generated. A number of these companies have made significant capital investments in acquiring the requisite waste management infrastructures including installations, specified vehicles which were expensively shipped from abroad as well as obtaining environmental management qualifications in areas such as Engineering, OSH, and ISO qualifications through trainings most of which are conducted abroad.

These investments, including in infrastructures such as specified transportation vehicles is significant given the concerns regarding the previous waste management practices in the initial stages of the sector which were largely disastrous. A respondent from Masindi, for example, recalled how wastes used to be transported using old vehicles which used to leak wastes along the road including in major towns through which they passed. The respondent noted that in addition to littering the roads, this badly affected plants, animals and the welfare of the people.

However, there are concerns regarding the delays in reaching the final investment decision which has kept most of the equipment idle for over a period of three years with threats that it might

become obsolete before commencement of production. It is also that noted most of the equipment was acquired through loan arrangements that are now choking the investors without returns on the investments made.

The study notes that the concerns raised regarding delayed production are grave and threaten effective waste management during actual production as the companies may choose to flout some costly requirements in order to make up for the losses made during the idle phase. Furthermore, it was noted that despite the delays in commencement of petroleum production, the companies licensed to undertake waste management are still few compared to the expected load of wastes that will be generated. There was also a call for the government, through the Minister of energy, to establish its own waste management facility in order to ensure cost-effective waste management that cannot be achieved currently through private profit-oriented players.

c) Health and safety inspections

In the area of health and safety inspections for oil and gas wastes, it is noted that Uganda's capacity is still very weak. Interviews with the OSH department of the MoGLSD revealed significant gaps in the staffing with a total of only 26 staff broadly covering all workplaces in the country. Of these, only one person is designated as oil and gas inspector although it is expected that he will be supported by other inspectors.

Furthermore, the department lacks essential infrastructures such as a laboratory in which to test wastes as well as the requisite funding to execute its mandate in relation to oil wastes. The OSH department is also still lacking in specialized training on oil and gas waste related issues in order to be able to meaningfully inspect and monitor them.

d) The judiciary

Disputes relating to oil and waste management will ultimately have to be resolved. For this reason, the researcher had an interaction with an official from the Judiciary who noted that the judiciary is increasingly getting better prepared to support the sector as envisaged by the NOGP. In this respect, it was noted that a number of judicial officers have been pursuing specialized training in the oil and gas sector from various institutions although it was not clear whether or not this is an institutional or individual arrangement. The study recommends that the Judiciary should devise a mechanism to support training for its officers on basic issues relating to the sector in order to enable them adjudicate cases relating to it from an informed perspective.

Notably, the limitations in the capacity of Uganda's institutions to manage larger quantities of chemicals and wastes associated with the petroleum activities is also acknowledged by international actors such as the UN Environment Programme.[158] This Programme highlights a number of issues such as: absence of a multi-sectoral committee which affects the sound management of wastes; knowledge gap especially in terms of best practices of waste management; as well as lack of a national database on relevant information relating to the production, transport, use, storage and disposal of chemicals and waste in the oil and gas sector.[159] These observations collaborate the above cited audit by the Office of the Auditor General which emphasised the need for engagement of all relevant stakeholders as a way of facilitating effective handling of waste.

[158] See UN Environment Programme, 'Managing waste in the emerging oil and gas industries in Uganda,' <https://www.unenvironment.org/news-and-stories/blogpost/managing-waste-emerging-oil-and-gas-industries-uganda> accessed 17 November 2018.

[159] id.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study has examined Uganda's readiness to effectively manage oil and gas sector related wastes, doing so by highlighting and analysing the existing legal, institutional and policy frameworks. The analysis has been done using qualitative methods involving a collection of both primary and secondary data.

The overall assessment of the study is that Uganda is largely ready to manage wastes from the oil and gas sector as seen in the legal reforms undertaken since 2012 providing for different standards, requirements and mandates in relation to waste management. These frameworks reflect many of the international requirements for legislation in the area of waste management. It is also noted that most of the key institutions are undertaking significant reforms in order to address the gaps that would have limited their capacity. Nonetheless, there are still some gaps that need to be addressed.

It is noteworthy that commencement of production for these resources is behind schedule by over a decade since the earliest suggested timeline of 2009 which has since been postponed more than once, first to 2018 and most recently to 2020 which has also not been achieved.[160] This is notwithstanding that nine Production Licenses (PLs) have already been awarded in respect of

[160] See, for example, Ali Twaha, 'Uganda unlikely to produce oil in 2020-Muloni' *New Vision, Oil and Gas Journal*, (Kampala, 18 September 2018) 20; and Billy Rwothungeyo, '2020 Too Soon for Fist Oil' *New Vision, Oil and Gas Journal* (Kampala, 26 June 2019) 26.

fourteen fields planned to be brought on stream in the Albertine Graben[161]. However, latest developments such as the submission of Environmental and Social Impact Assessment Reports by Independent Oil Companies (IOCs) bolster hopes of seeing Uganda's oil on the surface.[162]

The lateness in commencing actual production of Uganda's oil provides the country with opportunity to work on issues of concern highlighted both in the past, as well as this study which is more focused on the regulatory framework for management of wastes that will be generated at the different stages of the sector.

5.2. Recommendations

On the basis of the foregoing, the study makes the following general recommendations

a) Capacity building of key institutions

There is need for more capacity building of institutions such as UWA, NEMA, MWE and the OSH department of the MoGLSD in order to enable them operate effectively by among others:

i. Increasing on their budget allocation for activities relating to oil and gas waste management;
ii. Equipping them with the requisite infrastructures such as laboratories and testing equipment;

[161] Nine of the fields (Ngiri, Jobi-Rii, Gunya, Kasamene-Wahrindi, Kigogole-Ngoga and Kingfisher) will be at First Oil (FO) while the remaining (5) (Ngara, Ngege, Mputa, Nzizi and Waraga) will be off stream for a period of between five to eight years depending on availability of ullage. See PAU, *supra.*

[162] See 'First Oil closer with filing of environmental report,' *New Vision, Oil and Gas Journal* (Kampala, 30 October, 2019) 18.

iii. Recruitment of more staff to be able to perform their roles effectively without being strained;

iv. Supporting establishment of field offices in areas where the activities take place for effective monitoring;

v. Supporting personnel to get specialized training aspects of oil and gas wastes management that are relevant to their mandate;

b) Monitoring and inspection of activities by local governments and communities

i. There is need for sensitisation of local governments and communities in order to enhance their capacity to effectively monitor compliance of companies with waste management practices in the oil and gas sector.

ii. Local governments should ensure sufficient funding to the environmental office in order to facilitate effective inspections of the waste management practices of oil and gas activities.

c) Legal reform

There is need for finalization of the review of the Water Policy and the Water Act in order to align them with the needs of the oil and gas sector.

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ANNEX A: INTERVIEW GUIDE

FIELD RESEARCH ON UGANDA'S READINESS TO REGULATE WASTES PRODUCED BY THE OIL AND GAS SECTOR

RESEARCH GUIDE

PART A: INTRODUCTION

This research is being conducted by Ms. Innocent Ngobi as part of the requirements for the award of the degree of Master of Laws of Uganda Christian University, Mukono. The research seeks to assess Uganda's readiness to effectively manage wastes that will be generated by the oil and gas sector. The assessment is intended to identify the gaps, if any, and to make appropriate recommendations as Uganda readies for active oil production. Your participation is very important to the assessment as it will provide knowledge, experience, and views generally on which the assessment shall be based.

Assurances: Participation in this research is purely voluntary and the respondent is free to withhold their consent at any stage of the study. If you agree to participate, you may allow the researcher to use your real name or require that your identity should not be disclosed and instead a pseudonym be adopted.

Part B: Respondent Details to be captured:

Name (optional)		
Designation		
Gender		
District/ Location		
Date of Interview		
Identification level in report	**Granted (use my name)**	
	Not granted (use pseudonym)	

Part C: Interview Guide for different stakeholders

I. NEMA

1. What is the mandate of this institution?
2. How is your institution involved in the oil and gas sector?

3. What is the legal basis for your involvement?
4. Are there any other roles that are outside of the existing legal mandate? Which are these?

State of the art of waste management

5. What do you understand by oil and gas wastes?
6. Do you have a specific department responsible for oil and gas waste management?

If so:

a) What are its roles?

b) How is it constituted?

c) How many staff does it currently have?

d) What are their qualifications?

e) Have the staff had (or are there plans to provide) any specialized training specifically tagged to oil and gas waste management?

f) How is the department funded and with how much?

g) Is the staffing and funding of the department adequate to facilitate efficient execution of the department's mandate?

If not:

a) How prepared is the institution to regulate oil and gas waste?

b) Comment on the institution's staff competencies to regulate the sector.

c) Do you have a specialized budget for oil and gas waste handling?

7. Does the institution have an operation manual?
8. What challenges (currently and envisaged) are you faced with in executing your mandate?
9. How would you describe your working relationship with IOCs so far

i. a) Good_____ b) Bad _____?

ii. Please explain your answer in (i) above.

10. How would you describe your working relationship with relevant government institutions and officers including the President

i. a) Good_____ b) Bad _____?

ii. Please explain your answer in (i) above.

11. How do you involve communities in your work and on what issues?
12. What has been (is usually) their response?
13. What is the effect of the communities' views (eg are they included in ultimate policy guidelines) on the Institution's waste management strategy?
14. Have you faced any specific oil and gas waste related challenges?
15. How did you handle/address them?
16. In your assessment, is Uganda adequately prepared to regulate the management of wastes generated by the oil and gas sector?

Thank you for your time!!!

II. KEY INFORMANTS

1. Based on expertise, what is the potential impact of poor handling of wastes generated by the oil and gas sector on:
    a) Wildlife
    b) Human life
    c) Agriculture
    d) Fisheries resources?
2. Have you heard of/experienced any cases of poor handling of wastes at the initial stages of the oil and gas sector in Uganda?
3. If the answer is yes, when was this and what happened?
4. Are you aware of how were the issues addressed?
5. Are you satisfied with the way the issue was addressed?
6. In your view, is Uganda adequately prepared to regulate the management of oil and gas wastes?
7. Is Uganda's legal and policy framework sufficient to address wastes generated by the oil and gas sector?[163] If not, what reforms need to be made?
8. What are your views regarding the sufficiency of Uganda's institutional framework on oil and gas waste management?
9. What are the major challenges associated with oil and gas waste management?

III. IOCs & Waste Management Companies e.g., Enviroserve

1. Do you have a policy on waste management?
2. What is your anticipated annual budget for oil and gas waste management?
3. What has been your relationship with the regulatory agencies?

[163] NB: For legal academics only.

4. What are some of the major challenges you have faced in managing wastes from the oil and gas sector?
5. Do you feel that the law and policy framework is adequate and convenient to facilitate efficient management of wastes?
6. What legal and policy reforms if any would you wish to see in Uganda's oil and gas sector?

ANNEX B: LIST OF RESPONDENTS

1. Waiswa Ayazika Arnold, Director Environmental Monitoring & Compliance, NEMA
2. Moses Kitaka, Epsilon (U) Limited
3. Jonathan Tibalira, Specialized Health Inspector Engineering, Ministry of Gender, Labour and Social Development
4. Isiko Patrick Simon, Specialised Health Inspector Oil and gas, Ministry of Gender, Labour and Social Development
5. Kobusingye Teddy, Ministry of Gender Labour and Social Development
6. Justine Namara, Manager EIA and Oil Monitoring, UWA
7. Damaris Namutebi, staff at Enviroserve waste treatment facility
8. Joseph Baroraho, Kampala and Hoima resident
9. Muhereza Mike Kirungi, Lawyer
10. Hon. Justice Vincent Emmy Mugabo, Judiciary