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UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Responsible Mining and Sustainability in Nigeria: The case of Bitumen

By

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Supervised by Dr. Alex Wafer

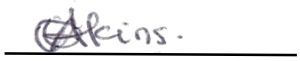
A thesis submitted to the Faculty of Science, University of the Witwatersrand, Johannesburg, in fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Geography, Archaeology, and Environmental Studies

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DECLARATION

I, Akinyosoye Oluwole Olafusi, certify that no part of this thesis has been submitted for a degree or qualification to any other university or institution. I declare that I am the sole author of this thesis being submitted to the Faculty of Science at the University of the Witwatersrand, Johannesburg, South Africa for the award of the degree of Doctor of Philosophy.

Akinyosoye Oluwole

 27.10.2020

Signature

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ABSTRACT

The last few decades have been marked by a sense of urgency regarding the sustainable use of the earth's natural resources. During this period, the mining and minerals industries have received particular attention in relation to their perceived destructive impact on the environment. Within this context, the discourse of responsible mining has relatively recently emerged as a possible route towards more sustainable mineral exploitation that could be the basis for sustainable development in the future. For some commentators the idea of responsible mining is an oxymoron: mineral exploitation is always environmentally too costly. For other commentators, effective management of mineral resources provides a realistic path to sustainable development for resource rich but economically poor nations. One of the key components of responsible mining is "good governance": i.e. the presence of a broadly legitimate and democratic form of governing society, which includes a balance of power in the administration of a country between the effective institutions of state and civil society. However, the past decades have suggested that there is an inherent crisis of poor governance in many developing countries, which has been identified as one of the drivers of change to initiate sustainable development. This research report offers an exploration of these two intersecting concepts of responsible mining and governance in Nigeria, in the context of the proposed economic diversification strategy through non-oil and solid minerals development. The study focusses on what might be termed the paradox of sustainable futures in Nigeria: with the proposed exploitation of bitumen reserves in a country that has a poor social and environmental reputation for oil mining. What are the prospects that bitumen could provide resources for sustainable growth in Nigeria?

Despite relatively high rates of growth in the Nigerian economy in the past few years, the Nigerian economy has traditionally been overly dependent on oil and gas extraction, and the gradual decline over the past two decades has seen an overall decline in development in the country. As a result, the government has identified other resource potentials, in this context, to exploit the vast bitumen reserves in Nigeria. Whilst the idea to mine bitumen spawns the rhetoric of development in the area and huge revenues to the government for national development purposes, there is a need to explore the paradox of development from this form of mining. More importantly is the impending impact on the indigenous people, which is influenced by certain factors, especially the network of governance, to address the challenges of minerals development in Nigeria.

In this context, this study is an attempt to explore the possibilities of and anxieties regarding sustainable futures in the context of the impending bitumen exploitation. The study involved 3 months of field research in Agbabu in Ondo State, Nigeria, one of the areas that will be most affected by the proposed bitumen mining. The area is largely rural, with traditional forms of land ownership and farming practices that are integral to the economic opportunities within the community. Thus, to obtain detailed knowledge of the dynamics of exploiting bitumen, this study applied a qualitative research design to conduct a case-study research on Agbabu in Ondo state, Nigeria. The review of relevant literature, focus group discussion, in-depth interviews, and key informant interviews were relevant tools that provided the data for the study. With these tools, the study gathered data from a range of respondents which included the local population, government officials and professionals who hold esteemed positions in this study concerning their experiences and opinions' on the proposed bitumen project. The study found that despite the welcome idea of bitumen development, local mining communities still struggle with issues of being marginalised and excluded from decision-making processes in matters related to their indigenous space.

Keywords: bitumen exploitation, responsible mining, sustainable development, governance, local communities, economic growth, development

TABLE OF CONTENTS

DECLARATION ii
ACKNOWLEDGMENT iii
ABSTRACT iv
LIST OF TABLES ix
LIST OF FIGURES x
ACRONYMS xi
CHAPTER ONE 1
TOWARDS DIVERSIFYING NIGERIA'S ECONOMY: THE PERSPECTIVE OF BITUMEN 1
1.1 Introduction 1
1.2 Identifying the problem of bitumen extraction in Nigeria 6
1.3 Research Aim, Objectives and Questions 9
1.4 Contribution to knowledge 10
1.5 Outline of the Thesis 11
CHAPTER TWO 15
FRONTIERS IN DEVELOPMENT: MINING AND THE CONTEMPORARY ISSUES TO FOSTER SUSTAINABILITY 15
2.1 Introduction 15
2.2 The emergence of the concept of development 17
2.3 Sustainable Development in Development thinking 29
2.4 The emergence of governance as a discourse in development 32
2.5 Situating environmental justice: rescaling development 35
2.6 Responsible mining and development 37
2.7 Conclusion 40
CHAPTER THREE 42
ENGAGING THE FIELD: EXPLORING THE PERCEPTIONS OF BITUMEN 42
3.1 Introduction 42
3.2 Description of the Study Area 44
3.3 Philosophical Position 46
3.4 Research Design 50
3.4.1 Data Collection Table 51
3.4.2 Research Community and Sampling Procedure 51
3.4.3 Data Collection Tools 54

3.4.4 Data Analysis 59
3.5 Methods Reflection and Limitation 60
3.6 Ethical Considerations 63
CHAPTER FOUR 65
RESPONSIBLE MINING IN AFRICA? EXPLORING AND EXPLOITING BITUMEN IN NIGERIA 65
4.1 Introduction 65
4.2 Africa's relationship to its mineral resources 66
4.3 An appraisal of Mining in Nigeria and the concerns for bitumen exploitation 69
4.4 Bitumen mining and the aspects of Sustainability 72
4.4.1 Environmental concerns in sustainable development 73
4.4.2 Economic concerns in sustainable development 74
4.4.3 Social dimensions in sustainable development 74
4.5 Responsible mining as a framework for sustainable resource exploitation? 75
4.6 Conclusion 76
CHAPTER FIVE 79
DYNAMICS IN GOVERNANCE AND RESOURCE DEVELOPMENT: EXPLORING THE PATH FOR BITUMEN MINING 79
5.1 Introduction 79
5.2 Reflections on the ideas of Government and Governance 80
5.3 Deconstructing the modes and forms of Governance 83
5.3.1 The nature and dynamics of the African State 84
5.3.2 The governance landscape of Nigeria 86
5.4 Governance and decision-making 89
5.4.1 Critiquing neoliberal governance for bitumen 91
5.4.2 Experiences and Lessons from Canada 93
5.5 A developmental state ideology and good governance for bitumen mining 95
5.6 Conclusion 97
CHAPTER SIX 99
IMAGINING SUSTAINABLE FUTURES IN AGBABU? 99
6.1 Introduction 99
6.2 Expectations of futures: contradictions and complexities 101
6.3 The Community and the proposed bitumen project 102
6.3.1 Perceptions of Development: expectations of the bitumen community 106

6.3.2 Perceptions of development: consequences and uncertainties 111
6.4 Community perceptions of the Government in Regional Development 116
6.4.1 Relationship between Community Leaders and the Government 116
6.4.2 The community in decision making..... 119
6.4.3 Donors and institutions in regional development 121
6.5 Professional views on bitumen Mining 122
6.6 Agbabu as an extractive frontier: Local economic development versus Sustainable development..... 126
6.7 Conclusion 127
CHAPTER SEVEN..... 129
REVIEWING BITUMEN THROUGH GOODLAND'S PARAMETERS..... 129
7.1 Introduction..... 129
7.2 The Eight Principles of responsible mining explained in the context of Agbabu 129
7.3 Conclusion 135
CHAPTER EIGHT 137
CONCLUSION: FRAGMENTING THE MINING AND DEVELOPMENT PARADOX. 137
8.1 Introduction..... 137
8.2 The development paradox and resource exploitation..... 138
8.3 Engaging with the realities of today..... 142
BIBLIOGRAPHY 144
APPENDICES 167

LIST OF TABLES

Table 5.1: Differentiating between Government and Governance

Table 5.2: Capacity and Will as measures of State weakness

LIST OF FIGURES

Figure 3.1: Map of Nigeria showing Agbabu, Ondo State within the Niger Delta region

Figure 6.1: The signpost at the entrance to the site of the bitumen well head

Figure 6.2: The steel cast site in Agbabu (in-set, narrator assigned by Community Chief)

Figure 6.3: Shows free-flowing bitumen in a river channel

Figure 6.4: Fluid bitumen a few inches below land surface

ACRONYMS

ASM	Artisanal and Small-Scale Mining
CAC	Citizens Advisory Council
CSR	Corporate Social Responsibility
DPR	Department of Petroleum Resources
EITI	Extractive Industries Transparency Initiative
ESIA	Environment and Social Impact Assessment
FDI	Foreign Direct Investment
FGD	Focus Group Discussions
GDP	Gross Domestic Product
GGSD	Good Governance in Sustainable Development
GSCM	Green Supply Chain Management
IDA	International Development Agencies
IRP	International Resource Panel
MMSD	Mining, Minerals, and Sustainable Development
MMSMD	Ministry of Mines Steel and Mineral Development
NEEDS	National Economic Empowerment and Development Strategy
NGOs	Non-Governmental Organisations
NIPC	Nigerian Investment Promotion Commission
NMC	Nigerian Mining Corporation
NMMA	Nigerian Minerals and Mining Act
OAU	Organisation of African Unity … now, African Unity (AU)
SDGs	Sustainable Development Goals
SLO	Social License to Operate
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
USB	Universal Serial Bus

CHAPTER ONE

TOWARDS DIVERSIFYING NIGERIA'S ECONOMY: THE PERSPECTIVE OF BITUMEN

1.1 Introduction

Mineral-rich countries, many of which have low levels of human and economic development, find themselves facing the dilemma of exploiting the natural and geological resources within their territory. This is based on the assertion that minerals offer a quick source of foreign currency for development and appreciable economic growth (Pegg, 2006). However, the track record of many national governments has been patchy: over-reliance on the natural resources has often led to distorted levels of development, and the very often close state control of these resources through licensing rights has also meant that corruption is rife (Kolstad & Søreide, 2009). In fact, it is more prominent in the hypocritical arrangements between governments and corporations to exploit resources with underlying pecuniary motives which the local population (especially those in mining communities) do not fully benefit from. To a large extent, this reveals the power imbalance in resource governance as local populations lack the power and political strength to participate in decision making on resources exploited in their immediate environment (Bond, 2008). Whilst mining perhaps, may empower the indigenous people, providing opportunities and alleviating poverty, it also threatens sovereignty of the people and poses multiple impoverishment risks (Downing et al., 2002). For instance, the study by Omeje (2006) in the Niger-Delta region of Nigeria describes power imbalance and lack of sovereignty to be fueled by state autonomy and monopoly since land and the resources therein is vested in the state. However, this leads to a strain with the license to operate in such indigenous areas especially with the rise of conflicts, which is a consequence of this set arrangement. More recently, the global emergence of sustainability as a key policy agenda (Agyeman, Bullard & Evans, 2002) alongside the increasing democratisation of civil society within many countries (Scholte, 2002) has meant that the exploitation of minerals for economic development is no longer a straightforward rational choice. States are confronted with trade-offs between economic and social/environmental sustainability that are driven by the increasing demand for economic growth and development (Kloppers, Horn, & Visser, 2015).

In Nigeria, over the past several decades, natural resources have played a crucial role in economic growth and development, as well as in the political economy. Prior to the discovery of crude oil in 1956, the Nigerian economy was a net exporter of agricultural produce (Kemi,

2016). However, the output of the agricultural and non-minerals sector declined when the oil and gas industry gained dominance over the economy of the country. Over time from large-scale exploitation of the oil fields, the industry substituted the agricultural sector as the mainstay of the economy. Although it generated massive wealth in the country, it crippled the growth and contribution of other potential sectors (Otaha, 2012). This phenomenon is explained in literature as the 'Dutch disease syndrome' i.e. when the rapid growth and development of a sector cripples the development of other potential sectors that can contribute to economic development. Overdependence on oil and negligence of other viable sectors meant Nigeria became a mono-product economy despite its wealth of natural resources. The oil industry has nested huge returns and accounts for over 95% of export earnings and 85% of government revenue (NIPC). Despite these, there is widespread poverty in Nigeria with majority (over 70%) of the growing population living below the poverty line. This is accompanied by high levels of illiteracy, mortality rates, and massive underdevelopment (Chete *et al.,* 2014; Chindo, Naibbi, & Abdullahi, 2014). As a result, the concerns of underdevelopment and widespread poverty (especially the living conditions in the oil-producing regions of the Niger-Delta), have over the years and more recently, initiated debates on strategies to eliminate the so-called 'Dutch disease syndrome' (Karl, 2004) in Nigeria, especially considering that the territory is well endowed with diverse range of resources.

Nigeria is heavily endowed with diverse resources of high economic potential, especially solid minerals that can contribute to better development outcomes (Chindo et al., 2014). However, many of these resources are yet to be unlocked. It is paradoxical that the country is faced with many development challenges amidst so much resource wealth. This situation is referred to as the Resource Curse (or the paradox of plenty), that countries with an abundance of natural resources tend to perform poorly in terms of economic growth, democracy, and development outcomes when compared with countries with fewer resources (Sachs & Warner, 2001). This paradox mirrors the economic diversification strategy through solid mineral development in Nigeria under the economic transformation agenda. Also, considering the reality with the uncertainty in oil markets as well as the predictions that the oil reserves in Nigeria, which according to the Department of Petroleum Resources (DPR), will last no longer than 49 years (Asu, 2020), it has become imperative for the government to revive its mining sector, which like other African states has huge potential. Solid mineral wealth in Nigeria, just as the Nigerian Investment Promotion Commission (NIPC) put it, is greater than crude oil reserves that when harnessed can contribute largely to the economic base and serve as viable alternatives to foreign

exchange earnings (Olatunbosun, Adeleke, & Ayorinde, 2013). Thus, diversifying into other viable mineral sectors in Nigeria can foster economic growth just as the World Bank proposes to resource-rich developing economies as a viable strategy to redeem their failing national economies. However, interventions from institutions have been heavily critiqued as major contributors to the continuous looting and exploitation of resources in developing countries especially in Africa. These institutions largely foster the flow of extractive-oriented investments in attractive mining and mineral locations (Bond, 2008).

There is consensus between the government and policy makers for the diversification from an oil led economy to solid minerals' in Nigeria (Aigbedion & Iyayi, 2007). One of such is the proposed bitumen development project identified as having the potential to contribute to development. Despite the consensus, there are concerns of the potential marginalisation of the indigenous people within the bitumen bearing communities from governance and decision-making processes. The implication of this as it is with oil bearing communities are concerns for conflicts, environmental injustices, health effects and socio-economic consequences (Aldinger, 2013). Based on this, the study seeks to examine the possibility of responsible mining and sustainability from bitumen mining in Nigeria. Following the history of oil and gas mining, and its operations which have been attributed with negative connotations of environmental degradation, pollution and having an adverse effect on human existence raises concerns. Similarly, the gaps in governance from dysfunctional administrative and political processes as it applies to mines draws attention to an important wave of thought on the ways to exploit bitumen in a responsible way to foster a sustainable development agenda.

The current mining realities in Nigeria indicate that there is limited geological information, inadequate infrastructure, lack of funding, illegal mining and poor community relationships. Mining operations in Nigeria still depend on foreign technology and capital to function which come in form of Foreign Direct Investments (FDIs). These issues have been attributed to the gaps in fiscal and regulatory policies that leads to the poor understanding of investments and operating strategies (KPMG, 2017). These issues attract attention nationally and require to be addressed to meet the objectives of sustainability in the context of the mining industry.

Although the expectation of mining investment is development, its activities are generally considered as dirty processes in obtaining and processing of ores and minerals. This poses challenges in developing regions of the world with weak governance and institutional frameworks that guide the operations of the industry. Just as Van der Ploeg (2011) puts it,

inherent challenges exist to ensure that resource wealth leads to sustained growth and development. This becomes a huge concern in a country like Nigeria trying to expand its range of activities under weak structures built on foundations of corruption and inefficient governments. Thus, the debate on how responsible the mining industry can be in terms of sustainability comes to the fore with regards to bitumen exploitation.

One approach is to consider the forms and practices of engagement between the different stakeholders in addressing sustainability concerns (Azapagic, 2004). This would require an integrated framework comprising economic, environmental and social indicators. The underlying principle in this model would be to enable a balance through progressive actions to deal with sustainability issues including, ecosystem disturbance and potential threat on local communities on their source of livelihood. Against this optimistic assessment, Brunnschweiler (2008) argues that with the vast natural resources and potential for economic development, natural resources seem to be a curse to resource-rich countries. Laurence (2011) challenges this assertion, claiming conversely that the potential benefits outweigh the cost if extractive operations are properly managed with evenly spread benefits, as well as the right legislation that includes community engagement. As Hojem (2015) put it, the Nordic countries especially Norway, Finland and Sweden, come to the fore as leading examples where mining activities are relatively responsible, accountable, transparent and contribute to development following their commitment to environmental legislations and legal frameworks towards mining. This raises the question that I confront in my study, i.e. can bitumen exploitation contribute significantly to development with proper regulation, adequate funding, modern infrastructure and technique under the current economic diversification strategy in Nigeria?

Defining oil sands (bitumen)

Bitumen is a heavy complex solid or semi-solid hydrocarbon that is black and sticky in nature, contained in oil sands deposit of sedimentary rocks. It is derived from oil sands (also known as tar sands), a mixture of sand, clay, water and a dense form of viscous oil, that is, bitumen (Poveda & Lipsett, 2013). It is imperative to state that bitumen exploitation is a distinct oil sands project as a result of the differences in the formation and characteristics of the reservoirs found in differing locations around the world. These differences reflect in the type of technology, mode of operation, management practices that would be adopted in countries that wish to unlock the potentials of its bitumen.

Bitumen is an alternative source of hydrocarbon and a source of raw material to the petrochemical industry. It is used for road asphalting and roofing as well as bituminous waterproofing products.

Canada has the largest proven reserves of oil sands in the world with ongoing bitumen exploitation activities in regions like Alberta and Athabasca (Poveda & Lipsett, 2013). Nigeria is considered the 6th largest in the world with proven reserves of 42 billion gallons (Olabemiwo et al., 2016), however; the industry in Nigeria is at its infancy stage with ongoing deliberations to exploit the oil sands reserves. Since its discovery in the 1900s, there have been minimal attempts to unlock its potential which is a clear indication of the existence of the resource curse as the country has been heavily dependent on the earnings from its oil and gas industry (Adeniyi, 2014). However, the recent decline in oil revenue has led to a shift in focus to exploit bitumen as it is considered a valuable resource that yields much revenue just as it is in Alberta.

While there are potential benefits, there are also huge consequences in environments where bitumen mining operations take place. The operations in Canada give context to the consequences of bitumen mining as there are visible impacts on the land, including social and economic disruptions (Tenenbaum, 2009). This narrative, as well as the bad reputation of the ongoing oil and gas operations in Nigeria, draws attention to devise possible ways to exploit bitumen.

While bitumen is touted as a panacea to overcome the poor economic conditions and slow pace of development in Nigeria, there are huge knowledge gaps in strategies that will foster responsible mining and the sustainable development of bitumen. For instance, policies that would lead to a restructure in mineral governance that includes host communities in decision-making and perhaps, local investors as stakeholders. Similarly, policies that consider the government as major stakeholders as against the current oil mining structure where the state plays minimal roles, and transnational companies control and manage operations. Being a carbon-intensive industry, this dysfunctional system of mining in Nigeria will not lead to the sustainable development of bitumen. Specifically, from the lens of local communities who bear the consequences of all mining operations, it is unsustainable while bearing in mind the high expectations of resident populations on the development benefit it will accrue into their communities.

In light of these, the strategies adopted and the operations in Canada will give guidance to a country like Nigeria that is set to exploit this resource potential in order to avoid a reoccurrence

of the resource curse. One relatable approach is the Towards Sustainable Mining (TSM) strategy promoted by the Canadian government and the Canadian Trade Commissioner Service (TCS). This strategy promoted community engagements, the demonstration of world-leading environmental, and the commitment to the safety and health of employees and surrounding resident population. Its core strength is the commitment to meeting societal need for minerals, metals and energy products executed in the most social, economic, and environmentally responsible way (The Mining Association of Canada, 2020).

1.2 Identifying the problem of bitumen extraction in Nigeria

The Nigerian economy at the time of the oil boom was relatively stable and accrued huge revenues from oil exports to aid national development. For many years, Nigeria's economic development has been dismal and unable to sustain its growing population. It is argued that the situation is from the failure to invest this oil wealth into other productive sectors which justifies the poor performance of other sectors in contributing to the Gross Domestic Product (GDP). Also, external factors from unstable world oil prices and market forces progress the discourse of the poor performance of the oil and gas industry since the country largely depends on the outcome of the industry for development (Nwoke, 2016). According to Gonzalez (2016), Nigeria has been a net exporter of crude oil with a cumulative revenue of over US$600 billion since the commencement of production in the 1960s. It is a paradox that despite the benefits accrued from oil exploitation, a vast proportion of Nigerians still live in abject poverty (Idemudia, 2012). According to the United Nations Human Development report, about 92.4% of Nigerians live below US$2 a day and lack sustainable access to good sanitation, water, medical facilities, and education. It is not surprising the low category, and rank as Nigeria places 156 on the human development index out of 189 countries in the 2018 statistical update (UNDP, 2018). Considering the poor indicators of social and economic development, the government has proposed to unlock the potentials of its mineral wealth to revive the economy in accordance with the goals of sustainable development for Nigeria.

There is an urgent need to address the development challenges in Nigeria considered to have been impacted by poorly formulated development policies and the over-reliance on the performance of the oil sector which crippled the contribution of other potential sectors to the economic base of the country (Karl, 2004). Prior to the oil dominance, the agricultural sector accounted for over half of GDP as at independence in 1960 and sustained the economy (Izuchukwu, 2011). In recent times, the agriculture and the non-mineral sectors contribute

marginally to GDP despite the enormous wealth of these sectors. These sectors have been identified as viable sectors to drive the economic development agenda in the country. Pivotal to realising a rapid and sustained growth in Nigeria is the question of what should be done to attain a diversified and sustainable development pathway.

In addressing this, is the debate for policy reforms in favour of non-oil sector development. Canagarajah and Thomas (2001) argue that the policies at the time of the oil boom accentuated the neglect for the non-oil sectors, which under the current framework is unfavourable for the development of the non-oil sector. Oramah et al., (2015) summarized that the non-oil sector (solid minerals, in this study) is faced with problems with regards to low capital funding, poor technology and policy implementation. The lack of institutional reforms, inconsistent policies aided by corruption encouraged the diversion of funds meant for human capital development, the growth of public service delivery and investments in development projects to further sustain the economy (Agbiboa, 2012; Fagbadebo, 2007; Osafo-kwaako & Osafo-kwaako, 2007).

The mandate by the United Nations (UN) is to fight poverty which currently is the agenda of the transformational Sustainable Development Goals (SDGs) to accelerate progress in developing countries. It is aimed at eradicating the root causes of poverty, democratic governance, climate change, disaster risks, economic inequality, and in compliance the 17 goals of the SDGs are to be adopted into the national development plan and policies of member nations while integrating vibrant engagements with local communities and civil society (UNDP, 2015). As it applies to Nigeria, it is a call for the government to intensify efforts at attaining the 2030 mandate of the UN by domestically the goals in its development plan, especially with the proposed economic diversification plan.

Sustainable development in this study means translating one of the potential revenue sources, in context, bitumen exploitation, into economic opportunities which Nigeria can leverage on to tackle its socio-economic problems such as poverty, growing unemployment and infrastructural development. However, sustainable development is a broad umbrella that covers a myriad of issues that generate considerable controversy, and raises questions regarding sustainability (Kemp & Martens, 2007). For instance, Hove (2004) argues the unclear relationship between economic gains and environmental protection. Similarly, Connelly (2007) argues the lack of resolution for what actually counts as sustainable development which in the long-run, is a potential rhetorical cloak, used to enact policies or development decisions that are environmentally and socially undesirable. However, Mudd (2007) believes that sustainable

development is sound and achievable from resource exploitation when the environmental, social and economic risks of such activity is considerably balanced. Drawing on these polarized views on sustainable development especially with regards to the unclear relationship between economic gains and environmental protection as put by Hove, is perhaps, one of the biggest barriers to designing a potential pathway (in context, oils and minerals mining) to more sustainable societies.

Exploiting bitumen goes beyond the pursuit for pecuniary gains for development or the improvement in living standards of citizens and the local mining community. It however raises deep seated concerns that caters for the preservation of the environment such that future generations are unaffected. This is because mining operations, generally, has great tendencies to degrade the environment, alter water and air quality as well as the destruction of rural livelihoods and potential land-use (Bebbington & Bebbington, 2018). Despite the policy-level discussions to diversify the Nigerian economy through solid-minerals, there are huge controversies on how to merge these sustainability issues with bitumen mining to attain the sustainable development goals. This comes with different trade-offs and tensions with difficult choices that may result in positive or negative outcomes.

Considering these issues, can the consensus for bitumen exploitation be noted as one viable pathway to economic development and drive a sustainable economy? Bitumen development in Nigeria presents a peculiar case in the solid mineral-led development strategy, especially in the full consideration of its characteristics as an aspect of mining. Beyond the factors that aid development processes: finance, infrastructure, human, and natural capitals (Horsley et al, 2015), is the dilemma of responsible mining and sustainability while aiming to attain high economic growth and development. Additionally, it is imperative to factor in competing stakeholder interests and the governance strategy required for this kind of mining.

The operations of the mining industry in Nigeria have been characterised with negative connotations of being destructive and inconsistent with the ideals of sustainable development. Generally, critiques argue of its inconsistency with the motives of development as it is considered one of the highest pollutants of the environment. It is not just enough to conclude that bitumen exploitation will foster development without understanding the capacity of the proposed industry to contribute to sustainable development.

Reflecting on the challenges of mining in Nigeria, including the issues of poor governance to regulate the activities of the mining raises questions on the possibility of bitumen exploitation

to drive development. More importantly, are concerns about the consequences of exploiting bitumen in the local community where the proposed operations will take place. Attention is drawn to the Niger-Delta experience which raises an important question: what needs to be changed for the bitumen to satisfy the conditions of being environmentally, economically and socially sound following the tenets of sustainable development?

Generally, actions to exploit natural resources and the need to conserve the environment through sustainability are inherently political in nature as explained by the political ecology ideology. Adams and Hutton (2007) argue in their study, that the field of political ecology embraces the interactions of how nature is understood and the politics and impacts of environmental actions. More importantly, the role of the state as the central actor to direct, legitimize actions through the exercise of power and control for conservation. The foregoing frames the political ecology of mining bitumen in Nigeria that is highly complex and raising diverse issues of concern, particularly, the issues of legitimacy and governance. Addressing these lacunae in Nigeria with a political ecology approach requires that bitumen mining is viewed from a historical perspective of resource politics, the transformation of nature and its impact on social groups.

Having realised the potential of bitumen drawing from the success rate in Canada, in what ways can its exploitation be responsibly done in the context of sustainability in Nigeria whilst bearing in mind the expectations of the local community in Agbabu where the mining operations will take place? What are the necessary measures to be put in place for the bitumen exploitation project to be justified as a green mining process to drive development in Nigeria? The foregoing justifies the essence of this research as it seeks to understand the institution, policy, and stakeholder influence on solid minerals development, and its contribution to the economic base of the Nigerian economy needed for sustained development.

1.3 Research Aim, Objectives and Questions

The aim of this research is to explore the possibilities for the responsible mining of bitumen in the Agbabu region of Nigeria.

The primary objectives of my study are:

i. To contextualise the emerging debates around bitumen exploitation in Nigeria within global experiences and local expectations. This objective attempts to critique the operations of the extractive industry in Nigeria and how this generates concerns about

the exploitation of bitumen. The major concern to be framed is how bitumen can be imagined from a responsible mining perspective and how this fosters the agenda of sustainable development in Nigeria.

ii. To critically evaluate the emerging governance regime surrounding bitumen exploitation in Nigeria. This is because resource governance has been framed in pre-defined ways that are relative to resource exploitation operations in Nigeria. In light of this, I attempt to unpack the form of gate-keeping and to frame the possibility of modern forms of governance that is developmental, and in line with the good governance agenda: a holistic framework that involves all relevant stakeholders in mining governance and the resource exploitation spectrum.

iii. To understand the experiences and expectations of communities who will be affected by bitumen mining. On the one hand, this objective frames the lived experiences of the local community at Agbabu, which extends to the imaginations of development in the community from the exploitation of bitumen. On the other hand, it frames the anxieties and the built tensions amongst the local population from being marginalised from the proposed bitumen operations. Such concerns are framed around the lived experiences of the local population in the Niger-Delta region of Nigeria from the ongoing oil operations.

iv. To critically frame the exploitation of bitumen and how adaptive it is to Goodland's principle of responsible mining. This objective relates Goodland's principle and its feasibility to responsibly mine bitumen locally based on the parameters set for a new mining frontier.

1.4 Contribution to knowledge

This thesis contributes to the existing literature on economic growth and development with the revival of the solid minerals sector as an economic diversification strategy for Nigeria by presenting a broad range of intervening discussions for the exploitation of bitumen. By introducing the responsible mining concept, it puts into perspective the possibility to realise national and community development goals from bitumen.

Responsible mining in itself is a relatively new concept which presents an ever-growing literature for the extractive industry to act responsibly in their operations. However, to a large extent, this concept has not been fully applied in Nigeria that relies heavily on the outcome of its extractive industry and the assistance of external corporations to exploit its resources. As

such, this study addresses these gaps by drawing on both theoretical and analytical contexts of the challenges and circumstances associated with bitumen mining in Nigeria.

Beyond the economic or pecuniary motives of resource development, this study also contributes to the literature on environmental management and ecosystem resilience. By this, the study bridges the gap between theory and practise particularly sustainability on the one hand, and resource governance on the other hand. This is because the heavy impact of mining on rural mining communities, the degradation of traditional lands, and the loss of livelihood raise concerns with the proposed bitumen mining. Also, there are claims of marginalisation by mining communities which have been attributed to poor resource governance structures that presents unfairness in decision-making. Thus, this research also brings to the fore the gaps in governance in terms of decision making and argues that a holistic governance regime is important for the survival and efficient operation in the bitumen belt.

Although empirical evidence shows the willingness of the bitumen community to bitumen exploitation, there are several grey areas that need to be unravelled. Generally, the study contributes to knowledge on the attainment of the objectives of exploiting bitumen alongside the goals of the SDGs in Nigeria.

1.5 Outline of the Thesis

In ***Chapter One,*** I have introduced the research with a broad overview of the relationship between resources and development. In light of this, I discussed the resource curse literature and the Dutch disease with specific reference to oil and gas mining in Nigeria. Despite the huge revenues derived from exploiting oil in Nigeria, there is widespread poverty and underdevelopment in the country, especially in the oil-producing Niger-Delta region. This situation has been widely acknowledged as the impact of oil dependency in Nigeria, and as such, led to the considerations of diversifying the economy through non-oil and solid minerals, in context, unlocking the potentials of bitumen. Bitumen is regarded as a high yielding revenue-generating resource with the potential to foster economic growth and development in Nigeria. However, this form of mining is controversial on broader arguments that it is carbon-intensive and highly destructive to the environment with consequences that lead to social and economic imbalances, especially in areas of operations. This chapter contextualises the concerns of bitumen exploitation in relation to the factors that need to contribute to the sustainable development agenda in the context of bitumen.

In ***Chapter Two,*** I consider in more detail how the concept of development thinking emerged and frames representations of many post-colonial societies, from the idea of societal progress to more recent discourses regarding sustainability and rights. These were further articulated using the theories of modernisation, dependency, and neo-liberalism to underpin the paradigm shifts in development thinking. The theories of development are part of the broader picture of how societies evolved in relation to the policies adopted from western constructs as ways to develop sovereign states classified as underdeveloped. I discuss in this chapter the implications of these theories in Africa as well as in Nigeria. The concept of sustainable development which forms a significant part of this study is unpacked as a proactive approach that links environment and development in terms of resource exploitation that meets the current needs and for the future generations. Similarly, governance is unpacked as a driver to enhance the actualisation of the sustainable development agenda with respect to resource exploitation. I use Goodland's concept of responsible mining to reflect on the possibility of exploiting resources in sustainable ways which can be imagined as a foundation on which to delineate extractive activities especially in countries with weak state capacity. This is applied in the context of Nigeria to explore the approach of the state in meeting the sustainable development agenda.

In ***Chapter Three***, I outline the methodology of the study. This was used to address the research objectives slated for this study. This was used to address the research objectives for this study. In this chapter, I contextualise the research in the Agbabu community with particular reference to the inherent issues of underdevelopment amidst so much wealth of bitumen. In this chapter I discuss the entire process I undertook in gathering empirical data and concluded the chapter with the limitations encountered in the course of the fieldwork.

Chapter Four I discuss the linkage between Africa's resources and development which shows that African societies are highly dependent on the outcome of its extractive sector for growth and development. This formed the basis for the analysis of mining in Nigeria with particular reference to its oil and gas industry that is perceived to be unsustainable in operations. Furthermore, I consider the process of bitumen mining and associated sustainability concerns to unlock this paradox of sustainable futures from bitumen. In this chapter, I discuss in detail Goodland's eight principles of responsible mining in the context of bitumen mining in Agbabu. These principles can be used as a potential model for which Nigeria can attempt to exploit its bitumen reserves perhaps, a good model to change the rhetoric of mining in resource-dependent economies like Nigeria.

In ***Chapter Five,*** I discuss the linkage between Africa's resources and development which shows that African societies are highly dependent on the outcome of its extractive sector for growth and development. This formed the basis for the analysis of mining in Nigeria with particular reference to its oil and gas industry that is perceived to be unsustainable in operations. Furthermore, I consider the process of bitumen mining and associated sustainability concerns to unlock this paradox of sustainable futures from bitumen. In this chapter, I discuss in detail Goodland's eight principles of responsible mining in the context of bitumen mining in Agbabu. These principles can be used as a potential model for which Nigeria can attempt to exploit its bitumen reserves perhaps, a good model to change the rhetoric of mining in resource-dependent economies like Nigeria.

In ***Chapter Six,*** I present my empirical evidence from the data collected from the field. Here I present the perceptions of the bitumen community about the proposed mining project. This data is presented in a context where the community has, for many years, lived with the expectations of development and are anxious about the potential benefits to be derived from unlocking the resource. However, there are perceptions that the mining activity is likely to be business as usual as the government cannot be trusted to deliver on its promises on rural community development. I further argue in this chapter the perception of the community on the influence of donors and external agencies to unlock this resource which many participants consider being a form of slavery since companies are only obliged to do according to the limits of the law.

In ***Chapter Seven,*** I critically review Goodland's principle in the context of Agbabu. It includes the application and critique of each of the principles in promoting the responsible mining of bitumen. The parameters and perceived ethical constituents are investigated with the aim of ascertaining its suitability as a foundation for the commencement of mining in the study area.

Chapter Eight summarises the discussions in previous chapters, and the conclusion gives a critical perspective to the paradox of sustainable futures in bitumen mining.

In this chapter, I have presented the primary aim of my research on bitumen mining and I have argued why this is an important question to ask in the Nigerian context. I have also outlined the structure of the thesis, and the reader is encouraged to return frequently to this introductory chapter as one might with a map book on a long journey: as a reference point for the unfolding of the argument over the following chapters. As outlined in the structure above, I now proceed to my literature review, which begins with a discussion of the concept of development in the

post-colonial context, and which will situate responsible mining within the trajectory of this literature.

CHAPTER TWO

FRONTIERS IN DEVELOPMENT: MINING AND THE CONTEMPORARY ISSUES TO FOSTER SUSTAINABILITY

2.1 Introduction

Development refers to the transformation of societies from primitive states of inadequacies and prevalent poverty into societies of progressive change. Development thinking takes its root from various interpretations grounded in the theories of development, such as the modernisation theory, dependency theory and neoliberalism (Bezanson & Sagasti, 2005). The principles adopted to govern societies are reflective of the paradigm shifts in development thinking. This evolving pattern governing societies had an impact on the economy and institutional strength wherein it was practiced. Originally, these theories were western constructs and believed to be replicable in developing countries; however, the direct importation into the developing world context was faced with huge controversies on how effective it was to bring about developmental changes. In the context of Africa, the approach in these development theories lacked indigenous perspectives in its objectives to problem-solving (Aina, 1993).

Natural resources have been associated as a driver of the development agenda, particularly in resource-rich developing countries (OECD, 2011). However, the unabated use of these resources without governing regulations and concerns for sustainability gave rise to the sustainable development discourse. Sustainable development gained prominence to balance growth and development with the pressure on the environment. Whilst this is contested by scholars (Giddings, Hopwood, & O'Brien, 2002; Hopwood, Mellor, & Brien, 2005), it has helped to delineate a proactive approach in balancing growth and development. One of the heavily critiqued industries within the framework of the sustainable development agenda is the mining industry. Mining economies, especially in Africa, are the most affected by extractive operations especially host communities where this takes place. Whilst mining is regarded as an unsustainable and dirty form of extractive activity, it is important to state that it is the major backbone and driver of most resource-dependent African economies (Horsley et al., 2015).

Within the broader concerns of mining and sustainable development is the discourse of governance. Proactively, the strength of governance is regarded as a driving factor to actualise the sustainable development of natural resources. Decision-making in the exploitation of natural resources is considered an important factor to achieve a development that is sustainable

especially in developing countries that are heavily dependent on the outcome of its extractive sector. In the context of mining, governance in the 21st century is perceived as a potential panacea to lead the sustainable development agenda with a framework that acknowledges all relevant mining stakeholders. To emphasise the magnitude of the impact of mining especially the destruction of the ecosystem, the discourse of responsible mining emerged as a modern intellectual field to reduce the impact of extractive activities on the environment. In the context of mining, Goodland proposes eight principles towards responsible mining in eliminating the expected damages in mining activities. One area that is impacted by these activities is the local community where these activities take place and are highly vulnerable to the risks of mining activities. Generally, these areas are dependent on the environment for their livelihoods and the impact of mining in these areas cannot be overemphasised.

This chapter presents the relevant arguments in development thinking and how it evolved into theories constructed by the west for the developing south to adopt. Similarly, the chapter presents the emergence of the concept of sustainable development, governance and responsible mining as the panacea to bring about a development that is sustainable especially in developing countries that are highly dependent on its extractive industry to initiate sustained growth and development. One resonating concern with these parameters for sustained development is the extent to which they can be applied in a rentier state like Nigeria where the possibility to implement these parameters are highly dependent on political actors who perhaps adopt externally packaged policies that do not necessarily address the internal issues of development and mining.

To unpack these issues, the chapter has been structured as follows. The first section is an overview of the origin and evolution of the development concept which helps in the understanding of how societies evolved from primitive forms into industrialised societies. It further engages in the paradigm shift in development thinking from theories believed to be ideal models for societies to adopt and transform into developed enclaves. Also, it covers the impact of the theories of development in specific African contexts where these theories were directly adopted and applied to attain development based on the trajectory of the west perceived to be ideal in an African context. From a broad perspective, natural resources play a significant role in the development agenda, and in context, the exploitation of these resources in resource-rich societies as a viable strategy to attain development. The second section presents the sustainable development concept as a modern way of development thinking that merges the exploitation of the earth's mineral resources and its sustainable use in ways that satisfy the

needs of the current generation without a compromise for the future generation. Sustainable development is a highly contested concept which has tenets that do not address the environmental and social concerns of development with reference to mining in developing countries dependent on the outcome of its extractive industry. The third section emphasises governance as an integral component to achieve the sustainable development agenda in mining regions of the world. This section highlights the infusion of governance as a component to which the issues of development can be addressed as it engages the civil society as part of the decision-making process. It engages the several debates on the linkage of governance with sustainable development and while situating environmental justice in development thinking. The fourth section engages in the discourse of responsible mining as a way to attain sustainable development in extractive activities with particular reference to Goodland's eight principles on ways mining can be achieved from the framework of responsible mining. In this section, the concept of responsible mining and environmental justice in highlighted in the context of Nigeria to unpack the possibility of addressing the development paradox from bitumen exploitation.

2.2 The emergence of the concept of development

The concern to improve human wellbeing has long been in existence and these improvements have been viewed from different perspectives which over time culminated into the discourse of development. According to Soares and Quintella (2008), the development concept as an advanced form of early civilisation, referred to the dynamics within human societies with particular reference to the changes that occurred in western societies at the time, and became the so-called ideal model to explore developing country's situation. It broadly referred to a wave in societal inadequacies especially the prevalence of poverty as well as the pursuit of societal reforms that could result in appreciable progress (Currie-alder, 2016). The resonating message from early civilisation was the idea of progress, regarded as the antecedent to the development concept.

Early connotations of 'progress' had a more general and simplistic meaning centred on the philosophy of life, with assumptions regarding the nature and direction of life-changing patterns. It was an interpretation of the past, relative to speculations for the future as humans slowly advanced from the conditions of ignorance and primitive styles into higher levels of civilisation (Bossard, 1931). This advancement and its application in physical and social contexts explain and shape the discourse of development. The idea of progress by Fontenelle

in 1683 that “mankind with new science and improved technology had entered on a road of necessary and unlimited progress” created the avenue for the future and a growing mastery of nature’s wealth for advancement (Du Pisani, 2006). This led to the industrial revolution, an immediate response that brought about the transformation of human societies through the use of the earth’s resources to initiate societal growth and development. It was sustained with the notion that landscapes could be transformed for production activities in the pursuit of maximum satisfaction. While there were benefits and rewards that accrued to such industrial societies, the income gap between the rich and poor widened which led to the imbalanced distribution of wealth. In no time with this pace of economic and social change, little attention was been paid to the big issues associated with industrialisation, for instance, environmental degradation and the excessive exploitation of resources which now have become the centre focus of development and sustainability debates

Development as a concept is multidisciplinary and has a multitude of meanings. From a social perspective, it describes a situation that initiates social change, and in the long-run, to actualise human potentials towards a desired outcome. This means that development is a process of change rather than an outcome, characterised by dynamic features that are constant to the transformation of societies. There is a demonstration of power that enables this change which depicts some forms of political willingness. From an economic viewpoint, development relates to interactions with elements of the natural environment and the conversion of natural resources into useable forms that accrue wealth and satisfaction for human existence. In a broader sense when related to humanity, development refers to equality in human opportunities, political freedom, and civil liberty with the aim to transform the social, political and economic conditions of people irrespective of gender or race (World Bank, 1991).

Currie-alder (2016) on W. Arthur Lewis’s contribution to the development concept is of the opinion that development can be viewed from two perspectives. First, as a classic theorist idea that focusses on economic growth and wealth distribution including principles that were essential to human behaviour, and the consensual actions of the public. Second, as an idea that got intense after World War II with the aim of rebuilding cities and the maintenance of peace and order, as well as the push for decolonisation, the liberation of colonised regions into new sovereign states. Given these perspectives, the underlying factors to this end had politicised intentions. Africa, in fact, is a typical example of this questionable post-war, post-colonial development idea as some scholars argue that what followed the colonial rule was a reinvented order of neo-colonialism on former colonies.

The late 1940s and 50s ushered the comprehensive and sustained interest in the design and practice of development with a focus on poverty eradication, infrastructural redesign, struggle for peace and harmony, and the consolidated support of institutions that aimed for democratically sound governments (Currie-alder, 2016). Most literature acknowledges that development became a significant discipline of scholarly and enterprise attention after World War II when western societies were confronted with the task of rebuilding countries and setting institutions to foster this aim. It is imperative to note that the Bretton Woods Institutions: the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development now known as, the World Bank, were created by the United States government for the purpose of interdisciplinary research on development. Likewise, the World Trade Organisation (WTO) was created to manage the world economy (Myrdal, 1974). These institutions have been heavily critiqued as contributors to the looting and exploitation of developing countries of the world.

Development thinking and planning as seen this day takes root from the 1950s with various interpretations and approaches that are grounded in the theories of modernisation, dependency, and neoliberalism (Bezanson & Sagasti, 2005). As Bezanson and Sagasti put it, these approaches within the categories of thinking evolved overtime, however, the ability to learn, adapt and adjust to changes between the 1950s and 1980s reflected in the outcomes in the strategy and policy recommendations following the so-called pathway to development as prescribed by these theories. Two major viewpoints sprouted in this regard in development thinking: the first was based on the early developers majorly from the West that aimed at reproducing the positive outcomes of transiting to modernisation. The other was based on the late developers particularly aid donors that aimed at developing probable actions designed and deemed fit to help poor regions accrue maximum benefit. Although both views are central to what is referred to as development to this day, they have been highly contested with regard to what they connote. Some scholars have argued that the parameters and models are not transferable and applicable to every region as each region has distinct issues and problems of development. Thus, they have been apathetic to development efforts while pursuing policies that have undermined development, in particular, Africa's development. Others have also argued in favour of developing regions that development does not mean foreign aid as denoted by late developers because aid only grants immediate responses to situations and contributes less to growth and development. This approach has successfully subjected developing regions into distinct and various forms of debt traps (Bezanson & Sagasti, 2005).

The discussion presented above is a historical perspective on which the concept of development emerged from the influence and idea of progress. It identified the linkage with its impact on the interest and practice of society and further highlighted the various stages to which the concept of development was interpreted. The following sub-sections are the discussions of the theory and practice of the theories of development and how these theories have dominated the development path of societies with specific reference to Africa.

Paradigm shifts in development thinking

Early theories of development that dominated the development pathway of societies focussed on the linkage between political domination and institutional strength and this informed the policies of development in the given era. In practical terms, these theories defined what was assumed to be the pathway of development for poorer countries as a way to catch up with the richer and more advanced countries (Nhema & Zinyama, 2016). At the time countries emerged from their colonial status, most especially African states, the major focus of political leadership was to develop the national economy. However, there were controversies about the State being a principal actor as the need to develop evolved, and this led to the paradigm shift to a market-led system which was perceived to be more efficient to bring about development (Nhema & Zinyama, 2016).

Generally, theories of development are either normative: generalising events that should happen or events that should be in an ideal world, or positive: a focus on what was fundamental to the case in the past. Thus, a critical analysis of these theories show modifications that accommodated more prominent issues which emerged from prior ideological misconceptions and vague assumptions. Since the ideology behind these theories are a set of propositions to align poor countries on a pathway to development, it is imperative to review their key tenets and to identify shortcomings in order to situate emerging economies on a defined path to development (Desai & Potter, 2014).

i. The Modernisation theory

The proximate origin of the modernisation theory was in the 1950s which explains how industrial North America and Western Europe developed. The influence of this theory can be traced to how developed societies viewed the rest of the world (Asia, Africa and Latin America) particularly in the wake of disintegration from colonial powers into newly independent states (Tipps, 1973). Foreign policies of capitalists' origin emerged on how to structure third world

societies, and to promote economic and political independence. The modernisation theory infers that societies are in stages of development through phased processes for economic development. For societies to move into modernity, traditional structures and values had to be replaced with modern values (Reyes, 2001). One notable proponent of this theory in 1960, Walt Rostow, in his book "the stages of economic growth: A non-communist manifesto" defined development as a process that comprised stages that every society must undergo to achieve development. This conception of development became the blueprint of the modernisation theory (Bull & Bøås, 2012; Reyes, 2001).

The principal application of this theory is the support for international trade on products of national and comparative advantage to enable efficient utilisation of resources, increased earnings and higher savings to promote development. However, there were sets of arguments about how the efficient utilisation of resources, skills, technology transfer including foreign aid and investment would lead to development in the third world. Theorists believed that the developing world would benefit from relating with the developed world, with the latter being the engine of modernisation to the former. The caveat was that the third world had to be abstracted from the structural experiences of developed societies (Bull & Bøås, 2012). In the light of this approach, the contribution to development by the modernisation theory was faulted methodologically on grounds that included ethnocentricity, teleology, reification, ahistoricity, and the failure to take real actors into consideration (Aina, 1993). Also as Bull and Bøås (2012) further elaborate, the modernisation theory as applied in Africa took a Eurocentric bias and ethnocentric approach adopting strategies that were based on assumptions that the success in western societies can be replicated in developing societies. This theory was heavily critiqued by scholars such as Paul Prebisch and Andre Gunder Frank that opened the space for radical alternatives to the modernisation theory. These alternatives to conceptualise development thinking included the roles of culture, politics, rationality, and non-economic forms of domination and exploitation (Aina, 1993).

These criticisms peaked by the late 1960s and 1970s as, events in the 1960's clearly depicted that developing societies were not transiting through underdevelopment rather, remained underdeveloped. By this, the international community had begun to experiment with new development strategies that questioned the efficacy and effectiveness of the conventional strategy of development. Thus, the focus was drawn to newer approaches of basic needs, informal sectors within the development discourse.

ii. Dependency theory

This counter-theory to the modernisation theory assumes that developing countries are different from developed countries structurally, and would have to develop differently. Proponents argued that the effect of colonisation affected former colonies and developing economies, such that they were stagnant and exploited. For instance, Andre Gunder Frank a prominent dependency theorist argued in the line of other proponents that underdevelopment is not just a result of traditionalism, but that of colonial exploitation. This validated the view that the peripheries (developing countries) are constantly exploited and economically dependent on the core (developed countries) in the world system including trade ties. Hence, developing societies specialised in the production of primary products, raw materials, and food items to export to colonial home countries, while, the industrialised countries specialised in manufacturing. Thus, the emphasis by modernisation theorists with regards to development through trade, investment, and aid was unbalanced and impracticable thus strengthening the unevenness in the relationship between developed and developing societies (Gereffi & Fonda, 1992).

This view was prominent in the explanation of underdevelopment in terms of exploitation and dependency as opposed to the approach of modernisation theorists. Although this theory was the basis to counter the limitations of the modernisation theory in terms of its limits on national focus, it further strengthened the need to focus on the complexity of imperialism and its functions in restructuring postcolonial states. Thus, a restructure of the system enforced market forces to act on the relationship between the core and periphery as regards economic dominance and resource exploitation. Dependency theorists propelled the import substitution strategy to support local production within national markets rather than importation to developed countries so as to achieve diversification nationally. This strategy was adopted by many developing countries such as Mexico, Argentina, the Philippines, Zambia, and Nigeria. However, it failed as a result of the size of domestic markets; and the capitalist approach in which it was conducted led to further dependency and dominance by the economic giants of developed societies. Hence, the early 1970s led to a counter approach, the export-oriented strategy giving priority to manufactured goods of comparative advantage aimed at international markets.

iii. The Neoliberal theory

The 1980s heralded the neo-liberal (neo-classic) theory of development, a counterrevolutionary ideology that emerged alongside market-oriented ideas. It is heavily supported by the World

Bank and International Monetary Fund (IMF) for an integrated global market that is controlled by institutions in the interest of transnational capital. Although this theory is similar to the modernisation theory, it assumes modifications and extensions such as, the action market forces as opposed to the modernisation theorists' view of strategic action plans by the state (Blaikie, 2000).

Theorists argue that the failure of achieving development is a result of excessive government intervention and control. The emphasis is placed on the impact of the free market and the privatisation of inefficient public enterprise. This ideology promotes less state regulation and control to allow the free movement of goods and services and greater access to international trade. This is regarded as the blueprint of the contemporary concept of 'good governance' and from a neoliberal viewpoint; development outcomes are dependent on institutions: the monetary and financial, organisations, price and market structures, and the relationship between government and markets (Khan, 2008). The essence is to promote and maintain the existence of these institutions and to ensure they function according to their specific roles. By this, the neoliberal tenet is to free the market from the control and regulation of the state, reduction of government expenditures, and to privatise public enterprises to private investors. Proponents of this idea refer to the effectiveness of this ideology in the developing countries of Asia: Taiwan, South Korea, Singapore, and Hong Kong, the four Asian Tigers in the export-oriented strategy and strong development policies.

More critical perspectives to the development concept in its cultural and ethical dimensions emerged in the 1970s such as the postmodern, postcolonial opposition to the Eurocentric conception of development and modernisation. Critiques (Radice, 2008) drew attention to the ethnocentric idea of the basis for development, its limitations, the relationship tension between theories and the developing world, and the political thought on economic development by governments. It is argued in the developing country context that these ideas are supported by international institutions and non-governmental organisations but, concealed under the idea of granting aid and support systems. This opened phases to research on the social and human aspects of development thinking. For instance, the contribution of the United Nations Development Programme (UNDP) on human development has opened new frontiers to development thinking in two ways. First, that theory focused on developed societies adopt macroeconomic factors that lack the capacity to relate the differences and gaps in developing societies as well as to measure the extent and need for development. Second, the importance of the state in development thinking as it calls for the major role of the state in protecting and

supporting human wellbeing with its social policies. In particular, the access to infrastructure, protection of producers, consumers, and workforce interests including the rights of vulnerable people. Drawing on these two factors, there are contentions regarding the perspective of the neoliberal proscription of state intervention and the opposing call for a more vigorous state role. This has continued to inform debates on growth, development, and governance in both local and global contexts.

In summary, this sub-section has explained the ideologies behind the major theories of development on the one hand, and also highlighted the stance of critiques and notable scholars in the research on development. What is argued here in is that these theories are a conceptualisation of western societies; an articulation of how societies should move from primitive stages into industrial and powerful enclaves. Also, it argued the methods by which western societies pushed for transitions and how this influenced developing countries' aspiration to replicate or depend on the same approach to attain development. Mineral exploitation has been key to the development agenda even as development outcomes have seen the environment as a resource to exploit to attain development. Having discussed these theories and the ideologies behind them, it is important to assess its outcome in certain countries in Africa. The next section is an assessment of the implication of the theories adopted in Africa, in context, the outcome of the theories on the economy as well as the development strides achieved by governments.

Implications of development theories in Africa

The crisis in Africa's development, particularly after many countries gained independence has been the focus of most scholarly and intellectual debates, with ever-growing literature on the problems, solutions, and strategies for development. Scholars, researchers and non-governmental organisations (internally and externally) have focussed on analysing past events with attempts to find solutions, most times from viewpoints that are premised on the conditionality's that must be fulfilled to aid the development process (Aina, 1993).

Prior to the 1970s, much of Africa's structure was tailored around colonial impressions and comparably, the dominant control of the economy by colonial masters and affiliations was highly controversial. By the 1970s and 1980s, the African economy depreciated under the world economic outlook with evident gaps in infrastructural development and had become issues of concern as political systems, social order and legitimacy had become questionable.

The extent of this development crisis reflected in the responses of governments and intervention by international organisations (Aina, 1993).

Externally packaged and internally administered responses to the development crisis in a series of economic reforms to Africa were quick responses adopted by many African governments. One of these is the Structural Adjustment Programme (SAP) supported by International institutions: The World Bank and the IMF. Although this ideology of SAP solved some economic inefficiency, it worsened the situation in the long-run as it contained its own set of ideologies, methods and a network of vested interests. Aina (1993) argues that Africa's crisis is beyond development practices and processes rather, a crisis of development paradigms with regard to its framework and conceptualisation.

Since World War II, issues related to economic growth, resource control and allocation, policy and decision-making processes to attain high economic returns and less social cost have dominated the intellectual atmosphere. To start with, the emergence of a few African countries into independence in the 1960s had regional governments seek rapid economic growth through monetarism as put by the modernisation theory (Nhema & Zinyama, 2016).

The explanatory power of the modernisation theory in Africa was the replication of Western European and North American ideas as models of development. Newly independent countries as stated by Nhema and Zinyama (2016) adopted the 'Development Administration' (DA) style of government which sought the expertise of the West to develop models of bureaucracy in organisation, training and technical aid. The DA system proposed that the obstacles to development were administrative as opposed to it being economic. This was to ensure that public administration could contribute to social and economic development through principles of impartiality in management systems, rationality and neutrality, management systems with goal objectives, professionalism in public service and delivery, centralised authority and job specialisation. However, by the late 1960s, this reformation lacked competency in implementation, impact, and outcomes. It was apparent that the strategies put forward by the proponents of modernisation had failed (Nhema & Zinyama, 2016).

Around the world, the dependency theory was applied as it had tendencies to address the issues and causes of inequalities especially the differences between the developed and developing world. For instance, the contribution of the Caribbean Dependency Theory (CDT) was a critical response to the evolving neoliberal policies of the 1970s focused on eliminating external control over development imposed by institutions that aimed at the enforcement of neo-colonial

structures. The CDT was to create a framework of economic policies that would allow states to take control of their development pace.

In Ghana, the study by Ahiakpor (1985) puts forward the dependency theory and its control over economic policies from 1981. Under the British colonialists, Ghana thrived as a result of the development of its mining, coca and timber industries. However, the country became poor upon independence and was attributed to the structures inherited from colonial compositions, administration, and global trading systems. To add, the inefficiencies of import substitution measures, the inefficiencies in the food production industry and the huge budget deficits. As a result, there was a decline in the country's revenue and export earnings, especially from cocoa production and other export commodity earners. In fact, there was widespread corruption and increased poverty levels as delivery mechanisms for poverty alleviation benefitted only a few. These circumstances advanced the assertions of the dependency theory as the source of underdevelopment especially in Africa. The adoption of the tenets of the dependency theory was heavily criticized as the impact niched higher levels of poverty and dependency on international aid and charity. Policy acts followed a reduction in production, savings and investment incentives and led to further debt incurred from international institutions like the IMF and the World Bank (Ahiakpor, 1985).

The assertion of dependency theorists, history poses a poor determinant of future events which contrasts the tenets of neoclassical theorists of future predictions from decisions made in the present. Theorists opine in line with Ahiakpor's assertion that the dependency theory was a misleading framework to design economic policies for developing countries. To aggravate this problem non-existent expertise and technical skills to evaluate the consequences of economic policies remain a huge problem in developing countries.

Generally, African countries have suffered unfair terms of trade (the difference between export and import prices) particularly at the peak of the demand for raw materials since World War II. Despite the fall in primary commodity prices, no African country diversified from primary commodity exports (Bond & Dor, 2003). Thus, many African countries such as Zambia, Botswana, Congo, Nigeria, and Gabon rely heavily on export earnings from mono-product export commodities that accrue over 75% of revenue to its economic base. However, a few others like South Africa, Tanzania, Zimbabwe, Gambia and Lesotho that rely on export earnings, make the claim that 25% of earnings are derived from over 4 products.

Structural adjustment programs in Africa with the likes of Zambia, Malawi, and Nigeria as case studies prove the success or demerits of this perspective of economic reform for development. In the case of Zambia, the rich mineral resources at independence in 1964 were well developed and favoured by market conditions. This period accrued huge revenue and government expenditure from the exportation of copper. However, external shocks on the oil boom in 1973 and the decline in world copper prices in 1974 led to the economic crisis in Zambia (Saasa, 1996). According to Saasa, this situation came about from the external shocks, the influence of crippling government policies, and the inability of the government to diversify the economy from a declining copper industry to other non-traditional minerals sector. Faced with these anomalies, the response was to lend money from foreign institutions to maintain importation for the purpose of consumption and investment. By 1984, the country became the most indebted in the world relative to its GDP (Saasa, 1996).

Although the policy in this era was to sustain foreign direct investment, it was compromised by government policies such as; import substitution mechanisms; control, ownership and management of economic activities by the state; investment by the private sector but directed by the state; and the protection of local industries from external competition by means of low local tariffs particularly industrial input tariffs (Saasa, 1996).

The success of neoliberal policies is highly contested in both developed and developing society contexts. While developed countries are equipped with the resources and infrastructure to aid its implementation, it is not so in developing countries since resources and the necessary infrastructure for its functioning are lacking. Liberal policies were designed by the World Bank and IMF for developing countries to open markets and reduce state roles with the intention of these countries to identify with the global economy. These policies were conditions to receive foreign assistance from international institutions with a philosophy that advocates for less state intervention in the functioning of the economy (Saadatmand & Choquette, 2012).

The distinct tenet of the dependency theory is relevant in the analysis of Nigeria's development pattern since her independence in 1960. Nigeria has been highly dependent on western societies for the growth of her economy, exports, technology needs, and the development of the industrial sector. Also, it is heavily dependent on finances from external organisations in a bid to offset huge debts. These debts accrued by past and present governments have had massive implications on the progress of the Nigerian economy.

Uche (1994) on the experience of the economic implication of dependency on Nigeria emphasized the huge debt of US $33 billion from an overall US $270 billion external debt accrued by African countries. This economic situation represents the failure of the oil led growth that typified the dependency on oil wealth, which became a peripheral commodity to the core and the major instrument of optimism for development. However, the attraction of foreign investors deprived Nigeria of developing her economy and integrating into the world economic system. Also, the high level of corruption prominent by the ruling elites to date contributed to the low level of development in the Nigerian system. High levels of poverty and its associated living conditions got it listed as one of the world's poorest countries and ranks 63 out of 74 developing countries on the Inclusive Development Index (IDI) report (WEF, 2018). More recently, scholars have analysed the poor performance in growth and development and have moved the motion to diversify the economy. While some scholars advocate for agricultural diversification which was the mainstay of the economy prior to oil discovery; others advocate for diversification into solid minerals development with an optimistic outlook based on the development success of other countries endowed with solid minerals. However, amongst other issues to be addressed in support of the diversification strategy, is the concern for a development that is sustainable with the exploitation of resources in ways beneficial to the society and by extension, a substantial contribution to the national economy.

Development planning that began in Nigeria in 1945 under the modernisation paradigm aimed to replicate western patterns of development by adapting Rostow's growth models in Nigeria (Dibua, 2017). The four development plans between 1962 and 1985 asides being tailored along the modernisation paradigm defined the philosophy, objectives, and targets for development. Thus, the first (1962 - 1968) and second (19970 -1974) development plans developed at the peak of the popularity with Rostow's growth model; accordingly, it formed the minimum requirement for the take-off zone to development. The significance was to aid Nigeria in resource mobilisation for growth as oil revenue this period, was anticipated to transform the economy. Similarly, the third plan (1975 - 1980) was aimed to eradicate the traditional systems of development with western ideas and practices as the primitive and backward system of operation was supposedly the cause of the underdevelopment within the economy (Dibua, 2017).

A critical reflection on the development theories in Africa proves that the theories lacked a holistic approach with its intentions that were embedded with hidden interests and a drive for continued dominance by western societies. This agrees with the argument by Aina (1993) that

the approach of these theories lacks the indigenous and endogenous delineations to its priorities, objectives in the design and formulation of its tenets and practices including the associated paths and problem-solving approach. As a result, this unbalanced condition with regards to its definition and lack of people-orientation in formulation and implementation were regarded as alien to development and progress in most African societies. Over the years, new ideas and lenses to development thinking have emerged such as the discourse on sustainable development, environmental justice which have a role within the development debate and have been modified severally to address emerging issues and trends in the development discourse around the world. Following the debates and contentions in societal development and the dissatisfaction over the interpretations of theories into reality, led to the evolution of newer studies and approaches to development. Emerging ideas have become trending thereby creating new frontiers in thinking in order to tackle the problems associated with development particularly, a sustainable framework to develop impoverished regions of the world known to possess resources, and great potentials to attain the league of the industrialized and developed world. To this end, the idea of sustainable development came into being by the Brundtland Commission in the latter part of the 20th century to tackle or bring to extinction the issues of development around the world particularly the third world.

2.3 Sustainable Development in Development thinking

The underlying principles of sustainable development are rooted in the sustainable use of earth's natural resources as a result of the global ecological crisis. It resulted from conceived ideas of ways to solve environmental problems especially those caused by industrial activities and the exploitation of natural resources (Duran et al, 2015). In terms of natural resources, the requisite for the sustainable development of any resource encompasses a development that is environmentally sound, and socio-economically viable. There are ideas in literature that natural resources are capable to initiate economic growth and development. However, such ideas are undermined by the outcome and environmental accounts in developing societies (Dubiński, 2013; Sachs & Reid, 2006). At the core of the sustainable development, debate is an approach to development that attempts to balance different societal needs in light of the environmental, social and economic constraints. In a broader sense, the consideration of limitations and environmental thresholds in resource exploitation that would be beneficial to both the present and future generations.

Sustainable development gained formal recognition at the United Nations Conference on Environment and Development (UNCED) in 1992 (Gudmundsson, Hall, Marsden, & Zietsman, 2016) following its acceptance in the 1987 Brundtland Commission Report 'Our Common Future'. Defined as the development that meets the need of the present generation without a compromise on the ability of future generations to meet with their needs (WCED, 1987), It is understandable that it covers the concern for sustainability in relation to the global attention on issues of poverty, inequality and the welfare for humanity.

According to the study by Duran, Artene, Gogan, & Duran (2015), the key objectives of sustainable development identified in the Brundtland report are:

a) The economic system – to maximise the amount of the production of goods and services in the environment; efficiency in the use of resources: mineral, biological, energy; and adapting technology for resource processing and reprocessing.
b) The social system – equity in the distribution and allocation of goods and services amongst all stakeholders at local, national and global levels; adequate information sharing to society with regards socio-economic processes; creation and adaptation of structures: political and institutional particularly those related to information management for flexibility and self-administration.
c) The ecological system – to maintain biodiversity and to support full compliance with self-regulation.

Perhaps, the most significant impact of the Brundtland report in contemporary times is the frontier to sustainability as it opened new patterns and meanings on development thinking (Kuhlman & Farrington, 2010).

Despite the adoption of the Brundtland report in some studies (Kemp, Loorbach, & Rotmans, 2007; Sneddon, Howarth, & Norgaard, 2006), it has been highly contested by others (Giddings et al., 2002; Hopwood et al., 2005; Jabareen, 2008). In particular, Beckerman (1994) critiques the concept of sustainable development as 'morally unacceptable or logically redundant' since human needs are subjective and influenced by time, income and cultural backgrounds. As such, there are no clear guidance based on subjectivity on what ought to be preserved for future generations. Luke (2005) asserts the void in the intellectual emptiness and clarity of needs and desires, whose needs it is - whether present or the future, and the context of where it takes place. Without the clear distinction of these parameters including that on conservation, it would be difficult to translate the objectives of sustainable development into reality (Lele, 1991).

Similarly, there are contestations from scholars like (Redclift, 2005; Robinson, 2004). Specifically, Robinson a critique to the work by Gibson (1991) in the Non-Governmental Organisation (NGO) publication 'Probe Post' connote his views in 3 parts. First, on its vagueness which gives room for different interpretations, second, as hypocritical, denoted by fake greenery without clear distinctions on what product and activity is green or socially responsible; and third, a delusion and oxymoron as it presents a catchphrase rather than the revolutionary thought of positive economic and environmental change.

According to Hove, (2004), the unsuccessful and unclear relationship between economic gains and environmental protection is a fundamental problem. What is considered the greatest flaw of sustainable development being a western construct is its failure to address the excess consumption attitude of the West. This gives room to economic expansions without the meaningful reform of the environment and is a reflection that it lacks a framework for specific actions towards development. Hove contends further on its ambiguity and difficulty for actors to interpret and formulate specific ways to limit unabated growth at the expense of the environment. For Redclift (2005) the various interpretations of sustainability is embodied with assumptions that need to be clarified. Notable in his argument is the basis on which "needs" are defined in different cultures. According to Redcliff, what is defined as 'needs' are defined in different geographic spaces since societies make trade-offs in accordance with projected economic returns.

Giddings et al., (2002) argue that no common philosophy is capable to give structure to sustainable development rather, the existing world views of people, environmental organisations, and social activists that conceptualise it. This means that no significant progress can be made in achieving development that is sustainable without joint effort of stakeholders (Dernbach, 2003).

The concept of sustainable development and sustainability are often contested and used interchangeably. Parkin (2000) differentiates sustainability as a quality objective on the intrinsic capacity of the environment to keep itself going indefinitely and in support of human life while sustainable development is the process to which sustainability is achieved overtime being a progress path for humans to operate in systems that match the natural world without undermining its present state. Clift (2006) is of similar opinion that sustainability is the goal and sustainable development, the process to achieve the desired goals. Dernbach and Cheever (2015) view either concept as a framework for decision making to achieve and maintain human

well-being. Although critics of these concepts have argued these concepts to be mere political manoeuvres and shortcuts, it has helped law and policymakers to improve and make better and favourable decisions.

They emphasize in their study that the framework should encompass considerations for the protection of the environment, social justice, and economic development. Furthermore, with respect to content, decisions regarding social and economic development should include environmental protection, while decisions regarding environmental quality to include economic capability and social justice. Although many critics of these concepts have argued these concepts to be mere political manoeuvres and shortcuts, it has helped law and policymakers to improve and make better and favourable decisions.

What resonates in the literature is the growing understanding of the environment, from a reactive to proactive approach. More importantly is the question of compatibility of economic growth with environmental protection. In essence, the debate on what can be developed or sustained resonates when taking into consideration the impact of activities on the environment (Parris & Kates, 2003).

2.4 The emergence of governance as a discourse in development

The concept of governance has been both a political and academic discourse which generically refers to the task of running a government. It has evolved in meaning over the years and has become a highly debated concept either by theoretical reasoning or ideological connotations (Hufty, 2011)**.** Christensen and Lægreid (2007) describes governance as the changes in the nature and role of the state resulting from public sector reforms. For instance, the reform from hierarchical bureaucracy to markets, quasi-markets and networks in the delivery of public services in the 1980s and 1990s. The state depends on external actors and organisations to protect its intentions, enact policies and institute a rule pattern (Jackson, 2001).

The United Nations Development Programme (UNDP) describes governance as 'the exercise of economic, political and administrative authority to manage a country's affairs across the board. It comprises the mechanisms, processes, and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences" (UN, 2006). In other words, the process that aids decision making and the implementation or non-implementation of decisions. Similarly, Graham, Amos, & Plumptre (2003) define governance as the practise by which societies or organisations make decisions,

whom they involve in the process of decision making, and how they account for such decisions. This is dependent on internally given rules by the society or externally motivated actors.

In principle governance is about making conditions for systematic rules and collective actions that point to structures created or orders that are not imposed by external forces, but a result of the interaction of an array of governing entities and influencing actors (Stoker, 1998). Although the concept of governance has been applied to cases of no formal political structures, it still entails a political process that involves the build-up of consensus, or earning consent required to embark on projects in areas of diverse interests (Hewitt de Alcántara, 1998). The contextual meaning of governance as the process of decision making in contemporary times is a discourse that involves the civil society which is a form of democracy. Governance is widely used in comparison to government in the analysis of societal functioning and structuring as it embraces non-state actors: civil society, organisations and social activists. Patterns develop from engagements with social, political and administrative actors when directed by mutual goals (Jordan, 2008).

There is growing literature in the transformation of political order in governance. This wave of thought validates the extinction of state monopoly as societies have become more complex and with newer demands for equity. This brings to fore the definition of Chhotray and Stoker (2008) as "Governance is about the rules of collective decision-making in settings where there are pluralities of actors or organisations and where no formal control system can dictate the terms of the relationship between these actors and organisations".

The application of governance in various disciplines and in different parts of the world is unique, particularly in the developing world where much emphasis is placed on the quality of governance. This notion of governing opens a new frontier to the debate in the way by which power is exercised by governments in the management of a country's social and economic resources. Walters (2004) in his work summarizes the concept of governance in 4 themes: first, the change in the analytical interest in political studies from an institution perspective to the processes of rule; second, the distinction in the governance theory with a focus self-governing networks; third, the focus on social change; fourth, a focus on how the state is viewed in contemporary times.

Environmental governance features responses to emerging environmental issues which are structured according to national policies and legislations that meets acceptable standards. Specific action plans are derived from political and economic spaces, however, subject to the

motives of governments in country specific situations (Lemos & Agrawal, 2006). It describes the tension that arises between resource governance and resource exploitation. As such, the motive is to bridge the gap between conservation and natural resource use since the powers and legitimacy of the state has been heavily criticised (Bridge & Perreault, 2009). It is imperative to state that the increasing demand to exploit the earth's natural resources creates more tension on governance.

The United Nations Environmental Programme (UNEP) states that environmental governance cuts across all levels of government to find lasting solutions to environmental challenges posed by threats on the diversity of earth's resources. This follows a set of rules, policies and institutional frameworks that regulate and control man's relationship with the environment (UNEP, 2009).

The mining sector being a crucial aspect of human activity deals with the extraction of raw materials and a linkage to other production activities (San Cristobal & Biezma, 2006). Mining is the backbone of most resource-dependent economies but the activity of the sector is a contested field where a significant proportion of indigenous lands have been polluted. For instance, in Africa, the mining activities of copper in Zambia (Lungu, 2008); oil and gas in Nigeria (Kadafa, 2012); diamonds in Congo (Kabamba et al., 2016) have left lasting imprints on the ecosystem. In most cases, there have been forced migration on affected peoples away from native lands; others have resulted in high mortality rates while the more visible and highly contested is the abject poverty in most of these societies (Askland, 2018).

Development as a result of globalisation produces pressures on governance structures and for reforms of these structures (Kemp, Parto, & Gibson, 2005). However, it has impacted public awareness about environmental issues associated with trade even in the context of mining and resource exploitation. In fact, to achieve sustainable development, there is a consensus that globalisation from trade flows need to be alongside environmental sustainability and a widespread aim to reduce poverty. Although environmental impacts are not in isolation to industrial activities, it has become a focal point of public discourse as it ought to take the environment into consideration in trade negotiations. It is assumed that liberalisation as a result of enhanced trade flows if properly implemented can offer developing countries the opportunity to develop environmentally friendly technologies and sound production methods (Harrison, 2004).

Understanding the complementary actions of government and civil society on governance is fundamental to newer models to environmental and resource management for a sustainable development. The rise of neoliberal ideas in the 1980s created the basis for market forces to curb environmental problems alongside mild policies. However, the inability of market efficiency with proliferated social and environmental issues led to the environmental governance trends which are a recently evolving concept (Gunningham & Holley, 2016).

2.5 Situating environmental justice: rescaling development

Various critics have emerged in the development debate with major emphasis on justice, the pedestal on which social and environmental considerations are deployed. The social and environmental aspects of sustainable development is a reflection of the importance of environmental justice which intrinsically is lacking and has not been fully embraced in developing country situations. From inception, the setback as a result of the oversight on justice is peculiar to rentier states and poses challenges that have consequences on a wider scale. The background of the environmental justice discourse is from the acknowledgment of the limitations to scarce resources, its suitability for current uses, and preservation for future uses especially regions bounded by vulnerable features.

Virtually all developing regions remain poor and faced with environmental problems and disasters as a result of mining activities. Global industrial and manufacturing have material inputs sourced from environmentally unstable geographical zones of the world. On this premise, environmental justice focuses on the uneven distribution of environmental benefits or cost burdens on people (Agyeman, Bullard, & Evans, 2002). Early conception of this idea in the United States related to legal and political contestations on the politics of distribution, inequality, and injustice poor black communities. This environmental movement spread around the world with its tenets of activism against policy rhetoric in governance (Walker, 2010). Environmental justice is typically unpacked in the form of equality, equity, and compensation.

According to Wan (2014), justice as a form of equality unpacks the concerns of the environmental and social impact of mining. In challenging the injustices created by structural deficiencies, environmental benefits and costs must be equally distributed as well as the participation of local communities in decision-making processes. Although, justice is achieved when pollution levels are proportionately reduced in all areas; its burden may still vary. Equity is based on principles of the proportionality of costs or benefits in comparison to its input. In essence, it is a wide coverage that emphasises the equal consideration for all stakeholders

(Mcdermott, Mahanty, & Schreckenberg, 2012). For instance, mining communities that are polluted ought to have a proportionate degree of benefits. Compensation is based on the tenets of remediation which emphasises the allocation of recompense to areas that have been unduly affected by activities in the past or present. Compensating mining communities contributes to a long-term development plan that is sustainable and beneficial to stakeholders (Mcleod, 2000).

The assertion of marginalisation by peoples in affected communities holds especially in societies of racial (Conde & Le Billon, 2017). Environment-related movements seek to address these issues particularly those with little access to political and legal resources. To address this, grass-root activists exercise legal rights as mediators between communities and immediate local authorities, however, such action movements are suspicious as they seek to represent opposing gains. Despite the motive by interpretive structures: bottom-top (grass root to authorities) or top-bottom (authorities to grassroots), the idea of environmental justice remains vague and deep-seated with pecuniary motives for mining (Homsy, Liu, & Warner, 2019).

Critics oppose the notion on which "justice" is addressed in environmental justice which mostly refers to the issues of equity in the distribution of benefits or ills without deliberate focus on recognition and political participation. Schlosberg (2004) argues that justice is a 3 fold cord that addresses: first, equity in the distribution of environmental risks; second, the recognition of the diversity of participants, representatives and the experiences of affected communities; third, the participation in the political structure and processes that create environmental policies in order to manage issues.

Critical analysis of globalisation stresses the inadequacies of liberal theories focussed on fairness in the distribution of goods, products, and services. Unlike liberal theorists, environmental movements are more concerned about the wide scope of societal limitations and are more pragmatic in focus. For instance, the US incorporates distribution, the recognition and political participation of peoples (Schlosberg, 2004). Although democratic and participatory decision processes are preconditions to environmental justice, it is not so much articulated in developing societies. Recent focus on the relationship between environmental justice and sustainability is to design sustainable practices especially its implementation in affected mining communities (Schlosberg, 2013).

In terms of mining, it is argued that companies are subjected to intense scrutiny of their intended activities. This according to Prno and Slocombe (2012) is what defines the Social

License to Operate (SLO) that companies obtain to operate within their environment in order to avoid practices and activities deemed unacceptable by the host society.

2.6 Responsible mining and development

Improving human living conditions has from time immemorial been conditioned by the use of the earth's natural resources. This notion of development gained more prominence particularly in the era of industrialisation with the mining industry as a significant engine in early civilisation. Whilst many developed countries such as the United States, Norway, Finland and Canada attribute their state of development to the outcome of the mining industry, it is not the same for some developing countries such as the DRC, Sierra-Leone and Nigeria which are yet to fully benefit from the industry's activities. Over the years, the unabated exploitation of resources and the operations within the mining industry has brought to the fore the destructive nature of mining particularly in developing countries. This issue opened the contemporary discourse on responsible mining to advance the frontiers on sustainability for the mining industry.

The intellectual field which critiques development highlights the oversight of the idea of responsibility in mining activities within the environment. The consequences are the records of notable impacts on elements of the ecosystem. As such, the idyll of the ecosystem has become vulnerable to the activities for raw materials, energy as well as industrial wastes from processing that have damaged the climate, ocean, and caused imbalances in natural elements and environmental resilience.

From a contemporary viewpoint, responsible mining is a drive towards creating a balance in the quest for economic growth and development with a commensurate effort to eliminate or limit the social and environmental consequences in mining. Hence, responsible mining relates to the discourse on mining reforms and ethics to justify mining operations since it is perceived to contribute to sustainable development (Goodland, 2012).

According to (Goodland, 2012) mining has the potential to offer massive profits in quick successions with fewer impacts and no conflict with surrounding mining communities. Although, mines provide opportunities to local communities, government and other stakeholders in terms of employment opportunities, economic development, and revenue to the government; it presents risks in diverse forms relative to social and environmental degradation. The notion of minerals within a geographical space as public assets should translate to informative decisions about its exploitation which requires transparency, joint participation,

approval and endorsement by civil society. Goodland further emphasises on the problems that arise from weak governance structures that subject local communities to environmental risks from the impact of mining. These occur as a result of the loop-sided relationship between the rich mining corporations, and the people impacted by industrial mines.

There are prominent debates in mining with regards to the challenges of delivering socio-environmental, friendly and eco-sustainable development, particularly in vulnerable regions of the world (Dong et al., 2019). Brand (2012) highlights the importance of promoting a green economy development strategy to sustain the environment. This prompts a synergy and proper engagement amongst stakeholders: company, host governments at all cadres and the local population. Since mining activities have been regarded as complex processes, it invariably requires effective communication as an efficient key to the success of any proposed mining project. This covers the economic, social, political, technical and environmental aspects to gain not only the trust and commitment of the host government but also, the host population where the mining activities take place (Goodland, 2012).

The responsible mining framework presents to companies in the mining business the opportunity to act in ways that will win the trust of local populations and host governments which in turn will increase their profits, reduce or eliminate environmental impact, reduce communal conflicts and clash with mining companies. Mining presents both benefits and costs within environments where activities take place. However, as a result of weak resource governance and dysfunctional institutions in mining economies, power asymmetry is created between mining companies and local communities, especially host communities that are impacted by mining activities. Many kinds of literature expound and argue that this imbalance, coupled with the nature of mining operations leads to social and environmental degradation. Overtime as a means of survival in affected communities, artisanal mining springs up and also contribute to an impact on human populations especially the environmental and health implications. Interestingly, the concept of responsible mining seeks to redress these issues as it posits that no form of mining activity should damage the ecosystem and human living support system (Goodland, 2012).

To be responsible in the context of mining – one of the major causes of environmental degradation and ecosystem imbalance - is to have the capacity to make decisions that are moral, accountable, legally binding for review or penalty, and are based on good judgment (Goodland, 2012). But in reality, no form of modern mining activity, especially large-scale mining, can be

operated without having a significant impact on the environment. This is partly as a result of the large volumes of ores and overburden that remain after the processing of mineral fractions (Goodland, 2012). Thus, the responsible mining approach brings to the fore the need for the mitigation hierarchy: avoid, minimise, restore and offset. By this, there is a push to first prevent impact, minimise or restore impact, and to offset an unavoidable impact. This hierarchy is a decision-making framework that addresses the impact of any activity on biodiversity and the ecosystem (Goodland, 2012; Phalan et al., 2018).

Goodland proposes eight principles towards responsible mining which aims at eliminating risky mines causing damages, and also to assist big corporations on project decisions to embark upon. These principles are:

- Social and environmental assessment: that a standard Environmental and Social Impact Assessment (ESIA) should be an objective to ascertain the impact levels of proposed mining activities.
- Transparency: all ESIAs should be transparent to all impacted stakeholders and should be jointly facilitated by all stakeholders from the start to finish.
- Stakeholder acceptance: mines should not be forced on people and communities that object to its existence. Following the stakeholder identification process, mining corporations ought to establish an independent representative Citizens Advisory Council (CAC) to oversee the entire lifespan of the mine project. Also, Corporate Social Responsibility (CSR) to impacted stakeholders to compensate for risks and generously increases benefits and compensations.
- Good analysis of questionable mining: mining activities should not be a threat to agricultural activities and water availability especially local communities situated around mine area.
- International standard and compliance: double operating standards should be eliminated as policies that obtain in the host country must be applicable to proponent's home country.
- Prequalification of bidding corporation and license permit: independent certification of corporations funded with bid payment for mine project to local governments. The third-party certification evaluation (for instance, the environmental investigation agency, environmental law institute, and the global witness) is deemed powerful as they

investigate environmental and social performance with a focus on governance, standards, and assurance.

- Insurance and performance bond: to fund accidents, and noncompliance fees especially after mine closure when most companies are bankrupt.
- Royalties, taxes, and fees: to ascertain the significant net benefit (profits and benefits accrued to both corporation, government less the environmental and social impacts) accruing mainly to impacted local communities of a proposed mine. Although the environmental and social costs are difficult to estimate, it must be adopted into the cost. If costs are underestimated or compensation is below expectation, the project is stopped till the agreement is reached.

Goodland's principle appears straightforward for mining companies, national governments and communities to adopt in selecting what mining business is profitable, sustainable and without being risky. However, in reality, mining issues are complex and require proper dialogue between all mining stakeholders on all aspects of a proposed mining project - the technical, economic, environmental, and socio-political. Following Goodland's principle as outlined, how can potential mining projects be properly scrutinized when there are conflicts of interests? National governments place higher priorities on royalties, taxes and benefits and corporations are regularly on a mission to widen profit margins. These objectives in many cases, override the expectations and benefits to accrue to local communities who are potentially at risk.

The point that this section makes, finally, is that mining is almost always destructive to the environment, but there are nevertheless protocols for minimising these effects.

2.7 Conclusion

The discussions in this chapter are from varied literature that helps to deconstruct the idea of development from a historical viewpoint and how this relates to the contemporary discourse of development in relation to the exploitation of natural resources. The discourse on development thinking according to the literature suggested that the idea of development began as a notion of progress through which societies were to pick up from primitive stages into more advanced and improved forms of civilisation. As discussed, the industrial revolution was the immediate response linked to growth and development however; little attention was paid on the aspects of the environment whilst in pursuit to transform societies into modern societies. The concept of development has been interpreted in various ways which in the literature is unpacked and explained through the paradigm shifts in the major theories of development and its impact on

Africa. The literature suggested that these theories lacked a meaningful contribution to help developing countries transit. This is because these theories were western constructs that were directly imposed on Africa without internalising its tenets and ideology.

Sustainable development at the core of resource exploitation was discussed as the concern for sustainability as a balance between growth and development in relation to social, economic and environmental quality. The review of governance as a driver to sustainable development as it applies to mine development relates to informed decisions towards achieving a development that is sustainable. In the literature, governance as complementary actions of government and civil society was cited to be fundamental for the sustainable use of resources and its management. A review of responsible mining was done, which is an emergent approach to foster sustained development. Responsible mining, when applied to the mining industry, is perceived to be the panacea for the challenges in mining activities especially in developing countries. Goodland's principles were cited as possible mechanisms on which a mine can be developed to eliminate the concerns of unsustainable mining operations. These principles are deconstructed in its relevance to Nigeria where there has been a bad reputation with regards to the environmental issue and corrupt practices. The failure of the state to address its development challenges despite the enormous wealth derived from its prominent oil industry has led to the clamour to diversify the economy. The argument in this chapter is given detail in subsequent chapters as it relates to unlocking mineral resources in the context of Nigeria. In light of this, the next chapter is devoted to the methodology adopted for this study, and this chapter gives more detail on the research under study.

CHAPTER THREE

METHODOLOGY

ENGAGING THE FIELD: EXPLORING THE PERCEPTIONS OF BITUMEN

3.1 Introduction

The illustration in this research relates to the possibility of sustainable futures from bitumen mining in Nigeria. Because Nigeria is a rentier state, revenue has continually been derived from the exploitation of its oil reserves which in recent times has plummeted, and triggered the decision to exploit bitumen. Bitumen is commonly cited as a carbon intensive resource which exposes the huge controversy or impossibility of merging mining and sustainability. Thus, much concern arises with regards to the complexities of exploiting bitumen within the wider political ecology perspective of sustainable development. In context it is the contradiction of development that could result into social and environmental crisis. Within this complex discourse of mining are questions of the connections between socio-political processes, representational practices and environmental change (Bryant & Goodman, 2004). Thus, relating this study to the research in political ecology offers deep understanding of the social, political, ecological implications on people and ecologies.

Political ecology is a combined concern for ecology and the political economy that represents the dynamic tension between ecological and human change. It lends voice to the complex human-environment interactions, and the understanding of the interrelationship between people, economies (national and global) and ecosystems (Peterson, 2000). The resources at a given time and place shape the politics, economics and management approach of the ecosystem. At the heart of the political ecology debate is that politics must be core in understanding human-environment interactions and how this spreads to the environmental degradation concerns This notion came about as a result of the apolitical nature of early environmental research particularly in the development of the third world political ecology research (Bryant, 1998). Whilst politics cannot be isolated from ecology, ecological approaches must consider political dynamics in its explanation of human actions.

Political ecological in relation to the study of mining and resource extraction provides key perspectives to the politically motivated aspects of resource control and access which in the context of bitumen mining in Agbabu is a significant component of the broader focus of this research. Increased awareness of the consequences of resource extraction as well as that of sustainability facilitates the changing perceptions of the value of exploiting natural resources

in sustainable ways. Apart from the environmental consequences of mining bitumen at Agbabu, there is interplay of power and politics which are a component of the proposed economic undertaking within the community. As such, the political ecology perspective adopted in this research focuses on the perception of mining stakeholders particularly the local community, as well as the environmental changes that critically explore the irreconcilable nature and contestation that mining is sustainable (Kronenberg, 2013).

Having reviewed the relevant literature for this study, I present in this chapter the methodological approach I engaged to gather data in order to solve the research problem. I outline in this chapter the specific processes and the various activities of gathering relevant information based on scientific approaches in order to contribute to knowledge in the field of mining and resource development. The information gathered was used to address the aim and objectives of the study as proposed in the introductory chapter. The goal of this study was to explore the responsible mining, good governance and sustainable development debate within the framework of mining and mineral development in Nigeria. In context, the study focussed on the issues around the sustainable development of bitumen in Ondo State, Nigeria. To facilitate this, a case study approach on the bitumen community in Agbabu, Ondo state was undertaken to understand indigenous perceptions and expectations of the proposed bitumen development project. The responses gathered formed the basis of the empirical data for this research. This chapter expounds on the description of where and how the data was collected, the kind of data that was collected and the process of data analysis.

This chapter is divided into four main sections. The first part is the description of the study area which introduces and sets the stage for the research within the specific context of bitumen mining. In this section, I present the Agbabu community in Ondo State, Nigeria where the study was based with an explanation of the existing issues that makes the study area a unique site to explore the paradox of development from bitumen mining from the lens of the local community that live in abject poverty despite being in close proximity to an economically viable commodity. This community reflects the situation of communities within the bitumen belt, and just like the oil-rich communities in Niger-Delta, they form a minority group within the broad discourse of mining and development decisions in Nigeria. The second part is the philosophical position that relates to the scientific underpinnings of the study. Here, I present the *political ecology* approach to explore this complex dynamics of resource exploitation, politics and development in Nigeria. I relate my personal experiences in this section and how this shaped my position as a researcher to unpack the paradox of development from bitumen mining, more

especially, the plight of local communities who supposedly should be the most important stakeholders in the mining discourse. The third is the discussion on the research design and a justification of the chosen methods including the process of data analysis. In this section, I give details of the number of the research participants I worked with throughout the course of the fieldwork with whom I engaged qualitative methods of data collection to gather relevant information for the study. Lastly is the discussion of the methodological reflections and limitations to the research and how these issues were resolved. In this section, I explain the process of acquiring approval from the University's ethics committee to embark on the field exercise at Agbabu, especially the various encounters in the course of the data acquisition exercise which is inevitable in field-based research.

3.2 Description of the Study Area

This study was conducted in the Agbabu community, located in the South-Eastern part of Ondo State, South-Western region of Nigeria (see fig.3.1). The South-Western region of Nigeria is known for its vast deposits of natural resources including the bituminous oil sand which is spread along the coastal belt with an expanse that cuts across 4 states: Ondo, Ogun, Lagos and Edo. Bitumen is found along the 5-8km belt and stretches to 120km along the coastline (Adebiyi & Omode, 2007). The areas covered by the bitumen belt lie within the tropical rainforest zone, characterised by a homogenous set of people that are more socially, politically and educationally less disadvantaged compared to the local population in the oil-producing communities in the Niger-Delta region. These qualities presumably should allow for well-informed negotiations between bitumen endowed communities in South West Nigeria and the State in the interim of on-going discussions of exploiting bitumen, and in the long-run, influence decisions and policies for the bitumen industry as well as the operations of investors (Ojo, 2012).

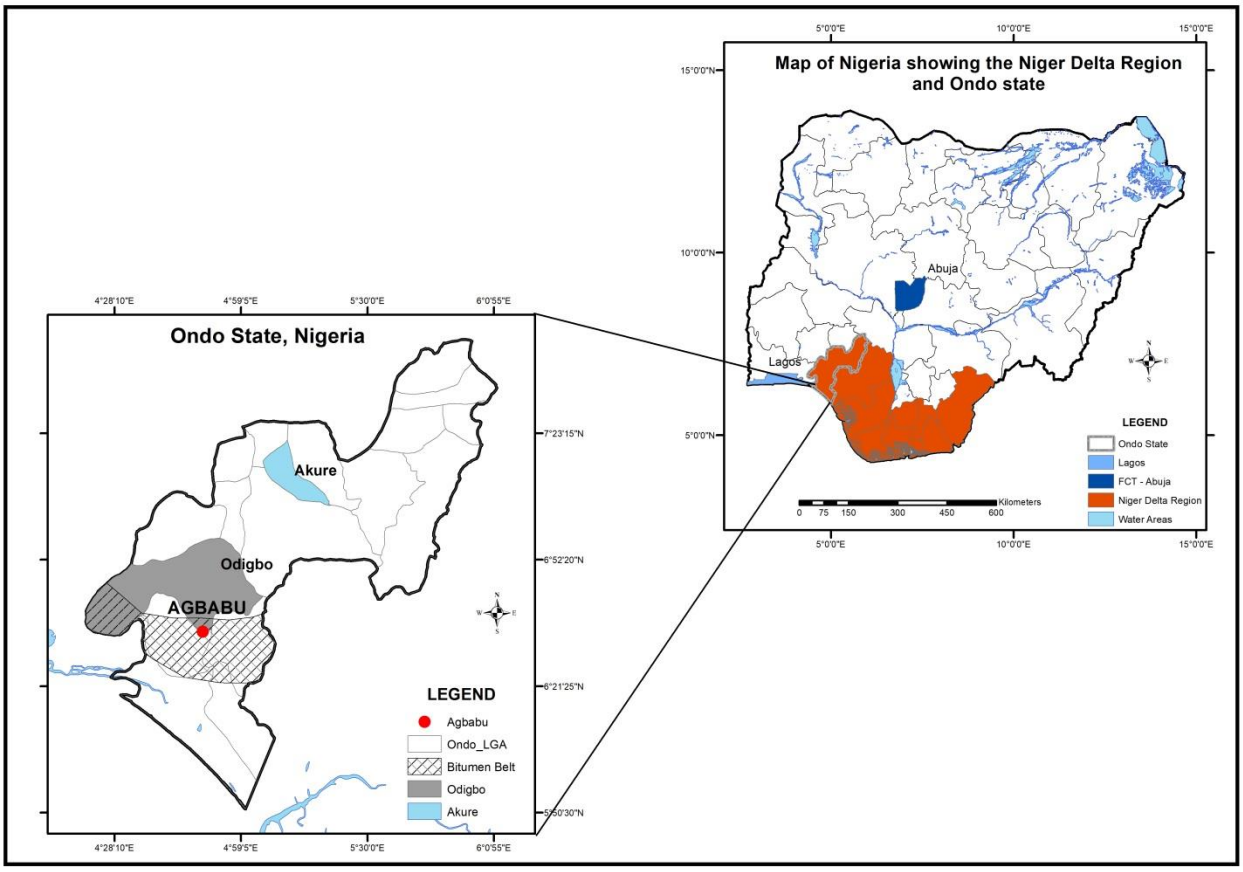


Figure 3.1: Map of Nigeria showing Agbabu, Ondo State within the Niger Delta region

The Agbabu community is marked by an indigenous population who live on subsistent means of livelihood: farming, fishing and tree logging. The predominant economic activities by the locals are crop and fish farming mostly done by both men and women in the community. However, over the years, the local community has been faced with the challenge of the decreasing productivity of farmlands and the massive pollution of water sources from the effects of the unexploited bitumen in the community. Being an indigenous settlement, this situation renders the local population less economic opportunities to make ends meet and to live sustainably. Thus, the local community at Agbabu live in abject poverty and in poor living conditions without the presence of amenities and infrastructure which in contemporary times are necessary indicators of growth and development.

In terms of infrastructure, one of the prominent issues that the local community is faced with is the poor access to the main city especially the access to the city's functional amenities that poses numerous challenges, for instance, the poor road condition which directly impacts on the free movement of people and goods, and social interactions outside the community. As a result, the majority of the locals are secluded from nearby towns thus, having little contact with the

outside world and on this basis, commercial transporters take advantage of this shortcoming and demand high fares to travel to and from the community which the local population struggle to afford due to their financial constraints. Environmentally the community is in a deplorable state and this situation is intensified during the harsh weather conditions of the harmattan (winter) periods between October and April. During this season, the intensity of the heat from the sun is such that land surfaces get heated up causing extreme dryness, which in turn heats up the bitumen into a molten state making it flow onto land surfaces, arable farmlands and into water sources.

I chose the Agbabu community along the bitumen belt for the following reasons: (i) It is the most notable bitumen bearing community where early exploration activities were carried out and where exploitation is proposed to commence (ii) It portrays the expectations and the anxieties of the local communities in the proposed bitumen mining project and on a broader scale, a representation of the situation in the entire bitumen belt which is poverty and underdevelopment amidst much wealth. The study site reflects the problem of bad government and governance which cannot be disregarded when studying issues of resource exploitation in Nigeria. For many years, the local community has lived with so much anxiety about the possible futures of bitumen which have not come to reality. There are underlying issues that need to be addressed, one of which is the disconnection between the state and the local community which would drive the mining agenda especially that which concerns community development.

While bitumen mining is gaining attention in Nigeria, the history of oil and gas mining raises concerns in terms of the social and environmental cost particularly the impact in Agbabu where these activities will take place (Chindo, 2015). It is imperative to state that the study area is situated within the Niger-Delta region where the ongoing large-scale oil and gas mining operation is located. This sheds light on the big question that beyond the economic gains of mining, will the exploitation of bitumen in the best interest of Nigeria and perhaps, the local community at Agbabu to drive an economically sustainable economy from bitumen mining?

3.3 Philosophical Position

This study adopts a *political ecology* approach in order to understand the complex dynamics of environment and development related discourse in Nigeria. Over the past few decades, political ecology has become one important approach to study the human-environment interactions in the environment and social sciences research (Nygren & Rikoon, 2008). Bassett

and Peimer (2015) refer to political ecology as a diverse array of theoretical and methodological approaches to socio-ecological relations with a focus on questions that relate to the politics of natural resource management, access and control of resources, environmental knowledge - an evaluation of resource use by society and the impact on the environment, including its effect on livelihoods and environmental change dynamics. Emerging in the 1970s and 1980s as a critique of the cultural and systems ecology, political ecology became an idea that advocates for environmental degradation and is better explained when resource management practices, especially in developing countries, is situated in the broader political economy context (Bassett & Peimer, 2015). Similarly, the principle of political ecology by Blaikie and Brookfield in 1987 related to a combination of concerns for ecology and the political economy. This principle identified the key analytical approaches which included the way environmental actions of the land manager (typically interpreted as a rural land user in the third world) are shaped by factors such as economic, ecological and political marginalisation; the pressure of resource exploitation; and flawed environmental data and policies (Walker, 2005).

Political ecologists are concerned with the analysis of environmental conditions being products of political and social processes. There is an attempt to gain understanding of the logic, dynamics and patterns of economic change as well as the politics of environmental actions and outcomes (Adams & Hutton, 2007). Early connotations influenced by cultural ecology principles demonstrated how local people maintain adaptive structures with respect to their environment due to ecological conditions to attain a level of subsistence living. However, such cultural notions downplay social processes especially the failure to acknowledge that local communities are integral parts of the wider political-economic network. This apolitical nature of cultural ecology was replaced with political ecology that shifted the study on the natural resource from cultural adaptation to the social inequalities (Nygren & Rikoon, 2008). Developments in the political ecology field have been influenced by poststructuralism, a discourse in the linkage between knowledge, power and representation and have been crucial in the natural resource and development discourse (Nygren & Rikoon, 2008). This broad perspective of political ecology on resources, politics and development is where this study fits in unpacking the paradox of development through bitumen exploitation with specific emphasis on the contradictions of responsible mining and sustainable development from bitumen as alternative to an oil-led economy for Nigeria.

My experience in environment and development issues exposed me to the complex discourse on how to integrate mining to sustainable development particularly in contemporary times when there is worldwide concern on environmental issues for instance, climatic change, land degradation and deforestation as well as natural disaster which all stem from anthropogenic factors. Also, the realities and challenges local communities face particularly on issues relating to natural resources exploitation within their indigenous spaces which in reality has been heavily critiqued because, mining communities seldom benefit from operations in their spaces despite the massive wealth been generated. This is often associated as the syndrome in Rentier states that heavily depend on the outcome of its mineral resources fed by mining operations in rural communities who face the harsh realities of underdevelopment and widespread poverty. This situation is further exacerbated as local populations have their means of livelihoods threatened due to the environmental consequences of mining operations, as well as social and economic disruption.

As a researcher, I have constantly upheld the need to respect the environment as an enabling space of interaction between elements of the ecosystem. This has helped me to find a position within this research to unpack this paradox of development from bitumen mining and, got a better understanding of the plight of rural mining communities, in context the Agbabu community, since it is a resource frontier. Being born into a middle-class family of intellectuals, I got exposed to formal education even to acquiring a Master's degree in Environmental Management. The skills I acquired within the academic space and the opportunity of working in an environmental service firm in the Niger-Delta region in Nigeria, offered me the opportunity to relate with local communities and to have first-hand knowledge of local experiences of mining activities. This perhaps created my bias towards the wellbeing of local communities and the implication of mining operations in local spaces especially in communities that are marginalised in the network of mining stakeholders. The experiences I gained in the course of my work experience led me to critically observe the state of rural mining communities in relation to the amount of wealth being generated from their indigenous lands as it is the case in Nigeria. What I observed about the mining communities in the Niger-Delta region is that the local population is well acquainted with the operations and amounts being generated from their communities. However, these communities are poverty enclaves and environmentally unconducive spaces for human beings to survive. For many years, this situation has not changed rather; it gets worse by the day in particular, the issue of environmental pollution and degradation. In pushing for change, one of the fundamental issues

I have observed is the lack of a participatory governance structure whereby the local population in mining regions are active stakeholders and actors in activities carried out within their space. Having made these observations, it has constantly informed my quest to critically engage with discussions centred on the possibility for sustainable mining operations, equity, and justice in local communities and it is my hope that this research will contribute to new knowledge. In light of this, it is my hope that the grey areas in mining are addressed which would contribute to mining activities that are sustainable as well as to achieve the Sustainable Development Goals (SDGs) for Nigeria. For a research of this nature in Nigeria, there is often times a gap between the researcher and the targeted population. This would be duly addressed when I leverage on our similarities, for instance, our lived experiences within the so-called democratic Nigeria.

My research takes an epistemological stance which concerns assumptions about knowledge, its validity, legitimacy, and communication channels. These assumptions relate to what it means to know or what should be regarded as acceptable knowledge in a field of discipline. Thus, epistemology emphasises the nature of this knowledge and the methods in which data is acquired and communicated in knowledge development (Bahari, 2010). Reality is a construct of human consciousness in engagement with objects that already have meanings. Since reality is an individual construct, it means there are numerous realities of the world. As (Scotland, 2012) puts it, language is not a passive labelling of objects rather an active structuring of reality. In light of this, it is imperative that thorough research undertakes the historical, geographical and cultural dimensions of the case study to understand occurrences, interpretations, and experiences within a particular field of research. As knowledge and meaningful reality are constructed from the interaction of humans and the world and developed and communicated in social contexts. It means that the social world can be understood better from the perspective of humans participating in it. In the case of mining activities, rural communities that play host to the operations of the mining industry are the most vulnerable and hence, bear the consequences of extraction operations. This forms the basis of the agitations in rural mining communities that are heavily impacted by mining operations. Despite the massive wealth that is generated from the operations in host mining communities, they lack the basic forms of services and infrastructure needed for human existence. This is because the government in mining economies pay little attention to community development matters, and in most cases, the local population in these communities are not recognised as active stakeholders in matters related to the use of their indigenous space.

Where does the experience of an environmental expert and researcher come into fusion in relation to new mining frontiers? This has been a recurring question that I constantly engaged with, in the course of this research. My experience with environment and development matters exposed me to the realities of sustainability, and in context, the concern for the environment even as humanity gets to exploit natural resources for sustenance. It is imperative to state that this research is to bring out new knowledge in mining and development thinking in context, the realities in the bitumen mining community and how these fit into the proposed bitumen project. This study will attempt to provide the basis for which Nigeria can unlock its bitumen reserves in all delineated regions within the bitumen belt. In exploring this issue of sustainable development with bitumen mining, I engaged the local community and professionals working at the bitumen project office. This approach helps to bridge the reality gaps in mining and minerals development as opposed to the top-down approach whereby the government or mining company delivers perceived needs to the local community. Being a researcher, and one who has gained experience in the field, I recognize the importance of actively engaging with my research participants. Having noted this, the lived experiences of the local community have to be treated with utmost respect and empathy in the struggle for justice even though the interpretations of the findings will be from a critical perspective.

3.4 Research Design

The approach that I undertook in this research project was a qualitative case study. My intention was to develop an appropriate methodology that would help me to understand and make sense of the deep anxieties that exist in many rural parts of the country as a result of (a) the decades of underdevelopment and (b) the (unspecified) promises of mineral riches. How do communities make sense of these two processes which so greatly impact their lives? A qualitative research framework in the context of this study provides insight into the lived experiences of the local population at Agbabu which currently cannot be quantified. This is because the mining project is yet to commence, and in order not to lose focus of the essence of the study, the connection between the feelings, perceptions, and opinions of the local population of the proposed mining is sufficient and holistic to facilitate answers to the broader aim of the research.

I present herein the logical sequence of the processes and procedures used in the entire process of this research. I engaged the use of open-ended questions that allowed research participants to express their views about the issue being researched.

3.4.1 Data Collection Table

Objectives	Data Required	Techniques
To contextualize the emerging debates around bitumen exploitation in Nigeria within global experiences and local expectations	Documentary Analysis	Literature, Published books
To critically evaluate the emerging governance regime surrounding bitumen exploitation in Nigeria	Documentary Analysis and Empirical Field-data	Interviews and Focus Group
To understand the experiences and expectations of communities who will be affected by bitumen mining	Empirical Data	Interviews and Focus group
To critically frame the exploitation of bitumen and how adaptive it is to Goodland's principle of responsible mining	Documentary Analysis	Literature, Published Books

3.4.2 Research Community and Sampling Procedure

In order to identify the category of people that would be interviewed for this study, I selected a population size of similar characteristics that would enhance the quality of information needed for the research. For instance, some participants were chosen based on the possibility of having similar perspectives, and others based on their role relative to the proposed mining operation. It is important to employ a method that takes into account individual characteristics within the context of research that will contribute to knowledge (Cleary, Horsfall, & Hayter, 2014). In this research, I adopted the stratified purposive judgement sample to aid the selection of the most productive cases that will contribute to the aim and objectives of this study. This sampling method is used when enough information has been gathered which identifies

characteristics rich enough and influences the phenomenon or context of interest (Patton, 2002). In addition, it is important to identify and select individuals who are knowledgeable of the phenomenon and willing to be part of the research (Bernard, 2002; Cresswell et al., 2011). Thus, following the principles of this sampling method, the study drew from 2 subsets of the targeted population for the study namely: the local community including the community head of Agbabu and the workers at the project office located in Akure, the capital city of Ondo state. These subsets were identified as individuals who were knowledgeable and willing to participate. In addition, individuals who had the ability to communicate and express their experiences and opinions.

In view of this process, I adopted a case-study approach in this study to unpack the complex issues around the exploitation of bitumen in the Agbabu community, particularly, the perception from the lens of the local community and staff members of the bitumen project office at Akure. This formed the basis of the empirical data for this study. In light of this, I engaged in-depth semi-structured interviews and observations, with which I worked with around 15 community participants over a period of 8 weeks comprising of both the young and older generation. In addition, I spoke with about 5 key agents (government civil servants) at the Bitumen Project Office at Akure, the capital of Ondo state. The choice of the number of the research participant is because the community is a closed system where the local population as a result of their size collectively discuss their issues and present a single voice in discussions relating to push for change and development for the community. Thus, having to decide on this number of interviews and group discussions provided an opportunity to thoroughly engage with participants to uncover the complex realities of development associated with the expectations from exploiting bitumen.

In the course of the research and from observation, the local community is one that is dynamic as the responses that were given showed that the younger generation was more concerned about socio-economic development and the alleviation from poverty while the older generation was more concerned about the posterity of the land. However, this does not suggest the lack of harmonisation in their expectations as the local population has similar lived experiences of being reliant on the environment as a means of survival for water, food, shelter, a subsistence means of survival. Whilst the local population is typically composed of poor people and the community characterised by the lack basic social services and infrastructural amenities, there are also prevalent environmental and health issues in the community which have been associated with the high risk of bitumen contamination in the community. Interestingly, the

environmental issues in the community are analysed as that emanating from non-exploitation, a contrast to that of the Niger-Delta which is from massive exploitation of the land. It is from the foregoing that I structured the interviews in order to gain information about the lived-in experiences of the community, and their expectations of the proposed project.

With the in-depth semi-structured interviews at the project office, it was important to gather information from professionals who have been designated to participate in the exploitation of bitumen at Agbabu when the project commences. At the office, I engaged key agents about their perception of exploiting bitumen from a technical and professional stance. I interviewed 5 staff members (government civil servants) at the project office, and these professionals provided more empirical data that uncovers the complexities of unlocking bitumen in Nigeria where the necessities of a strong financial base and technical capability are inadequate. It is noteworthy to state that the information gathered at this stage of the project planning was restricted as the members of staff could only disclose available information since the administrative operations and other support documents had been relocated to Abuja (the seat of government). This is because the government intends to run the mining operations from Abuja while its subsidiary office does the monitoring operations. This arrangement already raises concerns on how efficient this form of mining will be, as it shows a lack of respect for the local government authorities in Ondo state. Furthermore, it highlights the lack of possible commitment to promote rural community development in mining communities and to foster a participatory form of governance with the local community at Agbabu and other communities within the bitumen belt as it is the situation in the Niger-Delta.

Consequently, focus group sessions were conducted in the community with a total of 6 focus comprising 8 persons in each group which totalled 48 people. The focus groups were important so as to gather more concrete information about the perception of local people from a collective stance as the participants engaged with one another extensively to arrive at informed responses. The focus groups also provided the opportunity to observe the non-verbal responses of participants as well as the body language, voice variations and emotions as they engaged in their respective groups. Participants mobilised themselves voluntarily and a few recommendations were made to further buffer the numbers in the group. Whilst being aware of any form of bias, it was important that I allowed members of the community to engage in the issues that pertain to challenges within their space without being controlled. Prior consent was granted by the Community Chief ***"Oloja"*** to mobilise focus group participants to designated areas for the discussions. This is because the community Chief is recognised as a

traditional gatekeeper who acts as the custodian of the community and grants access to and within the community. Having gained the consent of the community Chief, I implemented the snowball technique to identify participants for the study and this technique played a major role in obtaining relevant information for the study.

3.4.3 Data Collection Tools

The source of information for this research was gathered from both primary and secondary data sources while; the type of information collected was *qualitative* in order to satisfy the objectives of the research. Qualitative data is best suited to understand social phenomena as it uncovers the trends in thoughts and opinions while providing insights into problems in our ever-changing landscape. In this perspective, research is better understood when it is from a bottom-top approach rather than basing understanding from theoretical viewpoints. This study is partly influenced by theories but is majorly based on empirical data in order to build new understandings and knowledge about the relationship between social phenomena and mining development.

With regard to the empirical data from the local community and key informants for this research, I gathered information using the following techniques: interviews, focus group discussions (FGDs) and direct observations of participants. All of these methods are discussed subsequently in this section. In order to sustain the focus of this study, I chose to adopt opposing perspectives when engaging participants in both interviews and focus group discussions. First was the perspective of the older participants who from a historical viewpoint had more knowledge of the probable impact of bitumen exploitation on the environment in relation to their source of livelihood. This group also discussed the effect of previous government visits and the impact of bad governance on the community. The other perspective was from the younger generation who had a more contemporary viewpoint of the impact bitumen, both positively and negatively, to the community and the ways they have sought to engage with the government.

Given that this research sought to address the issue of imagined futures from bitumen mining in the context of responsible mining and sustainable development, the qualitative research approach was adopted the best method to undertake the research. This approach was helpful to gain a variety of information from respondents and to maximise information to seek answers to the motivation for this research while critically assessing the situation within the bitumen community and the need for development. The questions prepared for the interview sessions

served as a guide during the research and followed no particular order during the discussion sessions. Furthermore, the technique applied in data collection ensured that the type of data corresponded with the method of data collection and would be adequate for data analysis.

i. Document Review

The review broadened the background and context of the study while trying to familiarise myself with the connections between variables and the phenomenon being studied. It helped to gain insight, direction, and knowledge of the problem in the course of the research work. This section relied on data sourced from official documents, journals, research reports, published works accessed from the university library and internet search. The literature search permitted access to previous work in relation to the subject matter which in the long run, enabled the substantial contribution to knowledge.

Furthermore, on this data collection tool, the ministry and agency relevant to this study (the bitumen project operations office) were consulted with regards to policy and operational documents guiding the development of bitumen. However, the staff members were unable to provide these documents but, engaged in discussions that added to the empirical data for this study.

ii. Direct Participant Observations

This constitutes to data collection as it is an investigative technique of gathering data with more powerful evidence from direct observation of participants. It relied on note documentation and recordings including graphical images in the process of observation in the course of assessing participants within their environment.

In the course of the research, I took part in the discussion sessions with the groups and paid keen attention to the way community inhabitants engaged with elements within their community. This helped to enhance the knowledge about participants, and the environmental conditions in the community within which different forms of interaction occurs. The community groups selected under observation were the youths and adults particularly elderly men who are perceived to be decision-makers within the community. During this process of interaction with various groups, I facilitated the process whereby participants discussed the environmental effects of bitumen within the community and also, the benefits of exploiting this resource. This method engaged each group to interact in-depth based on their level of

understanding of the resource as few of them were aware of the characteristics of the resource particularly the elders who have long lived and observed its effects.

It is imperative to state that the motive behind these discussions was for the purpose of creating awareness on how to engage with the government as major stakeholders in the proposed development strategy. This discussion put in perspective the expectations of the community and also factored in strategies on how to communicate with Non-Governmental Organisations (NGOs) that liaise and act as spokespersons on behalf of the community to the government. To facilitate this discussion, I engaged participants with the following activities that will generate information with regards to their knowledge of the community and its environs.

1. The location of important sites within the community which cannot be compromised
2. Areas where probable amenities can be situated and the level of accessibility by the entire community
3. Locations that can be compromised when exploitation and the mining of bitumen commences
4. Possible areas of relocation and the extent of an individual or collective compensation

This method helped in the direct study of participants and how they perceive their community. I observed the level of interaction and the relationship between the community dwellers and external aid which also depicted the cultural norms and values within the community. Also, participants were able to relate with one another while giving accounts of the activities that take place within the communities. Similarly, I observed the level of interaction and participation in connection to the account of activities being given, the associated impact on their means of livelihood, and expectations.

iii. Interviews

This is a qualitative research technique that consists of a number of individual interviews with research participants to explore their perceptions of an idea or situation. An interview involves one participant at a given time which is useful to obtain relevant information about a subject as opposed to a group setting. Hence, it allows a focussed, conversational, and two-way communication between the researcher and the participant as it offers research participants the opportunity to express themselves freely.

The semi-structured interview approach was adopted with open-ended questions that allowed the participants the free expressions of thoughts. It was facilitated will the use of a tape recorder

and the physical documentation of responses by the researcher throughout the course of the interview. Members of the local population were interviewed as well as officers at the bitumen office who gave expert opinions about the proposed bitumen project in the community. During the interviews, the participants were regarded as the subject matter experts whilst I, being the researcher, remained the learner. This approach did not only facilitate the generation of insightful responses, but it also created a friendly rapport between the participants and I. Unlike focus groups, the kind of information gathered is devoid of distractions participants are able to express their thoughts without any form of control. Thus, the interviews helped to generate rich information that was used in this study to understand the perceptions of unlocking this mineral resource.

The questions prepared for the interview (see appendix) were straight forward questions devoid of unnecessary rhetoric for easy grasp, and for participants to answer appropriately. Since the questions were open-ended, the participants were allowed to answer on their own terms, and this availed me the opportunity to probe further based on the responses given by the participants. This approach further enhanced the quality of the information being delivered by the participants.

In light of this, I conducted various interview sessions with a selected group of the independent workforce (between 18-60 years old) within the community to gain insight on challenges they are constantly faced with, their perception of the government with respect to their needs, their perception of the future as well as the potential consequences associated with mining bitumen in the community. Also, questions were raised with respect to their perception of international organisations particularly corporations that have shown interest in mining projects. These questions help to answer the question of governance including their role as stakeholders including the benefits they derive from such engagements. These questions sought to put into perspective the inadequacies within the community. A total of 15 participants were interviewed for no longer than 45 minutes per session as participants were about their daily activities.

Also, in-depth interview sessions were conducted which lasted for 60 minutes per session with 5 Officers of the Bitumen Project Operations Head Office, Akure, Ondo State, a subsidiary office to the Federal Ministry of Solid Minerals Development. This was conducted to gain insight into opinions and prospects for the development of Bitumen in Ondo State and the expectations in terms of its cost and benefit to the state and the federal government. I, as the researcher, observed this method to be appropriate as expert opinion is necessary to obtain a

proper and well-informed data on the evaluation of the Bitumen project with respect to the prospects, viability, environmental cost and benefit, impact and mitigating measures throughout the stages of its exploitation to shut down.

These interviews were conducted in ways that allowed for the free flow of information sharing amongst participants which was a useful data tool for credible and reliable information. It has been observed that interviews are useful data tools in obtaining key information from participants in the course of research. In expressing their ideas, some participants introduced issues outside the scope of the questions prepared, however; they were useful in the study as they contributed to the knowledge creation in the research

iv. Focus Group Discussions

As a research technique, focus groups enable data collection through group interactions bringing together individuals to discuss topics of mutual interest. Here, rich details from these interactive sessions are derived from participants' beliefs and perceptions (Morgan, 1996).

This study consisted of 5 focus group discussion sessions; each lasted for about 60 minutes per group alongside community leaders and representatives of other community groups. The group size was about 6-10 persons per group to yield diversity in the information. Prior notice was given to the intended participants to allow each individual to prepare ahead and schedule their time as well. The rationale for this is based on the fact that the majority of the participants are peasant farmers, fishermen, and women who are actively engaged during the daytime. The meeting places were granted by the community head and were settings neutral and conducive for participants to freely express themselves without feelings of being monitored. Such locations included open-air spaces and household pavements as accessibility and distance were duly factored for the designated venues for discussions.

These group discussions related to their perception about the presence of a rich resource that is globally regarded as a good source of revenue and for development. Also, discussions centred on their opinion about the exploitation of bitumen, communal expectations from government and potential mining corporations were addressed. In addition, questions about community involvement and participation in decision making were discussed extensively to gain insight on community role throughout the mining lifecycle from beginning to shut down.

The discussions engaged by these focus groups gave a wide range of information useful for the research outcome. Members of the focus groups had similar opinions with regard to the issues

being discussed. I observed that being a rural community, the expectations of these participants represented the perceptions of the larger community as a result of the homogeneity within their community. The collective discussion gave insight into the cause and consequences of community issues particularly on the issues related to the wellbeing and social rights of community dwellers. The dynamics engaged during the discussion session gave priority to the opinions of each participant which in turn explains the cultural norms within the community.

3.4.4 Data Analysis

The data collected during the interviews and focus groups were transcribed into readable forms to make sense of all information provided by research participants. This also took into consideration that a part of the responses was recorded with a voice recorder which I, the researcher, carefully listened to and wrote down all the information as given.

I adopted the content analysis to analyse the information from the interviews and focus group sessions. Content analysis is a flexible data analysis method used to systematically synthesise qualitative data (Finfgeld-connett, 2014). The information collected was edited in order to present relevant data that applies to the study which was followed by a coding process. Coded information was further categorised to bring out relationships and for a better understanding of the data to be presented. The inductive content analysis was applied to organise and present the data. In light of this, I used the open coding method with written notes and headings to describe and make sense of data. Subsequently, I grouped the content of the data where I brought together similar observations which would help in understanding and to generate knowledge to the study. Finally, the method of abstraction aided in the analysis as I generated categories for which to describe the cases within the context of the research topic. This process informs the methods I used in presenting the empirical evidence in Chapter 6 as a way to contribute to knowledge to the study.

The themes that generated from the data analysis are presented with the guide of targeted questions which followed the objectives of this research as set out in the introductory chapter. The interviews and discussion sessions followed a sequence which was 2 fold with regards to participants within the community. The first was the perception of the community about the proposed mining project. This generated themes that were grouped into 2 categories: (a) The perception of development: expectations of the community and (b) The perception of development: consequences and uncertainties. These further generated sub-themes which were grouped into 3 parts in both categories as presented in chapter 6. The second were questions

that were targeted about the perception of the community about the government and governance in regional development. This generated themes that were categorised into three groups. To add a more informative argument, the interview sessions at the bitumen project office generated responses of informed opinions about the proposed bitumen mining project as presented in chapter 6.

3.5 Methods Reflection and Limitation

This section discusses the aspects employed in the methodology section of this study and a justification of the methods applied in relative to the context of this research. It also reflects on the experiences acquired in the course of gathering the data for the research. The study was conducted using a qualitative research approach to explore the possibility and expectations of sustainable futures with bitumen in the study area. The views and opinions of research participants were gathered through focus groups, interviews as well as my direct observations throughout the data collection stages.

In conducting this research, the first step was to outline the aim of the research and a draft of the specific research objectives that would guide the study. When this process was sorted out in conjunction with my Supervisor, the requirements for ethics clearance including the participant information and consent letters for both individual participant and focus groups was drafted and sent to the University's Ethics committee for approval. This process of approval took a while in accordance with the guidelines as stated by the committee. The result of the decision made by the ethics review committee was unfavourable due to irregularities and the need to outline in full detail the activities of each participant and my responsibility to them in order to gain their consent as participants in the study. The required modifications informed by the decision of the ethics committee was deemed too formal and complex for the study, however, it created an opportunity to review the content of both documents in order to narrow and focus the aim of the research in line with the expected participation of intending respondents. The initial perception of prospective research respondents was a categorisation of the unskilled and illiterate rural community as opposed to the formal categorisation and modification by the ethics committee. The initial perception about this decision was that the categorisation of rural inhabitants as skilled and literate people who would limit the scope of the research as outlined and stated in the consent letter. Although, this notion was amended on the field due to the nature of the research as it depended on qualitative methods of data gathering. The lesson from this experience is that research participants particularly those living

in the community are more informed than the external observer. Thus, it is important to structure the research with a wide scope in which the activities of participants are kept brief and formal yet simplified enough to communicate the researchers' ideas.

In the course of the field research, some important experiences were encountered in the process of acquiring data from respondents. These experiences informed and shaped the researcher's opinion of the study area. In particular, the broad perspectives of some of the key informants seemed to have a more subjective opinion on the topics being discussed about the community. First was the encounter with the local government counsellor of the community in Agbabu during a face to face interview. The purpose of the study was clearly stated to him including the research enquiry in relation to the study being conducted. The counsellor expressed his opinions about the research while trying to show his prowess on the economic and geological characteristics of bitumen in his community. His claims centred on the fact that he studied geology, and being a fortunate graduate and a resident indigene, he had a vast knowledgeable about the impact and benefit to the community. This completely set the order of interview as I had to be flexible to accommodate his perceptions. In order to create and maintain the good relationship already created, the interview followed his lead as the questions posed were open-ended and accommodated his opinions. The vast information by the counsellor gave more details to the research data that was used in the study.

Similarly, having introduced the aim of the research to some individuals in the community, there were participants who were hesitant to participate in the research especially during the observation of individuals going about their daily activities. Some had the notion of me being a representative or informant to the government while on a monitoring exercise. This initially influenced their responses as they sought after compassion that rather than being engaged in the study, it was best to hand over monetary rewards. This slowed the progress of the research initially as some participants felt they had engaged in several studies and have not benefitted from such studies in their environment which again has yielded no significant changes. It was expected that this situation would arise bearing in mind the dynamics of the environment and the nature of the community inhabits. Thus, in order to overcome this barrier, it was to continuously assure participants full anonymity regarding their confidentiality in the research while clearly stating the reason for the research.

One of the data collection techniques employed in the research was the semi-structured interviews including in-depth discussions. This was particularly effective with the bitumen

project office staff members as it helped to cover a wide range of topics and issues concerning bitumen development in Ondo State as a whole. The interview sessions were effective though lengthy; it gave the participants the opportunity to express their feelings and perception about the environment in relation to bitumen, and the development of the state and Nigeria on a national scale. During the course of these interviews, some participants engaged in discussions that were considered to be beyond the scope of the research and thus provided a lengthy database of information. This broad range of responses was helpful in refining, narrowing and to put in focus the aim of the research. Similarly while observing, I was granted access to certain locations within the community particularly locations that had historical significance to the community. This sort of information was beyond the aim and scope of the research. For instance, the observation of different farmlands, and riverbanks as a result of the silted river showed a decrease in the volume of the riverine waterways. This was deemed as unimportant information as a data source however; the participants were allowed to take the lead since they understood the terrain better and had reasons for relating the topic to diverse areas of discussion. This information later proved useful as portions of those site studies were used in the research discussion section.

In order to appreciate the contribution of this section to the research, it is pertinent to note that the limitations of these methodological preferences in many instances were turned into useful trends in the course of the research findings and analysis. The importance of informed participants within a study area cannot be overemphasised as they are the most credible informants in gathering data. Thus, it is important not to underrate a particular study group based on their social status as being illiterates and unaware of the happenings within their environment. Also, it is important to accept all responses from research participants whether it is a part of the build-up to the study or not. This all-inclusive approach in data gathering will further add to the research quality and credibility as information beyond the scope of the study can give more justification to the observations around the study. Furthermore, it is important that research is well planned ahead of time and also that researchers aim to understand the environment wherein the study is being undertaken.

In conclusion, this study is unique as it brings to the fore the perception of the local community in Agbabu in relation to their expectations away from the generic perceptions provided by mining operators and professionals. In light of this, I mean that the opinions of local communities are paramount especially the dynamics of governance and participation in mining

developments. Having stated the methodological processes of this study, I proceed in my subsequent chapters to give critical analysis and discussions based on my research findings.

3.6 Ethical Considerations

In carrying out research, certain ethical concerns should be considered as an obligation to respondents regardless of their concern for ethics. It is a balance between the quest for scientific knowledge, and the rights or traditional values of respondents and society under study (Creswell & Creswell, 2017). As advised by Creswell, I sought the university's approval through its ethics board before the commencement of the research on the field that clarified the standard practice to conduct research. The purpose was to commit to the ethical code of conduct and to adhere to honesty and morality during the research while respecting the dignity and privacy of respondents.

This research involved human interaction with the aim of understanding social life, political and legal structures as it applies to the proposed bitumen mining in the community. To ensure that the purpose of the study was achieved, I explained the nature of the study and the importance of their participation in the research which was to understand their perception of the proposed bitumen development project, their expectations, and the anticipated outcomes from the exploitation within the community. Having understood this, the methodology was carefully explained to participants, and the intention of the study was explained as a study towards the attainment of a Ph.D. degree.

Informed consent was obtained from the community head who granted access to engage with the residents of the community and to access sites for observation and data acquisition. On this note, the community head and all participants were informed that the data collected is for the academic purpose and will be reported in the thesis to be subjected to the university. They were informed that the findings of the research can be made available if requested.

With regards to participants confidentiality, respect for, and interest of the respondent's privacy was addressed from the outset. Participants were assured of been reported anonymously without reference to their names and addresses in the presentation of data. This explanation was worthwhile to gain the trust of the community and selected participants throughout the data collection process. This will guarantee that all communication with respondents is confidential and with utmost anonymity. However, the willingness to participate was at the discretion of the respondent as all participants were treated with the utmost respect and granted

the freedom of expression throughout interviews and in focus group discussions. In the case of the interviews with officials of the bitumen agency, permission was sought to use their job description in reporting data to give context to the information been shared. I cleared explained my responsibility regarding data retention, and advised that data collected would be securely stored on my personal computer and on an encrypted USB stick only accessible by me.

CHAPTER FOUR

RESPONSIBLE MINING IN AFRICA? EXPLORING AND EXPLOITING BITUMEN IN NIGERIA

4.1 Introduction

Underdevelopment and widespread poverty are undeniable features in most resource endowed countries, particularly Africa, which has most of the world's poorest countries. Over the years, there has been an upsurge interest by the international community, in particular, the United Nations and its various agencies in ways to address the poor economic performance in resource-rich developing countries. One top priority sector to drive this development agenda is the minerals and mining industry. However, the industry is faced with undisputable environmental, social and economic changes especially in host communities where extractive activities take place (Maconachie & Hilson, 2013).

In the context of mining and a way to counteract the Dutch disease syndrome especially in oil-dependent countries like Nigeria, it is the call for countries to diversify into other resource potentials. International agencies like the World Bank promote this strategy as a way to unlock other economic resources to foster growth and development. This idea to expand the range of resources being exploited is justified to be crucial for developing countries as it is inextricably linked to development and poverty reduction which are part of the Sustainable Development Goals. While there is a sound case for unlocking other resource potentials, there are emerging issues surrounding the expansion into other resource frontiers met by the issues of sustainability – the possibility of making the principles of sustainable development operations in the mining industry. This is because the mining and minerals industry has been characterised as one sector with the most difficult sustainability challenge.

From a global perspective, some efforts have been geared towards addressing sustainability challenges one of which is the Mining, Minerals and Sustainable Development (MMSD) project that aims to improve the performance of the mining and minerals sector to transit into sustainable development in all its mining projects. More recently, there is advocacy for responsible mining to promote the operations of the mining industry.

Nigeria presents a case of an oil-rich country that seeks to diversify into its non-oil and mineral sector as one of its economic diversification strategies. This is because the oil sector no longer has the capacity to sustain its growing population. One of the set priorities attached to this strategy is to unlock the potential of its bitumen deposits, a strategy aimed to generate revenue,

increased mineral earnings that would contribute to economic growth and development in Nigeria. What is lacking with this development strategy is the little knowledge about a viable framework to exploit this mineral resource, including the implication in areas where this mining activity will take place. From a broader perspective on developing countries, it is imperative to note that developing countries lack the capacity to regulate the activities of its mining sector and rely heavily on external investors – a form of market-driven operation which opens developing countries to an influx of investments in its extractive sector. This scramble for natural resources alongside intensified extraction in developing countries across Africa, Asia, and Latin America, have been associated with undisputable environmental, social and economic changes as a result of increasing pressure for its natural resources to meet the global demand for fuel and non-fuel minerals.

It is against this backdrop that this chapter seeks to explore this paradox of sustainable futures with bitumen mining. Attention is drawn to the idea of mining in Nigeria, a country with a poor reputation and history of oil and gas exploitation in the Niger-Delta which has also been connected to the wider issues of poor democracy, inadequate regulations, and institutions to govern the activities of the mining industry. Perhaps technological innovations and newer ways of mining would foster efficiency and sustainable development with regards to bitumen exploitation. In light of this, there is an urgent concern to outline the challenges of exploiting bitumen and seek ways to address them in relation to the goals of mining and development in the 21st century.

This chapter presents the basis on which the main question of the thesis seeks to answer, that is, can bitumen be exploited in a responsible way to drive development in Nigeria sustainably. It explores Goodland's principle of responsible mining to explore this paradox of sustainable mining amidst the wider contextual issues of institutional regulation and policymaking. The central question being addressed in this chapter is: what is the possibility to drive the idea of economic growth and development through bitumen exploitation in a sustainable way? Whilst the notion of sustainable futures from bitumen mining may sound ideal; it may not be environmentally and socially justifiable to a development that is sustainable for Nigeria.

4.2 Africa's relationship to its mineral resources

Africa is known for its vast and strategic variety of natural resource wealth. The interest in these resources, its exploitation, and trade patterns are closely entwined with Africa's colonial history (Weng et al., 2013). In what was termed the first scramble for Africa's resources,

symbolised a relationship between Europe and Africa, whereby colonialist took charge of production processes to their advantage and Africa was to provide the associated human, natural and mineral resource. This meant that the resources exploited in Africa belonged to and benefitted colonial powers and not to the benefit of the continent of Africa. Until decolonisation and the gradual independence of African countries, the extensive economic and political domination by western powers meant that Africa's development was determined and controlled by the Western colonisers (Okeke, 2008).

In contrast to the first scramble, the current wave on Africa's resources - the second scramble is principally private sector driven. Private investors in most cases, nationals of foreign governments have vested interests in Africa's resources, and just like the first scramble, the benefits accrue more to international actors – transnational corporations and their home governments - than it is for Africa and its people (Okeke, 2008). The exploitation of Africa's resources has been contentious as the continent still lacks in growth and development despite ongoing large-scale mining in many countries endowed with resources. A conflicting picture to this rhetoric of massive exploitation is that a vast majority of the resources the continent boasts of are yet to be exploited, which is a common feature of single sector economies.

The resource wealth in Africa and its negative relationship to economic development, social welfare and the goal of poverty reduction has been heavily debated discourse in the Resource Curse literature. This has been widely researched and applied in countries where the phenomenon is evident and prevalent as it is in Nigeria, DRC, and Angola with regards to energy resources, especially oil (Sala-i-martin & Subramanian, 2012). Evidence shows that revenues derived from oil and mineral exploitation fail to deliver anticipated socio-economic change, and has not benefitted local populations. According to Sala-i-martin & Subramanian (2012) in a study on Nigeria, oil revenue has totalled over US$350 billion yet; it has failed to translate to improved living standards for the average citizen. In this analysis, it was evident that poor development performance, corruption, weak governance, and continued rent-seeking are intrinsic to resource endowed countries. Currently, oil revenues stand at US$11.7 billion – an indicator that oil revenues have declined and a strong case to diversify the economy into other resource potentials.

Africa's resources have also induced interests in resource-related conflicts as it is in the DRC. Despite its immense resource wealth, the situation in the DRC is regarded as fragile and prone to resource induced conflicts. The DRC has been economically and politically unstable with

inherent issues of the lack of transparency in governance with policy processes that are disrupted by the political class for their rent-seeking interests. These resource rents not ploughed into the economy and larger society promoted the lack of political will to fight corruption as the ruling class sought to undermine institutional integrity to protect their interests. The example of the DRC illustrates the disconnection in the notion that the abundance of resources induces development in the broader context of the complexity of the lingering situation with Africa's resources of marked economic decline and corrupt networks in resource development (Matti, 2010).

Angola, the largest producer of oil in Africa and with immense mineral wealth is another resource-rich country plagued by the resource curse and is prone to the issues mentioned above: poor governance, armed conflicts, and poor economic and social development. Angola like other resource endowed developing countries is corrupt with a rent-seeking government that disregards the wellbeing of its growing population. The poverty rate in the country sits at 68%, and it ranks lowest in the world development index despite the huge returns from its oil. Authoritarian regimes have dominated governance structures in the country since the period of the war that opened the country to the high level of corruption amongst the ruling class ranking it one of the most corrupt countries in the world (Hammond, 2011).

Whilst it is worth acknowledging that there are benefits that have accrued from the exploitation of natural resources in Africa, it has not contributed to the all-round development in specific country contexts, as the vast majority in Africa's growing population still live in abject poverty. On the other side of the spectrum is Botswana, a classic example of an African country that has achieved considerable economic growth while maximising its growth potentials in a region that is characterised with economic and political failure. Botswana is a diamond led economy that has attained a growth record associated with limited colonial influence, good institutions and economic policies, and a committed ruling class. Furthermore, the country has managed to avoid the reoccurrence of the Resource curse and Dutch disease by formulating long-term goals for the extraction of its natural resources, sound policies and prudent management of its resources (Hillbom, 2008).

In relation to the mining industry, there has been an increasing need for mineral resources to meet the growing demand for energy including the forward linkage of these minerals as raw materials for other industrial sectors. This high demand for mineral resources has over the years been responsible for the increase in the global extraction rate and investments (Dubiński, 2013).

Globally, the mining industry produces over 80 mineral commodities with the major producers like the USA, Canada, South Africa and China, and high production rates that have progressively become more concentrated in developing countries – the hub for mining investments (Azapagic, 2004). In developing countries generally, there is a well-established concern that the mining sector lacks the capacity to effectively exploit its natural resources hence, relying heavily on external aid which comes with conditions often structured around capitalist approaches centred on the need to lower internal policies to suit the flow of aid.

There is a long history of mining aid in Africa and to date remains an attractive region for mining investments. This sector is a priority sector for FDIs despite the negative images of its contribution to health, safety, and environmental hazards through which resource endowed economies push for economic development. The uniqueness and importance of the mining sector as the major source of the largest revenue to African governments makes it prone to external influence and control. Dependence on oils, minerals and natural resources without the corresponding capacity to manage its exploitation has created weak states in Africa. In light of this, the flow of aid for development purposes limits state powers by promoting liberalisation and privatisation of state-owned enterprises to create a friendly environment for foreign mining operators. In contemporary times, this creates a strong case in the arguments against foreign aid to developing countries in a bid to unlock the potentials of its natural resources. One area where these issues are more pronounced in mining regions is in host communities where resources are exploited. These areas lack development as the principles of sustainability are seldom applied, more so, communities bare the negative legacies of mining upon the shutdown of activities. For the long-term sustainability of the mining industry, serious attention needs to be paid to local communities by unpacking the tenets of sustainability in the context of local communities.

4.3 An appraisal of Mining in Nigeria and the concerns for bitumen exploitation

The mining sector is widely recognised as a key priority sector that contributes to economic development and poverty alleviation (Pegg, 2006). This idea is seemingly true but for the most part, the industry, on which many resource-dependent economies thrive on, has not delivered the anticipated level of development. In Nigeria, the driver for development has been, for many decades, the oil and gas industry. The outcome of this form of mining has been analysed to being plagued by the Resource Curse and Dutch disease, and this intrinsically connects to the idea of diversifying the economy away from oil. With an emphasis on the role of oil in the

Nigerian economy, Ogunleye (2008) describes as a mixed blessing with both positive and negative impacts. This assertion is quite evident even as oil dependence is argued to induce unsustainable and socially inefficient conditions (Van der Ploeg, 2011). Given these, it is imperative to draw inferences from the active oil mining operations to establish a framework that meets the goal of sustainable development for the proposed bitumen mining project.

Whilst the dominant oil industry was developing in Nigeria, the concern for the environment and its impact on host communities was unattended to alongside intensified efforts to actualise the economic benefits of exploiting its oil reserves. Effiong (2014) reinforces this with emphasises on the failure of the government to enact effective policies to regulate the activities and operations of the industry. To Effiong, it created the problem of environmental degradation and pollution, which for the most part, is a sustainability concern, especially in host communities. Ogunleye (2008) extends this claim in a study on oil exploitation that it has driven the incessant clash between oil-producing communities against the government and multinational corporations in terms of the ownership and control of land, and the distribution of oil rents, which is a major concern to local communities. As a result of this oversight, companies burgeoned as self-regulators in areas of operation and in the area of social responsibility.

In Nigeria, the oil industry stands out as one that is unsustainable as a result of the massive pollution it has caused on the landscape affecting the ecosystem and biodiversity. Several allegations have been made against companies in operation within the Niger Delta, for instance, Shell in its operations has been accused of polluting the environment and this has resulted in the communal clashes between this multinational company and aggrieved communities in the struggle for justice. Generally, mining of various minerals in Nigeria has resulted in massive pollution of arable land, and landscape degradation. This extends to other minerals such as tin and columbite, limestone quarrying, coal mining with similar mining attributes that contribute to these environmental problems depending on the magnitude of operation (Aigbedion & Iyayi, 2007). At the same time but at the small-scale level, the activities of illegal miners due to their primitive technology and uncontrolled pattern of operation contribute to these issues. Although certain efforts have been made to address ASM, for example, Hilson and Maconachie (2017) that have taken an interest in addressing issues related to the formalisation of small-scale and artisanal mining activities as integrals of the industry especially in sub-Saharan Africa where these activities play a role to peasant miners. Although the operations of small-scale miners are crude and contribute to environmental footprints, it can positively impact on the economy if

supported by modern technology. This claim is supported by arguments that these activities are significant and can contribute to the economy and sustainable development if properly managed and formalised (Hilson & Mcquilken, 2014; Zvarivadza, 2018).

There is no doubt that infrastructural development and maintenance are deficient in Nigeria, affecting the pace of its development. In terms of mining, developed countries are typified with robust and modern infrastructure and technology investments that are integral to sustainable development. But in comparison to developed countries mining, a huge lacuna exists in Nigeria which consistently reflects in poor accessibility to resource deposits, inadequate prospecting data- geological and geophysical (Dabara, Anthony, Guyimu, Oladimeji, & Oyediran, 2015). It must be noted, however, that the mining sector is heavily reliant on energy, transport, and mechanised equipment for its activities (Pegg, 2006). Perhaps, the absence of these is the basis for the abandonment of certain projects, just like the bitumen project in Agbabu, and in other instances, deters investors from investing in an unattractive industry.

Inconsistent policies and legislation are fundamental issues affecting the industry. In Nigeria, the Nigerian Minerals and Mining Act (NMMA) is the principal legislation that is saddled the responsibility to regulate the sector and vests the control, ownership, and regulation of the oil and minerals industry in the hands of the federal government (Aladeitan, 2012). However, this industry is not well regulated, and this stems from the fact that the government interferes with the affairs of the industry and creates inconsistency. This is further explained by the corrupt practices with government and political office holders which have also crept into the industry. This is a key issue with regards to mine prospecting and project funding in the industry in Nigeria. Although neoliberal reforms have been proposed as the panacea to mining in Nigeria (Adeniyi, 2014), it raises fundamental questions on the role of the state, giving the framework of a market-led ideology. Precisely, following the above sentiments, does the current framework, especially with policies and regulation, support an expansion of mining operations in Nigeria in the context of bitumen mining?

Having considered these issues, what would it mean to exploit bitumen in Nigeria, and the appropriate strategy or framework to be prioritised for the much-anticipated development outcome? Focussing on the case of the sustainable development of bitumen, a proper synergy between intervention in terms of policies, participation from a stakeholder perspective, and responsible mining are pointers to translating the rhetoric to the reality of sustainable futures with bitumen development. Whilst these are issues to be considered, there are issues of the

volatility of market prices of oil and minerals. Much of this applies to Nigeria with regards to the dwindling prices of oil, and thus, a pointer to leverage on the inherent potentials of solid minerals. However, the caution is to avoid the resource curse and to create linkages in the flow of investments that creates developments in the local economy of Nigeria. Without guidance for policymakers and the government in Nigeria, on policies centred on responsible mining, the rhetoric of unbalanced development, injustice, and marginalisation is inevitable. Goodland (2012) presents principles for responsible mining which can be applied in the context of bitumen mining in Nigeria. These principles raise an important question: is the current framework of the mining industry equipped to handle the operations of a soon to be exploited resource? To put into context this proposition by Goodland, I discuss in the next section about bitumen, the conventional methods of extraction and the sustainability concerns it draws as these issues cannot be treated in isolation from the activities in mining.

4.4 Bitumen mining and the aspects of Sustainability

The largest known deposit of bitumen in the World occurs in Alberta, Canada, with ongoing oil sands projects (Poveda & Lipsett, 2013). The activities in Alberta inform this section of the research with regards to the current methods of extracting and processing bitumen. In its natural state and as a result of its high viscosity, it is difficult to recover and extract bitumen using conventional petroleum extraction methods. As such, to recover bitumen from oil sands, its viscosity has to be reduced by injecting steam of about (300-340 °C) and other solvents into the sand which requires lots of water and high amounts of energy compared to conventional oil and gas extraction processes (Spirov, Rudyk, Tyrovolas, & Jimoh, 2013). In light of this process, there are huge consequences in the cycle of extracting bitumen which range from water pollution, emission of greenhouse gases, land degradation and other environmental-related impacts. At the same time, it generates social and economic impacts in host communities where these mining operations take place. According to Zhang (2014), there are 2 main methods of extracting bitumen, namely: *surface mining (open pit)* and *in-situ* methods which largely depend on the depth of the bitumen formation.

i. Surface mining (Open pit) technique

This method is used to extract shallow or near-surface deposits less than 75metres below the surface. It involves the removal of the overburden (the thickness of non-valuable materials in obstruction of targeted bitumen reserves) to access bitumen deposits. Upon removal of the overburden, soil deemed suitable is stockpiled for future use towards land reclamation. The

recovered oil sand is transported to a processing plant to separate the bitumen ore from the sand.

ii. In-Situ mining technique

This method is used to recover bitumen in deep-seated deposits without the removal of sand and other materials from the ground. This method involves the drilling of 2 different wells into the deposit. The first well is called the '*injection well'* through which energy (heat or water) is injected into the ore body. The second well is the '*production well'* which is the medium through which bitumen rises to the surface for onward refining.

In practical terms, the surface mining technique is relatively more expensive compared to the in-situ method due to the huge amounts of materials that need to be separated in the refining process. However, the surface mining technique yields higher recoveries than the in-situ technique (Zhang, 2014). It is imperative to state that bitumen exploitation is a distinct oil sands project as a result of the differences in the formation and characteristics of the reservoirs found in differing locations around the World. These differences reflect in the type of technology, mode of operation, management practices that would be adopted in countries that wish to unlock the potentials of its bitumen deposits.

The oil sands project in Alberta is a highly contested mining activity despite the recorded successes and positive impact on the local and national economy (Zhang, 2014). Nigeria is set to unlock the potentials of its oil sands deposits which raise huge concerns for a framework that aims to achieve sound environmental, social, and economic development in its oil sands project. The key concerns as it applies to the industry have been translated to what is widely accepted as the 3 pillar classifications of sustainable development which is used to assess the performance of the extractive industry – environmental, social and economic pillars. The lifecycle of any mining operation begins with exploration and leads to other phases of extraction, processing, product usage, and post-use management. These stages are associated with unique sustainability issues that have to be captured holistically to address the paradox of bitumen mining in subsequent sections.

4.4.1 Environmental concerns in sustainable development

From an environmental perspective, the elements of the ecosystem (land, air, water quality) are affected, which are considered inevitable consequences of mining activities. As Dubiński (2013) puts it, there is massive degradation of land features which in most cases are permanent deformations, the impact of seismic activities, pollution and depletion of water sources,

impoverishments of soil quality and nutrients, and the remission of hazardous gases and dust into the atmosphere.

Mining some types of minerals produces acidity and effluents from toxic substances such as cyanides, arsenic, and heavy metals as it is with gold mining which causes serious environmental and health risks. For instance, the recorded cases of tailings dam wastewater of the AngloGold Ashanti Limited in Ghana (Acheampong & Paksirajan, 2013).

4.4.2 Economic concerns in sustainable development

In terms of mining returns, over the last few years, the real price of commodities has declined due to various reasons, including the changes in technology, production costs, minerals availability, and market demand. In recent years, the volatile returns have tightened the profit margins, which have affected the overall financial performance of the industry. However, minerals production is still an integral part of the economy of many countries, sometimes providing significant employment and contributing to a large proportion of Gross Domestic Product (GDP).

4.4.3 Social dimensions in sustainable development

Globally, the mining industry has been critiqued about its impact on the social aspects of human existence. Conflicts arise from the development of resources as well as the distribution of its returns or potential benefits. In most mining communities, there is the issue of reputation for the social license to operate in mining regions. Furthermore, there are gaps in the social performance of the mining industry, which is reflective of the role and responsibility of the government and multinational corporations to community development. There is no doubt that the natural resources being mined would contribute to further economic growth globally, regionally and locally, but what matters is the policy that governs the extractive activities in resource endowed regions of the world. The challenge of mining mineral resources, in the context of sustainability, is the consideration of saving more raw materials not just for present use, but for generations to come (Dubiński, 2013).

In addressing the sustainability issues aforementioned, there is a need for governments to enact policies or, the revision of existing policies under the provisions of the MMSD to guide the operations of the industry particularly in a local context and to ensure mine operators adhere. Similarly, as the world demand for the natural resources is increasing, there is a need for the industry to develop new technologies to minimize or eliminate the negative impact of mining

in regions of operations especially in developing countries that lack the means to regulate its industry.

4.5 Responsible mining as a framework for sustainable resource exploitation?

There are prominent debates in mining with regards to the challenges of delivering socio-environmental, friendly and eco-sustainable development, particularly in vulnerable regions of the world (Dong et al., 2019). Brand (2012) highlights the importance of promoting a green economy development strategy to sustain the environment. This prompts a synergy and proper engagement amongst stakeholders: company, host governments at all cadres and the local population. Since mining activities have been regarded as complex processes, it invariably requires effective communication as an efficient key to the success of any proposed mining project. This covers the economic, social, political, technical and environmental aspects to gain not only the trust and commitment of the host government but also, the host population where the mining activities take place (Goodland, 2012).

The intellectual field which critiques development highlights the oversight of the idea of responsibility in activities within the environment. As a result, there are notable impacts on elements of the ecosystem. The idyll of the ecosystem has become vulnerable to the activities of energy, industrial wastes that have damaged the climate, ocean, and caused imbalances in natural elements and environmental resilience. According to Goodland (2012), responsible mining has the potential to offer massive profits in quick successions with less impact and no conflict with surrounding mining communities. Although, mines provide opportunities to local communities, government and other stakeholders in terms of employment opportunities, economic development, and revenue to the government; it presents its risks in diverse forms relative to social and environmental issues. Azapagic (2004) acknowledges these problems emphasising that the extraction and processing of minerals result in a number of sustainability challenges. If the notion of minerals within a geographical space is a public asset, it should translate into informed decisions about its exploitation backed by transparency, joint participation, and the validation by civil society. Goodland further emphasises on the problems that arise from weak governance structures that subject local communities to environmental risks from the impact of mining. These activities occur as a result of the unbalanced relationship between the rich mining corporations, and the people impacted by industrial mines (Goodland, 2012).

The responsible mining framework presents to companies in the mining business the opportunity to act in ways that will win the trust of local populations and host governments which in turn will increase their profits, reduce or eliminate environmental impact, reduce communal conflicts and clash with mining companies. Mining presents both benefits and costs within environments where activities take place. However, as a result of weak resource governance and dysfunctional institutions in mining economies, power asymmetry is created between mining companies and local communities, especially host communities that are impacted by mining activities. Many kinds of literature expound and argue that this imbalance, coupled with the nature of mining operations leads to social and environmental degradation. Overtime as a means of survival in affected communities, artisanal mining springs up and also contribute to an impact on human populations especially the environmental and health implications. Interestingly, the concept of responsible mining seeks to redress these issues as it posits that no form of mining activity should damage the ecosystem and human living support system (Goodland, 2012).

To be responsible in the context of mining – one of the major causes of environmental degradation and ecosystem imbalance - is to have the capacity to make decisions that are moral, accountable, legally binding for review or penalty, and are based on good judgment (Goodland, 2012). But in reality, no form of modern mining activity, especially large-scale mining, can be operated without having a significant impact on the environment. This is partly as a result of the large volumes of ores and overburden that remain after the processing of mineral fractions (Goodland, 2012). Thus, the responsible mining approach brings to the fore the need for the mitigation hierarchy: avoid, minimise, restore and offset. By this, there is a push to first prevent impact, minimise or restore impact, and to offset an unavoidable impact. This hierarchy is a decision-making framework that addresses the impact of any activity on biodiversity and the ecosystem (Goodland, 2012; Phalan et al., 2018). The point that this section makes, finally, is that mining is almost always destructive to the environment, but there are nevertheless protocols for minimising these effects.

4.6 Conclusion

The discussion in this chapter reveals the contradictions in mining which is more pronounced in developing country contexts. As a result, there are differences in the impact of the extractive industry in developed societies compared to developing societies. There exists a wide margin in the performance of the industry to good development outcomes particularly mono-product economies. This has opened spaces for such economies to consider diversifying their economy,

just as it is in Nigeria. From this perspective, this chapter examined the relationship between bitumen exploitation and the expectations of sustainable futures in Nigeria. There are inherent concerns with this form of resource extraction, especially in relation to sustainability exposing the gaps in policies, governance, and stakeholder engagements.

Bitumen exploitation in Nigeria can be a good driver of economic growth if well managed. There are potential benefits to be derived from the exploitation of bitumen provided that actions towards unlocking this resource wealth are justified. But on the contrary, it raises questions around the possible ways to mitigate the Dutch disease and Resource curse. Critical assessments and conceptualisation of sustainable development as it relates to bitumen will significantly offer distinct analysis for innovative and effective relationships for economic growth and development. To facilitate this notion, there is a need to carry out research before designing policies, laws and support schemes for mining development. The emphasis: it is imperative to rethink mining operations and its implications from the lens of the community in order to capture long-term sustainability in this form of mining, and its overall impact on the economy.

However, there is an important condition that must be fulfilled for Nigeria to successfully exploit this resource and translate this mineral wealth into the growth and development of the economy. This chapter brings to the fore responsible mining as the prominent factor to lead to sustainable development in Nigeria. Adopting a responsible mining approach, proposed by Goodland is a possible way to bring harmony amongst all stakeholders to ensure sustainability in the bitumen industry for a broader economic base and anticipated futures in the national economy towards development. The case for responsible mining will tremendously contribute to sustainability in the extractive industry with respect to mining operations. What is needed in a country like Nigeria is to adopt a mining strategy that is responsible for ensuring the efficient utilisation of its resources and the delivery of benefits to local populations where mining operations are situated. The result of this will initiate the rapid and sustained development pathway for Nigeria. While this is sound, it is imperative to state that it is a difficult task to achieve in a continent and country where governments are unable to regulate and monitor activities within its national boundaries.

Thus, on a wider scale, the prospect of bitumen extraction raises major complexities that the Nigerian state and society will need to confront in the coming years. It is in many ways an easy source of next-generation wealth – much needed for a rapidly growing economy and an

emerging democratic citizenry that is demanding development. But the growing clamour for sustainable futures and for green development exposes bitumen as one of the dirtiest forms of mining. How will the Nigerian state and society make this difficult decision in the years to come? In part, it may be determined by the global context: if the demand for bitumen subsides as the world moves to cleaner energy, then maybe the economic benefits will disappear. If, on the other hand, demand increases, then the decision will become much more difficult. There are two other factors: a) the governance context, which I discuss in the next chapter, and b) the emergence of empowered citizens and the environmental justice movement, which frames my discussion in chapter six.

CHAPTER FIVE

DYNAMICS IN GOVERNANCE AND RESOURCE DEVELOPMENT: EXPLORING THE PATH FOR BITUMEN MINING

5.1 Introduction

In the previous chapter, I showed how bitumen poses a great dilemma for Nigeria as it looks to become the largest and most developed economy in Africa in the next decade. In this chapter, I consider one of the key factors that will determine the possible sustainable outcome in bitumen exploitation which is the governance context in mining. Over the years, there has been growing awareness that human societies are vulnerable to the impact of resource exploitation, and this has been matched as a realisation that resources have to be managed in an integrated and systemic manner to ensure that resources continue to meet current and future needs of society.

In terms of mineral development, the conventional ways of engaging in business have been associated with the worst form of impact for which stakeholders now demand reforms in governance to include local community participation in decision making (Prno & Slocombe, 2012). This is premised on the poor performance of governments to monitor the activities of its extractive sector. Grindle, (2004) highlights this situation to have advanced wastages, undelivered services and has denied citizens, particularly the poor of social, legal and economic justices. Host mining communities in developing countries are mostly impacted by the extractive industry, and as such, the United Nations through its Good Governance in Sustainable Development (GGSD) objective has committed to assist developing countries to bring to reality the SDGs within a democratic framework (UN, 2015).

The mining industry has experienced some notable shifts in its governance aimed at improvements in its environmental and social performance. These shifts have largely extended the range of actors inclusive of civil society, and together with market actors share governing duties with the state (Prno & Slocombe, 2012). Good governance has been identified as a major driver to achieving the three dimensions of sustainability: economic, social and environment in societies. By this, governments must commit to the tenets of good governance with a show of respect for accountability, collective participation, and receptiveness to public needs, transparency and without corruption (Biermann et al., 2014). More importantly, governments must involve all key stakeholders to mobilise the necessary resources to eliminate the issues of

inequality through sound policies to promote stability and the respect for human rights needed for sustainable development.

In the case of Nigeria, as it applies to bitumen exploitation, there are scales of governance that need to be unravelled for bitumen mining to be sustainable. Perhaps, the integration of these dimensions of good governance: governments, multilateral agencies and multinational corporations inclusive of civil society will contribute to the idea of a development that is sustainable through bitumen mining in Nigeria. However, the inherited colonial state structures which compel Nigeria to exploit its resources in exchange of money espouses the incapacity of such institutional forms to benefit people, particularly those in close proximity to areas of mining operations.

There are concerns about the historic developmental outcomes of the extractive sector in Nigeria, which draws attention that something has to be actively done to alter the status quo. This will, therefore, be interpreted to the expansion into bitumen mining in a more sustainable way that is to the benefit of all stakeholders. In the light of this, it is not just enough to adopt governance strategies from developed societies into a developing country like Nigeria as there are key structural aspects that need to be addressed and internalised within the context of the governance in bitumen mining.

This chapter discusses the gaps in the politics of mining development - integrating the roles of key actors - and highlights the importance to evolve the role of the state in mining since the state is viewed as the political vehicle to initiate and manage its own resources. It provides a form of governance controlled by a developmental state that can be applied for bitumen mining. An effective developmental state is perhaps going to bring about the intended outcome of development for Nigeria through the sustainable development of bitumen. To unpack these views, I explain in the next section, the concept of government and governance which are often interchangeably used when referring to the systems of governing societies.

5.2 Reflections on the ideas of Government and Governance

The term *government* describes an ensemble of formal institutions based on a top-down framework of steering society while *governance* refers to the exercise of authority over a given space. As a concept, governance is useful in understanding the changes in the discourse of governing, and the shifts in political and theoretical ideologies in the 20th century (Zampini, 2014). Historically, the response to the crisis of governability and legitimacy experienced in

the1970s with respect to the analyses of states and government led to the paradigm shift in governance thinking. This attempt from a global perspective relates to the situation in Western Europe about from the inability of the contemporary state to satisfy the ever-growing demands of society in the provision of services and benefits, making the business of government difficult and in an ungovernable state (Goetz, 2008).

With reference to Frahm and Martin (2009), public policy in the 1980s and 1990s was dominated by two major paradigms: the government, and the market paradigm. Frahm and Martin described the government paradigm as the classic Weberian hierarchical rule that is based on a bureaucratic model in governing societies while the market paradigm was grounded on the poor response of the government to societal needs, and was based on market principles and the consumer choice. By the 1990s, the influential shift from government and markets gave rise to governance thinking, that is, an idea of inclusive participation in public policy that has been conceptualised in different ways (Frahm & Martin, 2009). Governance in itself emerged as a concept predicated on collaborations, partnerships, networking for performance accountability and outcomes to dislodge the bureaucracy of government (Daly, 2003). There are notable differences between government and governance in the styles of steering society (Table 5.1).

Table 5.1: Differentiating between Government and Governance

Dimension	Government	Governance
The role of Government	Major Actor	One of many Actors
Authority and Decision-making	Centralized Command and Control	Decentralised Negotiation and Persuasion
System Structure	Closed and Vertical	Open and Horizontal
Focus	Program	Tool
Democratic process	Representative	Participatory
Accountability	Process outputs quality outcomes	Community Level Outcomes
Policies	Centralised/Uniform	Decentralised/Place Sensitive

Source: adapted from Frahm and Martin (2009)

In the government paradigm (Table 5.1), the state plays a major role with exclusive powers in decision making and operating in a closed system predicated upon laws, regulations with specific duties assigned at all levels of government and organisational units. Policies tend to be uniform with the government paradigm, a one size fits all idea and changes in these policies take a long process as a result of the hierarchy and regulatory structures put in place. Its approach to the democratic process is based on representative participation whereby the society elects people to represent them. In terms of accountability, the government is the sole actor in conceptualising and implementing public policies towards a desirable outcome (Frahm & Martin, 2009).

However, the governance paradigm as depicted in (Table 5.1), the government is one of many actors and is saddled the responsibility to facilitate the synergy of all actors. Problem-solving or policy-making decisions are a collective effort of government, non-governmental actors including non-profit organisations and civil society. Authority is both top-down and up-down which allows for differing views and allows an equal representation of all actors involved as opposed to the top-down government paradigm. Citizens play key roles even as active stakeholders in generating and evaluating policies. In formulating new policies, the governance paradigm opts for the best tool to accomplish the desired outcome for the society, which allows for flexibility amongst all actors. Importantly, it recognizes that different societies require different policy measures towards the desired outcome, especially in matters relating to community development (Frahm & Martin, 2009).

In contemporary times, the emphasis is placed on forms of modern governance - a consolidated strategy in which all actors including the state work in harmony in steering society as it is with modern democracy. This opposes the notion of governance without governments which isolates the state. Thus, a network of actors is regarded as a more active strategy to bring about more democratic involvement for growth and development (Bodin & Crona, 2009).

Having distinguished the concept of government and idea of governance as channels through which society is directed, I unpack the nature of governance and its historical trajectories in Africa and Nigeria with an exclusive analysis of its linkage to the use of natural resources for development. I emphasise more on governance in this study as a recognised panacea to sustainable development which when applied to this research, refers to the governance in mineral and resource exploitation.

5.3 Deconstructing the modes and forms of Governance

Governance describes a wide array of situations that involves actions and collaborative processes with structural, institutional, and regulatory elements. It is also linked to specific processes, structure or system of values that are determinants of decision making that becomes the responsibility of both social and economic agents in politics and administration (Turton et al, 2007). According to the United Nations Development Programme (UNDP),

"Governance is the exercise of economic, political and administrative authority to manage a country's affairs at all levels…it comprises the mechanisms, processes, and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences"

To begin, 3 principal types of governance in existence are *the traditional hierarchical, market-led, and distributed governance system* (Turton et al, 2007). First, as hierarchical governance, the state controls, directs and coordinates the society. This state model is heavily critiqued due to the crisis and incapacity of the state to facilitate working mechanisms to advance development fully. It has become widely accepted that the state alone cannot solve societal problems. Second, as the market-led system, that came about as a replacement for the central state to allocate resources. Under this system, deregulation, and privatisation occurred, which characterised more individual actions than collective decisions. This model has been critiqued as not been representative of societal values. Third, the distributed governance system is the means of sharing authority and responsibility by which the society manages and controls things characterised by public-private partnerships. This model is associated with the contemporary governance model considered to be effective that creates a balance between state efforts, the inputs of markets, and participation of civil society (Turton et al., 2007).

Similar views by Pahl-Wostl (2009) describe the modes through which governance can be administered range from the bureaucratic hierarchy, markets and networks. These channels are distinct in nature yet, connected as there are interactions between formal institutions and actors – state and non-state. In distinguishing the basis on which they are administered, the bureaucratic hierarchy depends on institutions and government actors with the state being the dominant actor, the market is based on both formal and informal institutions with the dominance of non-state actors, and networks are dependent on informal institutions with unreserved participation of both the state and non-state actors (Pahl-Wostl, 2009)

Governance roles in contemporary times are becoming centred on empirically verified needs of society, with the government being a coordinator but not with full autonomy. In essence, a wide array of collaborative actions with institutional and regulatory instruments that drive decision making – as the responsibility of both social and economic agents within the context of administration and development (Turton et al., 2007). These descriptions are applicable, particularly in developing societies as a way to effectively manage the transition to development. In transiting, processes and policies aimed at promoting democracy, the elimination of corruption, transparency and public participation is of importance to developing societies to manage resources effectively (Campbell, 2003).

At the global level, there is a growing consensus among development agencies and policymakers on the catalytic role of governance. In terms of mining, governance is acknowledged as a key factor for achieving good mining and resource development outcomes (Tiainen, 2016). In the past few years, mining stakeholders have become more concerned about the conventional approaches to mineral development, which has been closely linked to adverse environmental issues, social and economic disruption as well as less democracy (Prno & Slocombe, 2012).

5.3.1 The nature and dynamics of the African State

There has been a crisis in governance in Africa, which in more recent times has been identified by the World Bank as a major contributor to Africa's development challenges characterised by poor institutions, the weak rule of law, poor accountability and high levels of corruption (Bräutigam & Knack, 2004). The argument that economic outcomes in Africa are dependent on institutions and governance holds current in the need for accountability amongst governments. However, in reality, governments in Africa have fostered political disorder which is reflective in the inability to accommodate minority protests, persistent existence of external factors and the inability to manage and control natural resource wealth (Fosu, Bates, & Hoeffler, 2006). This is because many African states are by the measure of strength in the area of governance classified as 'weak states' unable to deliver on its core functions of providing basic service functions, security, and having legitimacy amongst its citizenry. According to Patrick (2006), many developing countries have critical gaps in the area of governance and emphasises that state weakness goes beyond the capacity to do but also includes the willingness of governments to do which in agreement to Bräutigam & Knack (2004), are characterised with governments that are corrupt and run incompetent regimes. Patrick describes the categories of

weak states (Table 5.2) and explains that states fall within these categories of high capacity and strong will, high capacity and low will, low capacity and high will and low capacity with a low will. It is imperative to note that the goal is to transform weak states towards the top left, high capacity and strong will with the aim to fill up the gaps in capacity and intensify the will to effect change (Patrick, 2006).

Table 5.2: Capacity and Will as measures of State weakness

	Strong Will	Low Will
High Capacity	Relatively Good Performers (e.g Senegal, Honduras)	Unresponsive/Corrupt/Repressive (e.g Zimbabwe)
Low Capacity	Weak but Willing (e.g Mozambique)	Weak and Not Willing (e.g Sudan)

Source: adapted from Patrick, 2006

In Africa, the political landscape has had a history of authoritarian rule, which was broadly practiced around the continent in the 1960s into the early 1970s. Following the independence of many countries into sovereign states, the political landscape in Africa evolved by the consolidation of the authoritarian rule into democracy in the 1990s. The crisis of governing and directing African societies has been an inherent issue been addressed as a political discourse (Bräutigam & Knack, 2004). A closer look at African states and politics brings about what Fred Cooper termed the "gatekeeper state" as an influential way in which to understand the relationship between states and external forces as well as domestic interests. Cooper emphasises the domination by colonial states over colonies in the control of resource inflow and outflow. This model by Cooper proves useful in identifying the connections between politics and economics in African states giving insight to the structural and historical underpinnings which cut across Africa (Dorman, 2018). The gatekeeper model is necessary to understand the changing political dynamics in Africa and its integration in the world system.

African states have relied heavily on external factors for survival which strengthened colonial states in a bid to generate resources and revenue from colonies to the metropole. Cooper (2005) described the gatekeeper state as: a government that is able to manage and profit from the interface between a colonial territory and the world market, as well as narrow links to specific areas of the interior, with weak control over interior spaces, relying on the British indirect rule and the French association to exercise authority over the vast spaces of colonial hinterlands.

These empires were well established in Africa until the wave of strikes against colonialism set in and escalated by the World War II ushering critical moments for which colonial governments tried to boost and revalidate control by giving Africans the opportunity to engage in economic development matters and increased voice on political issues (Cooper, 2005). Cooper further highlights the inability of colonial powers to manage the political dynamism created by the economic activism and political participation extended to Africans, which ushered the decolonisation era. Self-government in British colonies and shared citizenship in French colonies became strengthened and mounted pressure on colonial governments for the demand of power in colonies to independence.

The emergence of new nation-states which produced the first generation of African governments was more concerned about power and authority over their citizens rather than legitimacy as leaders (Keller, 1995). According to Ndulu (1999), these leaders differed on what was envisioned for the development process. However, they shared similar views on the failure of the market and pushed for a state-led approach for industrialisation and to modernise the economy. This strategy to industrialise did not survive the economic shocks of the 1970s. As such, the African policy was externally scrutinized, which led to governments seeking the help of the external factors, for instance, the World Bank for a renewed effort at industrialisation. This cycle of heavy dependence on external factors in Africa is still widely felt and is helpful in understanding the situation in post-colonial states in terms of the political structure for resource management for growth and development purposes.

5.3.2 The governance landscape of Nigeria

In comparison to other African counterparts and the developing world in general, there have been recurrent arguments that the poor performance in Nigeria is due to the lack of state capacity in dealing with the complexities in governance. This is because political leadership and governance are driven by selfish interests in isolation of the needs of the citizenry. Hence, like other African states, the Nigerian State has failed in service delivery to its citizens, the security of lives and property, fostering the rule of law as well as the lack of visionary goals for growth and development (Yagboyaju & Akinola, 2019). Although there have been successive transitions of governments in Nigeria, the method of governing has been adjudged faulty and to a large extent unable to deliver the goals of development and societal transformation especially since it got independence in 1960. From an economic viewpoint, successive governments in Nigeria lacked the political will to initiate, sustain or embark on

sound economic reforms - a symptom of the weakness of the Nigerian state towards economic transformation, in particular, the improvement in livelihoods of its citizens as well as political stability. These issues are evident and have become issues of concern about ways to eradicate poverty, insurgency and terrorism and the need to improve on infrastructural development.

Nigeria being an oil rentier state, has its land and resources vested in the state as given under the provisions of the constitution. There has been a history of poor governance and corruption in Nigeria, which many scholars argue underpins the development crisis in the country (Abutudu, 2011). This is premised on findings that the authoritarian system of governance particularly during the military era had a linkage to the massive exploitation of oil and gas was a deterrent to democracy and the hallmark of corruption in Nigeria. Although the country successfully transited into a democratic system of governance in 1999, the style of government and governance has been similar to that of dictatorship with widespread corruption amongst public office holders, weak institutions and unstable political regimes. One key argument in the analysis of development failure in Nigeria is the high tolerance for corruption that has been orchestrated by several successive governments and considered to be endemic in realising Nigeria's development potentials (Agbiboa, 2012). Historically, the political environment in Nigeria is indicative of regimes that embarked on massive looting of the country's oil wealth and the forceful control of power – an argument of oil being a curse.

The consequence of oil in national politics has aggravated the resource curse, especially the lack of democracy on natural resource use in Nigeria. Perhaps, this is the reason oil-producing states in the Niger-Delta region are narratives of marginalisation and non-participation in mining activities, decision making and distribution of oil wealth. This gap in resource governance and management is responsible for the increased resistance that led to communal clashes, kidnapping, oil bunkering and violence, which is characteristic of the Niger-Delta. Incidentally, the centrality of development been a political affair that features just the government and in isolation of local content. In contemporary times, the discourse of governance is important as it frames a network of actors that are independent but play complementary roles to crystallise productivity, competitiveness, and development. It is imperative to highlight the tiers of modern governance that factors in local content as active actors in a framework of governance for Nigeria.

i. Federal government

The government is the first on the governance hierarchy especially, in Nigeria, where land is vested in the state. There are 3 tiers of government in Nigeria: the federal, state and local governments. At the federal level, apart from defining revenue generation, royalties and tax, the government is to determine to a large extent the mode of operation for the industry and the minimum environmental standard that must be adhered. While the government fully considers the contribution of the sector to GDP, it also should consider the protection and the rights of local communities where these activities will take place. This is possible through enforcing environmental compliance and safe working practices of mining hopefuls. Around the world, governments are beginning to pursue the SDGs goals, especially within the scope of its heavily reliant extractive industry.

ii. Local government

Similar to the national government, the local government actively pursues the benefit of mining that ought to accrue at the local level. The local government should be instrumental in the entire planning process and should have a push for a strong case for sustainability in local regions and communities where extraction takes place. There are high expectations of the local government to protect the rights of the local population in mining communities, including the provision of employment and the dividends of national development plans. The strength of the local government in this regard is dependent on the extent to which governance is decentralized in the context of bitumen.

iii. NGOs

Following the issues in oil and gas mining in Nigeria, NGOs have begun to have a particular interest in the activities of the mining and minerals industry. These interests lie in the environmental, economic and social performance of the industry and how it impacts the economy at both the national and state level. NGOs raise awareness of the shortcomings of the industry by drawing the attention of the public and other civil organisations to ensure that mining companies fulfill the mandate of sustainability and also, respect the rights and needs of the local communities where they operate.

iv. Local community

The local community is the most impacted by the activities of the mining and minerals industry. Many local communities are subsistent in nature, and the operation of the industry affects the environment and in turn, affects economic sources of local populations.

This power structure is a complex web that presents an overall dominance of one over the other, to a large extent the non-inclusion of the local community. In the consideration of alternative measures to salvage the gaps in governance, there are issues with regards to the framework and institutional structure that must be addressed as societies progress to control and manage new development projects. Kemp (2009) stresses the disconnect that exists between these governance initiatives and its implication on local communities in terms of its poor design, approach, and implementation which undermines the synergy between the goal of poverty reduction and development. At the local level, there is the issue of poor participation and intervention of local communities in project planning which is a potential limitation for this aspect of the extractive industry to initiate tremendous changes to development outcomes and host communities. It is important to decentralise power to create room for efficiency and the enhancement of government institutions and services to foster a governance regime that sustains the exploitation of resources for development.

5.4 Governance and decision-making

Mining and resource exploitation on the premise to sustain economic growth in developing countries is subject to heavy criticism with key arguments that promote equity, democratic justice, as well as its environmental concerns. Multinational corporations, international agencies, civil society, and activists have different approaches that seem to address these issues, with emphasis placed on ways to revise policies and strengthen governance to guide the activities of the industry (Spiegel, 2012). Categorically, aspects of the mining industry: labour, infrastructure and capital are subject to responsible decisions and approaches to good governance, efficiency in formal institutions, support for local content and participation, and fairness in revenue distribution which further transforms to broader socio-economic development (Pimentel, Gonzalez, & Barbosa, 2016).

There is growing consensus among International Development Agencies (IDAs), governments, policymakers and civil society about the importance of governance in achieving development. In the case of the mining and minerals industry, the quality of governance is more often one of the key determinants of the development outcomes of the sector in a given country. This is one of the submissions of the World Bank Group's Extractive Industries review on governance and the mining sector (Campbell, 2003). This is premised on the fact that dependence on mining outcomes has given rise to, and is linked to less democracy, the lack of efficiency and transparency in resource management - in a sector considered as corrupt with rent-seeking

tendencies, and appears to fall short of commitments to the tenets of sustainable development (Knutsen, Kotsadam, Olsen, & Wig, 2017).

The International Resource Panel (IRP) of the UN has highlighted the importance of mineral governance in mining in the 21st century since minerals' mining continues to expand and underpin national economies. Emphasis on decision making through reformed governance frameworks is considered necessary to address the challenges of the extractive sector such as the volatile commodity price fluctuations, the poor linkage between mining and other economic sectors, poor management of impact, and the geopolitical risks in mining (IRP, 2019).

The expansion of the extractive industry into new resource frontiers inherent with increasing political, social, environmental and technical challenges is dependent on the articulation of governance and accountability. It is important to state that new resource frontiers shape resource governance in resource-rich countries, especially from the promised benefits of developing new resources (Alstine et al., 2014)). From a global viewpoint, a new frontier in mining is the growing contribution of unconventional fossil fuels to energy demands, and these have widespread consequences on both land and water resources. New technologies and the process being adopted to extract these unconventional resources need sound governance systems to mitigate the impact (Jordaan, 2011).

According to (Wanvik, 2016), the global energy market and these extractive hot zones are fertile grounds for governance innovations and emerging governance practices. This follows the consensus that the activity of the extractive industry has an impact on the social, environmental, cultural and economic aspects in areas of mining operations. Although host mining countries benefit immensely from these operations, the burden and impact are felt by the local indigenous communities. Historically, the case of injustice over rights and entitlements, especially from the destruction of livelihoods has prolonged conflicts between local communities against the government and investors.

Governance is increasingly becoming the opening up of decision making processes to involve multi-stakeholder participation, especially the inclusion of the public. Sovacool, Walter, Van Der Graaf, and Andrews (2016) have stressed the important feature of governance disclosure which they have defined as a system of reporting that goes beyond a state-led effort to that of private actors in designing transnational rules in transparency. Embedded in the Extractive Industries Transparency Initiative (EITI) to advance domestic transparency in governance and accountability in resource-rich developing countries, the EITI operates assessments in the

relationship between the industry and governments, including impacted communities. Adopting the principle of the EITI in the mining of unconventional resources in developing countries is likely to promote good governance and initiate development, and perhaps, in the context of this study, bitumen.

In mitigating the resource curse in a country like Nigeria, it is crucial to adopt the principles of the EITI which according to (Sovacool et al., 2016) makes particular reference to the issues of transparency in economic, social, environmental and political information which is necessary for all stakeholders. Alstine, Manyindo, Smith, Dixon, and Amanigaruhanga (2014) highlights the poor understanding in interactions of the extractive sector with local communities, their traditional authorities, and the local government especially in countries where authority and control are transferred to the multinational operators from the inability of the state in the delivery of services and infrastructure. By this, multinational companies assume the position of a second-tier government to resource bearing communities in addressing community development challenges. This is evident in countries like Nigeria and Chad, where private sector initiatives have been made a second government from the poor impact of government in addressing development challenges, particularly host mining community challenges.

There is evidence to show from empirical field data that the bitumen bearing community of Agbabu in Ondo state even at this early stage views the intending mining companies as those to address their challenges with the state being the driver to coordinate these expectations. The diversity in governance by the form of networks just as it is a global aim in resource management has the potential to strengthen sustainable development in resource exploitation (Pahl-Wostl, 2009). However, a neoliberal and market-oriented form of governance has been considered an alternative for the proposed bitumen mining, but to what extent would these approaches bring about the sustainable development of bitumen? In the following sub-sections, I critique the neoliberal strategy of governance for bitumen as proposed by the government and consequently, assess the governance approach adopted in Canada. This helps to present further the argument of the significance of modern forms of governance that is all-inclusive and developmental.

5.4.1 Critiquing neoliberal governance for bitumen

Bitumen development is at the core of prospective mining in Nigeria, and as in other extractive activities, the indigenous landscape will play host to its industrial operations. Considering the history of mining in Nigeria since it became a rent-seeking state, it is evident that the

indigenous bitumen communities will bear the consequences and cost of exploiting the bitumen reserves. Thus, governance is crucial as a network of all stakeholders in decision making to address the controversies inherent in mining bitumen.

In responding to this structural issue, the civilian President, Olusegun Obasanjo in 2003 signalled the commercial exploitation of bitumen under neoliberal approaches of governance to develop the entire bitumen belt. Ever since its discovery, previous attempts to exploit the belt have been undermined politically and by inconsistency in the framework of governance (Adeniyi, 2014). If going by the tenets of neoliberalism, the proposition by the government to have a neoliberal approach to bitumen mining is highly contentious in a terrain inherent with complex resources politics and where the state and multinational investors are more inclined to the pecuniary interest of mining over the expectations of resource bearing communities.

Neoliberal governance on it owns separates the state from mining interventions giving priority to markets to dominate. External investors and multinationals represent neoliberalism and arrive to operate based on of reforms, privatisation and liberalisation in host countries, which in most cases generate little or no benefit to local communities. This is because neoliberalism as a dominant ideology in social and political domains promotes markets as a pathway to economic growth and development in developing economies facilitated through internal reforms in host economies targeted at creating investment-friendly environments to facilitate efficiency (Adeniyi, 2014). The rationale for the push of neoliberalism, especially by financial institutions is the idea of the flow of transnational capital to exploit natural resources in resource-rich but developing economies. Contrary claims point to the fact that foreign capital has been a disservice to the resource developments in developing economies and has accentuated power imbalances which are in favour of multinational corporations. If the state under the proviso for foreign aid is not reckoned as an actor in mining developments, how then is a neoliberal approach appropriate as a governance framework in mining particularly, newly emerging resources to push for development?

Mining bitumen in Nigeria will come at a huge cost on the environment and possibly reinforce or contribute to the grievances of host mining communities against mining operations that deprives indigenous communities' access and rights to traditional territories. Thus, a governance framework to address the inconsistency in mining politics is crucial to sustainably develop the bitumen fields for national economic development while upholding the expectations of local communities and fostering sustainable development. Giving the

development challenges within the bitumen belt, in this case, the Agbabu community, it is unlikely that multinational companies bidding to exploit will attend to community development issues above the business prospects (Adeniyi, 2014). At the infancy stage of bitumen development, it is imperative to set rules that will shape and limit the process by which hydrocarbons contribute to sustainable development and poverty alleviation in the host community (Alstine et al., 2014).

5.4.2 Experiences and Lessons from Canada

In the early development of the bitumen industry in Canada, the government focussed most of its policies on the expansion of the industry with little consideration for environmental policies. This significant investment in the oil sand industry and the returns by the industry suggested how viable the exploitation of bitumen from oil sands was to the province of Alberta despite the environmental issues associated to it (Stecyk, 2017). The energy sector accounts for over a quarter of Alberta's GDP with bitumen playing a dominant role. Oil sands development in Alberta has expanded into the production of oil from tar sands over and above the conventional sources of oil, and with the huge investments been made into oil sands development, there are projections that its output would triple over the next decade. As a result, the provincial governments' commitment is to continuously scale up and expand production (Bowness & Hudson, 2014).

However, oil sands development has generated considerable concerns in Alberta based on the environmental impact on the quality of air, water and the impact on the boreal forests. This has opened the operations of the industry to democratic deliberations. When argued from a public participation perspective, is the possibility of the avenues by which people have the powers to influence mining processes such as the licensing, development and extraction. In essence, giving the civil society the capacity to reduce or terminate extraction activities even if the development of a resource is a promising stream for private accumulation and a source of government revenue (Bowness & Hudson, 2014). The authors further explain the measurement of public participation as a form of context, process and outcome. By context, to evaluate the factors that drive the need for participation – political, social, economic and environmental factors. By process, is to determine the legitimacy for participation and the forms of participation available to the public. By outcome, is to the extent to which the public actively engage and are able to exercise the control of power in decision-making process (Bowness & Hudson, 2014).

In recent times, one of the strategies in Canada to ensure the sustainable development of its natural resources is through good environmental governance (Stecyk, 2017). This approach according to Steyck, differs from the conventional approach of good governance as it encompasses a consideration for the economic, social and political activities of people. This applies in Alberta especially as the extraction of oil sands consumes land and water, as well as the impact on air quality, and in terms of sustainability, it is an issue of concern for Canada since natural capital is used to extract and refine oil (Stecyk, 2017).

There have been heavy discussions about the relationship between the economy and the environment which the government must consider when formulating policies and initiatives. According to Stecyk (2017), there are two major forms of resources which should be considered and these are the natural capital and manufacturing capital, which in context, the natural capital are the finite resources (land, water) while the manufactured capital is bitumen which corporations exploit. Going with the natural capital theory, manufactured capital is dependent on natural capital for its production, which in context means that the benefit derived in economic terms is a subset of the larger ecological system. Thus, to sustain this economic benefit, the ecological system must be preserved in sustainable ways. Similarly, there should be full consideration to promote policies that do not disregard the environment as economic interests develop. This is the environmental economics theory that stipulates that economic development depletes natural resources and ecosystems. For instance, natural capital like water being used throughout the exploitation process gets depleted, and likewise, the waste product (used water and tailings) from the mining process have an adverse effect on the environment. This establishes the argument that natural capital aids the production of manufactured capital and should be given equal priority in terms of policymaking to address the instability and degradation of the environment (Stecyk, 2017). What this entails is a system that integrates a commitment to environmental sustainability from a good governance perspective to sustainable development.

The approach of a neoliberal strategy towards environmental governance is acknowledged to promote economic gains above the concern for environmental sustainability which is at the expense of the state and civil society. This unbalanced engagement is a concern and heavily critiqued as a model in the case of bitumen mining in Alberta. In the argument by Hackett (2015), on Market-Based Instruments for environmental governance (MBIs), Hackett argues that markets create uncertainties, complex situations and challenges in the sustainable development of resources. This is because; markets do not necessarily produce the results

stakeholders, actors, civil society as well as the government desire in the sustainable development of resources. Thus, there is a need for the state to intervene in approving and regulating extractive developments to shape governance mechanisms in a bid to avoid conflicts amongst relevant stakeholders rather than a strategy that hollows out-state authority to control.

5.5 A developmental state ideology and good governance for bitumen mining

The rapid economic growth experienced in Asian countries has been attributed to the developmental state idea. Early studies by Leftwich (1995) defines developmental states as 'states whose politics have concentrated sufficient power, autonomy and capacity at the centre to shape, pursue and encourage the achievement of explicit developmental objectives, whether by establishing or promoting the conditions and direction for economic growth, or by organising it directly, or a varying combination of both'. This means that the issue of social and economic development is resolutely a function of state effectiveness. By this, and as a way to conceptualise this ideology, the political purposes and institutional structures in such states are developmentally motivated while, its developmental objectives are politically motivated (Leftwich, 1995). For instance, the state, to finance investments and economic growth, mobilises and allocates resources into strategic industrial sectors that best suites a development agenda (Krieckhaus, 2002).

A developmental state tends to provide a model for development away from the disillusions in the theories of development. Kim (2009) highlights the fundamental ideas of neo-classical theories as that which postulates to developing countries minimal intervention of the state with caveats that undermine state intervention. Similarly, Kim argues against the posits of dependency theories that compel national economies to join the world economic system as a cause of the widened poverty gaps in developing countries.

From early contributions to the developmental state model, there are specific components that classify a state as developmental. Following Leftwich, such state must have a determined developmental; relative autonomy; a powerful, competent and insulated economic bureaucracy; a weak and subordinated civil society; the effective management of non-state economic interests; and repression, legitimacy, and performance. The argument for developmental states is the centrality of politics and better state capacity to shape relationships that are advantageous in the transition of societies from poverty enclaves to developed spaces (Leftwich, 1995).

Mkandawire (2001) identifies the two components of developmental states as: *ideological,* and *structural*, the nexus between ideology and structure is what distinguishes a developmental state from other forms of state. From an ideological perspective, developmental states underpin development as a mission to ensure economic growth, which at this level is a form of hegemony such that its development projects are voluntarily adhered to by key actors. From a state structure perspective, developmental states are underpinned as one with the capacity to implement purposeful economic policies which are determined by institutional, administrative, political and technical factors. What follows is the autonomy of the state to exercise these capacities to enact long term economic policies. Importantly, a developmental state must possess social anchoring to prevent the state from acting in a predatory manner bringing together all key social actors within its scope of administration (Mkandawire, 2001). Furthermore, political will and technical capacity are essential factors for a developmental state to wade off exogenous forces to account for success.

According to Mkandawire, some countries in Africa qualified as developmental states until the mid-1970s based on performance and under the current definitions of developmental states, however, the hard times experienced were accountable for the halt in economic expansion in these countries. Thus in recognising the accounts and possibilities of failure, it is imperative to define developmental states as states having an underpinning developmental ideology and one that seriously commits to employing its administrative and political resources towards economic development.

In an African context, it is possible that if the state assumes its position and role in the process of development, there would be visible changes in its development just as seen in the case of the 4 Asian tigers: Hong Kong, Singapore, South Korea, and Taiwan. Although following the popularly acknowledged weakness of the African state, the dependence on foreign powers and markets, it seems impossible to adopt the developmental state paradigm. Many African countries as a result of these issues and the overarching issues of corruption are typified as rentier, kleptocratic and predatory states and as such dysfunctional in addressing wider societal issues which have been evidenced from the withdrawal of previously dominated autonomy on its economic and social affairs.

The criticism against the state in development affairs in African states has been widely addressed in various aspects from over-dependence on external factors, the lack of developmental ideologies, lack of technical, financial and analytical capacity and the softness

of the African state (Mkandawire, 2001). While these are issues admitted in the African context, African states can be deliberate about its developmental progress being the legitimate vehicle and cornerstone to direct and control its economic and social issues appropriately. Can the task of economic development in Nigeria, especially in its quest to unlock the economic potentials of its resources be hinged around the developmental state while incorporating the governance framework of the 21st century?

5.6 Conclusion

Having discussed these dynamics in governance, it is important to restate the impact of international development institutions that have taken to analyse and begin to advise on good governance in developing regions with regards to the management of their resources. Good governance goes beyond mere enactment of policies; instead; it involves joint participation of all stakeholders and actors in the development process. This is one of the tenets of governance in the 21st century in order to overcome the menace of poverty and underdevelopment as society's transit into unlocking other resource potentials for economic growth and development. Governance in recent times is advocated being pushed as a panacea to solving the problems of development in Africa. It also applies particularly to the growth and development of its extractive industry.

The exploitation of resources on the premise to foster development and initiate economic growth is subject to governance approaches that promote equity, democratic justice and concerns for environmental sustainability. This is one of the policy strategies of the World Bank that advocates for good governance as a panacea to development in resource-rich countries. However, the reality with mining operations in developing regions, especially in Africa, have otherwise generated less democracy and authoritarian rule, which espouses high levels of corruption and lack of transparency. As mining operations expand into new resource frontiers, in context, the proposed bitumen project in Nigeria, it has become important to analyse the context and approach of governance that will bring about the goals of sustainable development. This is because empirical findings from the governance structure related to the decades of oil mining in Nigeria raises the possibility that if applied to the nascent bitumen industry, it will undermine the long-term economic prospects of bitumen exploitation for Nigeria.

This Chapter unpacks these issues of governance and relates it to the proposed neoliberal governance approach to develop the bitumen belt in Nigeria. Neoliberal governance is highly

contentious as an approach to mineral development, especially in regions that are vulnerable and are weak states. This weakness is a characteristic feature of rentier states that adopt mineral exploitation as a means to derive revenue, at the same time, with the influence of external actors in unlocking its resource potentials. It can be argued that it is the modern strategy to exploit resource in developing countries whereby the market system is dominant and the state is passive in decision-making processes. Whilst mining is regarded as a dirty form of activity, it is imperative also to state that bitumen mining is not an eco-friendly form of mining, and this raises the contention about the possibility of mining bitumen under a neoliberal structure where markets have motives of accumulating wealth without much emphasis on socio-economic development where they operate.

The experiences in the oil sands project in Alberta, Canada brings to the fore the importance of a governance strategy that regards the interlinkage of the economy and the environment while formulating mining policies. It is on this basis that a developmental state ideology is being considered in this study as an approach to unlocking the potentials of bitumen which would entail a strong-willed, determined and result-oriented state to foster development policies to diversify the economy from oil to solid minerals, in context, bitumen exploitation. What is argued with this approach is a case where the government takes the lead with autonomy in its economic, political and social affairs. However, it raises more concerns about the possibility of the Nigerian government to actualise this in the context of bitumen mining in Nigeria whilst with the rentier ideology of generating wealth through its resources.

CHAPTER SIX

IMAGINING SUSTAINABLE FUTURES IN AGBABU?

6.1 Introduction

There is an enormous wealth of work done on mining activities on the relationship between mankind and the use of earth's natural resources. On the one hand, many authors have highlighted its contribution to economic development, exchange earnings, employment opportunities (Hajkowicz, Heyenga, & Moffat, 2011; Pegg, 2006) which are widely acknowledged as the positive benefits of this relationship. On the other hand, there have been accounts on the issues of mining induced conflicts, lack of democracy, corruption and issues of sustainability particularly at the local level wherein these mining activities take place (Dubiński, 2013; Knutsen et al., 2017) As a merger, some other authors have analysed possible ways or indicators to ensure sustainability in mining activities (Azapagic, 2004; Laurence, 2011). While these are ongoing discourses in the aforementioned in different mining contexts, very little work has been done on new resources frontiers - communities and spaces where new resources would be opened up for mining. These are areas that deal with the anxieties of the possibilities of development and imagined futures deep-seated in the present issues of underdevelopment amidst potential wealth. What lies between these imagined futures and the current reality in these spaces is a complex relationship that makes sustainability from a community lens a unique subject in mining expansions. In part, the expectations and uncertainties created in resource frontiers are a result of the previous ways in which mining actors particularly the state have conducted the use and management of natural resources (Knight, 2015).

In unlocking the potentials of new resources and the expansion of mining activities into new territories, there are conflicting views between the extraction of resources and the maintenance of the environment while pushing the goals of development. Framing new mining operations under the existing framework necessarily might not capture the expectations of sustainable futures and how the prospective host mining community perceives development from a controversial form of mining. Irrespective of the 'green' strategies being propelled by the industry to access new mining areas, not so much has changed in the industry to justice its operations in prospective and future terrains (Whitmore, 2006).

For many decades, Agbabu community (the study area) has become a popular destination for exploration activities by prospective multinational companies and other mining investors as the Federal Government seeks to diversify into other resource potentials to boost the national economy. Being one of the local communities within the bitumen belt, it has an abundance of bitumen and in recent times, it is seen as a new resource frontier. Exploration activities began within the local community in the early 1900s in colonial times, and for many decades, became an abandoned project until recently, when the need to expand the range of revenue netting sources for the government arose. The mining artefact (well head, pipes) left by the early bitumen explorers has left the local community anxious of the exploitation activity to be carried out and the promises of development for the community. Living with this untapped resource of great potential value and yet, stricken by widespread poverty and underdevelopment has been the reality in the local community. Thus, the local population are in a seemingly impossible dilemma of the possibility of mining bitumen in ways that are sustainable for the benefit of the government, investors and the local community. This raises concerns of the deep-seated threat of bitumen mining to the local population particularly in recent times as the world is moving towards the SDGs and sustainability discourse.

An emphasis on the exploitation of resources in Nigeria, has for the most part, failed to deliver the much-anticipated development to local communities in mining regions, for instance, the situation within the oil and gas producing communities in the Niger-Delta which has not translated to development. What this leads to are questions that uncover the tensions around this rentier framework, and in the context of bitumen mining, it uncovers the danger and possibility of more exacerbated societal inequalities, displacement and marginalisation of the indigenous people, and perhaps, strengthen the politics of renterism. This raises an important question: how does the local population at Agbabu perceive the exploitation of bitumen as an engine of development? Globally, there is growing belief in policy making circles that good governance is a key to attain a development that is sustainable in the exploitation of oil and solid minerals (Kardos, 2012) yet; it is not enough to justify the expectations of sustainable development with bitumen in the context of Agbabu with inherent socio-political gaps. Similarly, the focus on the extractive industry to improve on its performance especially the environmental aspect in vulnerable countries has come to the fore in the sustainability discourse with commensurate effort at the socio-economic issues especially those targeted at poverty alleviation, equity and stakeholder engagement (Ranängen & Lindman, 2017). In context, these

identified approaches subjects the agenda of sustainable development in Agbabu to much contentions and evaluation.

From the foregoing, this chapter presents the findings gathered from the data collected in the proposed area of bitumen mining in Nigeria to justify one of the objectives identified for this study. The process was informed by investigating people's expectations of the proposed bitumen mining project and their perceptions of other actors in the mining framework. The data was gathered from fieldwork in the Agbabu community of Ondo State, Nigeria. Data collection was through in-depth semi-structured interviews, focus group discussions, and observations in the study area. In-depth interviews were targeted at key informants about their knowledge and perception of the proposed bitumen mining project.

6.2 Expectations of futures: contradictions and complexities

There is consensus that extractive activities have the potential to bring about significant wealth and development to a country. This is grounded in evidence that natural resources have a dominant role in the economy, social and political aspects in the lives of 3.5 billion people in 81 countries rich in minerals, oil and gas resources. Africa is home to about 30% of the world's mineral reserves, 10% of the world's oil and 8% of the world's natural gas (Afdb, 2016). Resource endowments in these countries are viewed as a mixture of blessings and curses which are the basis for the debate - if existing resource use has translated to sustainable development.

There are assumptions of positive feedback from the extractive industry to meet the goals of development especially poverty reduction with the practice of good governance, transparency and good management of resources. But in the practice, this notion is flawed from the experiences in many resource-rich developing countries particularly in Africa where there are fundamental issues of resource governance and a lack of state commitment to development, especially local community development.

Based on the observations on the poor management of natural resources and the uneven distribution of wealth in mining economies, international institutions have directed efforts to offer technical and financial assistance to resource-rich developing countries, including commitments to promote good governance. All of these come with caveats which to an extent reduces the autonomy of state governance as explained in the previous chapter. In addition, mining companies engaged in mining operations in the absence of good national governments are depended upon to provide amongst other positive contributions; good working conditions,

maintain safety and responsible practices where they operate. In practice, this is not always the case as mining companies are more concerned with investment returns and responsibilities to satisfy host country pecuniary interests - in most cases are diverted – an inherent practice of corruption.

Several studies have argued these irregularities which are central to the perception of resource bearing communities' hopes and anxieties for mining developments. There are issues in the way key actors deconstruct the futures of mining, in most cases, as a driver for economic growth and development. However, resource bearing communities beyond the expectations of mining futures are very much concerned about the issues of sustainability which are prominent issues in ongoing mining regions. Whilst these are generally prominent discourses, to what extent do they capture the complex situations in new mining frontiers?

It is clear that a good understanding of these complexities - benefits, impact, and challenges from a community lens is needed to improve efficiency in resource management. Following this with new resources, just as it is with the bitumen project, there is an urgent need to focus on a good conception of development from community expectations that links to the ideas of mineral futures with sustainability. Since Nigeria emerged as an oil-centred rentier state in the 1970s, one major area that has received little attention in the resource exploitation structure is the development of host communities. Although the issue of underdevelopment in oil-related mining activities is a result of ongoing large-scale exploitation, it is different in the bitumen region that is a result of non-exploitation (Adeniyi, 2014; Omeje, 2006). Bitumen as a resource frontier is a huge paradox in Nigeria which in the lens of local bitumen bearing communities is mainly a source of anxiety and hope for socio-economic development. The local community in Agbabu presents a unique insight into the perception of the proposed bitumen project as discussed in four categories: the level of awareness within the community, expectations of development, and consequences of exploitation in the community.

6.3 The Community and the proposed bitumen project

The development aspiration in Nigeria centres on the exploitation of its natural resources, and in the context of this study is the expectation of development through bitumen mining. The rural community will play host to the operations and processes of this mining activity and perhaps, bear the cost of these operations. Having knowledge of this mining activity goes a long way in stimulating the resident population of their expectations in terms of its potential costs and benefits to the community. Lessons from the oil and gas mining in the Niger-Delta

makes it imperative for the community to engage as major stakeholders in the mining process towards achieving a high level of justice, social and economic development.

To assess the extent of the knowledge of bitumen mining amongst community residents, the researcher engaged respondents about the proposed bitumen project. Responses gathered proved that the community is fully aware and is supportive of the idea of unlocking the potentials of bitumen which has been communicated as having great benefits to the local and national economy. One elderly man narrates:

> *I was born in this community and I am quite knowledgeable about the decision to exploit this resource. For many years, generations have anticipated the commencement of this project however, as I speak, there has been no sign of infrastructure for the project. As a community, we hope the government would be serious about exploiting this bitumen, if not for us, for our children.* (Interview, Agbabu Community, 2017)

This comment captures the level of awareness to bitumen exploitation and the long years of waiting on the operations to come into reality. Although, there are insinuations there are anxieties over the integrity of the government. Another elderly woman comments:

> *I have heard about the intentions to exploit this black oil (bitumen). Many past government representatives together with mining company representatives have been here on several occasions to inform us about the bitumen development plan and have discussed the ways by which the community will benefit. Till now, no form of activity has commenced which is discouraging to many of us.* (Interview, Agbabu Community, 2017)

From these comments, it is apparent that the knowledge and expectation of the proposed mining operations have lingered for so long in the community. During one focus group session, respondents chorused the knowledge of the mining project and stated that they are highly dependent on the government to execute the project timely. One elderly man from the focus group summarised the expectations of the mining project as:

> *This idea of mining has been anticipated by many generations many of whom have fulfilled their number of years on earth without witnessing it. This should tell you to give you a hint that even the youngest in the community is aware of the presence of this black oil and, that it will be exploited. Many of us discuss the benefits to our community*

as it has become common knowledge to most of us in our community. (Focus Group, Agbabu Community, 2017)

Another man complimented the earlier claim pointing at a signpost (fig 6.1) as evidence to the bitumen prospecting activities carried out by the first set of German geologists that carried out exploration operations of bitumen in the community. He said:

> *After the white men drilled in this community and found the bitumen in large quantities, the community agreed that the area is enclosed to prevent unlawful access. The enclosed site is the area where the first wellhead was drilled and cast with steel. It is like a memorial edifice to us since it was piped down in the 1900s when the first exploration exercise was carried out. It is only our Community Chief that authorises access into the area especially when people come on research purpose or when government officials come with companies to inspect the area*. (Focus Group, Agbabu Community, 2017)



Figure 6.1: The signpost at the entrance to the site of the bitumen wellhead
Source: Researcher's Fieldwork, 2017

To capture these claims, the steel cast (fig. 6.2) in the enclosed area was the first site that was drilled in the community. According to the information given, this exploration activity was first carried out in the early 1900s when German geologists were prospecting for solid mineral deposits in Nigeria. The community places so much importance on this site and is reported as the major location to commence mining when operations are approved. According to one man:

> *This is the first point of call for any government official or visitor that comes to the community for prospecting or for sample taking. We were told this site has the highest pressure and volume of bitumen, and suitable as the first location for bitumen to be mined in the community.* (Interview, Agbabu Community, 2017)



Figure 6.2: The steel cast site in Agbabu (in-set, narrator assigned by Community Chief)
Source: Researcher's Fieldwork, 2017.

In terms of how the community got to know about the proposed project, many respondents particularly the elderly ones in the community said they became aware of their interactions with government officials. One man said:

> *I initially heard about the development project from the government officials who visited our community many years ago. Whenever we have changed in governments,*

we encounter new government officials who promise us about the commencement of mining in our community after they have inspected our land. (Interview, Agbabu Community, 2017)

Other responses, especially from the youths, showed the harmony in the community as the response was that they knew about the decision to exploit from family members. These comments were captured from two youths. One of them said:

I*t was during a discussion with my late father that I learned about the plans for this resource by the government in my community. I grew up to experience first-hand, the presence of bitumen on my father's farm and right behind the shelter where we cook at home. It was from here experiences my father told me about bitumen and the intentions of the government to exploit it'.* The other said: *'Although I heard about it from my father, I also read about it on several occasions amongst the city people. It was from there I knew more about the development strategy of the government to diversify into other sources to generate revenue*. (Focus Group, Agbabu Community, 2017)

This question was asked to gain insight into the way the bitumen project is perceived amongst residents of the local community. One resonating response from most residents was the idea that it would bring about monumental development benefits to the community as explained to them by the government, prospecting investors and professionals. However, there are deep-seated issues of being marginalised from the entire mining process. To many of the residents especially the elders, it is an issue of concern as many are aware of the lingering issues of community marginalisation in the oil-producing region of Nigeria. These opinions are articulated in the following sections.

6.3.1 Perceptions of Development: expectations of the bitumen community

In a developing country like Nigeria where mining is associated with national development, the mining of bitumen as perceived by the resident population in Agbabu, Ondo state will play a crucial role in providing infrastructural facilities, employment, electricity, portable water supply amongst many others. These are necessities in the local community and this forms the basis of their expectations of development. The responses gathered from this question are reflective of the high hopes and anticipation of the potential benefits of exploiting bitumen within the community. Thus, the responses given were deduced as potential engagements the local community have had with government officials, intending mining operators and scholars who have visited the community on various exploration exercises. Generally, these were

pressing needs to the community as discussed in the following sub-sections. Each of these is presented below:

i. Infrastructural development

Olaseni and Alade (2012) argue that infrastructure plays an important role in achieving the goals of development in a country like Nigeria. This refers to the network of communication, transport and social services that function as a system to improve the general wellbeing of people. Infrastructure is broadly classified into two: the physical; which is the availability of roads, electricity and the social; which is the availability of healthcare services, educational facilities, and housing. In the case of Agbabu, there is a lack of infrastructure for the rural population to utilise. As a result, the local population orient their expectations of bitumen exploitation around the provision of infrastructural facilities. Precisely, the resident population is hopeful that the community would benefit from the provision of medical facilities to treat ailments and other related diseases particularly malaria which is prevalent in the community. One man said:

> W*e do not have medical facilities here, anyone who falls ill will have to be relocated to the city and in most cases, many people die before getting there as the condition of the road does not aid the quick movement of the sick. There are several diseases in this community; the very disturbing ones are malaria and cholera which many of us contract from these polluted rivers around us. Many people have died from these diseases especially the children who do not have as much immunity as we the elders in the community.* (Focus Group, Agbabu Community, 2017)

During the discussions, the participants explained the importance of having transportation facilities to connect the community to the city. The provision of motorable roads is believed to be a form of to which the community can get social connections which will definitely bring in more investments to the community. One woman explained:

> *I hope that this activity will lead to the construction of roads that will link our community to other parts of the state. For many years, we have relied on the services of heavy-duty vehicles that come fortnightly to take some of the own farm products for sale in the town. Many transporters shy away from commuting to our community because of the condition of the road which they claim damages their vehicles. The only ones that agree to make the journeys set very high prices that are not affordable to the*

average person in the community. I really hope that this project will aid the government to construct modern roads for us. (Focus Group, Agbabu Community, 2017)

Another issue such as the availability of electricity was re-echoed by many participants during the discussions in another group. Many participants said that children born in the last 5 years have never witnessed an electrical power supply. Although there is a short stretch of electrical wiring into the community, it is an abandoned project perhaps, an electrification project that was executed by a past governor of the state. One woman said:

We live in darkness in our community, the majority of the time; we have to survive on the use of kerosene lamps or candles for vision at night. This is dangerous to us as a community especially the young ones who are at high risks in a case of a fire outbreak. Our houses are built locally from wood and dried tree leaves and if in contact with naked fire, can be fatal. We have had a case like that in our community where a house was raised down by the fire. I know that electricity would be one of the infrastructures for the mine operators and we will benefit from it. (Focus Group, Agbabu Community, 2017)

The community places this as a major priority since electricity is significant to the daily functioning of modern amenities. For instance, for the community to have an operational clinic, electricity is a necessity to carry out minor to major procedures. There is a clear notion amongst group participants that the project will bring in power supply into the community. In subsequent discussions, the participants expressed further concerns such as:

Electricity is an essential need in our community. With electricity, we can preserve some of our food items especially the fishes we get from the river and also be able to set up small businesses to complement our source of economic activities. (Focus Group, Agbabu Community, 2017)

ii. Educational facilities

It was gathered from the responses the reoccurring outcome is the exposure of the community to development and innovation. Education is considered an essential facility for the rural population as it is a way to socialise with modernity and to have well-educated members of the community. Interestingly, the older generation reiterated the need for education even though they never had formal educational training beyond elementary school. One older man said:

> *It will be of great joy to see our children go to schools of learning so that they can be more influential people in the near future. The majority of us in the community are happy to engage with visitors who come to our village on account of this bitumen and hope that someday, our children will be in this position to take charge of the affairs within our community. Although we have a community primary, it is not equipped with facilities as well as adequate teachers. It is my hope that the government or mining investors will set this as a top priority for this community*. (Focus Group, Agbabu Community, 2017)

Similarly, women in one of the focus groups buttressed on education as a way to liberate the community from being classified as local and uneducated by people. These women opine that in building schools and places of learning, the community is able to engage the younger generation with civilisation which in turn benefits the community on the path to being modern. The women said:

> *It is important for our community to have proper and adequate learning centres especially for the younger generation who will carry on with the community's heritage when the older generation depart. If the city has schools and places of learning for the entire populace, it is also important we have ours so that we can be part of civilisation as well as to have responsible children. Also, having the right education will help our children to fit into the mining project perhaps, for skilled to semi-skilled jobs and in the long-run assume higher-skilled positions.* (Focus Group, Agbabu Community)

iii. Employment opportunities

To the local community, employment is of the crucial importance of being gainfully employed from unskilled to skilled forms of employment. What is interesting with these views is that the older generation is more concerned about the future of their children and the generation to come. In a traditional setting, local communities would have viewed bitumen as a curse but the Agbabu community from different consultations admit it is a blessing from God. This view was held by all the groups but well-articulated by an elderly man in group 4:

> *This is a gift from God in our community unfortunately; our fore-fathers had no knowledge of its benefits. From history told to us, this resource was first discovered in the 1900s by some white men (herein refers to the German explorers) in our community and since then, it has not been exploited. We have suffered for too long and it is more painful knowing that we are living with a resource of high value which can provide*

employment for our people and to liberate us from poverty. Since the government showed interest to exploit bitumen, it has brought much joy to us in the community and we are hopeful that it will bring about development into our community. Yes, I believe this is the right time to exploit the resource to develop our community especially for the benefit of the future generation. (Focus Group, Agbabu Community, 2017)

Similarly, one youth responded,

When bitumen is explored in our community, we shall benefit as workers that will work in the minefields or as well as skilled members of staff. (Interview, Agbabu Community, 2017)

It is evident from the above statements that the community view bitumen as a natural gift that has the potential to transform the community. This response was well repeated amongst respondents as it justifies the anticipation of development by the resident population. Another man shared a slightly different opinion, he said:

This is a naturally occurring resource that is in abundance in our community. Before we got sensitised about this resource, I used to think the gods were angry at us and decided to punish us. Upon hearing about it as a resource like crude oil, my views changed, and I became hopeful of its exploitation. Now I believe it is a blessing to us and the time for our community to develop like the city with many beautiful things. (Focus Group 5, Agbabu Community, 2017)

Generally, the local community is expectant of social and infrastructural development within the community which apparently is in connection to the aforementioned discussion of infrastructural development for the community. What stood out in the one on one interviews was the concern for good roads to connect the community to the city as the existing road is in a terrible state. During the interviews, one middle-aged man said:

I believe that this community will receive the attention it deserves once the community becomes a mining region. The access road to the community will be reconstructed to allow ease in the movement to and from the city. For many years, we have endured the hardship on this single road which is terribly bad with deep gullies with extreme conditions during the raining season as it is difficult to manoeuvre, and in the dry season, our vision is obscured by dust storms. I believe that the mining operations will

lead to the construction of good roads to aid our interaction with neighbouring communities and the city. (Interview, Agbabu Community, 2017)

The traditional ruler, the Oloja of Agbabu during the interviews said:

As you can see, the entire community lacks basic amenities for sustenance including the availability of portable drinking water. Some of our houses are age longhouses built many years ago and have begun to collapse thereby making it a death trap, the access road built since the 1900s is no longer motorable hence we have just occasional contact with other areas within the state. Based on the feedback of exploration reports, foreign investors in conjunction with government officials have made express declarations on the benefit that can be accrued from mining this resource. As a community, we believe this project will be of great benefit to us and create alternatives to our living conditions. More importantly, the development of our community to eradicate deadly diseases, to reduce the out-migration of people to the city as this resource has affected the livelihoods of people who are majorly peasant farmers and fishermen and to create access and facilities that will help boost our economic activities once again. (Interview, Agbabu Community, 2017)

6.3.2 Perceptions of development: consequences and uncertainties

This question was asked to understand community ideas on the consequences of mining within the community. These concerns were articulated from their experiences with bitumen which many respondents say has visibly affected the community as depicted in the picture below (fig. 6.3). Some other responses were informed by the widely broadcast conditions in the oil-producing communities and the environmental injustices experienced there.



Figure 6.3: Shows free-flowing bitumen in a river channel
Source: Researcher's Fieldwork, 2017

i. Polluted water sources

The above picture depicts how bitumen contaminates available water sources within the community which some respondents argue is a major cause of health issues within the community. One lady said:

> *Our community relies on the river channel for water and many people have had strange diseases which we have associated with this problematic water. It is terrible for us to find out that our water sources get polluted and we are unable to get portable water for cooking, drinking and for daily chores. Already if this is happening, I fear that when the project commences, we might have almost all our water sources more polluted and this will lead to more crises in our community.* (Interview, Agbabu Community, 2017)

The river is an important commodity to the rural community especially as it serves as a channel through which they engage in fishing activities. Some participants stressed that they have observed the low yield in their catches as many of these fishes do not survive the toxicity in the water when in contact with flowing bitumen. One elderly fisherman during one of the interviews said:

I have been a fisherman all my life and I can tell that the amount of fishes we used to harvest has reduced. Some of the fishes do not even grow to full maturity size as they used to, and I feel it is due to the lack of food for the fishes to survive. Our river is heavily polluted especially during the dry season when bitumen melts and flows on both our land and into the river channels. It gets really bad during the dry season and there is little we can do to help ourselves during this period except that we hope and pray for God to help us survive each passing day. I fear that this project will likely destroy our entire community when it commences just like it did to the rivers surrounding the communities in the oil-producing Niger-Delta where I once fished engaged in fish farming. (Interview, Agbabu Community, 2017)

ii. Low productivity of the land

In Agbabu, it is evident that the land has been affected by bitumen. Agricultural practices have been limited to some areas that have not been so impacted by bitumen. In the group discussions, some farmers expressed their experiences with farming on the land as a difficult process, especially with crops that are tender, are unable to withstand the poor soil conditions caused by bitumen. The recounted their experiences as:

Our farms have been affected, it reduces crop yields yearly and many crops no longer grow once they have contact with this resource in the ground. This resource is not so far from the surface in many areas, you can dig just a few inches with a knife and you will see this resource visibly. Sometimes, especially during the dry season, you will discover bubbles which are indicative that the area has lots of the resource and this has been unhealthy for our crops as the majority do not survive the harsh conditions as well as the scorching sun. (Focus Group, Agbabu Community, 2017).

The picture below shows the claims of this man.



Figure 6.4: Fluid bitumen a few inches below land surface
Source: Researcher's fieldwork, 2017

To further prove the claims that bitumen contaminates the land and available water sources, one man during one of the interview sessions voluntarily points to the ground where the bitumen under high pressure is seen to be bubbling (fig. 6.4). This picture depicts the proximity bitumen is to the ground and thus explains the concerns of contamination and low productivity. This man further explains:

> *This is our reality in this community as we are faced with this challenge and find it difficult to plant during the raining season as the land is tricky to plant due to the wet soil surfaces. We tend to plant randomly and hope that we get our expected yields. This bitumen is so close to the land surface and its impact on our land is devastating to us farmers.* (Interview, Agbabu Community, 2017)

Whilst the interviewees dwelt on the current problems they are faced with bitumen, the responses from the discussants in the focus groups were more detailed about the impending impact of the bitumen project on the community and its projected consequence. The responses were unquestionable reactions on how the community might likely be affected. One lady exclaimed:

Our environment has been greatly affected by the presence of this resource. We suffer the most during the dry season, particularly in the day-time when there is intense heat. During this season, the effect on the sun on the land causes the bitumen to melt and you see it flowing on the land and even into our available source of water. I fear that when this bitumen is exploited on our land, it will cause more damage to our community as these problems will get worse from the use of heavy-duty equipment and the movement of machines around. This is enough to further destroy our land. (Focus Group, Agbabu Community, 2017)

Another elderly man said:

For many years we lived with this black oil (referring to bitumen) that has destroyed our land, but we were unaware of its potential benefits until we began to engage with visitors who told us about it. So far what we understand is that it will bring about change and the development of our land and the country. But I fear that our land will be more affected when the white man's technology gets here. This was what happened to the communities in the Niger-Delta and I fear that the same will happen to our own community. We are currently a small community and if this happens to us, there is no place for us to go or where to get things for our survival. (Focus Group, Agbabu Community, 2017)

iii. Possible relocation from indigenous land

There are notions of possible relocations out of the community however, this is still unknown and a strong issue being contended by the community as it is an indigenous land to them. In one of the groups, one man explained:

This bitumen mining might affect our houses because there is a possibility that our buildings will be destroyed to give way to infrastructure and to gain access to where this bitumen is deposited. What I fear the most is that the government might push for forced relocation and if this happens, it will be unfair on us as this is our indigenous land. This will mean that we will have no origin to lay claim to and in turn lose all our heritage and little sources of economic activity. (Focus Group, Agbabu Community, 2017)

This viewpoint was the same as that of the community counsellor who is a trained geologist and speaks about the technicalities of mining within the community. He admits to the injustice that may arise from undue compensation on the possible relocation of the people, however, he

submits that it is inevitable being a new form of mining. In the words of the community counsellor:

> *There are consequences of mining bitumen in our community which depends on the method used in mining. This means there are high chances of the community being relocated as the land would become unsuitable for living following the inevitable degradation of the land and widespread pollution. My major concern is for the government to discuss expressly with our community without hiding information from the people.* (Interview, Agbabu Community, 2017)

Another man buttressed his concerns about the possible relocation owing to the fact that the government cannot be trusted in fulfilling its mandate for the community. He said:

> *For many years, we have been promised by successive governments for a better life and to date, nothing has changed in our community. I do not trust the government based on our experiences here and I fear that the government is likely going to neglect us and invade our space. One day, they will set us against one another just as they have done in the Niger-Delta to gain access when the mining activities go large-scale.* (Interview, Agbabu Community, 2017)

In all these responses, it is apparent that the community has been able to relate their experiences to their concerns with the proposed bitumen project. Similarly, their experience about the government as well as their knowledge of the happenings in the Niger-Delta has formed a base for their concerns about being neglected and possibly intimidated by the government.

6.4 Community perceptions of the Government in Regional Development

6.4.1 Relationship between Community Leaders and the Government

Discussions about the perception of the relationship between the community leaders and the government resulted gave insight into the strength and quality of leadership in the community. The leadership of the community comprises of the ***Oloja*** (the community head), the community counsellor alongside other community chiefs who liaise with the government on matters relating to community development, more importantly, the strategy to responsibly exploit in the community. In one of the group sessions, an elderly man said:

> *The community elders are the ones who have direct contact with the government or investors that come on exploration activities. We rely on the decisions of our leaders*

as we regard them as the custodians of culture, tradition and have been saddled with the responsibility to decide over matters that concern the community. As a community, we believe in every decision made by our leaders including the decisions about the proposed project in our community. From what we observe as a community, our leaders have peaceful engagements with the government especially the current government. This is one of the reasons we are hopeful that our community stands a chance of getting attended to by the government. (Focus Group, Agbabu Community, 2017)

From this claim, it can be observed that the community leaders coordinate the affairs and decision-making processes within the community. One way by which information is disseminated is by gathering the community members into a designated place known as the "town hall" to debrief the entire community about any recent developments or engagements with the government about the bitumen development project.

When our community leaders need to pass across vital information about the community, we are summoned to the town hall and it is at this meeting we get information. This also applies to the project in the community and as usual, we gather in the town hall where we get to listen to the outcome of meetings with government representatives about the proposed bitumen project. This gathering is mandatory as we get acquainted with the discussions about the project and voice our opinions. (Focus Group, Agbabu Community, 2017)

With regards to transparency in the mining process and the impact on the community, one man said:

We are not too comfortable with the way past governments have treated us in this community. We sometimes feel like the government especially the state government do not consider us as human beings. This is because we are not sure about the exact way the government intends to embark on this project. To a large extent, we are very much unaware when the project is to commence. Maybe someday, the companies will troupe in and begin to set up their machinery and chase us all out. All we know about the project are the potentials it possesses and the potential benefit to the community but we do not feel satisfied with this available information. (Focus Group, Agbabu Community, 2017)

In one of the interviews, an elderly man recounts his opinion about the government in decision-making. He said:

> *The government is next to God in this matter and because the government owns the land just as the land-use decree of 1972 stipulates, the government might decide to take over the land without due compensation. However, I hope that the government does what we would appreciate by extending some land rights to us being indigenous land settlers. It is from this gesture that the concern about marginalisation as it is in the oil-producing states would be addressed perhaps; the government would consider us as a people well deserving of a share of the project outcome.* (Interview, Agbabu Community, 2017)

Similarly, more responses about bridging the gap between the government and the community came up in some group discussions. Some elders who spent some years during in the early struggle for justice in oil-producing community in Ogoniland, the Niger-Delta region said:

> *Our community is in a deplorable state because we have been marginalised by the government and the issues of underdevelopment in our community seem not to be a priority to the government. I am disappointed to know that our community is home to a choice resource that can generate much wealth to the country and also sufficient to develop our state and our community. But just like the oil-producing communities in the Niger-Delta region, we are not being considered as a part of the mining process and this is the major cause of the conflicts in the Niger-Delta asides the environmental pollution of the land. I hope the government will learn from the mistakes in the Niger-Delta and implement a good system of relating and involving the community when this commences.* (Focus Group, Agbabu Community, 2017)

In this same group, an elderly woman emphasises the concern about the government in promoting unity and transparency in this project especially since they are a smaller community as compared to those oil-producing communities. She said:

> *As much as we trust our community leader and his subordinates, we are skeptical about the intentions of the government to consider our wellbeing, as well as factoring us as major beneficiaries of the project as opposed to the structure in the oil-producing region. As a community, we are totally against a repeat of the injustice meted out on the oil-producing communities, and therefore, we are not confident the government will*

honour the community especially our leaders. (Focus Group, Agbabu Community, 2017)

6.4.2 The community in decision making

Many respondents posit poor representation and voice in the context of being active actors in the proposed mining project. The idea that mining is a technical activity seems to be a constraint even as some participants highlighted the poor level of education in the community. One woman during the interviews said:

> *We have not been duly considered as major actors in this project. In my opinion, the government and mining investors do not reckon with us as knowledgeable people. We are regarded as a people without reasonable opinions and only get to hear reports about the prospects of mining bitumen while the real work and planning is not been communicated to us neither explained in detail to us. It is obvious that we are regarded as less privileged and less educated people to understand what is to happen in our community.* (Interview, Agbabu Community, 2017)

Many respondents are of this view, a youth in one of the group discussions said:

> *When we hear from our community leaders, there is no much information passed across about how this resource will be mined. What is more prominent in the discussions are the promises of better living conditions yet, we are clueless about the procedures and the impact on our land. We are marginalised and all we get to see most of the time is just big cars and well-dressed people who come into our community. Many times, we are unaware of the things they come to do. We just must accommodate them and grant them access to sites within the community and when they are done, these people leave without paying due homage anyone of us rather leave with more empty promises.* (Focus Group, Agbabu Community, 2017)

In another focus group discussion, some participants voiced their opinions about the inhumane acts of past governments. One participant said:

> *Sometimes we wonder if the people who come all the way to our community are humans after all they encounter to get to our community and are unable to influence the government to address our current issues and ensure that we are fairly treated like other people in the big city. Our deplorable living condition should even be one of the many reasons that the government is to put us as part of the decision-makers not just*

as stakeholders but as a show of respect to our needs. (Focus Group, Agbabu Community, 2017)

It is apparent that the community desire an efficient way to manage their expectations while the government sets out to unlock the potentials of this resource. This was properly emphasized by a young resident who said that:

The government has neglected us for too long and we feel deprived of good living conditions as it is in the city. Many of us are aware of the consequences of mining in the Niger Delta and have come together to discuss how to change the dynamics in our own community. What we think is best for us is to engage with the government and prospective companies to formalise a more effective plan for the community. We want to be part of the mining arrangements as well as having a voice in decision making. This will go a long way as our specific needs would be better articulated and perhaps, given special attention. (Focus Group, Agbabu Community, 2017)

More heated deliberations ensued about the governments as participants engaged in other groups. One lady spoke based on her knowledge between community engagements and the government in Nigeria. She said:

Matters concerning community development are always given less attention and so far we have seen that the Federal Government is going to control this project. It is possible that the government will want to be the sole decision-maker and undertake this project without engaging with us. This may be the reason the government appears shady and would rather exploit at our expense without considering its impact on us like they are doing in the oil-producing Niger-Delta states. (Focus Group, Agbabu Community, 2017)

Another man expressed similar views while citing the Nigerian constitution that the government owns the land and decides the use of land. He relates it to issues of trust and dependence on the government. He said:

I do not trust the government in its approach to mining in our community. I migrated to this community from one of the riverine communities and my experience and knowledge of the oil and gas exploitation in the Niger-Delta region give me huge concerns about the government and mining investors on transparency and commitment. I want a situation where the community is carried along especially our young ones who

will carry on with the posterity of our community. One way to ensure this is for the government to set up a joint and collaborative structure that would include the community as well as the mining companies to avoid a repeat of the issues in the Niger-Delta. (Focus Group, Agbabu Community, 2017)

To cope with the uncertainties of being marginalised, many participants regard their engagements with NGOs as a catalyst to increase their chances of getting exclusive rights in their quest for legitimacy and entitlements that arise from eventual outcomes of the project. One elderly resident explains:

The majority of us are illiterates and do not have the power of engaging with learned people. We have had several organisations that come to hold meetings at our town hall to discuss progressive ways towards developing our community. Also, the concerns about possible relocations are being deliberated upon as we are beginning to understand the environmental consequences of mining. It is better to claim our rights now, at least if not for us, it will be the best legacy for my children and future generations. (Interview, Agbabu Community, 2017)

6.4.3 Donors and institutions in regional development

Evidence-based on responses gathered from this question shows that the community is in support of the proposed bitumen project. However, there were certain conditions attached to their full support. One woman expressed her concerns. She said:

I support that we are assisted by external companies and institutions especially those that will establish profitable things in our community. I believe that some of our needs would be met if we allow organisations to have access to our community and help to bring about development. (Interview, Agbabu Community, 2017)

In saying this, it is evident that the community has linked its development to the exploitation of this resource. However, they tend towards external actors with the notion that they would act as drivers to enable this development. Another man said:

If our community is found as a favourable place for organisations to invest, I will support every action of external donors and organisation into our community. But it is important that that the expectations of the community are duly factored into the agenda of these investors and not for them to impose on us what they perceive to be ideal for us. (Interview, Agbabu Community, 2017)

In one of the discussion groups, one man expressed his views about what he termed to be conditioned for his acceptance of donors and organisations. He said:

> *For the community to have a lasting relationship with external donors, I will want the needs of our community to be a top priority for any external donor in our community. This is because we do not want irrelevant contributions to our community. Some of the issues we have earlier discussed must be considered such as gainful employment for our people and modern the provision of infrastructural facilities for our community.* (Focus Group, Agbabu Community, 2017)

More responses about sabotage and the issues of corruption were raised and this suggests that the community is looking for measures to mitigate and to avoid harassment or unlawful relocation that will infringe on the rights of the people. One woman said:

> *What we have heard about the companies operating in the Niger-Delta is not encouraging. I would like that all engagements about this project are transparent and that involves the entire community. We have been marginalised; we are less of a priority to the government as you can see after several years of exploration activities and visits by the government, nothing that has been done to better our lives. Personally, I have begun to understand that donors and investors are important in the development of rural communities especially when the government is failing with responsibilities. Organisations apart from the government are welcome to establish in our community. It is my hope that the generations coming after us will enjoy better living conditions and be able to sustain and cater to their own needs.* (Interview, Agbabu Community, 2017)

The reactions in group discussions show that the community is fully in support of external aid perhaps, as a result of the inactions of the government to their needs. One striking comment was the notion that private investments offer better opportunities and provide better-equipped amenities than the government.

6.5 Professional views on bitumen Mining

This aspect of interviews produced the following responses which were the professional views of the officers and members of staff at the bitumen project office. The first key informant started by giving a brief history of the organisational structure and progress of the proposed project. He said:

> *The civilian government in 1999 under the leadership of the former President, Olusegun Obasanjo, decided to privatise the bitumen project committee assigned to deal with the bitumen exploitation. However, successive governments have altered this arrangement and relocated the office from Akure (the capital city of Ondo state) to Abuja (the seat of the federal government) which has affected the work and powers of the bitumen company almost becoming defunct in Akure but functional at Abuja. Having the monitoring body in Abuja and the mines in the local community in Ondo state is not sustainable for exploitation to be done in a responsible manner.* (Interview, Project Office, 2017)

Furthermore, he highlighted the extent of the commitments of the government to bitumen mining as he gave an account of some companies that were granted licenses. He added

> *The government gave licenses to 2 companies in 2003, one of them was sponsored by the state government BEECON, the other was NISSANDS a Canadian company but in 2006, the licenses were revoked because the federal government felt the companies were not able to fulfill the mandate in terms of the technical and financial capabilities to exploit. However, when you analyse the business side from the perspective of the companies, the political environment was unfavourable for them to commence operations especially as government policies have been inconsistent. This is because successive governments have had different interests in terms of what other economic resources can be unlocked in this economic diversification plan. For these reasons, some Chinese and European company won some of the block divisions of the bitumen belt but they opted out from similar reasons as previous companies.* (Interview, Project Office, 2017)

What is obvious from these accounts is that the government seems not to be fully prepared to diversify its economy base. In another interview, it was stated by a member of staff that the level of preparedness is poor and this is a major issue to intending mining hopefuls. For instance, there are no maps and physical documents to show the block allocations and this speaks volumes of the massive corrupt practice in the mining industry and the government. Since 2006, the government has been on the search for investors to exploit bitumen. Under the current administration, certain other investors have shown interest yet under stringent conditions which the government has been unable to address. Another key informant said

> *As professionals in the field, investors are likely to agree to commence the project on a small-scale and limit operations to building and construction purposes while trying to establish the large-scale operations of crude oil extraction, gasoline and other derivatives from the oil sands. This is because there are huge issues that relate to investments, the amount of capital and infrastructure to embark on large-scale exploitation.* (Interview, Project Office, 2017)

In terms of the technological and geological aspects of this form of mining, the response given by another participant was that:

> *Investors have highlighted the topographical challenges of exploiting which will have a massive impact on the environment and do not go in line with the tenets of sustainable mining. The problem of overburden which is a major barrier to gain access to deep-seated deposits is one of the issues mining hopefuls will encounter in the process of extraction. Furthermore, the available mining technology in Nigeria is poor and the level of research in terms of the geological characteristics is inadequate. This creates an additional cost for investors to develop a suitable technology specially designed for the specific extraction operations and to reduce impact.* (Interview, Project Office, 2017)

In terms of the method of mining, a geologist explained the consequences and the extent of any preferred mining technique, that is, the in-situ and the open cast methods. He said:

> *Some investors opt for the in-situ method to avoid displacement and community relocation, but this limits exploitation to deep-seated pockets of bitumen especially the viscous areas. The opencast operation will lead to the displacement of people since you need to take out the overburden, and this is the preferred method to discover and unlock other potential minerals connected to the bitumen deposits.* (Interview, Project Office, 2017)

He further highlighted the need for further exploration around the bitumen belt to discover other associated minerals within the belt, for instance, shale. This will help in mapping out the exact areas of the shale formation. Shale was discovered in the United States, and the country thrives on mining its own shale which has some characteristics of oil formation, another source of conventional crude oil.

In terms of the cost of mining, it was disclosed that bitumen will cost more to exploit than bitumen but that the long-run benefits as a result of its by-products are more profitable. This was explained by one of the participants:

> *The bitumen project is likely to cost 3 times more than conventional oil and gas mining. On the one hand, the feasibility studies for exploiting bitumen are outdated and lack adequate information on the technical, financial, environmental aspects of mining. Thus, no single wise company will invest in large-scale mining of bitumen now especially as the technology for oil and gas is conventional, affordable and available to any mining company to engage in mining.* (Interview, Project Office, 2017)

He reiterated that NISSANDS, one of the initial bidders argued that contrary to the expectations of the government, mining bitumen is capital intensive and requires a multi-stakeholder system to commence exploitation. This is because the kind of bitumen found within the belt is viscous and would require distinct technology that is environmentally sound.

In terms of the impact on the environment, there is a concern about inadequate data especially seismic data to uncover the thickness of the overburden that must be taken out to access deep-seated reserves. This is one fundamental issue that is yet unknown and it is a major factor to consider before commencing exploitation. Also, there is no available information about land reclamation in the event of a mine closure. He said:

> *The community has for many years lived with the expectations of mining even with the collective acceptance and cooperation with the government to exploit. However, what is evident from available data is the imminent displacement of the community. Although the community is open to the relocation of the community, it is still early to comment on this aspect as the government and those in charge have not made any express statements on this.* (Interview, Project Office, 2017)

This will hugely impact the environment and the government has not done much of its research to answer the questions of all stakeholders. He added:

> *The government needs to carry out its social responsibilities in host mining communities to eliminate clashes and friction between communities and investors. By creating conducive environments for business and investments in bitumen mining, more investors would be willing to invest. Similarly, the government needs to fund the*

research into core drilling exercise to determine the exact quantity of the bitumen reserves and all geological formations within the crust. (Interview, Project Office, 2017

Under the current administration, new investors have shown interest, for instance, the return of BEECON under the auspices of the state government, GREENSAND, an Israeli company that has done its exploration, and decides to limit to operations to road construction and building materials only, and ASPECT PETROLEUM, a Nigerian private company under the auspices of an Austrian company which are seeking mining licenses. The investment risks are high from changing governments and policies to the potential clash with local communities because of the lack of transparency of the government to the people.

6.6 Agbabu as an extractive frontier: Local economic development versus Sustainable development

Following the empirical data presented in previous sections of this chapter, it is important to contextualise the data within the wider scope of the study to consider the expectations of the local community in terms of sustainable development against the realities of mining. Finding this balance between local economic development and sustainable development at Agbabu is an issue that all tiers of Government, policy makers and mining corporations need to address pending the exploitation of bitumen. This initiative will perhaps address the contradiction between resource exploitation and development in mining communities. This brings to the fore the deplorable situation in the oil producing communities in the Niger-Delta region where there are existing controversies from the operations of the oil industry which shapes the development trajectory for Nigeria without commensurate development in the oil producing regions.

From an environmental viewpoint, the situation in the Niger-Delta region as a result of the oil extraction by mining corporations is such that the degradation in the oil producing communities occurs on the land, water and air. This is characteristic of mining operations however; it is more prominent in developing countries that have weak or absent enforcement of the rule of law with mining operations. Whilst there are legislations and policies that govern the operations of the mining industry in Nigeria, one can argue the non-compliance and implementation of these mining laws on the one hand, and the affinity to the economic gains from oil extraction above environmental sustainability on the other hand. It is likely this situation has created some form of bias for corporations provided there is a flow of revenue which the government depends on due to the economic impact of mining corporations. However, this hinders good governance in mining decisions that incorporates the interest of all mining stakeholders within the parameters

of environmental sustainability and resource exploitation. To establish this balance in the overarching decision to exploit bitumen in Agbabu, there should be priority for environmental sustainability as well as the development of the local community.

Using the arguments of development in the oil sand fields of Canada, there is a commitment to environmental sustainability, and this has been justified by rebranding the extraction of oil sands as ethical oil. Despite this, the extraction poses serious threats to the indigenous community, ecosystem and the global climate. Yet, the language of sustainability has been the driving force to the extraction activities since it is a major source for producing energy and generating revenue for government spending (Parson & Ray, 2018). Parson and Ray further emphasise that resource exploitation is a form of resource colonialism, defined as the theft and appropriation of land that belongs to indigenous people to access natural resources, and this practice focuses on the establishment of industries, forced displacement of people in the name of progress. Drawing on this assertion by Parson, there is similarity in the case of Nigeria as the exploitation of bitumen in Agbabu follows this colonial imprint of exploiting resources, obviously by western corporations in the name of economic development and progress for Nigeria which perhaps, the local community at might not benefit from.

What matters in the case of Agbabu is to find a form of environmental governance framework that includes the local community in decision-making and a way to exploit bitumen without displacement or loss of indigenous lands for mining.

6.7 Conclusion

The attempt to understand the lived experiences and expectations in mining communities especially those created by the absence of healthy power relations, have much to add to the limited knowledge in resource exploitation and its influence on community development. This chapter has presented the realities in the Agbabu community in Ondo State where the proposed bitumen project is to commence. The empirical evidence illustrates that the local community is in unity and is expectant of developments in the community. This as much extends to the local community having good knowledge of the proposed project which for many years has stimulated the resident population with notions that once the project commences, they would derive many benefits. Interestingly, many generations have hoped for this development and for decades have been expectant and have created a certain level of anxiety amongst the local community. Whilst the majority of the community are hopeful of the changes, there is growing concern that the government will not deliver on their promises. Successive governments have

paid less attention to mining bitumen. Exploiting bitumen in Agbabu according to the local community has the potential to deliver infrastructure, basic amenities as well as economic opportunities however, there are consequences associated with exploiting bitumen within the community. One notable comment raised by a participant is the fear of being relocated from their indigenous land including the dynamics of due compensation.

Through the lens of the local community, sustainable futures through bitumen mining create deep anxieties of the future rather than more relaxed connections to the reality of possible development. The pitfalls of the ongoing oil and gas mining for economic growth and development in the Niger-Delta reflects in the discourse of bitumen mining in Agbabu, which in turn reflects the ongoing tension between the objectives of economic diversification and the need for a development that is sustainable. Developing mining communities is a discourse that is promoted by a wide range of researchers, professionals, and organisations, and this is growing in importance and is currently a dominant issue that needs urgent attention in mining enclaves just as it is the underpinning interest in Agbabu. It is noticeable that the perceptions of local populations in mining communities in Nigeria follow the same trend. Similarly, from the experiences in the oil-producing Niger-Delta, it is apparent that mining policies are problematic and do not reflect the needs of the local population. In light of this, the key concern with mining bitumen is perhaps not just the negative impact on the economic, social and environment aspect in the community but also the involvement and participation of the local community, which in turn would reflect the strategies for optimal operations in the community. This cannot happen if mining projects are devoid of host mining community development initiatives.

CHAPTER SEVEN

REVIEWING BITUMEN THROUGH GOODLAND'S PARAMETERS

7.1 Introduction

Having looked at the perception of bitumen exploitation by engaging with empirical data, it is imperative to revisit Goodland's principles in the context of the local community at Agbabu. From the outset, it engages the parameters set by Goodland and its implication if applied in the context of the proposed mining frontier.

Goodland's 8 guiding principles to govern the activities of the industry are set parameters that can be adopted and conceptualised in specific country contexts. More importantly, in countries with weak institutions and regulatory functions for its mining and minerals industry to meet the agenda of a mining development that is sustainable. Given the fact that only through responsible resource exploitation can the extractive industry be sustainable in its activities. In context, the extractive industry through bitumen can only be sustainable if its operations are responsibly carried out, and perhaps meet its desired objectives of economic growth and development.

In the following section, I outline Goodland's model for approaching sustainability through responsible mining in the extractive sector and consider this in relation to the proposed bitumen exploitation in Agbabu. The primary focus of this chapter is to engage with all the parameters as a way to assess the risk associated with bitumen mining, otherwise, the benefits that might accrue if all parameters are adhered to.

7.2 The Eight Principles of responsible mining explained in the context of Agbabu

Robert Goodland (2012) proposes eight principles towards responsible mining which aim at eliminating risky mines causing damages, and also to assist big corporations on project decisions to embark. Here, I apply Goodland's eight points to the Agbabu context and consider whether Goodland's model provides a useful and applicable set of principles towards resolving the paradox of sustainable development through resource exploitation.

Goodland's first principle, on social and environmental assessment, states: *that a standard Environmental and Social Impact Assessment (ESIA) is a necessary objective to ascertain the impact levels of proposed mining activities*. For a proposed mining site, it is important to predict the anticipated extent of the environmental and social impact of projects on individuals, groups and resultant societal impact. Thus, for the bitumen project to function at maximum capacity

and to have maximum returns, an ESIA needs to be conducted in such a way to substantively include community and civil society scrutiny. This would further influence decision-making purposes prior to project commencement. To what extent is the Agbabu community population aware of the extent of probable damage to the environment, and the possibility of community displacement and relocation? Empirical evidence from the Canadian bitumen mines points to the extent of damage that can result from exploiting bitumen (Mergen, 2010). It is imperative for the government, mining corporations and other relevant stakeholders to analyse this issue as the bitumen belt is situated right within indigenous lands. My own empirical data suggests that up to this point, communities have not been included in any such process. In fact, most community members with whom I have spoken express some confusion and uncertainty about the future process. As such, their expectations of the cost and benefit of bitumen mining range from anxiety to hope, perhaps the promotion of best practice models.

The second, on transparency, states: *all ESIAs should be transparent to all impacted stakeholders and should be jointly facilitated by all stakeholders from start to finish*. In particular, affected stakeholders should participate in data acquisition and analysis, with little influence of corporations on communities. Where the need is, technical and legal assistance may be offered to affected communities. Transparency in the context of responsible mining is necessary for the bitumen industry to thrive. Interestingly, the bitumen belt is within the oil-rich Niger-Delta, a region that has for many years been marginalised, and deprived the benefits of mining outcomes. Findings from fieldwork reveal that the community is fully aware of the severity of marginalisation in the Niger-Delta. Thus, it is imperative that the bitumen community is given utmost priority in mining decisions throughout the life cycle of its operations. By this, community expectations are well managed and delivered with intense regard for human rights and justice. What might transparency in the mining process look like in the Agbabu context? Certainly, it would mean engaging with key community members for proper planning and informed decisions, but as we have seen, community members are not fully involved. This extends to government institutions that conduct project decisions and development initiatives at the central without first-hand contact with the field and host populations.

The third principle on stakeholder acceptance, states: *mines should not be forced on people and communities that object to its existence*. Following the stakeholder identification process, mining corporations ought to establish an independent representative Citizens Advisory Council (CAC) to oversee the entire lifespan of the mine project. Also, Corporate Social

Responsibility (CSR) to impacted stakeholders to compensate for risks and generously increase benefits and compensations. One of the issues confronting the oil-producing region of Nigeria, for example, is the lack of approval from poorly defined engagements with the rural populations where there are active oil operations. Drawing from this and in the context of bitumen and towards a more sustainable industry than oil and gas, it is imperative that the stages of mining, including close down activities and reclamation, are within the scope of both community and civil society acceptance. Although, mining corporations deliver CSR to communities affected by their operations (Hamann, 2003; D. Kemp, 2010) but to what extent are these services relevant within the context of community expectations? While the objective of transparency is significant to successful operations in any mining and industrial activity, it is important for corporations to factor in community expectations and negotiate the possibilities of meeting with these needs. Mining companies have been accused of double standards in operations; it is possible to avoid such allegations by engaging in early discussions, otherwise, set boundaries beyond which host governments become responsible. From my empirical data, the issues of CSR are viewed by the community as vague and filled with empty promises. It is common knowledge among the Agbabu people of the failed promises of corporations operating in the oil fields of Nigeria. As such, there are high expectations that the government, together with intending investors take up community development as a corresponding priority within the scope of unlocking the potentials of bitumen for national development.

The fourth principle, proper analysis of questionable mining states: *mining activities should not be a threat to agricultural activities and water availability, especially local communities situated around mine area*. Mining communities feel the need for the government to be responsible and accountable for their socio-economic and safety issues. This is important, particularly when it relates to land-use decisions that have an impact on local community livelihoods. Observation during fieldwork reveals that a considerable proportion of the land will be affected to gain access to deposits and in the exploitation process. Depending on the method of extraction, there is a high chance for a considerable proportion of the land to be made bare and with a visible impact on the ecosystem, for example, the destruction of arable lands, threats to water sustainability and the natural habitat of organisms. A starting point for negotiations is to discuss compensations relating to environmental cost on local communities; otherwise, there should be discussions on possible relocations if damages are inevitable. Land degradation, environmental pollution, and socio-economic risks are very delicate issues that must be addressed in mining communities. Following Goodland's proposition, what would this

mean in the study area? From fieldwork, the local population in Agbabu are to a large extent experiencing these problems as their source of arable land, and water sources are in close proximity to bitumen formations; hence, crops are affected, and water is polluted and unsafe for consumption. But how will this come to fusion when the state is not transparent in its dealings and ignorantly leaving the fate of the community to investors?

The fifth on international standard and compliance, states: *double operating standards should be eliminated as policies that obtain in the host country must be applicable to proponent's home country*. CSR informs the Social License to Operate (SLO) being a channel through which the local economy benefits from mining operations. On the one hand, it is a form of compensation for damages to local environments of the community population and socio-cultural assets. On the other hand, it strengthens the peace and engagements amongst community inhabitants, community advocates, and governments in joint support for corporations in active mine operations. Studies conducted in the Niger-delta region suggest the possibility of double standard operations and unethical behaviour by corporations (Eweje, 2006). It is further explained by the environmental costs of mining operations, for instance, in the event of a clean-up exercise from spillage, response time to disasters that happen on mining fields, and the absorption of local community population in the workforce. While foreign corporations and international organisations promote mining developments in developing countries, it is expected that similar standards are applied in areas of active mine operations just as it is in developed societies. In the case of the bitumen region, there are signs that the community suffers from a lack of government intervention on community development. Empirical evidence from fieldwork reveals the severe living conditions within the community. There is no form of infrastructure, shelter houses are made of mud, and lifestyle is highly primitive. This, however, raises the question of the linkage between CSR and development in the community. How will this community accept a mining operation amidst abject poverty knowing full well the potential benefit of bitumen mining, and the socio-economic struggles of oil and gas communities in the ongoing exploitation in the Niger-Delta? Thus, corporations should consider the possibility of a bitumen community development plan just as it applies to their operations in other parts of the world without leaving such projects in the hands of the government. How does Goodland's appraisal of mining operations in developed societies apply in a developing country context where pecuniary interests of governments power corporations and investors to act irresponsibly? At the same time, and in context, can this appraisal be

applied with bitumen mining in Agbabu, and to what extent, while considering the pecuniary motive of the government to unlock the potentials of bitumen?

The sixth on prequalification of bidding corporation and license permit, states *independent certification of corporations funded with bid payment for mine project to local governments*. The third-party certification evaluation (for instance, the environmental investigation agency, environmental law institute, and the global witness) is deemed powerful as they investigate environmental and social performance with a focus on governance, standards, and assurance. Companies that meet these criteria are those with good track records. This prequalification routine is essential in a country like Nigeria to ascertain companies with track records, fit for exploiting a dirty resource as bitumen. In Nigeria, the ownership and control of mineral resources is vested with the state with exclusive rights under the provisions of the constitution. Even though the NMMA of 2007, gave preference to land use for mining over other land uses, certain rights and customs of indigenous communities over land use were designated for preservation (Aladeitan, 2012). However; corrupt practices drive the lease of mining fields motivated by revenue generation above quality control and assurance. This raises an important question: how can the licensing of extractive operations come under the direct control of the federal government without the influence of the state government herein, Ondo state that is in close proximity to Agbabu? Enforcing this would mean decentralizing power from the federal to the local government to engage with mining corporations and communities. Perhaps engaging the local community in such scrutiny of any mining corporation will contribute to the delineation of protected areas based on indigenous knowledge, and place ban on irresponsible operations for corporations to operate at the acceptable global mining standard. This proposition is rhetorical from the lens of the local population as the community is unaware of these engagements. To a large extent, the rural community is dependent on the government for such decisions and expectant of positive outcomes. Although from experiences in the oil and gas exploitation, it is an unsustainable approach in mining.

The seventh principle on insurance and performance bond states, *to fund accidents and noncompliance fees, especially after mine closure when most companies are bankrupt*. Negotiations prior to the commencement of mining operations must include predictions of unforeseen occurrences and how it will be managed in order to avoid conflicts between mining companies and local communities or local governments and mining companies. This further means that companies must be held accountable for their commitments and maintain their activities in an environmentally and socially sound manner. These reflect in the protection of

water bodies, the rights, and interests of affected communities and the respect for the protection of culturally significant and indigenous areas. Also, reports must be based on accountability and must be open for all stakeholders for scrutiny. How will this be achieved in Agbabu where the majority of the population are illiterates and lack understanding of insurance policies? Empirical data suggests that these conditions have not been addressed with the community following plans to exploit in this indigenous terrain. As such, it is unclear if host populations would benefit from long-term insurance policies. Perhaps, this is one of the reasons NGOs are trying to gain entrance into the community to engage with local populations in preparedness for negotiations with corporations and the government.

The eighth, on royalties, taxes, and fees, state: *to ascertain the significant net benefit (profits and benefits accrued to the mining corporation and government, less environmental and social impacts) accruing mainly to impacted local communities of a proposed mine*. Although the environmental and social costs are difficult to estimate, it must be adopted into the cost. If costs are underestimated or compensation is below expectations, the project is stopped till an agreement is reached. Good governance is integral to promote transparency in the extractive industry (Hilson & Maconachie, 2008) but to what extent can unstable political economies of resource-rich countries foster performance and sustainability? In Nigeria, resource governance is questionable and consistent with the underperformance of the economy especially the equitable distribution of mining benefits. Corruption is one of the reasons this happens such that mining benefits are circulated amongst a few, neglecting communities where it is derived. In order for the bitumen community to contribute immensely to economic development, and for relative peace to be sustained within the region, it is important to bridge the gap in the distribution of mining benefits. Goodland proposes the performance of responsibility as supreme when the benefits accrued exceed the cost that is impacted on the population. For best practices, 1% of mining profits must be reserved for environmental conservation in the area of mine operation (Goodland, 2012). Also, there should be direct investments of mining revenue towards mine closure, reclamation, and the creation of alternative sources of livelihood to impacted peoples. As recommended by Hilson (2002), due compensation must be accorded to impacted mining communities to put in order peaceful relationships in mine management. It is pertinent to state that it seems impossible for a modern industrial, metal ores mine to be perfect and environmentally friendly as every action produces a form of industrial waste. However, when mines operate in a socially and environmentally responsible way with benefits that accrue to immediate local communities, larger society and government, the industry and its activities

are deemed sustainable (Goodland, 2012). On the one hand, as it relates to Agbabu, it is unclear the capacity of government institutions to negotiate financial terms with corporations. On the other hand, will host communities get proper and adequate compensation for the environmental, social and economic disturbance from activities within their immediate environment?

Having applied Goodland's model and in revisiting the possibility of sustainable bitumen mining operations, one question that resonates is the way bitumen will respond to this logical reasoning of responsible mining as proposed by Goodland. The paradox of sustainable futures through bitumen is an issue to be unravelled amidst the intentions of the government to exploit. The approach of responsible mining is one that offers Nigeria a sustainable strategy in developing its bitumen fields. However, these principles as proposed by Goodland is by no means the best approach yet, it helps to engage the debate that can foster sustainable operations and partnerships that are responsible, fair, and in line with practices to protect the environment, human populations, and living habitats.

Assuming Goodland's principles are a potential model to start off the exploitation of bitumen in Nigeria, it raises more questions: what are the institutional mechanisms that will govern the activities of the industry? What is the capacity of the state on the assumption it undertakes neoliberal approaches to exploit bitumen? In particular, the rights of the local community in close proximity to mining operations since they are regarded as major actors within the context of sustainable development. Thus, from the aforementioned, there are distinct challenges that lie ahead in developing the bitumen fields in Nigeria. However, the benefits of implementing a practical approach to mining bitumen would help to deliver the much-anticipated level of economic growth and development.

7.3 Conclusion

This chapter has reviewed Goodland's parameters for bitumen mining and reveals the strengths and underlying contradictions to conform to reality on ground. The implication of this exposition is the ambiguity and vagueness in the preparedness of the government in exploiting bitumen. Responsible mining which is considered in this research to bring about changes in the inadequacy within the mining sector in Nigeria is dependent on all stakeholders to enforce conformity to the tenets of sustainable development. In terms of sustainability, until extractive operations are responsible and wit much regard for environmental resilience, the industry will continue to underperform and face heavy criticism.

For Nigeria to exploit bitumen and improve on its pecuniary motives of development and exchange earnings from mineral projects, it is imperative for the government as well as relevant stakeholders to explore and bridge the gap between theory and reality. In context, bridging the gap between expectations of sustainable futures and the reality on ground in mining frontiers.

Perhaps, a well-crafted and effective regulatory following the growing discourse of responsible mining has something in it for Nigeria to adopt in its quest to exploit its bitumen reserves.

CHAPTER EIGHT

CONCLUSION: FRAGMENTING THE MINING AND DEVELOPMENT PARADOX

8.1 Introduction

Nigeria in a bid to diversify its economy and reduce its dependence on the oil and gas industry is shifting focus to exploit its solid minerals. In the context of this study, the exploitation of bitumen to stimulate growth and sustain development. This thesis assessed this attempt to exploit bitumen and explored the contradictions and driving mechanisms that are linked to the possibilities of a bitumen-led development pathway for Nigeria.

Being a rentier state, the country for many years has heavily depended on the outcome of its oil and gas industry for its development agenda; however, in recent years, it has become increasingly unsustainable as the backbone of the Nigerian economy. A prominent feature of this failing oil-led development approach is the increasing rate of poverty amongst its growing population, which, statistically by the United Nations Human Development report, has over 70% of the population living below $2 daily (UNDP, 2018). This study has identified with the need to consider an alternative source of revenue as proposed by the World Bank for resource-rich economies as a viable way to improve on growth and development as well as to meet with the SDG goals. Whilst this approach sounds amazing for Nigeria, mining a dirty resource as bitumen, as an alternative to oil and gas, poses a potential crisis on the ecosystem, especially its impact on humans and the environment.

The shortcoming with mining in Nigeria that is associated with irresponsible mining operations due to the conventional approaches that governs the industry has prompted the need to new approaches such as the responsible mining framework. As shown in Chapter 4, the discussion on the paradox of sustainable futures from bitumen mining in Nigeria brings to the fore arguments of sustainable development through bitumen in a country that has had a bad reputation in its oil extractive activities in the Niger-Delta region. Adopting Goodland's model of responsible mining in this study can serve as a basis to explore the possibilities of exploiting bitumen sustainably and as well, uncover the gaps in resource management. What I have argued in this thesis in the context of bitumen is the possibility of looking at mining activities from a different perspective to actualise a sustainable development plan for Nigeria. What resonates from this is to consider an ethical governance framework that is deemed necessary to bring into reality this form of mining in the 21st century, especially as the basis of contemporary governance considers a holistic structure of all stakeholders inclusive of the civil society and

interest groups. Perhaps, this will bridge the gap between political and socio-economic relationships.

This study is based on the frontier bitumen community of Agbabu in Ondo state Nigeria; an area within the bitumen belt in Nigeria that provided a unique context in which to explore the perceptions and expectations of the local community towards the proposed bitumen project that is expected to commence on their indigenous land. By adopting a qualitative research approach, empirical evidence acquired expounded on the tensions and imagined futures from exploiting bitumen in the community. The evidence presented in Chapter 5 is the argument of governance that is developmental to bring into reality a sustainable development pathway for Nigeria through its minerals and mining industry. Rather than the top-down policy approach or bilateral agreements with mining corporations, placing greater emphasis on good governance as a central idea to mining outcomes is an understanding that mining operations are of public interests. This excludes politics and injustices placed on local mining communities by the government and corporations. Historically, despite the failure of the state to harness its resource potentials to upgrade the socio-economic conditions of its citizenry, the thesis still recognises that the role of the state is a necessary requirement to harness bitumen. This is highlighted in Chapter 5 where the developmental state ideology is pushed as a viable approach to stimulate growth and development in line with this resource priority for national development.

This chapter outlines the reflections and conclusion of this thesis in two sections. The first highlights the discussion in chapters in connection with the research objectives. The second revisits the contradictions which the study intended to highlight and concludes the research.

8.2 The development paradox and resource exploitation

The focus on development as a fundamental approach for societies to emerge from primitive stages to modernity has been a long-standing agenda, as a process that creates growth, progress as well as the economic, environmental and social components of society. In the context of developing countries, the exploitation of its natural resources has been deemed as a viable strategy and channel towards attaining development. This notion formed the basis of the colonial scramble for natural resources in endowed regions of the world with economic and political interests at the expense of subjects that were part of the colonial empires. The consequence of this relationship has been related to the colonial imprints and legacies of distorted institutions, which have undermined political stability and have affected the long-term development even in the post-colonial era.

In understanding how societies evolved, it was necessary to assess the development paradigms and its associated tenets believed to be the ideal pathway for societies, particularly developing countries, to become a part of the world economic system. The paradigm shifts based on the theories of development were interpreted in different contexts as each theory had its unique approach in addressing development concerns (Bezanson & Sagasti, 2005). Replicating these theories in Africa did not produce the same results as it did in developed societies. While this model of development through resource exploitation fostered unbalanced power relationships between the developed world and the developing world, it further facilitated the excessive extraction resources without a corresponding approach to management. This exploitative framework is the basis of the sustainable development discourse as colonies were not changing yet, heavily polluted and degraded. This unifying approach of sustainable development is the interconnectedness between the economic, social, and environmental aspects of development, regarded as the pillars of sustainability.

From a mining perspective, sustainable development has become the centrepiece in which to exploit the earth's resources since it has generated more environmental awareness alongside the need to improve on the socio-economic wellbeing of nation-states and over time, which has raised debates around the sustainable use of earth's resources. One of the key objectives of this study was to contextualise the emerging debates around the exploitation of bitumen in Nigeria within global experiences and local expectations. In going about this, it was imperative to critique the operations of the extractive industry and hence, frame how this generates concerns about the exploitation of bitumen. It was outlined in the discussion that there is a huge lack of infrastructural development and inconsistent policies and regulations, which are fundamental issues affecting the mining industry and by extension, raise concerns on the possibility of the sustainable development of bitumen in Nigeria. Despite these deficiencies, the desire to unlock other resource potentials seems to be one of the primary policy focus of the government to boost the economy. Hence, I considered the responsible mining framework, as put by Goodland, to analyse the possibility of bitumen exploitation in Nigeria. Responsible mining in this context seeks to address ways by which the activities of any form of mining operations can be regulated to meet the acceptable and best practice standards. I proposed Goodland's model of responsible mining as an approach and way to which sustainable development can be practiced in the context of Agbabu. However, Goodland's principles are by no means the best approach to foster sustainable operations, and it raises more questions that unravels the huge

paradox around sustainable futures from bitumen exploitation and the challenges that lie ahead if the project is to come to reality.

The second objective of this study was to explore the governance regime and how this affects the imagined governance framework for bitumen towards sustainable development. In terms of mineral development, the conventional ways of engaging in business have been deemed unsustainable, which has brought about the worst form of impact on stakeholders, which demand reforms and justice in operations within their environment. In the context of Nigeria, it was found that the poor performance of successive governments to regulate and monitor the activities of the extractive sector has not facilitated the sustainable development of its resources. More importantly are the issues around the marginalisation of host mining communities from decision-making processes in extractive operations that change their lives and source of livelihoods. For the most part of this objective, I unpack the contested terms of governments and governance, outlining their differences and how governing is approached within the framework of both concepts. From a broader perspective of the African state, it is evident that the crisis of governance has been the major contributor to the development challenges in Africa. Many African countries are characterised by weak rule of law and distorted institutions, which can be argued to be inherited imprints of colonial exploitation on the continent. The political landscape in Africa has thus facilitated what Cooper (2005) termed to be the "gatekeeper state" that explains the connection between the economy and politics. The argument put forward with this notion of gatekeeping was that the newly independent states continued with such exploitative colonial models in directing new nation-states, and this produced more power dynamics over citizenry rather than the legitimacy towards development. Relating these issues in Nigeria, it was found that despite the network of actors, governance and decision making has not incorporated the local content. This situation explains the perceptions of marginalisation and the case of communal clashes, violence and resistance in host mining communities, as it is evident in the oil-producing region of the Niger-Delta.

At the core of unlocking the potentials of bitumen, the government in 2003 proposed a neoliberal approach to governance of bitumen exploitation. However, this model would mean the separation of the state from mining interventions with tenets that promote reforms, liberalisation, and privatisation of publicly owned structures. This rationale though laden with economic outcomes, might not deliver the expectations of sustainable development holistically, in particular, the social and environmental components of development. In relating the experiences of governance with regards to the exploitation of bitumen in Canada, one of the

strategies employed to ensure the sustainable development agenda has been through good governance, which opens up the operations of the industry to democratic deliberations inclusive of the local population. More recently, according to Stecyk (2017), good environmental governance has proven to address the irreversible impact of bitumen mining, which tends to address the economic, social, and political concerns of people, particularly local communities being affected by the operations. It is within these discussions that the developmental state ideology has been proposed in this study as a possible framework of governance towards sustainable development. The perspective is such that it gives autonomy to the state to enact long-term policies while considering social anchoring to keep the state within the confines of an ideological and structural framework as opposed to been predatory in administering its functions. However, the impact of this ideology is not without challenges as the procedure to transform into this form of governance is likely to face resistance. Given that resource and land ownership in Nigeria and every activity within it is vested in the state, it is unlikely that the dividends of democracy and the politics of inclusion might translate into socio-economic prosperity for Nigeria from exploiting bitumen.

The third objective was to understand the experiences and expectations of communities that will be impacted by bitumen mining operations. With Agbabu being the study area, I used qualitative data collection tools to acquire empirical data about the perceptions of the proposed mining operations. The data presented showed the high expectations of the local community about the proposed mining operations; for the most part, these have been positive feedbacks from engagements with the government and intending investors. This has been the reality of the local population, and for many years lived with this promises of sustainable futures and development. Based on the evidence from the fieldwork, it is imperative to state that the community is in support of the bitumen operations; however, there are obvious signals of the community having doubts with the delivery of the promises of development and sustainable futures within their environment. One notable comment was that a man who said he does not trust the approach of the government based on his experiences and knowledge of the operations in the oil-producing communities in the Niger-Delta.

In addition, the professional views of officers at the bitumen project office were deemed necessary with the broader structure of this study to delineate the contradictions and controversies with bitumen exploitation. The key finding with this aspect of the empirical data is that the government in a bid to unlock the potentials of bitumen is not capable of meeting the financial and technological demands of exploiting its bitumen reserves. Similarly, evidence

shows that no single mining investor possesses the capability to kick-start such a project which is deemed to be three times more expensive to mine in comparison to the conventional exploitation of oil and gas which in reality already is a competitive market. However, the current administration has a limited number of intending investors who are willing to exploit this resource but limiting their scope to small-scale operations.

This broader scope of this research is to explore the expectations of and possibilities of sustainable futures of bitumen mining. Agbabu community presented a unique case-study to unpack the contradictions of this emerging resource, which provided a useful basis to which to understand the disjuncture between the economy, environment, and society as well as the politics of resource exploitation. Similarly, the context of this study was to consider the possibility of responsible mining and good governance in the context of the impending exploitation of bitumen as a potential channel of revenue for the country. What this resolves to are questions that will lead to unpacking the contradictions of economy, environment and society which ultimately are not mutually complementary and consistent to sustainable development.

8.3 Engaging with the realities of today

The convincing argument this thesis has put forward is the possibility of mining bitumen in Nigeria in line with the economic diversification plan. Having addressed the paradox of bitumen mining, the emphasis that mining and development are opposing ends of the sustainable development discourse formed the basis of this study. This study unpacked the contradictions and dissimilarities in mining within the framework of balancing extractive activities to slow down the effects of degradation, hazards and destruction of the ecosystem as well as to boost ecosystem resilience.

Despite the recent attempts at good governance aimed at developing countries in attaining development through the exploitation of its mineral resources, the inherited legacies and colonial structures of governing and directing society still impede the post-colonial development in most resource-rich developing countries. In context, for Nigeria to develop following its rentier status, the country has to expand on its range of revenue sources beyond oil and solid minerals to agriculture, manufacturing, tourism, in the long-run, the scourge of the Resource Curse and Dutch disease would be eliminated. More importantly, as it is in recent times, the civil society should be considered as a part of the decision-making process and sets a balance against the power dynamics, which aids corruption and lack of transparency. Framing

sustainable development within the indigenous mining community context may perhaps facilitate the goals of attaining development in countries that are highly dependent on its natural resources for its development outcomes as well as to meet with the SDGs.

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APPENDICES

Appendix A: An Outline for Individual Interviews

The individual interviews will involve 30 – 35 people in the community.

Welcome – Introducing Researcher:

Good day Sir/Ma and thanks for granting the audience to speak with you. My name is Oluwole Akinyosoye, a student of the University of the Witwatersrand, South Africa. I am conducting an academic study on bitumen exploitation, its dynamics on your community and the impact on the Nigerian economy. I am here to gain more knowledge about your perception on the development of bitumen in your environment. Also, to know the potential issues with exploitation activities, your expectations and how you perceive that issues can be addressed and improved to sustain your community. I will be having this same discussion with a few others within your community. The result of this discussion will be used in the compilation of my academic thesis.

I chose to speak with you because you represent a vast majority of the informed group in this community as you live and are familiar with this region of the community.

Stating brief guidelines:

Please feel free to express your point of view as there are no right or wrong responses in the course of this session. Also bear in mind that I am interested in all your comments both positively or negatively as both comments would be helpful to me. I will be recording this session to complement the little notes I cannot jot down so as not to miss out any point. I assure you that your name will not be written in my report. I also assure complete confidentiality of your identity and status.

Interview Questions - using open ended questions:

1. Have you heard about the decision to develop bitumen in your community?
2. If so, how did you hear about it?
3. How do you perceive the exploitation of bitumen in your community?
    - What are the potential impacts to you and the entire community with regards to the decision by the Government?
    - How do you perceive the reactions of community authorities over the Government with regards to regional development?

The Federal Government has decided to diversify the economy from oil and gas to solid minerals development, one of such mineral is bitumen in your community. This decision by the Government to develop bitumen include a} to generate more revenue for development and capital projects b} to

4. Do you think your community has a good representation in the decision making stages towards the development of bitumen in your community?
    - Do you think the needs of your community will be met as a result of the exploitation activities?
    - How do you perceive the role of the Government in natural resource exploitation?
5. Could you describe in much detail your opinion about donors and institutions effort towards regional development?
    - Under what conditions would you support the exploitation activities in your community?
    - Do local communities have full access to development initiatives by external donor agencies or sources?

Appendix B: An Outline for Group Discussions

The focus group discussion will run for 45-90 mins comprising 6 -10 people in about 4-6 groups. The number of questions will not exceed 8 for any group.

Welcome – Introducing Researcher and Assistant:

Good day Sir's and Ma's and welcome to this session. Thanks for taking the time to join us to talk about the development of bitumen within your environment. My name is Oluwole Akinyosoye, assisting me is Oluwole. I am a student of the University of the Witwatersrand, South Africa. I am conducting an academic study on bitumen exploitation, its dynamics and its impact on your community. I am here to gain more knowledge about your perception on the development of bitumen in your environment. Also, to know the potential issues with exploitation activities, your expectations and how you perceive that issues can be addressed and improved to sustain your community. I will be having this discussion with a few more groups within this community. The result of this discussion will be used in the compilation of my academic thesis.

You were invited because you represent a vast majority of the informed group in this community as you live and are familiar with this region of the community.

Stating brief guidelines:

Please feel free to express your point of views eve if your opinion differs from that of others. There are no right or wrong responses throughout this discussion session. Also bear in mind that I am interested in all your comments both positively or negatively as both comments would be helpful to me. I will be recording this discussion session to complement the little notes I cannot jot down so as not to miss out any point. To make things easier, we will discuss and address ourselves on first name basis. I assure you that no name will be written in my report. I also assure complete confidentiality of your identities and status.

Participants get to introduce one another so as to get acquainted with one another.

Opening Question - using open ended questions:

1. Have you heard about the decision to develop bitumen in your community?
2. What do you think of the bitumen project as purposed by the Federal Government?
    - How do you feel about the decision to exploit bitumen in your region?
3. Who and what influences decision making within your community?
    - Are community dwellers informed and aware of the decision to exploit the resource?
    - Could you discuss in detail issues you are confronted with in your community, your expectations and fears. Do you think your community is well prepared?
4. When you think about bitumen exploitation activities, what comes to your mind? Kindly jot down things that are of importance to you in the development of this resource.

Ending Questions

5. Of all we have discussed which is most important to you?
6. Should you have an opportunity to speak with the government, what would you say?

Appendix C: Consent form

CONSENT FORM

Responsible Mining and Sustainability in Nigeria: The case of Bitumen

Researcher: Oluwole Akinyosoye

I have been informed about the research study and discussed with the researcher Oluwole who is conducting this research under the supervision of Dr Alex Wafer both of the University of the Witwatersrand, South Africa. I have an understanding of the potential burdens and difficulties associated with the study which include: the identification of the significant causes of the level of development and those of responsibility, and I have had the opportunity to clarify this before participating in the research study.

I understand that my participation is voluntary and without obligation to participate. As a result, my refusal to participate or withdraw does not attract any penalty or loss of benefits. Thus, I am obliged to withdraw in the course of the research should the questions become discomforting.

I understand that if I have any questions or enquiry with regards to the research, I can contact the researcher, Oluwole or Dr Alex Wafer. Also, if I have any clarifications, concerns or complaints with regards to the research or the process by which it is conducted, I can contact the Ethics Committee, Ethics Office University of the Witwatersrand.

I consent to be interviewed in the course of this research as I am aware that the purpose of the information in the form of responses, observations and interviews from my participation will be used solely for research purpose. Also, I am aware of the use of an audio recording device and camera whenever the researcher deems appropriate in the course of the interview sessions.

I do agree to be audio recorded ☐

I do not agree to be audio recorded ☐ (please tick as appropriate)

Participant

Signature……. **Date**……..

I, Akinyosoye Oluwole, hereby confirm that the above participant has been fully informed of the nature and conduct of the above study.

Study Investigator

Akinyosoye Oluwole

Signature……. **Date**…….

Appendix D: Consent form- Focus Groups

CONSENT FORM- FOCUS GROUP

Responsible Mining and Sustainability in Nigeria: The case of Bitumen

Researcher: Oluwole Akinyosoye

I have been informed about the research study and discussed with the researcher Oluwole who is conducting this research under the supervision of Dr Alex Wafer both of the University of the Witwatersrand, South Africa. I have an understanding of the potential burdens and difficulties associated with the study which include: the identification of the significant causes of the level of development and those of responsibility, and we have had the opportunity to clarify this before participating in the research study.

I understand that my participation is voluntary and without obligation to participate. As a result, my refusal to participate or withdraw does not attract any penalty or loss of benefits. Thus, I am obliged to withdraw in the course of the research should the questions become discomforting.

I understand that if I have any questions or enquiry with regards to the research, I can contact the researcher, Oluwole or Dr Alex Wafer. Also, if I have any clarifications, concerns or complaints with regards to the research or the process by which it is being conducted, I can contact the Ethics Committee, Ethics Office University of the Witwatersrand.

I consent to being part of the focus group discussion and I am aware that the purpose of the information in the form of responses, observations and discussions from our participation will be used solely for research purpose. Also, I am aware of the use of an audio recording device and camera whenever the researcher deems appropriate in the course of the discussion session.

I do agree to be audio recorded/image ☐

I do not agree to be audio recorded/image ☐ (please tick as appropriate)

Participant

Signature……. **Date**……..

I, Akinyosoye Oluwole, hereby confirm that the above participant has been fully informed of the nature and conduct of the above study.

Study Investigator

Akinyosoye Oluwole

Signature……. **Date**…….

Appendix E: Participant Information Sheet - Individuals

PARTICIPANT INFORMATION SHEET

Responsible Mining and Sustainability in Nigeria: The case of Bitumen

Good day,

My name is Oluwole Akinyosoye, a PhD student in the School of Geography, Archaeology and Environmental Studies, University of the Witwatersrand, South Africa. I would like you to be a part of this research, which is about the exploitation of natural resources and its contribution to national development with particular interest on its impact on environmental sustainability. The aim of this research is to contribute to knowledge on the debate on responsible mining of solid minerals using one of the 7 strategic minerals (Bitumen) as identified by the Federal Government.

Your participation in this study is voluntary with regards to your responses as this is strictly for research purpose. Please feel free to discontinue your involvement should you find the questions uncomfortable as you are not obliged to respond to all questions. Please note that you are not subject to any penalty or loss of benefit should you decide at any stage to withdraw from the survey. Following this interview, there will be one single, one-off interview session in English and where applicable, in the local Ondo dialect which should last no longer than an hour in a place of your choice and convenience. Your consent is required for the use of an audio recorder and camera to record interviews and capture images necessary for the research compilation. The outcome and responses given in the course of this research will be treated with utmost confidentiality and will remain anonymous without reference to any respondent. Also, all responses given in the course of the research will be stored in my personal computer, and will be reported in the form of a Thesis in fulfilment of my Postgraduate degree studies. Your participation in this study may not be of direct benefit to you. However, when the research is completed, it will enable a better understanding of the impact of bitumen exploitation on the life and wellbeing of local communities.

Please feel free to contact me on 0803412414 or by email at 1290988@students.wits.ac.za alternatively, my Supervisor Dr Alex Wafer alex.wafer@wits.ac.za or Lucile Mooragan of the Human Research Ethics Committee (Non-Medical) 10th Floor Senate House, Room 1004 on +27(0)11 717 1408 or via email at lucille.mooragan@wits.ac.za should you have any questions or important issues to discuss.

Thank you for your time and cooperation.

Oluwole Akinyosoye
Research Student,
University of the Witwatersrand,
Johannesburg, South Africa.

Dr. Alex Wafer
Supervisor (Lecturer)
University of the Witwatersrand,
Johannesburg, South Africa.

Appendix F: Participant Information Sheet - Focus Groups

PARTICIPANT INFORMATION SHEET- FOCUS GROUP

Responsible Mining and Sustainability in Nigeria: The case of Bitumen

Good day,

My name is Oluwole Akinyosoye, a PhD student in the School of Geography, Archaeology and Environmental Studies, University of the Witwatersrand, South Africa. I would like you to be a part of this research, which is about the exploitation of natural resources and its contribution to national development with particular interest on its impact on environmental sustainability. The aim of this research is to contribute to knowledge on the debate on responsible mining of solid minerals using one of the 7 strategic minerals (Bitumen) as identified by the Federal Government.

Your participation in this study is voluntary with regards to your thoughts, ideas and responses, as this is strictly for research purpose. Please feel free to discontinue your involvement should you find the questions uncomfortable as you are not obliged to respond to all questions. Please note that you are not subject to any penalty or loss of benefit should you decide at any stage to withdraw from the survey. Following this interview, there will be one single, one-off discussion session in English and where applicable, in the local Ondo dialect which should last no longer than an hour in a place of your choice and convenience. Your consent is required for the use of an audio recorder and camera to record interviews and capture images necessary for the research compilation. All responses given in the course of the research will be stored in my personal computer, and will be reported in the form of a Thesis in fulfilment of my Postgraduate degree studies. Your participation in this study may not be of direct benefit to you. However, when the research is completed, it will enable a better understanding of the impact of bitumen exploitation on the life and wellbeing of local communities.

Please feel free to contact me on 0803412414 or by email at 1290988@students.wits.ac.za alternatively, my Supervisor Dr Alex Wafer alex.wafer@wits.ac.za or Lucile Mooragan of the Human Research Ethics Committee (Non-Medical) 10th Floor Senate House, Room 1004 on +27(0)11 717 1408 or via email at lucille.mooragan@wits.ac.za should you have any questions or important issues to discuss.

Thank you for your time and cooperation.

Oluwole Akinyosoye
Research Student,
University of the Witwatersrand,
Johannesburg, South Africa.

Dr. Alex Wafer
Supervisor (Lecturer)
University of the Witwatersrand,
Johannesburg, South Africa.

Appendix G: Ethics Clearance Certificate

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Akinyosoye

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H16/10/01**
PROJECT TITLE	Responsible mining and sustainability in Nigeria: The case of Bitumen
INVESTIGATOR(S)	Mr O Akinyosoye
SCHOOL/DEPARTMENT	GAES/
DATE CONSIDERED	21 October 2016
DECISION OF THE COMMITTEE	Approved
EXPIRY DATE	02 November 2019

DATE 03 November 2016 **CHAIRPERSON** (Professor J Knight)

cc: Supervisor : Dr A Wafer

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to completion of a yearly progress report.**

_____ Signature

____/____/____ Date

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES