

Management of environmental issues in the Nigerian oil-producing region:

A framework for stakeholders' collaboration



By

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ABSTRACT

Environmental issues from oil production have left inestimable environmental degradation and impacts to the lives of people in the Nigerian oil-producing region (NOPR). Research to date has suggested the importance of stakeholders' collaboration in managing environmental issues. However, little research has been conducted to understand roles of stakeholders in developing a framework for stakeholders' collaboration in the NOPR. This research produces a framework for stakeholders' collaboration to expand knowledge in the development of a collaborative environmental management in the NOPR.

The research aim was achieved based on four objectives; 1) identified recommended practices for stakeholders' collaboration in managing environmental issues and established how they could be applied in the NOPR; 2) investigated stakeholders' perception of collaborative roles in managing environmental issues in the NOPR; 3) designed a framework for stakeholders' collaboration for managing environmental issues in the NOPR through the synthesis of outcomes of 1) and 2); and 4) validated the designed framework by identifying the critical success factors for its application.

In achieving these objectives, interpretive research was applied, and it was underpinned by stakeholder analysis methodology to provide a coherent research design. Furthermore, the Ostrom's institutional analysis and development (IAD) framework and the theory of common pool resource were extended to inform the interpretation of collaborative roles of stakeholders in managing environmental issues in the NOPR. Adhering to the theoretical suggestions of stakeholder analysis / IAD framework and to allow a robust investigation of stakeholders' collaboration, this research focused on the qualitative investigation of roles of the key stakeholders

– i.e., Nigerian government agencies, multinational oil companies and host communities.

While analysis of selected documents of the key stakeholders was conducted to explore the roles of stakeholders, semi-structured interviews were conducted with a select heads of departments and managers to examine their perception regarding their collaborative roles and critical success factor for stakeholders' collaboration. While selective manual coding was used for the document analysis, narrative analysis assisted with NVivo 11 was used for the semi-structured interview analysis.

The findings from both the document analysis and the review of recommended environmental management practices were synthesized to develop the framework for stakeholders' collaboration. Policy review and development; strategic environmental management, systematic implementation of environmental management strategies and periodic review of management practices and policies were identified as key components of the framework for stakeholders' collaboration.

Findings from the framework validation derived from the semi-structured interviews show that critical success factors of stakeholders' collaboration in managing environmental issues in the NOPR are primarily driven by socio-economic interests and political will as well as compliance to environmental management policies. Furthermore, it was found that ignorance and lack of commitment, among other barriers, can hinder stakeholders' collaboration in managing environmental issues in the NOPR. This research suggests that due to the diversity of stakeholders' roles regarding their institutional interests and complexity of environmental issues in the NOPR, successful stakeholders' collaboration would depend on the concerted commitment and genuine collaboration across stakeholders.

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LIST OF ACRONYMS AND MEANINGS

BPEO	Best Practicable Environmental Options
BPEO	Best Practicable Environmental Option
CEM	Collaborative Environmental Management
CNL	Chevron Nigeria Limited
DPR	Department of Petroleum Resources
E&P	Exploration and Production
ECM	Environmental Compliance Monitoring
EGASPIN	Environmental Guidelines and Standards for the Petroleum Industry in Nigeria
EIA	Environmental Impact Assessment
EM	Environmental Management
EMAS	Environmental Management Audit Scheme
EMS	Environmental management system
EPA	Environmental Protection Agency
EPC	Environmental Protection and Control
EPM	Environmental Planning and Management

FMENV	Federal Ministry of Environment
GMOU	Global Memorandum of Understanding
HCS	Host Communities
HSE-MS	Health Safety and Environment Management System
IAD	Institutional Analysis and Development
ICLEI	International Council for Local Environmental Initiatives
IEM	Integrated Environmental Management
IPC	Integrated Pollution Control
ISO	Organisation for Standardization
MNOCs	Multinational Oil Companies
MPNU	Mobil Producing Nigeria Unlimited
NACGOND	National Coalition on Gas Flaring and Oil Spills in the Niger Delta
NDDC	Niger Delta Development Commission
NESREA	National Environmental Standards and Regulations Enforcement Agency
NGAs	Nigerian government agencies
NGOs	Non-Governmental Organisations
NIMASA	Nigerian Maritime Administration and Safety Agency

NNPC	Nigerian national petroleum corporation
NOPR	Nigeria Oil Producing Region
NOSDRA	National Oil Spill Detection and Response Agency
OPPRC	Oil Pollution Preparedness, Response and Co-operation
PEM	Participatory Environmental Management
PER	Preparatory Environmental Review
PIA	Post Impact Assessment
PRA	Participatory Rural Approval
RSF	Ritchie and Spencer's framework
SPDC	Shell Petroleum Development Company
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change

CHAPTER 1: INTRODUCTION

1.1 Environmental issues in the Nigerian oil-producing region (NOPR)

Environmental issues resulting from industrial activities by oil companies have continued to cause inestimable environmental degradation and impacts in NOPR. Likewise, since the advent of the industrial revolution, a sustainable environmental management has been at the forefront of the world's environmental initiatives (e.g. the 1972 World Conference on the Human Environment, the 1992 United Nations Conference on Environment and Development and 2002 World Summit on Sustainable Development) (Hyde et al., 2007). The impact of the environmental issues remains a huge problem that has continually led to a discourse for the Nigerian government and policymakers who continue to struggle to achieve a sustainable environmental management in the NOPR (Dhir, 2007; Obi, 2009; Onwumere, 2011).

A search for a lasting solution to environmental issues in NOPR has existed since the discovery of oil in Nigeria. The National Oil Spill Detection and Response Agency Report by Alexandra Gas and Oil Connections (2006) highlighted that despite efforts by the Nigerian government agencies to manage the environmental issues over two decades in the NOPR, the industrial activities of oil companies have continued to pose a threat to the livelihood of more than thirty million Nigerians in the region. The national scale efforts underscore a range of socio-economic, political and institutional factors that undermine the response of the Nigerian federal government.

1.2 Managing environmental issues in Nigeria oil-producing region

Nigerian federal government has established various agencies and legislation to manage environmental issues in NOPR. For instance, in the year 2000, several government agencies (e.g., Niger Delta Development Commission (NDDC) and Nigeria Federal Ministry of Environment) were established. Ite and Idemudia (2006) evaluated the roles and practices of these agencies and impacts of existing legislation and suggested that they have failed to make a significant impact in managing environmental issues. The major issues attributed to their failure include fragmented environmental policies and lack of effective collaboration among the affected stakeholders. In agreement with Ite and Idemudia's (2006) findings, Olawaniyi (2010) concluded that the existing collaborative measures to tackle environmental issues have not been successful because of uncoordinated roles and practices of the participating stakeholders. Consequently, stakeholders that implement the policies often find themselves in regulatory competition because of overlapping, vague roles and responsibilities (Ogbonnaya, 2011).

Other previous bodies of evidence have shown that lack of collaboration in managing environmental issues in the NOPR is a major issue. Babatunde, (2013) suggested that lack of involvement of host communities by the convenors and initiators of collaborative environmental management in the NOPR hinders policy monitoring and delays implementation. However, the implication is that the host communities tend to embrace 'compensation packages' and 'neglect/ignore' the environmental issues, as they 'see' managing environmental issues as an opportunity to enrich themselves, or responsibilities of oil companies and government agencies (Ejiogu, 2013). Some researchers (e.g., Cocks, 2012; Poopola, 2013; Barton and Bruder, 2014) advocate that collective effort of stakeholders in managing environmental issues may not make

an impact because existing roles of stakeholders are not developed based on recommended global environmental management practices and standards. Hence, the question is how stakeholders can work together effectively, without these issues to achieve an effective environmental management in the NOPR?

A search for an empirical answer to this question necessitates the need for this study to develop a framework that is based on a theoretical lens of collaborative environmental management. This approach would expand and deepen how stakeholders collaborate with one another about their roles and practices in managing environmental issues. Salam and Noguchi (2006) suggest that in developing such a framework, it is important that it is comprehensive and placed in the context of the NOPR. Also, Ejiogu (2013) advocates that a framework for effective environmental management of issues in the NOPR should focus on two key issues: stakeholder collaboration in decision-making processes and recommendations for management alternatives.

1.3 Research aim: research objectives and research questions

Several studies (e.g., Beierle and Konisky, 2001; Fish et al., 2011; Van Tol Smit et al., 2015) offer insights into how collaborative environmental management (CEM) might be applied in solving environmental issues. Other researchers (e.g., King and Toffel, 2007; UNDP, 2011; Dudley, 2013) advocate that effective collaboration of stakeholders can be a significant determinant in resolving the environmental issues in the NOPR. However, some previous studies (e.g., Ministry of Niger Delta Affairs, 2010; Yeung and Petrosyan, 2012) focused on limited aspects of collaboration in managing environmental issues in the NOPR and a framework has yet to be offered

that integrates the roles and practices of stakeholders in the development of CEM in the NOPR. Other studies (e.g., Aspinall et al., 2010; Prager et al., 2011; Margerum and Robinson, 2015) developed CEM frameworks on existing organisational culture and policy; the developed framework stressed the roles of stakeholders and their concerns. These frameworks vary in their emphasis on the roles of stakeholders for either contributing to CEM or improving the development process.

This research attempts to contribute to the suggestions of the previous studies identified above and to bridge identified research gaps by drawing a different research design. It aims to produce a framework for a stakeholders' collaboration in managing environmental issues in the NOPR. This outcome is derived from analysis of stakeholders' roles through document analysis and semi-structured interviews, and was achieved based on the following four research objectives:

- 1) Identify global recommendations for stakeholders' collaboration in managing environmental issues and established how they could be applied in the NOPR;
- 2) Investigate stakeholders' perception of their collaborative roles in managing environmental issues in the NOPR;
- 3) Design a framework for stakeholders' collaboration for managing environmental issues in the NOPR through the synthesis of outcomes of objectives (1) and (2); and
- 4) Validate the designed framework by identifying the critical success factors for its application.

These research objectives are designed to answer the primary research question of how applicable is the stakeholders' collaboration approach in managing environmental issues in the NOPR? This question was answered by asking the following questions;

- 1) What are the global recommendations for stakeholders' collaboration in managing environmental issues in the NOPR?
- 2) How can the key stakeholders collaborate to effectively manage the environmental issues in the NOPR?
- 3) What are the critical success factors that may drive or hinder the application of stakeholders' collaboration in managing environmental issues in the NOPR?

1.3.1 The need for a framework for stakeholders' collaboration in the NOPR

“Nigerian National Petroleum Corporation has witnessed the slow poisoning of the waters of this part of the country (NOPR) and the destruction of vegetation and agricultural land by oil spills which occur during petroleum operations, ..., since the inception of the oil industry in Nigeria, more than twenty-five years ago, there has been no effective effort on the part of the government, let alone the oil operators, to control environmental problems associated with the industry”. (Usa, 2014, p.73)

Previous studies (e.g., Ite and Idemudia, 2006; Olawaniyi, 2010; Babatunde, 2013) suggest that attempts to manage environmental issues in the NOPR have surpassed the independent efforts of the affected stakeholders – i.e., the Nigerian government, multinational oil companies and local communities.

As increasing pressure mounts on the oil companies to comply with regulatory policies, serving only to the demands of government agencies and legislative bodies, few measures now seeming to exist are capable of effectively managing environmental issues in the NOPR. Likewise, for environmental management stakeholders around the world, efforts to find an effective environmental management approach to tackle

environmental issues in the oil-producing region successfully has become one of the focal research discourse and studies (Hyde et al., 2007). Despite the increasing impacts of environmental issues in the NOPR, essentially escalated by the continuing industrial activities of oil companies, stakeholders have progressed in their effort to work together to tackle the problem.

Various studies (Ministry of Niger Delta Affairs, 2010; Benson et al., 2013) have recommended stakeholders' collaboration as an instrument for an effective environmental management. In particular, these studies argued that it can be applied to understand roles and practices of stakeholders while exploring their cultural, political and economic interests. Collaborative environmental management provides the drivers that facilitate avenues for collaborative responsibility in managing environmental issues; however, but not without challenges (e.g., resource issues, role conflicts, institutional structure, and policies) (Prager et al., 2011; Eurocontrol, 2014). Despite the challenges of the collaboration in managing environmental issues, its appropriateness has apparently gained momentum, strengthening suggestions that collaborative environmental management approach can be applied in the context of the NOPR.

Over the past decades, collaborative environmental management (CEM) has been applied in empirical studies (e.g. Selin and Chavez, 1999; Frame et al., 2004; Prager et al., 2011; Benson, et al., 2013; Eurocontrol, 2014) to understand how stakeholders define their roles in natural resource management while adhering to their cultural, political, economic and social roles and practices. CEM provides the drivers that enable stakeholders to manage and conserve nature, and therefore, facilitate avenues for collaborative responsibility in managing environmental issues (Prager et al., 2011; Eurocontrol, 2014). Since the development of Agenda 21 of UNCED (1992)

which advocates that stakeholders should be conscious of the sustainable environment, the necessity for optimised collaborative roles becomes inevitable in managing environmental issues.

Barbieri, (2004) referred to the concept of environmental management as the administrative and operational activities with an objective of obtaining a sustainable environment. Becker (2002) added that this task, sometimes considered impossible, is a collective responsibility that demands an understanding of stakeholders that affect and are affected by the impact of environmental issues. Hence, this research has attempted to answer the question of how applicable is the stakeholders' collaboration approach in managing environmental issues in the NOPR?

1.3.2 The need for recommended environmental management practices

There is limited research in applying recommended environmental management practices in the context of oil-producing regions. Existing studies (e.g. Eregha and Irughe, 2009; Alba et al., 2010; Anyanwu, 2012) focused on discourse and views of 'multinational oil companies generating environmental problems' and 'developed countries generating theoretical solutions to these problems' rather than initiating applicable environmental management practices to solve the environmental issues in NOPR. Notwithstanding a number of studies (e.g., Gary and Karl, 2003; Alba et al., 2010) that have been completed to date on managing of environmental issues in the oil-producing regions across the world, the application of stakeholders' collaboration in managing environmental issues in the context of Nigerian has been sparse in literature. When the Nigerian case was considered, it was pictured as a small Niger Delta community caught up in the wider impacts of environmental issues caused by multinational oil companies.

In most cases, the research views are explained as the 'outside-in view' that see the NOPR as a victim of multinational oil companies' industries-generated problems. For instance, Onosedo (1997) suggests that oil exploration related problems have been defined and originated from the NOPR, but is largely outside the check and control of the Nigerian agencies. There may be some veracity in the above suggestions if one considers the causes of environmental degradation from the oil exploration and their impacts to the region.

The arguments of the above suggestions may have motivated the Nigerian government agencies to adopt environmental management policies that are based on the theories and values from the developed countries. This includes the United Nations 1992 Framework Convention on Climate Change (UNFCCC), which was adopted under the Earth Summit of the United Nations Conference on Environment and Development to address environmental issues caused by oil explorations. This UN's convention was developed to gather and share information on greenhouse gas emissions, national policies, and best practices; to launch national strategies to transfer technology on how to manage gas emissions from oil exploration in the developing countries. In some cases, the Nigerian federal government struggles to achieve these objectives due to inadequate understanding of content and context to which these recommended practices were designed. Hence, this research will attempt to answer the question of what are the global recommendations for stakeholders' collaboration in managing environmental issues in the NOPR.

1.3.3 Understanding stakeholders' roles: stakeholders' analysis

For an effective management of environmental issues, there is need to adopt a systematic, global, wide-ranging and integrated socio-economic perspective to understand the roles of stakeholders. Researchers (e.g., Bowies, 1988; Rowely,

1997; Marshall, 2012) suggested that it is important that stakeholders must collaborate, and their roles and interests need to be aligned together in managing environmental issues. Stakeholder theorists (e.g., Coase, 2013; Freeman, 2010) categorised stakeholders in the context of environmental management as polluters and victims, as from the notion of whom/what affects or is affected, to a notion of national capital investment, externalities, interests, and property rights. In the case of the NOPR, the key affected stakeholders i.e., the Nigerian government, multinational oil companies and local communities, should contend with increasing environmental issues; and the need for collaborative decision making to implement effective environmental management has become acute (Usa, 2014).

Researchers (e.g., Pain, 2004; De Vita et al., 2015) suggested that stakeholder analysis can be used to understand how stakeholders can collaborate effectively to facilitate implementation of decisions and objectives. Understanding the nature of stakeholders needs, their roles and interests about their practices need to be captured in any related environmental management initiatives (Prell et al., 2007). De Vita et al. (2015) suggests that this is important in environmental management (likewise to the case of the NOPR) where there is need for right, influence, power-sharing and priorities to be reached between the stakeholders. The need for stakeholder analysis is an essential tool in this research, which requires the development of an effective collaborative management framework through the synthesis of global recommended environmental management practices. It is important that the needs of the stakeholders are explored, about their roles, to understand how the global environmental management practices can be applied in the NOPR.

However, there are debates (Frooman, 1999; Friedman and Miles, 2002) about the legitimacy of the stakeholders and the best way for them to collaborate. Also, Reed et al. (2009) advocate that stakeholder analysis may not necessarily lead to immediate solutions to collaboration because of potential conflicting drivers and barriers of stakeholders in appreciating stakeholders' views, but can be used as a tool to facilitate negotiation. In this way, stakeholder analysis can facilitate a constructivist approach that identifies different perspectives on which a practical and priority needs of the stakeholders can be interpreted.

Reed et al. (2009) suggested various analytical methods for stakeholder collaboration in environmental management, which can be used for identifying stakeholders' roles and investigating their collaborative relationships. It can be through qualitative oriented research methods which include documentary evidence, interviews, and observation. These research methods can help to understand stakeholders' levels of interest and influence, cooperation and competition, cooperation and threat, urgency, legitimacy and influence, and classifying them according to the degree they affect or are affected by environmental issues or their actions (Salam and Noguchi, 2006). Other previous studies (e.g., Eden and Ackermann, 1998; De Lopez, 2001) advocated that stakeholders' analysis can be conducted and interpreted by classifying them into categories such as key players, context setters, subjects, and the crowd. In this current research, the first two categories – the key players and subjects, are purposively selected. The key players are government agencies and multinational oil companies who are actively interested and influence management of environmental issues in the NOPR. Subjects are local communities who have high interest and can be supportive but lack capacity like resources for impact.

Reed et al. (2009) cautioned that local communities could be influential by forming alliances with other stakeholders. Tuchman (1984) and Grimble et al. (1995) suggest that where the main concern of the stakeholders are issues (as it is in this case) of costs, planning, and implementation, all the essential stakeholders may need to be explored, but priority should be given to the key stakeholders (i.e., government agencies, multinational oil companies and host communities) who are most likely to impact on the functioning of environmental management projects.

Hare and Pahl-Wostl (2002, p. 50) recommend that analytical approaches should be applied based on the analysis of the phenomenon in question and “*embedded in some theoretical perspectives of how the systems functions.*” Hence, the application of collaborative environmental management in this research was underpinned by stakeholders’ analysis which was conducted through document analysis and semi-structured interview to identify different roles of the stakeholders about their needs, interests, and practices.

1.3.4 Development of a framework for stakeholders’ collaboration

Collectively, previous studies (e.g., Frynas, 2009; King and Toffel, 2007; Dudley, 2013) have suggested that it is not enough to understand the roles of stakeholders in designing an environmental management framework. They further advocate the need to understand the extent of the stakeholders’ contribution towards the effective implementation of the framework. Researchers (e.g., Young, 2003; Obi, 2009) suggested that more studies need to be conducted not only to provide a clear understanding of roles of stakeholders that are affected by environmental issues but to validate how their roles are implemented by exploring the contextual issues hindering effective implementation of environmental management practices in the NOPR.

Some studies (e.g., Meyer, 1994; Parker and Khare, 2006; Ejibunu, 2007; Udoekanem, 2013) have explored the extent of contributions of stakeholders in managing environmental problems in oil-producing regions. However, the issues related to identifying the factors that enhance or negatively affects the collaboration of stakeholders in managing environmental issues are often overlooked. For instance, Baughn (2007) and Babatunde, (2013) have suggested how stakeholders can manage environmental problems from the angle of corporate or sustainable responsible business operations. Using a quantitative survey to examine and to compare environmental corporate social responsibility of Asian countries and those of other regions (Europe, America, and Africa), Baughn (2007) acknowledged the need to understand how stakeholders interact and the extent of their collaboration as it relates to environmental management. Baughn (2007) suggests that further research needs to explore how ‘the actors’ and ‘the reactors’ operate as a collaborative unit with common goals in this respect.

In agreement to Baughn’s (2007) suggestion, Babatunde (2013) used a field survey to explore stakeholders’ collaboration as a community in dealing with environmental issues in the NOPR. The study suggests that collaboration in resolving the environmental management issues is a challenging issue, complicated by the differing goals of stakeholders. Babatunde (2013) suggests the need for further in-depth research to critically investigate the efforts of stakeholders to understand what drives their interests and efforts towards attaining their collaborative objectives. Hence, the final phase of this research answers to the question of what critical success factors of stakeholders’ collaboration may be applied to drive or hinder effective management of environmental issues in the NOPR?

1.4 Validation of stakeholders' collaboration: Extending institutional analysis and development (IAD) framework and the theory of common pool resource

In an attempt to answer the question of critical success factors of stakeholders' collaboration in managing environmental issues, it is important to apply an appropriate theoretical frame of reference for examining collective decision making of the stakeholders. Extending the analysis of IAD framework provided a frame of deliberation, which links both the theoretical and narrative perspectives of stakeholders' collaboration in the diverse institutional setting of the NOPR. The challenges of managing environmental issues in the NOPR are well recognized, and decision making often requires the balancing of competing interests of stakeholders and institutions with their diverse objectives.

Past studies (e.g., Ostrom, 1990; Proteete and Ostrom, 2002; Quinn et al., 2007; Hoffman and Ireland, 2013) have advanced the understanding of the role of institutions in examining the relationships that exist between stakeholders in managing their environmental resources. Ostrom (1990) particularly developed and applied an institutional approach for conceptualizing, addressing, and resolving common-pool resource problems. Ostrom's deliberations suggest that managing common pool resource projects, environmental management as it relates to this research is a complex socio-economic and policy-driven issue. The case of the NOPR is not an exception. In an attempt to analyse complex issues of managing environment in the NOPR, theoretical assumptions of institutional analysis and development framework and the theory of common pool resource (CPR) is deliberated and appreciated.

The use of IAD framework and theory of CPR in this research informs the interpretation of stakeholder analysis in dictating the expectations of stakeholders in

managing environmental issues in the NOPR. The IAD framework and theory of CPR are extended to inform the theoretical constructs that underpin the validation of stakeholders' collaboration framework. Other studies (e.g., Steins and Edwards, 1999; Saunders, 2014) have it that through the theoretical lens of CPR, one can frame stakeholders as a 'rational resource users' while providing the analysis of collective norms, values, and interests of other stakeholders in managing environmental resources.

The focus of IAD framework and CPR theory in this research is to understand how collective efforts of stakeholders would result in effective decision making in the management of environmental issues in the NOPR while considering institutional influences on the roles of the stakeholders. In doing so, diverse socio-economic and complex political issues are addressed to inform the institutional design while appreciating incentives and disincentives of stakeholders as 'rational resource users.' The corollary is that the use of IAD framework and CPR theory in this research analyses environmental management as a contextual CPR project that is a responsibility of stakeholders because it offers direction on how to deal with the institutional embeddedness in managing environmental resources in the NOPR.

1.5 Research methodology

This research adopted a qualitative methodology to enable a naturalistic approach to the research phenomena, to develop a holistic picture and to report detailed aspects of the research participants (Creswell, 1998). This methodology enabled the researcher to embrace both constructive and interpretive perspectives in extracting knowledge that is generated by participants; for instance, based on their worldviews, experiences, and ideas of a research problem under investigation (Guba and Lincoln,

1982). This approach allowed the researcher to adopt an interpretivist view which fits well with the subjective characteristics of the research problem – attempting to answer the questions of how stakeholders can collaborate and what are the critical factors of stakeholders' collaboration? This supports the purpose of this research as it intends to understand the roles of research participants and how they interact in managing environmental issues.

Accordingly, this research was conducted through qualitative approaches – document analysis and semi-structured interviews, based on the following rationales: First, the theoretical and practical needs of this research were considered in selecting the qualitative research methods. Through stakeholders' analysis, qualitative approaches helped in identification of roles of people: what people do, know and think. Also, as this research involves the representation domain of various stakeholders, the findings from various sectors were synthesised to generate concrete recommendations, provide policy advice to decision-makers and draw comprehensive conclusions. Patton (1986) suggests that qualitative research is very useful for organisational and sector-based studies as it is in this case –i.e., government agencies, oil companies, and host communities.

Second, the qualitative research, as opposed to quantitative design (that particularly builds on statistical compartmentalisation), is adopted in this research to study human behaviour by taking the position that reality cannot be subsumed within numerical classifications (Webb et al., 1981). The qualitative design enabled the researcher to place emphasis on the validity of the holistic analysis and multiple meaning structures inferred from stakeholders, their views and perceptions by listening to what participant say regarding their roles in managing environmental issues in the NOPR.

Third, document analysis and semi-structured interview were used to allow triangulation as suggested by Jick (1979). Triangulation assumed that any bias inherent data sources, investigator, and methods would be neutralised when used in combination with other data sources, and to help understand that problem more completely (Creswell, 2003). Any 'flaws' in one individual research method may be counteracted by another method used in conjunction with it. For instance, the use of document analysis in this research alone may not reveal all vital issues (around existing environmental policies, socio-cultural issues, political challenges, and inter-organisational conflicts among stakeholders). Thus, interview data collected with document analysis complemented the findings, bolster exploratory understanding and provided a more holistic view of the research problem.

1.6 Research Scope

Environmental management, in general, refers to the management of natural resources as well as managing the 'output' from the natural resources use, e.g., deforestation, environmental degradation, erosion, pollution. Put differently, Ogbonnaya (2011) refers environmental management as man's application of scientific, technical and social knowledge and skill in managing all elements of the environment to ensure that environment is not stressed beyond its productive capacity at any given time. The World Bank (1991, p.2) defines environment as "*the natural and social conditions surrounding all mankind, and including future generations.*" Franks (1986) provides a more comprehensive view of the environment as the totality of natural and human surroundings and activities including; biophysical components and processes of the natural environment of land, water, and air, including all layers of the atmosphere.

The World Bank's definition of environment is adopted in this research because it embraces terms, which is vital to understand how environmental issues in the NOPR can be managed. By the concept of environmental management, the meaning of man's impact on the environment to ensure a sustainable environmental management is redefined (Afinotan and Ojakorotu, 2009). This research appreciates that a sound environmental management framework that supports the goal of sustainable environmental management should be conceptualised on the collaborative management of natural resources and their outputs.

1.7 Research contributions

The justification for this research rests in its theoretical and practical contributions. Theoretically, it contributes to the field of collaborative environmental management in the context of oil-producing regions. First, by suggesting an examination of environmental management issues from the context of the NOPR, this research contributes to informing the application of stakeholder analysis theory through an institutional analysis and development framework.

Second, this research adds to environmental management literature through the design and validation of a framework based on perspectives that have rarely been prominent and replaces the misinterpretation of environmental management view as an independent role of specific stakeholders: i.e., government or multinational oil companies or host communities. This framework informs research by applying stakeholder analysis, as it regards to their roles, to identify the drivers and barriers towards the application of stakeholders' collaboration framework in managing environmental issues in the NOPR. Third, this research contributes to the

environmental policy literature by drawing attention to the importance of developing appropriate environmental management policies that would be impactful and befitting to the NOPR.

The practical contributions of this research concern improvement to effective environmental management policy formulation and validation in the context of the NOPR. As environmental management domains are entwined with complex institutional bureaucracies, the identification of the social, cultural, economic and political issues, and an understanding of how to address these issues helps to achieve an effective environmental management framework in the NOPR. Also, as there is a paucity of empirical research to address these issues, this research not only investigated new areas but also informed literature for future environmental research in Nigeria. Though this research is contextual to Nigeria, it shares many features with oil-producing regions in the developing countries.

The findings of this research would be useful to environmental manager/consultants in Nigeria to avoid duplication of research resources and efforts and it as well prioritised the environmental issues that considered stakeholders' interests. Multinational oil companies can utilise this research finding to gain perspective of the environmental issues in the NOPR and the needs to optimise their investments and promotion of collaborative environmental management not only in Nigeria but also in other developing countries.

1.8 Thesis structure

Using four key objectives of this research as a guide, chapter 1 provides the background of this research. Chapter 2 reviewed environmental management issues

in the NOPR. Recommended practices for managing environmental issues are discussed in chapter 3. Chapter 4 provides theoretical analysis that underpins the research design. Chapter 5 discusses this research methodology. The structure of a framework for stakeholders' collaboration is presented in chapter 6 while chapter 7 discusses the framework validation. Chapter 8 provides overall research discussion, and chapter 9 concludes this research with some recommendations.

CHAPTER 2: REVIEW OF ENVIRONMENTAL MANAGEMENT ISSUES IN THE NOPR

2.0 Introduction

This chapter reviews extant literature on the management of environmental issues in the NOPR. It discusses the location of the NOPR in Nigeria and explores the industrial activities of oil companies as 'major actors' in contributing to the environmental issues in the region. It summarises the impacts of environmental issues in the region and concludes on the need for effective management of environmental issues in the NOPR. Overall, it lays the foundation for the understanding of the need to develop a framework to tackle the problem.

2.1 The Nigerian oil-producing region (NOPR)

The NOPR covers 20,000 square kilometres within 70,000 square kilometres of wetland in the South-South zone of Nigeria. This region is a home to thirty million people and forty different ethnic groups. It covers the third largest drainage basin in Africa comprising of four ecological zones: coastal barrier islands, freshwater swamps, lowland rainforests and mangrove swamp forests. The NOPR contains one of the highest concentrations of biodiversity on the planet with abundant fauna and flora, arable terrain that sustains a variety of crops and lumber of agricultural trees, and many species of freshwater fish than any region in the West Africa.

NOPR consists of nine states as shown on FIGURE 1, with more than 40 ethnic groups including Anan, Bini, Efik, Ibibio, Igbo, Ijaw, Itsekiri, Isoko, Urhobo, Ukwuani, and Kalabari, and these ethnic groups speak more than 250 dialects. NOPR

comprises a total of 185 local government areas settled in approximately, 13,000 communities. In total, there are more than 5,000 oil wells located in approximately 600 oil fields with more than 10, 000 km of an oil pipeline in NOPR (Ministry of Niger Delta Affairs (MNDA), 2009).

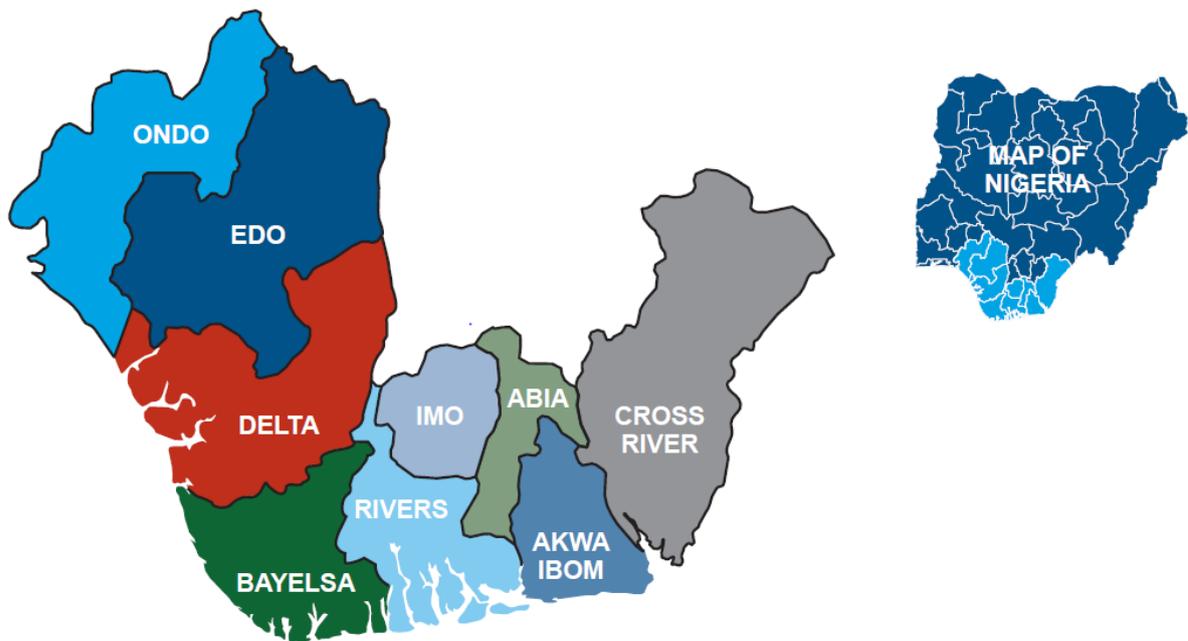


Figure 1: A map of the Nine States in Nigeria that made up the NOPR

(Adapted from the Nigeria Niger Delta Working Group, 2010)

1. Abia State, 2. Akwa-Ibom State, 3. Bayelsa State, 4. Cross-river State, 5. Delta State, 6. Edo State, 7. Imo State, 8. Ondo State, 9. Rivers State.

The discovery of oil in the NOPR since 1956 has marked the beginning of socio-economic and cultural deprivation because of increasing environmental degradation, oil pollution and destruction of their aquatic ecosystem. The impacts of oil exploitation and exploration have left the region to bear the blunt of environmental destruction due to the sheer negligence of the government and multinational oil companies (Ite et al., 2013). The case of oil discovery in the region is now the slogan of ‘*monkey dey work baboon dey chop*’; meaning that the Nigeria government and

multinational oil companies are enjoying the economic gain of oil resources at the expense of the environmental destruction of the NOPR (Middlebrooks et al., 1981). The NOPR is known as the source of the major economic anchor of the Nigerian government for more than six decades. Nigeria can stand high on her export in the world oil market as the world's sixth largest export and Africa's largest oil producer, credit to the NOPR – the mainstay of crude oil and gas reserves. It would be rational for anyone that compares NOPR of Nigeria to Calgary in Canada if the reality of 'developing country' status and 'developed country' status could be set aside. But unfortunately, the discovery of oil in the NOPR has done more damage than good to the region.

2.2 Extent of the environmental issues in Nigeria oil-producing region

Environmental issues in the NOPR have caused enormous damage to the human activity and the biophysical environment of the region. Some studies (e.g., Idemudia and Ite, 2006; Kadafa et al., 2012) have contributed towards an understanding of the major environmental issues in the NOPR. Kadafa et al. (2012) identified many environmental issues in the NOPR about oil exploration and production (E & P) such as depletion of biodiversity, coastal and riverbank erosion. Other environmental issues noted by Kadafa et al. includes flooding, oil spillage, gas flaring, sewage and wastewater pollution, land degradation, soil fertility loss, and deforestation.

2.2.1 Oil Spillages

This is one of the major environmental issues associated with oil production in the NOPR. Many studies (e.g., Vidal 2010; Ite et al., 2013; Kostianoy et al., 2014) have considered the causes, effects, and impacts of oil spillage in the NOPR. Vidal (2010)

suggests that the US Department of Petroleum Resources has estimated that out of a total of 2.4 million barrels of petroleum spilled in 4, 835 incidents between 1976 and 1996, more than 1.89 million barrels were spilled into the environment of the NOPR. National oil spill detection and response agency (NOSDRA) provided the statistics of the oil spill from 2006-2015 and oil spill during this period in NOPR was 4.34421 million spills. United Nation's Development Programme (UNDP) Report (2006) indicates that there has been a total of 6,817 oil spills between 1976 and 2001, which accounted for 69 percent of off-shore spillages with a quarter occurring on swamps and six percent on land. These reports have not considered the 'minor spills,' which Moffat and Linden (1995) argue that the true quantity of petroleum spilled into the environment could be equated to ten times of what literature suggests.

In similar research, Kostianoy et al. (2014) reported that between 9 and 13 million barrels of oil had been spilled in Niger Delta River in the region since drilling started in 1958. Kostianoy et al. argue that even though the Nigerian federal government has documented 6817 spills in the Niger delta river between 1976 to 2001, the real number may be ten times higher. Even with these reports, they added that little is still known about oil spills in the coastal region of Nigeria. Kostianoy et al. (2014) analysed the case of the Bonga oil spill in the NOPR that occurred on 20th December 2011. Kostianoy et al.'s findings note that apart from the contamination of the environments by the oil spills, the major impact of offshore spills causes a massive decline in local fish production in the NOPR. FIGURE 2 depicts the site of Shell's oil spill in the NOPR.



Figure 2: Shell Oil Spillage in NOPR

(Adapted, Etim, 2003)

Dennis and Udo-Inyang (2014) conducted the environmental evaluation review of polluted soils in the NOPR. They advocate that oil spillage has a strong impact on the poor growth of agricultural plants and creates elements that are toxic to plants. The findings from their study conducted with soil samples collected from 46 crude oil spilled sites concluded that oil spills could destroy the soil texture and render the soil infertile for cultivation. It ranges from the destruction of their fertile soil, clogging of sewages, damages of farmland to the destruction of the aquatic ecosystems.

2.2.2 Gas Flaring

Gas flaring is the burning of natural gas from the petroleum oil in flare stacks by upstream oil companies in oil fields during their industrial operations. Several researchers (e.g., Onyekonwu, 2008; Ubanil and Onyejekwe, 2013) noted that gas flaring constitutes and releases poisonous gases to the environments which

includes carbon monoxide, nitrogen (II) oxide and sulphides. Environmental Rights Action/Friends of the Earth Nigeria Report in Osuka & Roderick (2005) suggests that more gas is flared in NOPR than anywhere else in the world. Consequently, gas flaring in the NOPR contributed more greenhouse gases effects than any industrial gases across sub-Saharan Africa. Moreover, the impact of the toxins from the gas flares ranges from increased risk of, asthma, cancer and other respiratory related illnesses (Srebotnjak & Rotkin-Ellman 2014). Watts (2001) suggests that gas flares from the NOPR emits toxic substances which damages the health of people, causes acid rains, acidifies lakes and streams and cause extreme environmental impacts in the region.

Other environmental issues resulting from the industrial activities in the NOPR discussed by the UN Office for the Coordination of Humanitarian Affairs (UN OCHA Human Development Report 2007/2008) include biodiversity threats; desertification; coral reefs; freshwater cycle; global warming; habitat destruction; nitrogen cycle; land degradation; phosphorus cycle; ocean acidification and ozone depletion.

2.3 Impacts of Environmental issues in Nigeria oil-producing region

Previous studies (e.g., Eregha and Irughe, 2009; Baghebo et al., 2012; Kuenzer et al., 2014) have examined the extent of impacts of environmental issues on host communities of the NOPR. Kuenzer et al. (2014) reveal that the effects of industrial activities such as gas flaring, dredging of the canals, and destruction of the arable farmlands – have many significant impacts on the NOPR than daily environmental issues such as indiscriminate disposal of waste by the host communities. In addition, the industrial activities of oil companies have affected the socio-economic wellbeing

of the region including health issues, social unrest, insecurity, poverty as well as unemployment.

Eregha and Irughe (2009) examined the oil related environmental degradation and the emerging socio-economic multiplier effects on the people of the NOPR. They used tables and charts deducted from the National Bureau of Statistics and United Nations Development Programmes reports. Their finding suggests that socio-economic disorder in the NOPR results in economic multiplier effects such as poverty and unemployment. In addition, these multiplier effects can be minimised through an integrated community-based approach that requires practical commitments from the interest groups. Eregha and Irughe (2009) suggest that for this recommendation to work there is a need for a comprehensive understanding of the effects of the environmental issues on the indigenes of the region. Thus, it is imperative to understand the extent of environmental issues – for instance, the state of pollution in the region – to proffer solution.

Kuenzer et al. (2014) reported that NOPR has been rated as one of the worst polluted places in the world 2013. In their report, Kuenzer *et al.* overviewed the Niger Delta environmental threats and challenges from 1986 to 2013. In part, they provided an understanding of Niger Delta land surface dynamics by investigating the oil exploration activity based on gas flaring and oil access canal dredging. Their findings show that the mangrove area of the NOPR has decreased, but this finding does not reveal information on mangrove bio-diversity: health and vigour. In addition, Kuenzer et al. finding suggest that impacts of industrial activities are observable in following major areas. These includes an increase in erosion rates in all coastal states except in the Akwa Ibom state.

There has been an increase in the flare numbers which has doubled in the Rivers state from 1986/87 to 2002/2003 and rise in the salinization of soils and sea level from the coastal side. Kuenzer et al. (2014) predict that if these increasing effects of environmental issues continue without mitigation, the coastal and mangrove resources of the NOPR will be lost over time. Kuenzer *et al.* further suggest that a large variety of ecological, educational, political and technological measures need to be orchestrated to preserve the NOPR and its livelihoods.

Baghebo et al. (2012) investigates the impact of oil and gas exploration on the host communities of the NOPR. They noted that although the community might have benefited from the oil and gas exploration economically, the adverse socio-economic and health impacts have outweighed the benefits. Other negative impacts listed include the emergence of incurable carcinogenic, the collapse of fish production and loss of their arable farm lands. Baghebo et al. (2012) suggest that majority of the people from the host communities would still prefer that the multinational oil companies change the way they conduct their business about oil spill, gas flaring and dredging of canals.

2.4 Industrial activities of oil companies and their impacts in NOPR

The Nigeria economy may have depended on the production of petroleum and trading of crude oil; the truth is that the industrial activities of the oil production have caused severe degradation to the environment of the NOPR. Previous studies (e.g., Ogri, 2001; Eweje, 2006; Iteh et al., 2013) have examined the impacts of the industrial activities of multinational oil companies and their operations in the NOPR and

suggested that it is important to highlight environmental issues associated with oil production in the NOPR.

Iteh et al. (2013) suggest that effective understanding of oil production activities and the impacts on the NOPR is essential for developing a sustainable environmental management framework. Although there might have been other potential anthropogenic causes of environmental degradation in the NOPR before the era of oil exploration, their impacts, arguably, could not have matched the damages caused by the discharges from industrial activities of multinational oil companies. Some researchers (e.g., Karl and Gary, 2003; Ikejiaku, 2009) have argued that the damages could be intentional or unintentional through petroleum exploration and transportation.

However the intentions of multi-national oil companies might be to contribute toward economic well-being of the inhabitants of the NOPR, the consequences have disrupted lives and have continued to decimate the human and ecosystem population. The impacts of the environmental issues in the NOPR are inestimable, such that the people of the region have taken the route of agitation for restoration of their environment. There have been conflicts and aggression between the people of NOPR and the Nigerian federal government and between the people of the NOPR and multinational oil companies (Oviasuyi and Uwadiae, 2010).

The industrial activities in the region have threatened the extinction of clean air, land, and water species including animals and plants. The people of NOPR have lost their agricultural land and rivers. The dumping of toxic waste into the creeks and rivers in the region has rendered the lands into a state of infertility. Leakages and spillages from the crude oil pipelines have swamped many rivers, swamping crop land and

mangrove forests. The stench from the coasts had contaminated water and rendered them unhealthy for the human and sea creatures' consumption (Ite et al., 2013).

The historical perspective of oil production by the multinational oil companies in the NOPR dates back to 1908. Oil production has within the ten decades to date had many environmental impacts, the likes of which many researchers (e.g., Okorie, 2005; Eweje, 2006; Ite et al., 2013) have documented. Okorie (2005) examined the role of major multinational oil companies about impacts of their industrial activities to the environment of the NOPR. Okorie overviewed the historical factors that have contributed to the environmental degradation of NOPR. In doing so, he examined the environmental consequences of oil drilling and production, focusing on the role of major multinational oil companies: TotalFinaElf, Agip, ChevronTexaco, ExxonMobil, and Shell. Okorie (2005) suggests that the long-term effects of multinational industrial activities on the indigenes of NOPR and their habitat have contributed to environmental resource depletion, pollution, corruption, conflict, human rights violation, extreme poverty and stifling of socio-economic development.

Similarly, Eweje (2006) used an interview based on case study design to examine the issue of environmental costs and responsibilities resulting from oil exploitation in the NOPR. In part, Eweje examines the implications of current policies of multinational oil companies concerning the environmental impact of oil exploration and production. Eweje's findings suggest that it has become apparent to multinational oil companies that pollution prevention policies are not designed in ways it would have an effective impact on their industrial activities. Eweje (2006) advocated that the lack of impact of environmental policies result from the poor understanding of the comprehensive nature of industrial activities of the multinational oil companies in the

NOPR. These suggestions of the previous research point to the impacts of the multinational companies and their industrial activities: drilling, transportation and geological surveying.

2.4.1 Drilling

Oil drilling is the process by which connected metal pipes are used to bore through the earth surface and well is established to extract crude oil from the seabed to surface. This activity could be offshore or onshore. The pipes used for this activity may corrode or rupture in the process and contaminate the surrounding water body (Pelletier et al., 2014). In some cases, oil spills and waste water from the drills lead to the devastating environmental consequence that lasts for many decades. The chemicals from the drilling water have been noted to be toxic to sea animal and leads to the collapse of the entire marine ecosystem (Haack et al., 2000).

2.4.2 Transportation

The use of land and water means in transporting oil and gas products from the drilling site to the refineries and export deport has been a trending means of transporting oil products since oil discovery in the NOPR. In Nigeria, the transportation of crude oil started in February 1958 when the Royal Dutch Shell started transporting crude oil from Oloibiri and Afam in Niger Delta to Port Harcourt and Kaduna refineries (Haack, 2000). The surge in these crude oil products shipments poses environmental issues from accidents that occur at transshipment sites, and from pipelines, rail lines, and waterways. Although studies (e.g., Frittelli et al., 2014; Great Lakes Commission, 2014) have shown that, by comparison, some of these means of transportation have more environmental risks to NOPR than others, in general, they pose long lasting

environmental issues and impacts ranging from contamination of water bodies and ground from chemical wastes and pollution.

2.4.3 Geological survey

Jasney (2010) studies the huge environmental impacts of the industrial activities such as geological and geophysical, gravimetric, magnetic and seismic surveying. Dynamite, vibroseis and seismic surveys are the most common surveying methods. Seismic involves generation of up to 150 atmospheres of seismic waves in the bottom of the sea where the oil and gas are located in the sedimentary rocks. When the seismic surveys are conducted, the impacts result in the destruction of organs and tissues of fishes and other sea organisms (Jasney, 2010). The use of the geological surveying to identify potential oil field and the environmental impacts remain inestimable on ecosystems in the NOPR. In some cases, the noises from seismic generation interfere with sea animals' habitat (UNEP, 1997). The consequences of this activity are disruption of balance in the marine ecosystem since some organisms live in harsh environments. Iteh et al. (2013) summarised the industrial activities of multinational oil companies: exploration operations, development, and production, decommissioning and rehabilitation, transportation and distribution, in relation to the environmental impacts. They extended their research by providing the comprehensive analysis of the industrial activities related to the upstream and downstream petroleum operations in relation their environmental impact to NOPR as shown in TABLE 1.

Table 1: Industrial Activities of Oil Companies and Environments Environmental Impact (Adapted Ite et al, 2013)

Multinational Companies	Industrial Activities	Potential risks to NOPR environment	Environmental issues
Schlumberger Geoquest. First Fossil Shell(SNEPCO) Chevron Nigeria Limited	Exploration operations (Geological survey; Aerial survey; Seismic survey; Gravimetric and magnetic survey; Exploratory drilling; Appraisal	Noise pollution Habitat destruction and acoustic emission Drilling discharges, e.g., drilling fluids (water based and oil based muds) and drill cuttings Atmospheric emission Accidental spills/ blowout; Solid waste disposal	Ecosystem devastation and interference with land use to access onshore sites and marines resource areas; environmental pollution (air, soil and controlled water) and safety problems associated with the use of explosives; land pollution which affects plants and poses human health risks; Groundwater contamination and effects on ecological biodiversity.
Shell(SNEPCO) Shell (SPDC) Agip Oil Company Mobil Production Nigeria Unlimited Total exploration and Production Nigeria. Chevron Nigeria Limited. Addax petroleum exploration, Conoco petroleum Elf Petroleum Nigeria.	Development and production • Development drilling • Processing: separation and treatment • Initial storage	a. Discharges of effluents (solids, liquids, and gases) b. Operation discharges c. Atmospheric emission d. Accidental oil spills e. Deck drainage f. Sanitary waste disposal g. Noise pollution h. Transportation problems i. Socio-economic/ cultural issues	Ecosystem destruction and interference; contamination of soils and sediments with petroleum-derived wastes; atmospheric emissions from fuel combustion and gas flaring/venting; environmental pollution (air, soil and sediments, controlled waters) and groundwater contamination; ecological problems in the host communities, adverse human health risks; safety related risks and interference with Socio-cultural systems.
Pan ocean oil corporation Nigeria Saipem Eni group Conoil Schlumberger	Decommissioning and rehabilitation • Well plugging • Removal of installations and equipment • Site restoration	Physical closure/removal b. Petroleum-contaminated waste disposal c. Leave in situ (partial or total) d. Dumping at sea	Environmental pollution and human safety; pollution related to onshore and offshore operations; a hazard to other human activities such like fishing and navigation; marine pollution, fishing and navigation hazards
Port-Harcourt refinery Kaduna refinery and Petrochemicals Eleme Petrochemicals; Warri refinery and petrochemicals.	Refining of petroleum products	. Atmospheric emissions and air pollution b. Discharges of petroleum-derived wastes	Atmospheric emissions and air pollution; oil spillages; water effluents and production Discharges.
Shell(SPDC) Red transport limited Gulf link limited SBM services Chevy marine	Transportation and distribution • Pipelines • Barges, ships, tankers FPSOs • Road tankers and trucks	a. Emissions and accidental discharges b. Discharges from transporting vessels, e.g., ballast, bilge and cleaning waters	Air emissions (hydrocarbons from loading racks and oil spills); accidental discharges and operational failures; disposal of sanitary wastes; contamination of soils and sediments
Shell Production development company, Total Nigeria Plc. Texaco Nigeria Plc., Mobil oil Nigeria Plc, Oando oil Plc.	Marketing operations • Product importation • Storage	Operational discharges b. Wastes disposal	Spillage; contamination of soils and sediments; emission of organic contaminants and environmental pollution

Their findings suggested that there are various industrial activities that take place which involves the destruction of land and forest environment. These include site clearance, the building of an accessible road to drilling sites and pipelines (Iteh et al., 2013). The industrial activities and their environmental impacts in the NOPR is summarised in TABLE 1 above.

2.5 Management of environmental issues in Nigeria oil-producing region

Previous studies (Meyer, 1994; Parker and Khare, 2006; Ejibunu, 2007; Obi, 2009; Udoekanem, 2013) have looked into the roles of government agencies and host communities in managing the environmental issues in the NOPR. For instance, a systematic review of the roles of stakeholders by Obi (2009) suggests that the complex drivers of the violent oil-related conflict between the host communities and oil companies should be addressed by ways of a collaborative approach between the major actors – i.e., Nigerian federal government agencies, Host communities and the multi-national oil companies.

The Nigerian Federal Ministry of Environment acts as a supreme authority in Nigeria charged with the responsibility of ensuring a clean environment in Nigeria. In part, this body was established to regulate the activities of industries (mining, exploring, and manufacturing). The ministry is mandated to enforce the Nigeria Environmental Compliance Monitoring (ECM) and Post Impact Assessment Studies (PIA). In executing their functions, Federal Ministry of Environment (FMENV) collaborates with other relevant agencies which include: National Oil Spill Detection and Response Agency (NOSDRA), Nigerian Maritime Administration and Safety Agency (NIMASA) and the National Environmental Standards and Regulations Enforcement Agency (NESREA).

Table 2: Environmental Management Agency Mandates

Agencies	Mandates/functions
Niger Delta Development Commission (NDDC)	<p>Established in the year 2000 with the mission to provide sustainable, economic prosperity, social stability, ecological regeneration and political peace to the development of the Niger delta. Its mandates are: -</p> <ul style="list-style-type: none"> Formulation of policies and guidelines for the development of the Niger delta. Surveillance of the Niger delta in order to ascertain necessary measures to promote its physical and socio-economic development. Designing and preparation of master plan and scheme to help promote the physical development of the Niger delta. Implementation of all the approved measures by the federal government and the states of the commission for the development of the Niger delta. Establishment, planning, and implementation of rules and regulations for sustainable projects (e.g., transportation, health, employment, industrialization, agriculture, fishery) development in the Niger delta region. Identify factors that hinder the development of the Niger delta region and assist member states in formulating and implementation of policies to foster efficient management of resources in the region. Assessing and reporting on projects been funded by oil and gas companies or any other company which included NGO, s, as well as ensuring that funds released for projects within the region is appropriately utilized. Tackling of ecological and environmental problems that arise as a result of oil exploration by the oil and gas companies within the region, as well as advising the Federal government of Nigeria and its member states on the prevention and control of gas flaring, oil spillage and all environmental pollution. Liaising with the oil and gas companies within the region on all matters pertaining environmental pollution prevention and control. Executing and performing all works which are required of them for sustainable development in the Niger delta and its people.
Ministry of Niger delta Affairs	<ul style="list-style-type: none"> Liaising with oil and gas companies operating within to region to ensure environmental management to help combat environmental pollution. Submission of periodic report to Mr. President concerning all matters of the Niger delta region. Ensuring peace, stability, and security to help boost economic growth within the region. Organizing human capacity programmes like skill acquisition for the youths of the region. Involvement of sectors (public, private, etc.) for the development of the region. Liaise with both state and non-state actors for the development of the region.

	<p>Design and coordinate policies for environmental management in the Niger delta region.</p> <p>Liaising with host community to prosper the development of the region</p>
<p>National oil spill detection and response agency (NOSDRA)</p>	<p>Initiated by the Ministry of Environment and established in the year 2004.</p> <p>Objectives and functions are: -</p> <p>Establishment of a workable national operational organisation that ensures a timely and effective response to major disastrous oil pollution.</p> <p>Identifying high risk areas and making them a priority area for clean-up and protection.</p> <p>Establish a mechanism to monitor and assist lives in the affected area, protect the threatened environment and clean up to the best practical extent of oil polluted site.</p> <p>Maximising the effective use of available resources and facilities of oil spill co-operative (Clean Niger Association) in the implementation of appropriate spill response.</p> <p>Ensuring appropriate funding of sufficient pollution combating equipment, as well as a functional communication network system needed for effective response to major oil pollution.</p> <p>Provide an active programme and training on drill exercise of management and operational personnel to ensure readiness and preparedness to oil pollution.</p> <p>Co-operate and provide technical support, equipment, and advisory services to neighbouring West African sub-region upon request particularly where Nigerian territory may be threatened.</p> <p>Responsible for the surveillance and ensure that all existing environmental legislation and detection of the oil spill is complied with by the petroleum sector. Etc.</p>
<p>National environmental standards and regulations enforcement agency(NESREA)</p>	<p>Responsible for the protecting and development of the environment, biodiversity, conservation and provision of sustainable development of Nigeria's natural resources in general and environmental technology which includes coordination, liaising with relevant stakeholders within and outside Nigeria on the matters of enforcing environmental standards, regulations, laws, rules, policies, and guidelines.</p> <p>Conduct environmental audit and establishment of a data bank on regulations and enforcement mechanism of environmental standards other than in the oil and gas sector.</p>

Collaboratively, FMENV works with these agencies in ensuring that oil companies and other industries comply with the required environmental standards of Nigeria. Other objectives of this ministry that are integrated to their mission include; reviewing and assessment of oil spill emergency contingency plans; verification and monitoring of oil and gas facilities, assessment of the extent and intensity of environmental damages, etc. TABLE 2 summarises roles of government agencies that manage environmental issues in the NOPR.

2.6 Summary

The outcome of the discussion in this section forms the background for the need to design and validate ‘a new environmental management framework’ in the NOPR. It has provided an indication of the nature of environmental issues – causes and effects/impacts. The studies reviewed in this section have shown that industrial activities of the multinational oil companies have caused severe environmental issues in the NOPR and sources of their livelihoods. The industrial activities of oil production by multinational oil companies have led to massive destruction of land resources, wild and marine ecosystems. The consequences of these environmental impacts include both socio-economic issues. The effort by the government agencies in tackling these impacts was revealed to be hampered by lack of collaboration among the key stakeholders and inadequate resource to achieve effective implementation. Next chapter provides the review of the global environment management practices that may apply to tackle these challenges.

CHAPTER 3: RECOMMENDATIONS FOR COLLABORATIVE ENVIRONMENTAL MANAGEMENT

3.0 Introduction

The overall aim of this chapter is to provide a review of recommended global practices for stakeholders' collaboration in managing environmental issues in oil producing regions. This chapter provides some essential guidance on how the recommendations would be applied to develop a stakeholders' collaboration for effective management of environmental issues in the NOPR.

The knowledge provided in this chapter contributes to meeting the first objective of this research by identifying global environmental management practices and frameworks that have been used among oil producing regions. See appendix 1 for a list of some of the selected documents reviewed. It is important in this research to understand how other environmental management frameworks work in other parts of the world: their contexts, whom for and their constraints and challenges of implementation.

3.1 Recommended practices for environmental management

Environmental management practices are the responsibility of the affected stakeholders to implement as required through legislation. Some practices require a set of subordinate regulations and guidelines. UNEP (1997) suggests that in some situations, practical environmental regulation may be further refined to fit into a framework of standards and consensus based on major attributes: goal setting, negotiated consensus on practices, quantitative controls on prescribed practices. UNEP suggests that having a consensus for the implementation of environmental practices provides a definitive control on planning, development, and operations.

The integration of these conditions underpins the basis of a practical environmental management framework. In other words, the culmination of these conditions is increasingly based on the results of a formal environmental impact assessment (EIA). UNEP (1997) recommends typical factors required for effective application of environmental legislation across international regions and cases. The factors include; appropriate guidelines, national laws, protocol, monitoring regulations and performance reporting, the procedure for decisions, defined responsibilities and appropriate liabilities in relation to legislation, enforceable standards for environmental operations, appropriate political will for sanctions and enforcement, and adequately funded and motivated environmental enforcement authorities.

For a proper analysis of these factors in this research, they are consolidated into key factors: appropriate guidelines and national laws; protocol and procedure for decisions; monitoring regulations and performance reporting; enforcement; and defined responsibilities and appropriate liabilities in relation to legislation. Organisations should consider the procedure for decisions and identify responsible stakeholders liable for the enforcement of environmental policies. Without appropriate political will for these management systems as well as adequately funded enforcement authorities, the implementation might not be successful.

3.1.1 Environmental management best practices

Roe and Tinney (2002, p.17) explain best practice simply as 'the best way of doing things.' Best practice in environmental management demands a continuing, integrated process through all phases from understanding the environmental issues and impact to the exploration of environmental management approaches and frameworks. It requires careful planning and holistic commitments from all interest groups in managing environmental issues. Since the UNCED 'Earth Summit' in 1992 there have been many environmental management conventions enacted to be implemented

through international and regional legislations. Some of the important international environmental conventions are summarised in TABLE 3.

Table 3: Environmental Management Conventions and Mandates

Environmental Management Conventions	Contents and mandates
Montreal Protocol of the Vienna Convention:	International treaty for the protection of ozone layer. It contained 46 signatories and was effective from 1 January 1989.
Basel Convention	An international treaty designed and signed on 22 March 1989 to reduce the movement of hazardous waste between nations and to prevent the transfer of hazardous waste from developed to less developed countries.
Convention on Migratory Species	Intergovernmental treaty under United Nations Environment Programme which aims to conserve terrestrial, marine and avian migratory species, to conserve wildlife and habitats on a global scale.
Framework Convention on Climate Change	The United Nations framework signed in 9 May 1992 and was effective from 21 March 1994. An international treaty which aims to stabilise atmospheric greenhouse gas to prevent dangerous anthropogenic interference with the climate system.
Biodiversity Convention	Multilateral treaty signed on 5 June 1992 at Rio de Janeiro with 168 signatories and 194 parties. It became effective from 19 December 1993 with three main goals: biodiversity conservation, sustainable biodiversity components and equity in sharing genetic resources benefits.
United Nations Law of the Sea:	The International agreement which aims to establish guidelines for businesses and management of the environment and natural resources.
International Convention on Oil Pollution Preparedness, Response, and Co-operation (OPRC)	International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) in July 1989 a conference was held in Paris called upon IMO to develop further measures to prevent pollution and pollution incidents
Marine Pollution (MARPOL):	The International convention aims to prevent pollution from ships, dumping, and oil and exhaust pollution.

Several studies (e.g., UNEP, 1997; Hitchen et al., 1999; Roe and Tinney, 2002) suggest some important international environmental management practices which, in principle, form the basis of a regional and collaborative framework. It is important to

understand the environmental issues from both the international, national and regional perspectives.

Hitchen et al. (1999) suggest the need for analysing the environmental practice of companies. They presented recommended global approaches in environmental management from Brazil, Japan, the USA and seven European countries. The best practices were based on experts' suggestions from many years of practical experiences and know-how on how to achieve excellent and cost-effective environmental performance. In addition, they emphasized that those international best practices competitiveness depends on the effective use of innovative environmental management tools. For the recommended practices to be effective and promote innovation and eco-efficiency, they have to be supported by an intelligent system of environmental regulation.

Christmann (2000) draws on the resource-based view of companies to analyse whether complementary assets are required to gain cost-effective advantage from implementing 'recommended environmental management practices.' Based on survey data of 88 chemical companies, Christmann's research results indicates that capabilities for companies' industrial activity innovation and best practices implementation are significant factors in determining companies' environmental management performance. The findings suggest these factors are complementary assets that moderate the relationship between best practices and cost advantage.

These suggestions from Hitchen et al. (1999) and Christmann (2000) that effective implementation of recommended environmental management practices depends on the 'appropriate environmental regulations, policies and innovative industrial activities and principles. Hence it is important to review and understand the existing international environmental management systems and standards

3.1.2 Environmental management standards

UNEP (1997) suggests that understanding the environmental practices from the perspectives suggested above provides ideally a complementary approach to achieve sustainable and cost-effective approach. UNEP (1997) noted that recommended practices should be designed to integrate:

- 1) Environmental issues into multinational oil companies' business decision through use of formal environmental management systems (e.g., ISO 9000 and ISO 14000 series),
- 2) Multinational oil companies, contractor partnerships, and joint ventures with other interest groups and stakeholders such as government agencies and host communities,
- 3) Environmental management of health and safety systems (HSE-MS) into single programme,
- 4) Evaluation of benefit/cost/risk alternatives to promote environmental values and to minimise resource inputs, and
- 5) Opportunities for innovation and continual improvement on the effective practices.

There are recommended International Organisation for Standardization (ISO) which include ISO 9000 and ISO 14000 series and other various key national and international key standards which provide environmental management systems models that can be used by companies and government agencies. These series consist of a broad range of environmental management disciplines that include:

- 1) Basic management system (ISO 14001)
- 2) Auditing (ISO 14010)
- 3) Performance evaluation and labelling (ISO 14020 and ISO 14024)
- 4) Others: Life cycle analysis and product standards.

3.1.3 Model of Health, Safety, and Environmental Management System

There is increasing recognition by organisations that environment is a management issue. WRAP (2013) advocates the setting up of an Environmental management system (EMS) to provide organisations with a framework through which environmental management performance could be improved. EMS can be used to define environmental responsibilities for all stakeholders, helping them to understand the environmental impact of their actions and industrial activities. WRAP recommends three strategies available to organisations for implementing EMS:

- 1) Organisation-based/in-house EMS;
- 2) International standards (e.g., HSE-EMS, ISO 14001, the EU Eco- Management and Audit Scheme (EMAS), the British Standard BS 8555)
- 3) ISO 14001 certification or EMAS registration.

These strategies, WRAP noted, are voluntary while they all differ in both approach and scope. It is left for organisations to decide on what is right for their organisation. Model of Health, Safety and Environmental Management System (HSE-MS) is one of the systematic approaches that have been employed by various industries to managing their industries' impact on the environment. Although application and implementation of HSE-MS are voluntary, it has been recommended that organisation with HSE-MS has an explicit commitment to improving environmental management. This model is based on the concept of the structured framework of 'best' practices and procedures that enable environmental management interest groups to operate in a sustainable manner.

UNEP (1997) argues that policy inputs and commitment of the interest groups alone cannot provide assurance that effective environmental management will be effective in a given context. Thus, the environmental management system is designed to be

context dependent, not people dependent. While considering the contextual structure prior to application of the HSE-MS, UNEP suggests the need to integrate appropriate components of the environmental standards listed in 3.1.2 above. In addition, HSE-MS suggests that it is important to extend to other components which consist of seven key elements as shown in FIGURE 3. Senior management of the environmental management interest groups and stakeholders of the oil companies should be committed to achieving the goals and priorities in relation to environmental performance. They should ensure that necessary resources required for development, operation and maintenance of the HSE-MS model are provided.

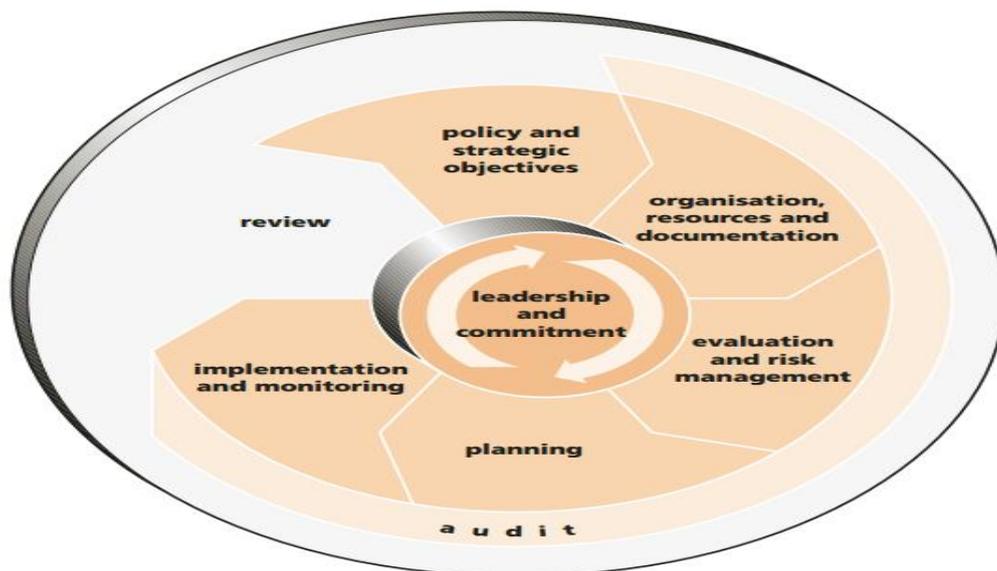


Figure 3: Model of Health, Safety and Environment Management System (HSE-MS)

(Adapted from E and P Forum, 1994).

E and P Forum (1994) recommends key attributes of management commitment: allocation of necessary resources, effective communication in relation to objectives and policies, ensuring collaborative and participatory action, motivation, accountable and responsible delegation. In summary E and P Forum (1994) emphasises that the importance of other key elements of the HSE-MS is based on their key attributes. TABLE 4 below is summarised by categorising the key elements of HSE-ME with

relation to their respective attributes. TABLE 4 shows that it is vital for the organisational structures of working on environmental management to be clearly defined from their roles, responsibilities, authorities, and relationships.

Table 4: Key elements of HSE-MS

HSE-MS Key Elements	Attributes/Principles
Leadership and Commitment	Allocation of necessary resources, effective communication in relation to objectives and policies, ensuring collaborative and participatory action, motivation, accountable and responsible delegation.
Policy and Strategic Objectives	Policy, plans and Management; objectives, targets, and performance; Issues: global, national and local; Legislation, consents and compliance; Operational procedures; environmental issues (pollution, oil spillages, flaring, flooding) prevention, chemical regulations and usages; waste controls, contingency and emergency response; and reporting.
Risk evaluation and management	Description of project, hazard identification, identification of consequences, the magnitude of consequences, the probability of consequences and risk management.
Environmental Impact analysis	Identify legislation; describe environmental baseline, identify sensitive environments, incorporate risk assessment, identify project effects, quantify impacts, evaluate alternative, select best practicable environmental options (BPEO), investigate mitigation, evaluate residual impact, establish standards, targets, operational procedures and other plans, develop basis for contingency planning, management plan recommendation, consultation, monitoring, review and audit, recommend basis for documentation and training.
Environmental Planning	Preparation of environmental profile, conduct impact assessment, evaluate risk, integrate environment with design, prepare project environmental plans, formulate compliance programmes, establish monitoring programmes and specify contractors' obligations
Monitoring Objectives	Verify effectiveness of planning decision, measure effectiveness of operational procedures, confirm statutory and corporate compliance and identify unexpected changes
Audit	Line management system, awareness, and training, procedures, standards and targets, Plans: waste, contingency, pollution control, compliance; monitoring programmes; verify EIA, verify mitigation, reporting and communication, documentation and feedback.

Application of the standards recommended in TABLE 4 is defined by their effects on minimising the impacts of environmental issues. The effectiveness of these standards as good practices can be measured by the application of a most appropriate combination of these environmental management measures for managing environmental issues (UNEP,1997).

In recent years the application of these practices has evolved into various environmental management approaches and designs. However, their application to achieve effective environmental management is dependent on how they are contextualised in relation to the roles of the stakeholders and potential constraints in implementing them. For instance, UNEP (1997) suggests that there is a need for appropriate guidelines on how these practices would be implemented into the existing national environmental management laws and legislations. In addition, the organisation should consider the procedure for decisions and identify responsible stakeholders liable to enforcement of environmental policies. Without appropriate political will for these management systems as well as adequately funded enforcement authorities, the implementation might not be successful. Thus, it is important to look into how these practices have been used in various contexts and perspectives.

3.2 Integrated environmental management approach

The 7th European Environmental Action Programme designed to guide European environment policy until 2020 suggests that Integrated Environmental Management (IEM) is the coordinated control, direction or influence of all human activities in a defined environmental system to achieve and balance the broadest range of short term and long term objectives (DECISION No 1386/2013/EU, 2013).

The priority objectives of IEM include to: safeguard the Union's citizen from environmental related pressures and risk to health and wellbeing; maximize the benefits of Union environment legislation by improving implementation; improve the knowledge and evidence base for Union environment policy; secure investment for environment and climate policy and address environmental externalities; increase the union's effectiveness in addressing international environmental and climate-related challenges; enhance the sustainability of the union's cities; protect, conserve and enhance the union's natural capital; and turn the union into a resource-efficient, green and competitive low-carbon economy.

These objectives were summarised on the basis to break down the barriers between various stakeholders' and to view environmental management in its totality, as suggested by Barret (1994). Cairns and Crawford (1991) agree with Barret (1994) and suggest that goals of integrating various measures (pollution prevention and creating of environmental amenities) should be key environmental policy objectives agreed-on by all stakeholders.

Addressing the environmental issues in the society as a whole, IEM goes beyond general scientific and technological concerns of the environment to tackle 'complex resource-based management issues.' The IEM's 'must have element' which include interactive and holistic, coordination and multi-sectoral elements requires the use of environmental resources based on the need to consider the available priorities and transform these priorities into policies and goal (The EC-European Union, 2007). When priorities are effectively integrated, they form the basis for the participatory environmental management approach (Newig and Fritsch, 2009).

3.3 Participatory environmental management approach

Many environmental issues (discussed in Chapter 2) in the NOPR are riddled with varying levels of complexity and uncertainty related issues. The question of what characteristics of the environmental management approaches can be synthesised to provide priorities in resolving the complex environmental issues need to be answered. To provide a comprehensive answer to this question, to some extent, researchers (e.g., Kapoor, 2001, Alba et al., 2010) suggested a pivotal question of what environmental management approaches would be applicable in the management of environmental issues of the developing countries? In answering this question, the following issues should be considered:

- 1) What are the benefits of using a chosen environmental management approach?
- 2) How can the approach be implemented in complex cultural, political and socio-economic and multicultural setting like NOPR to realise the potential benefits?

Attempts have been made to answer these questions by outlining features of participatory environmental management which have been suggested by some researchers (e.g., Kapoor, 2001; Newig and Fritsch, 2009; Von Korff, 2012) as an approach with decentralised, community oriented and holistic in its view of the environmental management. Participatory management approach devolves environmental management decision making processes and policy formulation to greater stakeholders and institutional authorities (Pahl-Wostl et al., 2008). This approach allows greater stakeholder consultations in the decision making process regarding implementation of environmental management programmes and objectives (Newig and Fritsch, 2009). Arnstein (1969) describes eight key steps of participation management as follows: citizen control, delegated power, partnership, placation, consultation, informing, therapy, and manipulation.

Ladder Levels	Levels of Participation	Degrees of Participation
8	Citizen Control	Citizen's power
7	Delegated Power	
6	Partnership	Tokenism
5	Placation	
4	Consultation	
3	Informing	Non-participation
2	Therapy	
1	Manipulation	

Figure 4: Arnsteins Ladder of Citizen Engagement

(Arnstein 1969)

The Arnstein's (1969) analysis of the 8 eight levels of participation suggests that participatory management tends to increase the stakeholders' degree of control if they were 'empowered enough.' This suggestion is contributory to this research argument that collaborative participation is required for effective management of environmental problems in NOPR. Hence, there is need to explore further on concepts of co-management participatory management on which its concept is based on cooperative and community-based management.

3.3.1 Co-Management participatory approach

This is a form of a participatory management approach where the responsibilities of managing environmental resources and their management outcomes are devolved with the local community and external agencies (Townsend and Pooley, 1995). Since no single property and resource-right might be sufficient to guarantee the sustainable environmental management, it behoves the resource users to participate

collaboratively in the decision making process. Co-management approach focuses on the interest groups that appreciate wholesomely the self-governed system and their roles in resource management. This approach allows the resource users and interest groups to develop a dynamic partnership based on the capacities and interests of both the resource users and government agencies. This provides an essential answer to the key question of how can environmental interest groups agree with a common goal to improve the effectiveness of environmental management (Beierle, 1998).

The Aarhus Convention, which has been applied to the region of Europe, promotes environmental governance through its focus on the need for collective interests' participation in environmental issues and their access to environmental information held by government and its public agencies (United Nations Economic Commission for Europe, 2001). This Convention also emphasised that collaborative participation of the interest groups in the form of 'co-management' provides explicit linkages between human rights and environmental rights (Jeffery, 2005). Though this co-management form of participatory management is widely mainstream environmental management approach, it is influenced by varying factors: beliefs, experiences, observations, and perceptions, of the interests' groups (Plummer and Armitage, 2007). These factors undermine the cultural and traditional practices of the socio-political institutions that manage environmental resources. However, the strength of co-management approach to environmental issues lies in its adaptability to other influences: population changes, education, urbanisation and modern economic development, which dictates institutional goals (Berkes, 2009). Plummer and Armitage (2007) suggest that instead of focusing on the formals structure of co-management and its impact on issues that influence institutional goal, one can relate its attributes to power sharing and knowledge generation through collaborative social learning as a result, rather than the starting point of co-management.

3.3.2 Social learning approach to environmental management

Berkes et al. (2007) highlight that knowledge generation and social learning that resulted from knowledge partnership are the keys to the examination of the dynamics of co-management. Different institutions have comparative advantages in the generation of different knowledge and world views on the management of environmental issues. The task is particularly difficult in co-management involving indigenous people (the case of NOPR in this research) whose knowledge of environmental management is based on the socio-cultural impact of the environment in their lives. The case of NOPR, like in every other developing country, is the issue of differing world views which could be a huge task in the implementation of co-management (Wilson *et al.*, 2006). When the knowledge of institutions is teased apart, a diversity of their roles become apparent which give rise to 'ineffectiveness' of partnering stakeholders by functions.

Recent years have witnessed environmental management as an integral part of our daily lives. This development appears to be attributed to present era of industrial revolution. Industries have begun to move close to their environment that they see the connections between social and the natural environment. Keen et al. (2005:4) suggests that social learning is the collective action and reflection that occurs among environmental interest groups as they work to improve the management of human activities and environmental interrelations.

Keen et al. (2005) suggest that social learning approach to environmental management should go beyond current integrative, participatory and adaptive approaches. They emphasised that designing environmental management strategies based on these approaches could be hampered by traditional disciplinary or managerial enclaves or action of old social arrangements that created the environmental problems initially. Keen et al. (2005) suggest five strands of social

learning that appears to be crucial to environmental management. The strands are a reflection, systems orientation, integration, negotiation, and participation. They suggest that vertical and horizontal integrations of these strands are relevant to the design of an effective environment management which requires attributes of links between people, roles, and relationships. These suggestions underpin the need for this research and imperative of incorporating the attributes of social learning in designing environmental management framework.

In some cases, as the Centre for International Forestry Research – Colfer & Prabhu (2008) suggests, some stakeholders may confer resilience which is particularly important in the case of developing countries in which co-management evolves in an environment of weak institutions. For instance, in Indonesia, the adaptive collaborative management has been facilitated by the CIFOR since the 1990s. CIFOR designed collaborative tactics to deal with uncertain and weak institutional setting in Indonesia.

Moreover, Berkes et al. (2007) suggest that diagnostics is one promising area for co-management practice and research, and requires carefully conducted case studies across different resource types and geographic areas. Given that no one of set variable could produce ‘the best’ environmental co-management, other useful approaches, though not a comprehensive list, summarised by Berkes (2009) in TABLE 5 below could be used to produce ‘diagnostic’ questions that may be adapted to the context of a given case – NOPR.

Adhering to this suggestion, it is vital to the requirement and structure of this research that requires longitudinal design to understand the process of collaborative knowledge creation and learning in environmental management.

Table 5: Strategies that facilitate co-management (Adapted from Berkes, 2009)

Strategies that have been used to facilitate/improve co-management	References
Bridging knowledge: This involves the collaboration of multiple knowledge systems that would enhance environmental decision-making. This system would promote partnership by combining capacities, knowledge, and skills of different interest groups at different levels.	Eamer, 2006; Reid et al., 2006; Berkes, 2008
Co-production of knowledge: This strategy posits that researchers and environmentalists that work with place-based learning communities can co-produce complementary local knowledge of environmental management that neither interest group can produce alone. It relies on collaborative observation, adaptation, and validation of changing environmental issues to produce a dynamic result.	Davidson-Hunt & O'Flaherty, 2007; Berkes, 2008.
Cooperation building tactic: This strategy can be applicable in weak institutional setting, NOPR as an instance. It requires the interest groups to ensure: (1) constant physical presence, (2) constant meeting with decision-makers, (3) environmental management programmes for different interest groups are maintained, and (4) hyper-flexibility in schedules/resource allocation.	Wollenberg <i>et al.</i> , 2007; Colfer & Prabhu, 2008
Participatory research: The inclusion of the indigenous communities as equal partners with the interest groups in the environmental problem solving has the potential to enhance capacity building. This strategy of research fosters the ability of interest groups perspectives in designing environmental management strategies.	Arnold and Fernandez-Gimenez, 2007
Collaborative monitoring: Environmental monitoring as an environmental management strategy can help decide how, where and what is to be monitored. It reduces the difficult by discovering what to monitor and what can enhance the range of information available.	Kofinas, 2002; Mutimukuru et al., 2006
Participatory scenario building: This is similar to collaborative monitoring. It extends to incorporate scenario building such as joint deliberation and assumptions made by different perspectives of what is known and what is not known.	Bennett & Zurek, 2006; Kok et al., 2007
Fair/democratic distribution of power: To foster fair distribution of power, local elite tends to capture newly devolve power resulting from co-management arrangement and decentralisation. It makes policy challenges of environmental management work through various measures but not decentralisation per se.	Be'ne' and Neiland, 2004, 2006
Downward accountability: This enhances successful co-management. Setting up this mechanism is very important to agency's responsibility to user groups, and co-management of agency's responsibility to the governmental agencies, ministries and interests groups.	Be'ne' and Neiland, 2004,

Clark (2001) emphasis that more research need to be conducted that would consider the diagnostic element of co-management to understand the roles of stakeholders, what makes them work, essential practices to be codified and shared, and diversity of

ways to communicate to different actors and interest groups. In doing so, Frost and Bond (2008) notes that where co-management might be going next includes more detail analysis of trade-offs to produce the best environmental management incentives for interest groups to engage in co-management.

There is need to provide a critical and better understanding of the conditions on how co-management characteristics could be transformed from one case to another. This inspires Armittage et al. (2008)'s question: how do the cases that have successfully implemented co-management proceed from instrumental learning to double-loop learning? Does it require a shift in perspective? In answering these questions, Armittage et al. (2008) suggest that some management arrangements could proceed by widening the scope of the problem; first, from relatively small issues to large and second, from large to more complex ones. Applying this in the context of NOPR, co-management arrangement needs to start-off by tackling small environmental problems, proceed through to successive cycle. Then by elaborating and reiterating knowledge base of 'what worked and what did not work' while building trust and learning among the interest groups, then proceed to the complex environmental problems. However, the co-management approach might be applied, but not without implication, Kooinan et al. (2005) cautioned.

Environmental management design should be flexible with multi-level governance systems, to enhance institutional interaction and experimentation during the brooding stage of tackling small environmental problems. Ostrom (2007) notes that there is no single blueprint or panacea for co-management design except experimentation which provides the capacity to address environmental problems, learn from experience, reflect on priorities and self-organise as necessary.

3.4 Application of participatory environmental management

Though there was criticism of the mainstream participatory management in the 1960s, there has been increasing application of this approach in managing environmental issues both locally (problems of air and water pollution, deforestation, and erosion) and globally (problems of acid rain, climate change, global warming and ozone depletion) (Kapoor, 2001, Fraser et al., 2006). For instance, studies (e.g., Guha, 1989 and Taylor, 1995) cited the cases of forestry movement in Indian Chipko, Green Belt Movement in Kenya, as well as Western European's green parties. These cases were motivated by the inability of the states to provide or protect the environment required for the survival of the interest groups. In addition, Wells and Brandon (1992) suggest that inadequate incentive for interest groups to buy into the environmental management projects is one of their major motivations.

In contrast to the view that participatory approach involving the local communities and community-based practices cannot engage in 'rational' environmental management, several studies (e.g. Perry and Dixon, 1986; Guha, 1989; Alcorn, 1993; Phuthego and Chanda, 2004; Twyman et al., 2001; Fraser et al., 2006) have upheld that these participatory practices as sustainable. For example, traditional community forestry, a practice involving communal labour in planting and maintaining trees, enabling the members of the community to access forest resources in compliance with their socio-religious system and rules.

Participatory environmental management has been shown to be a more successful system of reforestation than modern mechanised reforestation schemes (Guha, 1989, p.180). The Agenda 21 of United Nations Conference on Environment and Development (UNCED) emphasised the importance of the participatory approach to environmental management. UNCED (1992) emphasises that people's participation,

accommodation of indigenous knowledge, interests, and values should be a platform for a 'blueprint' approach to environmental management. This emphasis by the UNCED has motivated many environmental interest groups, government/non-government agencies to adopt the concepts of participatory environmental management (O'Riordan and Voisey, 1998).

Since the conceptualisation of participatory environmental management by critical theorists such as Paulo Friere in the 1970s, there has been a demand on researchers (e.g., Chambers, 1994a, Craig and Mayo, 1995) to evaluate the programmes developed by the approach. Often the evaluation studies involve interdisciplinary social scientists that look at various perspectives of participants and stakeholders. In particular, Holland and Blackburn (1998) shows that the design of the evaluation constructs is based on: empowering interest groups/stakeholders rather than unilateral definition of the environmental programme from the outside policy makers, through consensus-building and process of group social learning to establish their own programmes, liaising with the government, institutional/international agencies, if required, in developing the participatory roles on their own.

Prior to the design of these processes, there is need to include the environmental impact assessment. The assessment would aim to provide an answer to the question of impact 'for whom?' and 'as determined by whom?' The results would enable appropriate prioritisation of resources. The analysis of these processes helps to encourage 'fair' and sustainable environmental management in the affected communities (Craig and Mayo, 1995).

The case analysis explored below has thrown lights on the place of the participatory approach in the management of environmental issues. The critical analysis of the

cases provided an avenue to reflect on the benefits and priority of participant EM and has helped to identify practical implications.

3.4.1 Participatory environmental management: The case of Nepal and Canada

The case of Nepal was illustrated based on the research report by Furze et al. (1996) on Makalu-Barun national park and conservation area project in Nepal. In turn, the case of Canada was reviewed based on the research by International Council for Local Environmental Initiatives (ICLEI) on 'The sustainable community initiative in the regional municipality of Hamilton-Wentworth, Canada.' The application of participatory environmental management by contrasting the case of Nepal (developing country) and Canada (developed country) involved participation, yet each case context goes differently. There was a notable area of divergence. And this is how both cases concern institutionalisation of participation. In the context of Nepal, the participation programme involved broad-based community development. The implementation of the programme was facilitated by the participation of people through existing Gram Panchayats – the existing community.

In contrast, the Canadian application of participatory EM is less broad and comparatively multi-dimensional. For the Canadian case to foster community participation, it has to create a new consultative processes and mechanisms. A critical look at the participatory approach in both cases of developing and developed countries showed some interesting concerns. While the Canada case constructed a community through concerted efforts through a collaborated local environment agenda, the Nepal case started with and built on the existing communities. This observation suggests that Nepali programme has to respond to the Nepali society in its natural rural setting while a Canadian programme is a typical representative of the trend towards urbanisation in a developed country.

The institutionalisation and urbanisation as observed in these cases are critical issues of environmental management that need to be considered. However, they are very vital in proffering solutions to environmental problems in both developed and developing countries. Urbanisation, as argued by Kabish et al. (2015), has brought more socio-economic activities and more diverse concentration of people which led to the institutionalisation of cultures, societies, and organisation. Institutionalisation in these cultural and organisation context acts as an interplay between actions, meanings, and actors in relation to the case of environmental issues. In turn, urbanisation through socio-economic activities generate risks and increase pressures on resources (environment, human, stakeholders, and socio-economic entities) and raise urgent concern to respond to public needs. This issue of institution raises other related concerns and implications in applying participatory approach. Analytically, the main benefits deducted from the cases (from developed and developing countries) analyses using the participatory approach as garnered by Kapoor (2001) include:

- 1) Participation promotes the environmental management programme information and representation base by convening appropriate stakeholders, interest group, communities, social groups, marginalised groups, NGOs, funding agencies, local and central governments agencies, private sections, expertise, ecological organisations, cultural and socio-political institutions.
- 2) Participation clarifies and enables stabilisation of communication and power relationship between interest groups and stakeholders.
- 3) Participation promotes iterative environmental management programming, thus enables the stakeholders to review, learn from mistakes and re-strategize.

4) Participation enhances accountability, commitment, ownership and responsibility by allowing the stakeholders to feel empowered, team building mentality and not being removed from the responsibility for the results.

3.4.2 The use of participatory approach: constraints and implications

Various researchers and case studies, as analysed above, have suggested some of the benefits of participatory environmental management (PEM). The main attributes of PEM are the community oriented and decentralised benefits of stakeholders' inclusion. Notwithstanding these benefits, the application of PEM, however, does not necessarily translate into success without constraints.

It is important to consider the observed constraints, and implications deduced from the illustrated examples above. The identification and clear understanding of the constraints provide guidance on the theoretical and empirical design of this study as required. The major constraints of PEM identified by researchers (e.g., Furze et al., 1996; Kapoor, 2001; Fraser et al., 2006) include the issue of quality of participation, questions of the power of stakeholders, the question of community and institutional concerns.

3.4.2.1 Quality of participation

Researchers (Nelson and Wright, 1995; Kothari, 2001) have argued that participation itself is not sufficient. They argued that it is imperative to answer the question of 'who participates and how?' Providing answers to this question is vital to ascertain the type and impact of PEM (Slocum, 1995). Deciding which stakeholders are included or excluded from the participatory EM programme is a critical choice to make in managing environmental issues. Although, stakeholder analysis could be used to complement this issue since the stakeholder are directly or indirectly affected by the PEM process. In the question of the impact of the participatory project, if the concerted effort is not

made to encourage the participation of 'marginalised' interest groups such as community leaders and minorities, the impact might be meaningless. In turn, the type of participation in existence within the interest groups is also significant (Cooke & Kothari, 2001), as participation can be passive or superficial. For instance, there might be a case when the government decides to partially involve the stakeholders or minorities groups in participatory EM after the resource allocation has been completed. Hence, the meaningful participation requires the concerted collaboration of 'appropriate' stakeholders and interest groups as well as government agencies. This involvement has to start with these relevant stakeholders, continues with them at every phase of the decision making and throughout the participatory programme cycle, or plans as the case might be. The involvement has to be comprehensive and extensive from design through implementation to evaluation.

A typical to this ideology of participation is 'Hamilton-Wentworth's VISION 2020 in Canada: Creating a Sustainable Community'. This programme is typical because it has raised precisely these implications and constraints and was able to control them successfully. That is why the programme has received several environmental management awards tied to its success. In addition to lack of adequate stakeholders' involvement to PEM, there have also been cases of the impact of provincial government cuts to environmental management initiatives. Although Action 2020 environmental initiatives have been structured and aim to establish broad community-based participation, the community concerns in relation to their 'satisfactory' involvement have not been alleviated. Some members of the 'dissatisfied' communities rationalized the off load of the provincial government cuts as a government laissez-faire attitude so that the communities would bear the consequences. For an environmental risk community to sustain meaningful participation, there should be well established channels of knowledge/information. The knowledge has to be open and

communal within the local and across the borders of the community involved. Although, the current knowledge transfers on initiating participatory EM happen across the globe with its focus mostly in one direction from developed countries to developing countries.

Dougill et al. (2006) argue that the collection of knowledge and categorisation of the learning outcomes needs to be in both directions. And this is when one can say that this is the true spirit of participatory environmental management. This argument seems factual because most often technological innovations applied in the environmental management (e.g., GIS for location-based environmental risk analysis, green revolution via high-yielding seeds) are being transferred from developed to developing countries. The reverse of this fact is seldom the case; there is rarely the transferring of traditional environmental techniques. For instance, it is rare for international development agencies to promote institutionalised-systems such as community forestry from developing countries to be applied in developed countries. This argument could be one of the factors affecting the perception of the stakeholders and business organisations as well as environmental managers. It may seem that the contributions of local community leader as not good enough because of their 'rural or local' knowledge in relation to environmental management. And the heart of these issues of quality of participation rests the question of power of the stakeholders

3.4.2.2 Questions of power of stakeholders

Stakeholders, as defined by Freeman (1983:33), are those groups without whom the the organisational support would not exist. The proponents of stakeholder theory suggest that organisation's success is dependent upon the successful management of stakeholder and their relationships. Although Jensen and Meckling (1976) have argued that the success of an organisation be solely dependent on the management of the stakeholders. Their reason is that maximising stakeholders' wealth is 'not

sufficient' to guarantee the success because an organisation is perceived to be a nexus of implicit and explicit contracts. Notwithstanding this constraint of the stakeholder theory, Freeman (1983) conceptualised the theory into two categories:

- 1) A business planning and policy model; and
- 2) A corporate social responsibility of stakeholder management.

The first model analysis focuses on how the stakeholders (whose support is required for the firms and business organisations existence) develop and evaluate the approval of the corporate strategic decision. The stakeholders identified in this first model include business owner, customers, public groups and suppliers. In corporate organisations, the behaviour of these stakeholders could conflict, and this could be considered as a constraint on the strategic development. Based on the analysis of the first model, the second model enables the managers to identify the social demands of non-traditional stakeholder groups and consider the strategic plan that would be adaptable to change for the organisations development.

As discussed in the above section, participatory EM involving corporate environmental practices is one area which has attracted much community awareness (Deegan and Gordon, 1996). Some instances of this manifestation include the World Wide Fund for Nature, the Earth Summit to promote ecological sustainability held in Johannesburg in 2002 and the Environmental Offences and Penalties Act 1989. This increased level of environmental awareness, as proposed by stakeholder theory, has created the need for business organisations, companies, and government agencies to integrate corporate plans with environmental management plans. The integration would enable the organisations to adapt to changing social demand by including the non-traditional stakeholder like the regulatory adversary groups.

Researchers (e.g., Blackburn, 1998; Chase et al., 2004; Tippet et al., 2007) argue that one of the dangers of using a participatory approach in environmental management is the tendency of the stakeholders, especially community, being cut off from government and policy makers. There may be cases of the stakeholders that might be participating in EM initiatives without being empowered to criticise power structure. Agarwal (1997) raised the feminist issues women in the participatory EM experienced, in some cases counterproductive, because they are not empowered to reform the stakeholders and systems that marginalise them.

Other researchers such as Richards (1995) cited the instance of cases where elites or managers of private corporations and stakeholders have manipulated or completely captured participatory initiatives. This instance creates opportunities for the elites to wield socio-economic politics that can dominate participant and stakeholders. The participatory decision making would proceed as though all participants have a common goal or equal contribution which is oblivious to the reality in the PEM initiative. Sometimes, the presence of the elite does not really matter because the perceived threat of power of the elites has sufficient influence on the participants (Crosby, 2003). Beside the power influence from the elites, there may be cases of 'micro-power' as suggested by Prell et al. (2007). In this situation, some participants may be more powerful or influential than others. This is because influential participants may have garnered persuasive argument within the community or because they are well-supported. Some participants may be ambitious for their own ends and tend to manipulate participatory deliberations. And employ false evidence to persuade and influence other participants (Lynam et al., 2007).

Kapoor (2001:6) cited an example that a funder of a participatory EM initiative may organise a presentation by 'an expert environmentalist known to him alone' at a

community programme. The expert contribution to the community programme would affectively discount 'local environmental knowledge.' And the result would then be coerced community consensus to meet the deliberate power ambition of the funder. Nelson and Wright (1995) then suggest that one of the ways to guard against these issues of power is to conduct better critical contextual analysis between stakeholders to identify and clarify power inequalities.

In agreement, Kapoor (2001) suggests that the elucidation of power inequality inside and outside the participatory space would make the existing inequalities open to questioning and pave ways for negotiations between stakeholders. This issue of inequality was cited by Furze et al. (1996) on their discussion of Nepali programme that established 'popular participatory education approach'; where teachers and women were empowered to participate in critical analysis of patriarchal structure. Making the participants understand that there are existing power inequalities among them which would induce them to devise their participatory checks and balances. They would devise a plan to contend with disadvantaged socio-economic communities or groups by instituting normal representation for their 'satisfaction' or better collaboration. In addition, this issue raises the questions of the community; how to represent the community.

3.4.2.3 Questions of community

Although a successful environmental management can be achieved by community participation, there is still a danger of 'misrepresenting' community. Some cases of EM initiatives where there were 'undue' assumptions that the environmentalism is naturally for the community members. They rationalise the environmentalism or equality as their 'birth rights.' Researchers (Thomas and Twyman, 2004; Ingram, 2008) argue that these issues emerge because some EM programmes are without clear defined limit or

regulation, romanticise 'community.' They argued that because a programme is community-oriented does not necessarily imply that it would necessarily be environmentally sound. They further argued that communities without experience and who are not actively involved in traditional conservation methods cannot make an impactful decision in participatory environmental management initiatives.

Stringer and Reed (2007) interestingly pointed the issue of PEM initiative where communities assume to be monolithic. This assumption endangers the impact of PEM by ignoring attributes of the community such as divided and multiple actors and interests. This issue is evidence in the case of NOPR with government allocation and the resulting neglect of environmental programme in the region. This case is similar to the phenomenon of what Brook (1998) calls 'environmental racism' in the US; where locations inhabited by African-American and Latinos were littered with toxic waste. These cases have shown how single or rather racial and cultural differences in a community can cause participatory EM to endanger minority communities.

Consequently, sustainable PEM has to acknowledge the fact that communities often contain within them some differences, conflicts, divisions, and inequalities. In considering these multi-dimensional blind spots, PEM can mitigate them by establishing the inclusion of disadvantaged groups and minorities. Reed et al. (2007) suggest that reaching a consensus with communities can be done by representing them in essentialist rather than in a uni-dimensional way. The above suggestion can be used to counter the simplified imposed and coerced consensus seen in the cases cited above. Other researchers (Thomas and Twyman, 2004; Ingram, 2008) suggest that PEM should not be seen as a solution to single and permanent decisions in the community. Rather, participants should be encouraged to channel resources into and make temporary consensus their priority and then multiple consensuses, if essential,

at the later stage of the process. In the process where there are adequate resources, either type of consensus. In doing so, it would enable the establishment of multi-pronged participatory initiative that may meet the need of members of the communities. This process of focusing on temporary consensus followed by multiple would counter the uni-dimensional initiative that supports on meeting the needs of the majority and powerful but neglect the disadvantaged and minorities. As suggested by Stringer and Reed (2007), multiple consensus perhaps would significantly encourage opportunity for an agreement to be reached. Thus, creates better communal understanding among differing participating communities.

The necessary ingredients of multi-consensual PEM include the creation of coordinated, flexible and plural institutions to control the differing audiences and capture the needs of the communities. These ingredients are evidenced in some community environmental initiatives, and they have been applied to fashion new forms of participatory environmental management. In particular, the case of Nepali and Canada explored above attributed their success precisely to the established multiple stakeholders (e.g., multiple community consultation process, user groups, and Gram Panchayats). Although the existence of multiple stakeholders allowed the programmes to respond to diverse participating communities and interest groups; however, it has not succeeded completely in answering the question of institutional concerns in applying participatory environmental management.

3.4.2.4 Institutional concerns

The existence of a myriad of environmental management initiatives (e.g., by the international development agencies, government agencies, and communities) that have adopted participatory approaches does not imply that it can be easily applied. This argument is evidenced by the implication and questions raised in the sections

above. Some researchers (Richards et al., 2004; Reed, 2008) pointed out that though some agencies have adopted this approach, some only partially or in the stage of adopting, while some have not. The reasons could be owed to the issue integrating the institutions in the process. For instance, in the Participatory Rural Approval initiative which was built on the concept of participation has no provision for participation in the management areas. Although, the exponent of PRA (e.g., Chambers, 1997) argues PRA techniques may be used to evaluate an environmental programme at both the design and implementation stages. This flaw in the participatory EM concepts makes it an approach for as simple 'add on' to EM initiatives. Reed (2008) argues that there are several reasons for this restraint and lack of integration in the application of PEM. First, because PEM involves a heavy commitment of resources (e.g., financial, human and institutional) to ensure efficient stakeholders involvement, institutions tend to hold back on EM initiatives. Besides, PEM initiatives require concerted effort and more time to develop the techniques. These resources, depending on their availability, determine if there would be better institutionalisation of a participatory approach.

Secondly, (Richards et al., 2004) points out the issues of institutional reticence in applying PEM. To control this in the transition towards PEM requires a change of some attributes of organisational culture. The essential attributes that may require a change include adopting broad, flexible and long-term goal. This change could be extended to flexible procedures and time horizons to guarantee results. However, Okowa (2013) argues that the impact of these changes would depend on the extent of political and structural changes (e.g., adoption of appropriate legal frameworks, leadership, political will). According to Okowa's analysis, these changes often may not be implemented, or if they are implemented, they may be compromised by an administrative barrier such as corruption. In other cases, the changes (e.g., decentralisation via government

commitment, may exist but are shadowed by bureaucrats and the loss of discretionary power to implement them (Berry et al., 1993).

Nevertheless, some researchers (e.g., Blackburn, 1998; Richards et al., 2004; Reed, 2008) suggest that application of PEM does not necessarily need to be established by government agencies alone. They suggest that PEM can also be initiated by local communities who may successfully persuade 'unwilling' governments or international agencies in making essential institutional changes (Blackburn and Holland, 1998). The persuasion, in turn, does not necessarily need to be pressurised. The persuasion could be through constructive dialogue with funders and heads of government agencies to educate them on the benefits of PEM. This mode of persuasion through dialogue is often productive not only for government agencies but also for community groups and non-governmental organisations.

However, it is vital for PEM to be sustainable and systematic irrespective of who initiates it. Hence, participation needs to be an integral part of environmental management initiatives. This integration needs to be extended to relationships among the different interest groups involved in environmental management initiatives and programmes implementation. This means that public policy should be used to support the link between national government agencies and local community groups/interest groups. Moreover, Richards et al. (2004) suggest that it is vital that state and civil society formalised this kind of partnership.

3.5 Application of environmental management approaches in the NOPR

The context of applying recommended environmental management approaches need to be considered, such as the scope of application, the business and stakeholders and management attributes: roles and responsibilities. Alba et al. (2010) surveyed 27

oil-producing nations, mostly from developing countries including Nigeria, to provide understanding on the application of the most appropriated combination of the environmental management measures for minimising the impact of environmental issues. The survey was constructed around ten themes. The themes were considered as the essential elements for managing environmental issues in the oil producing regions. The ten themes constructed and summarised by Alba et al. (2010) are:

- 1) Frameworks: contractual, legal, regulatory;
- 2) Institutions: structure and governance capacity
- 3) Consultation: public, private, stakeholders, host communities
- 4) Assessment: environmental practices those beyond the approval stage
- 5) Monitoring: audit, reviews, and follow-up processes
- 6) Enforcement: legal and regulatory
- 7) Barriers: collection, disclosure, and dissemination
- 8) Best practices: institutional, organisational, national, technology and cultural
- 9) Decommissioning, abandonment, and liability costs
- 10) Risk assessment: avoidance and management.

Due to the overlapping nature of the above ten themes, the findings from the Alba *et al* survey was analysed based on the themes: framework: contractual, legal, and regulatory; institutional strengthening of good governance; public consultation and access to information; environmental assessment process; decommissioning and liability; and private sector involvement in 'best environmental' practice. Each of the consolidated themes was analysed in the context of developing countries. Since other themes that have been analysed by Alba *et al.* where not directly contextualised in the context of NOPR, those themes where not considered in this research. However, most of the countries noted by Alba *et al.*, have some form of environmental impact assessment process. The EIA where it is available, the case of Nigeria for instance,

has been incorporated within their contractual, legal and regulatory framework. Most elements of the EIA were diverted to the approval of oil and gas exploration and production rather than emphasising the management approaches to environmental issues.

In other countries, there was insufficient and some cases absent mechanisms for control and enforcement of regulations during the post-EIA approval. Evidence regarding public consultation and involvement, government agencies consult only the multinational companies about their activities, oil, and gas in particular, but they neglect to disclose to the public and stakeholders affected by the environmental issues. In other cases, the government agencies lack the commitment to provide effective information systems to disclose information to interest groups affected by the environmental issues. Another notable issue in Alba *et al.*'s survey is that almost the half of the countries pay little or no attention to issues regarding liability and decommission cost of oil exploration project.

With these issues that have surfaced in the application of the recommended environmental practices in the developing countries, Alba et al. (2010) suggest that there is need to incorporate other innovative environmental management approaches such as planning, technology, ecology, social learning and politics to provide the in-depth analysis, improve collaboration, support regional systems for dissemination, and deliver training to increase human capacities within affected stakeholders.

3.5.1 Environmental planning approach to environmental management

The environmental management approach was conceptualised in 1960 by the social scientist (e.g., Peter Marris and Howard Odum). The United Nations Environmental Programme defines planning approach as an environmental management approach, which allows stakeholders to reach consensus on

environmental issues through the interactive and collaborative process. Other researchers (e.g., Onibokun, 1997; Wahab, 1998) recognises Environmental management planning as a tool to understand environmental issues through the collaborative and bottom-up process with concerted effort to make development policy formulation and implementation on socio-economic issues affecting people and their environment.

Lekwot et al. (2014) examines the use of environmental planning and management (EPM) process as a strategy for solving environmental issues of two selected communities in the NOPR. In particular, they investigated the cases of Bony Island in Rivers state by exploring roles of the communities on the state of their environment, their level of collaboration in complying to existing environmental strategies, causes of ineffective environmental management in their area, their level of satisfaction with existing practices. These constructs were structured in a questionnaire as they relate to socio-economic characteristics of households, the willingness of the communities to participate in the EPM process, their roles on the level of compliance of oil companies to environmental law and role of government environment protection agencies in protecting the environment of the communities. In addition, their findings show that there were grossly inadequate resources for proper inspection of the strategies. They noted that communities expressed dissatisfaction with the existing environmental approach and this issue, in particular, is a major setback of implementing the environmental management approach. Lekwot et al. (2014) proposed a bottom up multilevel circular approach with five key attributes: decision-making, embrace participation, clarity, and agreement on environmental planning issue to be tackled, emphasizing resources mobilization, and building of consensus and support of the interested stakeholders.

3.5.2 Technological approach to environmental management

Although the use of technology in the management of environmental issues in Nigeria is still rudimentary because of some issues related to lack of resources and expertise, some studies (e.g., Okafor, 2011; Chigbu and Onukaogu, 2013; Nwosu, 2013) have shown that modern technology can be impactful. Chigbu and Onukaogu (2013) discuss the importance of geospatial technology, through literature review, as a vital tool for sustainable environmental management in Nigeria. They suggest that geospatial technology could contribute to resolving some environmental issues (e.g., flooding and land degradation) emerging from oil exploration and extraction industries. In the earlier research, Tsou and Yanow (2010) suggest that such technology can provide a mechanism for acquisition of data storage, geo-visualisation, image analysis and manipulation.

This technological mechanism could serve as a good decision support system in environmental management issues and sustainability. However, Chigbu and Onukaogu (2013) noted that for Nigeria to harness the gains of technological-based tools in managing environmental issues there must be a well-developed policy for their application, there should be an increase in the capacity of expertise and the need for advocating global practices in the use of technology.

3.5.3 Ecological approach to environmental management

An ecological approach to environmental management is another evolving integrated systems-based approach that has been suggested by some researchers (e.g., Hartig et al., 1998; Leslie and McLeod, 2007) to manage growing environmental problems such as land use and terrestrial habitats. Ecosystem-based management is an environmental management approach, rather than considering single issues, species or ecosystem management and services in isolation incorporates the full array of interactions with an ecosystem including human (Grumbine, 1994; Leslie and McLeod,

2007). Researchers (e.g., Hartig et al., 1998; Leslie and McLeod, 2007) suggest that the effective implementation of an ecosystem-based management lies in its capability to counter institutional challenges in managing environmental issues.

Slocombe (1998a) suggests that ecological management is characterised with a strong institutional orientation capable of redefining environmental resource management. Tallis et al. (2010) agrees with Slocombe (1998a) and emphasise that ecosystem-based management is about acknowledging the linkages between ecosystems and human societies, economies, and institutional systems. These linking factors when effectively integrated form the basis for the participatory environmental management approach (Newig and Fritsch, 2009). This characteristic would be vital priorities in designing a new framework.

Berkes et al. (2000) used case studies to survey the international literature that focused on the role of ecological knowledge in the management of the environment. Their case studies revealed that various traditional ecosystem management which includes landscape patchiness management, multiple species management, resource rotation, and succession management. They suggested that these traditional practices can be adapted to social mechanisms such as the use of local institutions to provide leaders and rule for the social regulation of the environment. In addition, Berkes et al. (2000) suggest that environmental management systems could be used to characterise and guide the direction of the environmental management. This approach had similarities to adaptive environmental management that could enable the provision of feedback on learning and treatment of uncertain environmental issues.

However, in some of the cases analysed, they found out that circumstances such as the scarcity of resources dictate the greater use of ecological knowledge in environmental management. Hence, they suggest the need to propose alternative

management models in which traditional ecological knowledge would be integrated with information from other practices to get adaptive environmental management framework.

3.5.4 Political approach to environmental management

Adger et al. (2001) identified major political discourses associate with the management of four global environmental issues: biodiversity use, climate change, deforestation, and desertification. They analysed these issues regarding policy prescriptions and based on external policy interventions. Adger et al. (2001) found that each of the policy prescriptions had contrasting populist discourse and portrayed host communities of the environmental resources as victims of external political interventions. In part, the evidence from Adger *et al.*'s research shows that location-specific research neither fit easily with the dominant managerialist-based political interventions nor with populist discourses.

The findings from Adger et al. (2001) have shown that use of political interventions in managing environmental issues appear less impactful because of some issues which include; (1) distance of the policy-making institutions from the environmental resource users and; (2) the experiences of the local scale environmental managements differ from that of the policy-making institutions. This suggestion demands the need to incorporate and understand the roles of local environmental resource users and government agencies in policy making if the use of political intervention for the environmental management were to be impactful.

3.6 Summary

This chapter has provided the knowledge of various environmental management practices and how they can be applied in NOPR. The findings of this chapter emphasise that it is the responsibility of stakeholders to ensure effective implementation of the recommended practices. The use of environmental management systems was recommended as important voluntary practices companies should consider. HSE-MS recommends leadership and commitment, policy and strategic objectives, risk evaluation and management, environmental impact and environmental planning, monitoring objectives and audit. Environmental management systems and standards require integration of stakeholders to promote environmental values and to minimise resource inputs. Without a careful planning and a clear understanding of the contextual issues in applying the practices, the efforts of the stakeholders might make only minimum impacts.

Various researchers (e.g., UNEP, 1997; Hitchen et al., 1999; and Christmann, 2000) pointed out that appropriate national laws and guidelines can facilitate a good playing ground for decision-making. In summary, successful application of the recommended practices depends on the appropriate policies in place. UNEP (1997) recommended appropriate guidelines and national laws; protocol and procedure for decisions; monitoring regulations and performance reporting; enforcement; and defined responsibilities and appropriate liabilities in relation to legislation. Moreover, various contexts of environmental management have been identified, which includes integrated management, participatory environmental management, co-management, social learning and participatory approach. In particular, it was noted that application of these approaches would depend on their quality, power given to stakeholders, community involvement, and institutional concerns.

Hence, to achieve a successful stakeholders' collaborative management, there is need to understand that while applying these practices it is important to consider the roles of stakeholders and their institutional concerns. The understanding of the implications of participation of stakeholders in managing environmental issues, as shown in the case of Canada and Nepal, has shown challenges of implementing the recommended practices. The next chapter discusses theoretical analysis to understand how the stakeholders' collaboration can be extended in managing environmental issues the NOPR.

CHAPTER 4: THEORETICAL ANALYSIS FOR STAKEHOLDERS' COLLABORATION

4.0 Introduction

This chapter discusses relevant theories upon which a framework for stakeholders' collaboration for managing environmental issues in the NOPR was developed. Discussions of literature reviewed in chapter two suggest that environmental management frameworks are inherently linked to the theoretical lens of environmental management theories, environmental management standards, and their application. Therefore, it is important to identify the theoretical basis for the development of an effective management framework appropriate for the NOPR.

This chapter sets out three main purposes. First is to identify vital theories that guide the development of a conceptual framework for stakeholders' collaboration. Second, it defines the key concepts derived from the theories which form the basis for the design of a framework for stakeholders' collaboration. Overall, it answers the question of what aspects of environmental management theories are applicable in the oil producing regions of developing countries like Nigeria to analyse the existing stakeholders' roles within the existing institutions?

4.1 Theory of environmental management

The foundation of environmental management (EM) theory lies, first, in recognising general concepts including the management of natural resources as well as managing the 'output' from the natural resources use (Franks, 1986; Warford et al., 1991; Ogonnaya, 2011). This conceptual approach to EM was developed mainly in western, capitalist countries, but is dominant now in most of the developing countries. This approach is premised primarily on an orthodox scientific paradigm (Shiva, 1991;

Dyck, 1998), which upholds a general, objective reality that can be analysed and broken down into parts by researchers and environmentalists.

The natural resources in the environment in this view, are separated from human experience so that human beings could exploit them without consequence and limit. As such, the environment is seen by humans as an inert and passive resource which he can 'manage,' 'use,' or 'degrade' without fearing the after-effects. The rationality of these definitions and concepts of EM is reflected in the host of roles and activities established to manage natural resources. In principle, this means that decisions taken at the top management level are implemented by the lower ranks through the most 'effective' and 'efficient' means (Weber, 2009). Based on this principle, the concept of EM has been 'refined' and 'organised' in a hierarchical way (Chambers, 1989). Relying on the idea of 'environment as a natural resource' its primary contribution in the developed and the developing countries has been or is to service unlimited economic development (Slade et al., 2011; Zaimes and Khanna, 2014). And this is the case for Nigeria, as the economic burden of the country has completely been borne by the revenue derived from the crude oil in NOPR.

4.2 Socio-ecological system

Environmental managers have, accordingly, devised 'efficient' and 'effective' technological instruments to realise development. This has involved a 'bias' and 'preconception' towards resource-intensive industrialisation. The issues of this preconception have at least two vital socio-economic or rather socio-political consequences, particularly in the developing countries. The narrow conceptual content of environmental policy defined specifically in relation to the 'natural environment' and exclusively of the 'social environment' has put lives of many people at risk. As the

socio-economic and political activities of the inhabitants of developing countries are bound up with the natural environment, many of these inhabitants derive their livelihoods by depending on land and water resources. The host communities of the NOPR are typical inhabitants. Environmental degradation and exploitation, in the form of oil spillages from oil exploration, deforestation from mining and 'unregulated land use' and construction of dams, therefore meant the endangerment of the host communities that live in the environment (Eregha and Irughe, 2009).

The priority of economic growth and development has led to environmental risks of 'resource-based industrialisation' in the developing countries, thereby restricting people's access to their means of livelihood and from their immediate environment (Jourdan, 2008). Increasingly, such industrialisation has attracted multinational oil companies and investments to encourage petroleum resources exports. Indigenous peoples are or have been hit by this 'environmental resource management.' They continue to lose their natural environment and land resources which feature centrally, not only their socio-cultural worldviews but in their socio-economic survival as well. There is no other option but for them to work in fields 'degraded' by oil spillages and soil erosion and look for alternatives to livelihood. In a bid to survive, the people can be perceived as those obstructing 'rational' and 'scientific' management of resources (Kapoor, 2001).

Meffe et al. (1993) suggests that environmental policy makers have used the neo-Malthusian's argument, cited in Guha and Martinez-Alier, that; *it is exploding population growth in the developing countries that is the main cause of environmental degradation and that poor people (i.e. indigenous people of the oil producing region) exploit resources selfishly without restraint* (Guha and Martinez-Alier, 1997).

Based on this argument, the government control towards the people from the oil producing region is therefore seen as justified, with government policy makers and environmental managers disparaging 'better' environmental management system in favour of establishing 'bureaucratic' environmental practices. This narrow environmental ideology in favour of the government agencies features the latter day environmental management. The conceptualisation of the natural environment as 'resource,' the hierarchical, bureaucratic institution of EM, the priority of growth and development, have all, in general, reinforced the environmental policy makers and managers' views of 'natural environment' as separate from 'society.' The high degree of government power over the environment has translated into the absence of input and contestation by other parties – companies and communities, that effect or affected by the environment use. Thus, EM has proceeded with a narrow set of conservative perceptions and parochial interests, exclusive of collaborative and social ones. However, the question here is: what aspect of environmental management theories would be applicable in the oil-producing region of the developing countries like Nigeria to tackle the existing institutional control practices?

4.3 Paradigms of environmental management

The dominant theoretical management paradigms that explain the evolution of environmental management include classic, the neo-liberal and neo-populist paradigms, collaborative environmental management approach, and integrated environmental management approaches. The classic paradigm was an ideology that swept notions relating to environmental management between 1950 and 1975 (Blaike, 1996). This paradigm was grounded based on the philosophy of top-down management model (Milich, 1999) which was predominantly state-instigated and

informed by the state-sponsored scientific institution and promoted through institutional agents. This paradigm argues that perceived environmental problems are seen to be identified by external agents: funding bodies, business organisation, government agencies, and researchers (Colby, 1991).

The measures on how to resolve the problems formulated by these external agents are based on the technical measure by extensively required community-based cooperation (Pickett et al., 1992). Moreover, plans for the technical measure are implemented using a combination of bureaucratic management, encouragement, moral suasion and subtle threats. The critics (e.g., Hofstede, 1978; Perrings, 1987) of classic paradigm hold that failure of this approach, however, could be shifted to the environment or blamed on the community. With the classic model of management relating to environmental management, local knowledge of environmental management is seen as defective, irrational, traditional and superstitious (Jacobson and Weiss, 1995). Milich and Varady (1999) argued that local knowledge should be replaced by expert-led knowledge and officially sponsored innovations.

The rejection of the classic model led to the formulation of the neo-liberal and neo-populist paradigms. Griffin et al. (2004) cautioned that one must be careful to distinguish the 'neo-liberal' from the 'neo-populist' on a critical treatment of environmental management. The basic features of the neo-liberal paradigm are incentives and regulations of environmental economics and property rights (Jessop, 2002; Castree, 2008). Though this paradigm features the regulations, which dominated World Bank (1992) report on world development and the environment; it is flawed with an absence of any explicit or universal criteria to judge the best technology for environmental management (Robertson, 2004).

In the same vein, to correct the flaw of the classic paradigm in relation to its concepts of a top-down, state-led and techno-centric model of technology transfer, the neo-populist approach was formulated (Heilbroner, 1974; Carruthers and Stoner, 1981). This paradigm had an increasing influence on policy development, particularly environmental governance. Accordingly, neo-populist approach (first) was developed as a reactionary ideology against the incapability of central or external authorities to mitigate environmental resource degradation (Imperial, 1999). It was conceptualised to herald the control of the state-based stakeholders and self-sufficient society against rural development programme in a changing society (Griffin et al., 2004). This concept extends to react against capitalist penetration of small scale capitalism seeking to realise traditional values. This has bypassed the existing central government plans and substituted new forms of social contract with depoliticised stakeholders (Byres, 2006).

In general, many researchers (e.g., Imperial, 1999; Griffin et al., 2004; Byres, 2006) advocate that the neo populist approach promotes more of a stakeholder's collaboration ideology to rural development in relation to environmental management. They suggest emphasis for its concept to include 'co-management' and 'flexible process oriented planning' in which people depend on their knowledge and skills for resolving their environmental problems. In recent years, the neo-populist approach has led to the rejection of centralised command but accepted co-management of environment resources and management. Moreover, it rejected not necessarily 'demand-driven' command but also 'supply-driven' approaches. Narayan (1995) suggests that environmental resource management could only be achieved if they are based on enabling policies that encourage collaborative and responsive agencies.

In doing so, the shift of neo-populist from centralised command has aimed to promote increasing efficiency, equity, and empowerment of existing stakeholders. Hence, effective environmental management depends on the capability of co-management or collaborative management approach. However, one needs not to jump to the conclusion that 'integrated' or 'collaborative' approaches would produce desired results in managing environmental issues, Jackson (1996) cautioned.

4.4 Understanding collaborative environmental management

Many previous researchers (e.g., Wood and Gray, 1991; Thomson and Perry, 2006; Emerson et al., 2012; Von der Porten et al., 2015) have suggested different definitions of collaborative management in the context of environmental practices. Various studies (e.g., Borisovol, et al., 2012; Von der Porten et al., 2015) have identified the essential elements for successful stakeholders' collaboration. In one of the most widely referred definitions of collaboration, Thomson and Perry (2006) explain collaboration as a process of interaction involving self-governing actors. This process can be either formal or informal with the aim to create rules to govern their roles on the issues that brought them together.

Thomson and Perry (2006) added that this process of interaction often involves shared norms and mutual benefits. This definition of collaboration has been applied by various studies (e.g., Koontz and Thomas, 2006; Thorton and Scheer, 2012; Smith, 2015) as a basic instrument in making environmental management decisions in both the developed and developing countries and regions. For instance, the US Environmental Protection Agency (US EPA) adapted collaborative environmental management along with her 18 federal government agencies responsible for land management to formulate an effective ecosystem management policy (Koontz and Thomas, 2006).

The need for collaborative management, as noted by Head (2014), has been attributed to the perception of applying the bottom-up approach in managing environmental issues. This approach, in contrast to the top-down approach that has been widely criticised for its attribute of missing local concerns of affected stakeholders. Collaboration enables the actors to draw closer to the local stakeholders to effectively manage environmental issues (Sabatier et al., 2005; Von der Porten et al., 2015). Collaboration can be used to draw up an effective environmental management practices, however, but not without challenges. An effective control on values, interests, power, and resource control needs to be considered as key requirements to achieve successful collaboration.

Wood and Gray (1991) suggested that collaboration can be achieved in a platform where the stakeholders can satisfy their differing interests 'without loss to themselves.' In other words, they added that collaborative management has to be designed with the utmost aim of producing a win-win outcome. However, the question is how could this aim be achieved in the context of NOPR where collaborating stakeholders has varying roles, interests, and values; not considering the issue of inadequate resources? Susskind et al. (2012) suggested, based on their finding from the critical assessment of collaborative adaptive management in practice, that a successful collaborative management requires four key strategies;

- 1) Clear overarching goals as well as concrete and measurable objectives;
- 2) Well-defined fact finding protocols to promote shared learning and manage scientific uncertainty;
- 3) Tools and incentives that facilitate participation and foster collaboration;
- 4) Clear procedures for managing adaptive programme management and cultivating long-term capacity building

Susskind et al. (2012) added that “even in complex environmental management contexts (as it is in this case of the NOPR) collaborative management efforts that integrate these key strategies are likely to produce a more effective management. Smith and Zachary (2015) advocate that these strategies would seem to be quite an adaptive requirement for stakeholders’ collaboration until a thorough consideration is given to the goals and objectives in the context of managing environmental issues. They added that goals should be aimed towards achieving agreement between parties in fixing of the existing environmental issues. However, there is a tendency that both short term and medium-term goals might shift with the introduction of new goal with the consequence of creating burden among collaborating stakeholders. This issue could be resolved through ‘shared learning,’ Susskind et al. (2012), suggested.

Shared learning could be adapted to manage scientific uncertainty encouraging participating stakeholders to share information regarding their challenges in managing environmental issues. However, this strategy may warrant that stakeholders may have to relinquish their power and control over others while encouraging the management with shared power and collaborative negotiations. However, Susskind et al. (2012) have argued that this strategy of shared learning, in most cases is not realist but could only be realised through ‘genuine collaboration.’ Genuine stakeholders’ collaboration, which allows both shared power and negotiation (developed with broad representation of stakeholders’ interests, attitudes and opinions) is what, Borisovol et al. (2012) described as a successful collaboration. However, how can one achieve successful collaboration in managing environmental issues?

Several studies (e.g., Bauer and Randolph, 2000; Reed et al., 2013;) answered this question by suggesting that government agencies have to effectively communicate

with one another while making decisions. They should ensure that they oversee that all stakeholders are involved in solving an environmental problem.

However, Smith and Zachary (2015) argued that this effort might face some setback because different agencies have different roles in relation to environmental management regulations. They advocate that the question should be which stakeholders should be involved, what power should they share and whom among the stakeholders should take the lead? Even when all these questions are answered, Thomson and Perry (2006) argue that the question of who should enforce the environmental management policies remains. These questions are answered by considering the concepts of institutional analysis in relation to the stakeholders' collaboration.

4.5 Discussion of Ostrom's 'The governance of the commons' (1990): Towards collaborative management of environmental issues in the NOPR

The notion of common pool resource (CPR) can be extended in the context of understanding the collaborative roles of stakeholders in managing environmental issues in the NOPR. As earlier mentioned in this chapter, the relevance of stakeholders' collaboration in managing environmental issues has been considerably discussed by various studies (e.g., Thomson and Perry, 2006; Von der Porten et al. 2015). Thomson and Perry (2006) argue that collaboration is a process of interaction involving self-governing actors which can be either formal or informal with the aim to create rules to govern their roles on the issues that brought them together. Koontz and Thomas (2006) and Smith (2015) have adopted this definition of collaboration in making environmental management decisions while recognising environmental management as the management of natural resources. As such, the environment is

seen as an inert or passive resource which he can 'manage,' 'use,' or 'degrade' without fearing the after-effects.

To understand the explicit discursive linkage between environment and the Ostrom's notion of CPR, this research argues that environment within the NOPR is a common pool resource. Drawing from the Ostrom's (1990) 'The governance of the commons, a CPR is a resource that benefits a group of people, but the benefits can be diminished if people pursue their self-interests. The value of CPR can be reduced through overuse because of the scarcity and limited supply. This situation of overuse of a CPR can lead to what Hardin (1968) termed the tragedy of the commons problems.

Ostrom (1990, p.30) refers the term "common-pool resource" to as "*a natural or man-made resource system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use.*" Ostrom suggests that understanding the process of governing CPR requires the knowledge of how the flow of the resource units produced by the system is distinguished from the resource system. It is also essential to recognise the interdependence of resource units from the resource system. While resource systems are best to be explained as 'stock variables' that are capable of producing a measurable amount of a flow variable without causing harm to the resource system. Some common examples of resource systems include ground basins, canals, fishing grounds and water bodies. In the same vein, resource units are best thought of as what individuals use or appropriate from the resource systems. Examples include tons of fish harvested from the ocean, tons of fodder consumed by animals from grazing farm. Plot and Meyer (1975) framed a term 'appropriation' as processes of withdrawing resource units from a resource system. They suggest that accessibility of a CPR can be limited to either a firm, a

single or team of individuals or multiple individuals. And that those that withdraw the resource units are appropriators (e.g., fishers, irrigators, herders, etc.).

Ostrom (1990) suggests that the complex nature of CPR problems requires framing the explanation of unit of analysis that is not to be limited to only single perspective. In some situation, while the ownership of resource units can be transferred from one appropriator to the other, there may be cases where some appropriators create a cartel to influence price and strategies of marketing resource unit to gain themselves a considerable market power. Likewise, the term appropriator, Ostrom (1990) prefers to use the term 'providers' as those who arrange for the provision of a CPR, whereas the term 'producer' refers to anyone who takes actions that ensure sustainability of resource system. Ostrom et al. (1961) argued that providers and producers might be the same individual, but this might not be the case in all situation. They gave an example of a case where a government might work with local farmers to finance and maintain irrigation; in this case, both are producers and providers.

4.5.1 Environment of the NOPR as a common pool resource

Conceptualising Ostrom's explanation of CPR in this context, the environment can be considered as common pool resources as it benefits inhabitants of the NOPR and it is essential for their survival. As discussed in chapter 2 under section 2.1, the environment of the NOPR covers 20,000 square kilometres within 70,000 square kilometres of wetland in the South-South zone of Nigeria. This environment is a home to thirty million people and forty different ethnic groups that covers third largest drainage basin in Africa comprising of four ecological zones: coastal barrier islands, freshwater swamps, lowland rainforests and mangrove swamp forests, as well as highest concentrations of biodiversity on the planet with abundant fauna and flora, arable terrain that sustains variety of crops. However, oil exploration and production in the region have brought about the degradation of the environment in the region and

which if not effectively managed and governed may lead to what Hardin's (1968) called the 'tragedy of common.'

Although environmental resources (e.g., land, freshwater swamps, groundwater basins) as CPR are of great concern (as it is in this case of the NOPR), researchers are still exploring a common term for a broad set of things defined as 'the commons.' There is still confusion about conceptual similarities and differences of 'commons' in general, 'common-pool resources,' 'common-property resources,' and 'open access resources.' Both Ostrom and Ostrom (1999) and Ostrom (2008) conceptualises 'commons' as systems (e.g., knowledge and digital world) in which it is often difficult to limit access since one person's use does not subtract a finite quantity from another person's use. In a similar view, Ostrom (2008) characterised 'CPR' as '... sufficiently large that it is difficult, but not impossible, to define recognised users and exclude other users altogether. This definition is akin to the concept of 'public goods' in economics which are simultaneously characterised by non-exclusivity and indivisibility. While the non-exclusivity implies that resources can be exploited since nobody has an exclusive right, the indivisibility implies that the use of part of the resource by one individual or group does not subtract from the amount available to others. In it, 'each person's use of such resources subtracts benefits that others might enjoy.'

In other studies, (e.g., Hoffman and Ireland, 2013) the term 'commons' was used to expressed 'public goods' – a CPR with relatively uncertain property rights. This term can be extended to the environment of the NOPR. For the analytical purpose of this research, it is necessary to be more specific (as suggested by McGinnis, 2011) since the term, CPR can be misinterpreted to be common property resources which are often used in co-management interpretation. A comprehensive discussion on definition and concepts of CPR is beyond the context of this research; for more

discussion on CPR definition and concepts (see chapter 2 of the Ostrom, 1990: *Governing the Commons: The Evolution of Institutions for Collective Action*, p. 30). Thus, this discussion is focused on the governance of the CPR and its linkage to stakeholders' collaboration.

4.5.2 Governance the environment within the NOPR as a Common Pool Resources through collective effort of stakeholders

McGinnis (2011a, p.171) argues that '*governance*' simply determines "*who can do what to whom, and on whose authority.*" This argument encapsulates one of the fundamental questions of this research - that built on the premise of the question of: how can one achieve successful collaboration in managing environmental issues? Which stakeholders should be involved, what power should they share and whom among the stakeholders should take the lead? These questions share similar premise to a fundamental question Ostrom asked in her pioneering book (Ostrom, 1990, p. xi) 'The governance of the commons': "*how the exploration of common-pool resources (CPR) can be organized in a way that avoids both excessive consumption and administrative cost*" This notion encapsulates this research purpose; in it, it relates explicitly to the question of how environmental issues in the NOPR can be managed effectively through stakeholders' collaboration. These questions can be answered by considering the concepts of Ostrom's (1990, p.38) argument of: interdependence, interdependent action, and collective action. However, even when all these questions are answered, Thomson and Perry (2006) argue that the question of who should enforce the environmental management policies remains.

Ostrom (1990, p.38) argues that "*when multiple appropriators are dependent on a given CPR as a source of economic activity, they are jointly affected by almost everything they do*". In the NOPR, the Nigerian government, multinational oil companies and local communities, are all dependent on the oil – an environmental

resource and a CPR - for their economic activity and source of livelihood. Environment within the NOPR and its constituent CPRs, such as water and forests are often governed by the collective action of these multiple appropriators –i.e., the Nigerian government, multinational oil companies, and local communities, which have strong institutional influences on resource governance. Kumar (2006) and Berkes (2007) agreed to Ostrom's argument on the interdependency of appropriators on CPR governance and suggest that a considerable number of CPR are co-managed by local communities working with government agencies. They further suggested, however, that co-management or co-governance may succeed or fail, depending on the nature of collaboration. This consensual argument points to the main argument of this research that effective environmental management in the NOPR depends on the extent of 'genuine' stakeholders' collaboration.

In addition, Ostrom suggests that each multiple appropriators must consider the choices of other appropriators when assessing personal choice regarding benefiting from a CPR. In contrast, this is not the case in the NOPR as broadly argued by Eregba and Irughe (2009) that land and forests of the NOPR are subject to constant degradation and exploitation ranging from spillages, oil exploration, to deforestation and 'unregulated land use' and construction of dams. These exploitations are done without due consideration to property right of the Nigeria Land Use Act of 1978, therefore meant the endangerment of the host communities that live in the environment.

The notion of the governance of common suggests that appropriators are tied together if they continue to share a single CPR and that their interdependence does not wear even with an established institutional rule in the governance of the CPR. This is the case of environmental management in the NOPR, although there is no established

institutional governance. The issues of lack of institutional governance in Nigeria is evidenced by fragmented institutional policies for managing environmental issues in the NOPR. Without genuine collaboration of stakeholders with common goals of establishing collective governance of CPR within the NOPR, their environment would continue to be a path of environmental degradation. Ostrom (1990) suggests that when multiple appropriations (in this case the stakeholders) act independently in relationship to governing a CPR, the total benefits they obtain would often be less than what could have been achieved through collective strategies. Similarly, the return that would be received from appropriators efforts would be lower when decisions are made independently than they would have been when they are collectively made.

4.5.3 Requirements of collective efforts in governing the environment within the NOPR as a CPR

Olson (1965) shared the same view with Ostrom (1990) that the most challenging problem that appropriators could face in their collective action, in general, is how to change the situation from one in which appropriators act independently to one in which they adopt collective strategies. The suggestions of existing studies on the collective action of appropriators in the governance of CPR may work in some setting but fail in others (Ostrom, et al., 2007); likewise, the collaborative environmental management that was discussed in section 4.4. Ostrom (2008) suggests that crafting collective governance for CPR should be built on accurate data driven by institutions at multiple levels. The complex nature of governing CPR as it linked to managing environmental issues of NOPR requires substantial collective effort in acquiring accurate data to understand patterns of interaction and adapt policies that are better fitted for a given system. The policies should be designed to fit with institutional and cultural setting of appropriators who depend on the environment (the inhabitants of the NOPR) for their livelihood. Ostrom 2008 suggests that a specific institutional arrangement need to

consider the appropriate nature and type of interaction on ground, and that “*it is better to induce cooperation with institutional arrangements fitted to local ecosystems than to try to command it from afar*” (Ostrom, 2008, p.17).

Goldman et al. 2007 suggest that users – appropriators or stakeholders as the case might be, need to understand and perceive rules as legitimate, then monitor each other to provide a sustainable CPR institution. Ostrom (2008) argues that without active monitoring, however, the incentive to cooperate freely with others can generate a tragedy of the commons. To avert the tragedy of the commons, various studies (e.g., Dietz et al., 2003) have suggested requirements for effective governance of the commons. These include; accurate and relevant information, dealing with conflict, enhanced rule compliance, providing infrastructure, encourage adaptation and change. A governance system should be prepared for the possibility of conflict over diverse institutional interests while deciding how resources should be allocated and aligning capacity with respective roles.

4.6 Understanding stakeholders’ collaboration through rational choice institutional analysis

Institutional theory as suggested by various researchers (e.g., Roy, 1997; Brunton et al., 2010) provides a theoretical lens through which factors that promote management of institutional roles can be identified and examined. Example of the factors includes culture, social environment, economic incentives, regulation, tradition, and history. Rutherford (1996) defines an institution, as a rule, the accepted predetermined patterns of conduct in a society. The rule can be in various forms including formal rules such as written laws, regulations, and standards, and there are informal rules, such as norms, habit, and customs. Institutions set out rules by devising strategies for the

stakeholders to act in accordance with those rules to survive or win society (North, 1992).

Institutional theory is basically concerned with how interest groups and organisations better secure their legitimacy and roles by conforming to the rules (e.g., governmental agencies, courts, professions, regulatory structures, scripts and cultural practices) of the institutional environment (Scott, 2007). Legitimacy in this context refers to the adoption of sustainable environmental management practices seen by stakeholders as being appropriate (Di Maggio and Powell, 1983). North (1990) argues that institutional theory can be used to analyse the factors (e.g., economic, social and political) that influence companies' strategies and organisational decision-making. The contributions of these researchers explain that formal rules of institutions are associated with environmental legislations, performance standards, various formal administrative guidelines, and regulations.

Other researchers (e.g., Hirsh and Lounsbury, 1997, Brown et al., 2006 and Tate et al., 2010) suggest that institutional theory can be used to explain how sustainable environmental management is affected by social value, regulations, and technological advancements. Delmas and Toffel (2004) applied institutional theory to investigate how different organisational strategies can be adapted to accommodate each other to achieve a sustainable environmental management practices. In a similar study, Hall (2001) and Rivera (2004) identified that key drivers that instigate green changes in organisations are core business process and government regulation. DiMaggio and Powell (1983) draw on institutional theory to describe three forms of drivers that create isomorphism (i.e., a similarity of the processes/structure between organisations, which can be an imitation or independent change under similar constraints) in the organisational process, strategies, and structures. And these strategies are;

- 1) Coercive driver,
- 2) Normative driver, and
- 3) Mimetic driver.

Coercive drivers: Kilbourne et al. (2002) suggest that coercive pressure is very crucial to drive environmental management and encourage the sustainability. Coercive driver results from influences exerted by elites and those in a powerful position.

Normative drivers: Sarkis et al. (2011) suggest that for an organisation to be perceived as a partaker in legitimate actions, they should subject to the normative drivers. Normative pressure has been linked to driving enterprises to be more environmentally aware, although it is still not clear how organisation respond to environmental issues such as ethical issues and ecological thinking (Ball and Craig, 2010). Hence, because of a social obligation to comply, normative drivers influence business organisation to see their actions and responsibilities as social necessities.

Mimetic drivers: Sarkis et al. (2011) suggest that mimetic isomorphic drivers occur when business organisations, in an attempt to replicate the path to legitimate success imitate the practices of successful competitors in the industry. Institutions can be used to create basic expectations that determine the legitimacy of organisational practices in relation to environmental management.

Thornton (2004) points that an institutional logic could be dominant; it could direct the attention of business executives toward the set of legitimate issues and solutions that affect the decisions of the organisations. Hence, institutions can define what is legitimate, 'appropriate,' and acceptable practices and behaviours. And these wholesomely would affect how the organisation makes decisions. Hence, institutional logic provides insights into the roles and responsibilities of different actors in the establishment of sustainable environmental management. The institutional perspective

of environmental management in this research directs its focus on the role of conventionality, regulatory and social pressures in driving organisation action regarding environmental management. This study explores the roles of different actors in the management of environmental issues in the NOPR and their collaboration.

4.7 Ostrom's Institutional Analysis and Development (IAD) framework and the governance of the commons in managing environmental issues in the NOPR

This section extends IAD framework in managing environmental issues in the NOPR by combining institutional analysis and the governance of the common theory. IAD framework highlights the important of the institutional analysis that dictates the ways stakeholders interact with one another in governing common pool resources (CPR). The IAD framework situates the constituents of environment (e.g. water bodies, crude oil, natural gas, land, water bodies, arable farm lands, etc.) within the NOPR as a CPR at the centre of complex environmental management issues where behaviours are governed by multifaceted stakeholders operating at different institutional culture.

While researchers interchangeably use the terms frameworks, models and theories Ostrom (2009) use these concepts in a nested manner to range from the most precise to the most generic set of assumptions. Drawing a line between frameworks, models and theories, Ostrom (1991) explained different intentions of these terms in an analytical context: theories (e.g. game theory, microeconomic theory, transaction cost theory, and public goods/common-pool resource which are compatible with the IAD framework) to specify how parts of a framework relate to one another in relation to their outcomes. In the same vein, models are used within theories to make precise assumptions about a limited number of variables. Understanding the concepts of models enable analyst to examine the outcomes of specific assumptions in relation to

structure of phenomenon under investigation. Synthesis of these concepts formed the building block of the IAD framework which intends to enable researchers to analyse systems that are made of a collection of variables, each of which can then be considered multiple times depending the interest of the research (Ostrom, 2009).

Ostrom (2009, p.414) conceptualises IAD framework as a framework intended to contain *“the most general set of variables that an institutional analyst may want to use to examine a diversity of institutional settings including human interactions within markets, private firms, families, community organizations, legislatures, and government agencies”*. Drawing from this suggestion, the term framework was adopted in this research as a theoretical language to enable researcher to discuss IAD framework in the context that creates a structure for building a narrative around the environment of the NOPR, situated within multifaceted stakeholders.

IAD framework, as posed herein, is applied to the case of NOPR to uncover what can be gained from the understanding environment as a nested CPR within governance influence by diverse institutional forces. The general governance of the common theory builds on governing of limited CPR by contextualising governance of CPR as a resource level interaction between socio-economic processes and political actors operating at diverse institutional settings. This would build theoretical understanding into how key stakeholders collaboration within diverse institutional setting should be designed in governing and managing environmental issues in the NOPR.

Extending the Ostrom’s institutional and development framework from common pool resource (CPR) to environmental management requires ‘more than just’ rational solution where the stakeholders are appropriately aligned with their roles in fairness and equity. The difficult task for the researchers, Lara (2015) argues, lies in building on the Ostrom research legacy, learn from it and extend her research contributions in

designing analysis and frames for governing and managing of the CPR. Ostrom's IAD framework provided advancement on the understanding of relevance and role of institutions in managing the relationship between human beings and their environment – the biophysical world. The fundamental suggestion of IAD framework is an inadequacy of either government or private interventions (through enforced laws and regulations) in dealing with governance and management of CPR. Through an expansive research design (e.g., case studies, meta-analysis, experimental, etc.), Ostrom developed IAD framework and suggested analytical frames for IAD framework for conceptualising and addressing CPR problems, of which environmental issues is not an exception.

In extending IAD framework in this research, it is pertinent to overview building blocks of the principles of the model. From the political perspective, Ostrom and Cox (2010) and Ostrom (2011) explain that institutions are best thought of as the “rules of the game” bounded by shared concepts of norms, rules, and strategies that guides and either facilitate or constrain the conduct of organisations as well as individuals. Crawford and Ostrom (1995) suggest that institutions are defined to organise all forms of activities and structured interactions within organisations and individuals at all scale. In a concise expression, Ostrom and Cox (2010, pp. 454-455) explain that institutions can be commonly understood as *“codes of behaviour that potentially reduce uncertainty, mediate self-interest, and facilitate collective action.”* Institution encompasses the rules and regulations including laws and social norms that are essential for efficient and effective governance of organisational entities (e.g., businesses, companies, families, government agencies, non-governmental agencies) and CPR. These varying explanations of institutions with shared meaning points to the relevance of extending frames of institutional analysis in managing environmental issues in the NOPR – where the priority lies on how to:

- Reduce uncertainty in managing complex environmental issues in the NOPR;
- Mediate the self-interests of stakeholders within diverse institutional settings;
- Facilitate collective actions of stakeholders in the NOPR.

Accordingly, IAD framework has been extended in previous studies (Ostrom, 2005; Ostrom and Cox, 2007) in ways that are relevant to governing and protecting CPR, including analysis of complex institutional linkage across metro- and non-metropolitan regions and the design of socio-ecological (SES) frameworks. Ostrom and Cox (2010) suggest that framing SES framework using IAD framework requires multi-level analysis which encapsulates institutional interactions and governance of the CPRs.

4.7.1 Applying IAD framework design principle and Ostrom's in managing environmental issues in the NOPR.

Ostrom et al. (1994) analysed the institutional structure of collective action to ascertain critical success factors that can provide insight into resource management. Ostrom's analysis of institutions suggested that communities could have a successful management of common resources by encouraging collaboration and communication among themselves (Ostrom, 2010). Based on the findings of the Ostrom's (2011) case study research, eight design principles that characterise institutions that successfully manage resources are;

- 1) clearly defined boundaries;
- 2) congruence with local conditions;
- 3) collective choice arrangements – stakeholders that are impacted by resources are involved in designing the rules governing that management of resources;
- 4) user-designated rules featuring graduated sanctions;
- 5) proper monitoring of common pool resources and users;
- 6) inexpensive, local and fast conflict resolution;

- 7) government recognition of the rules;
- 8) multiple layer decision making

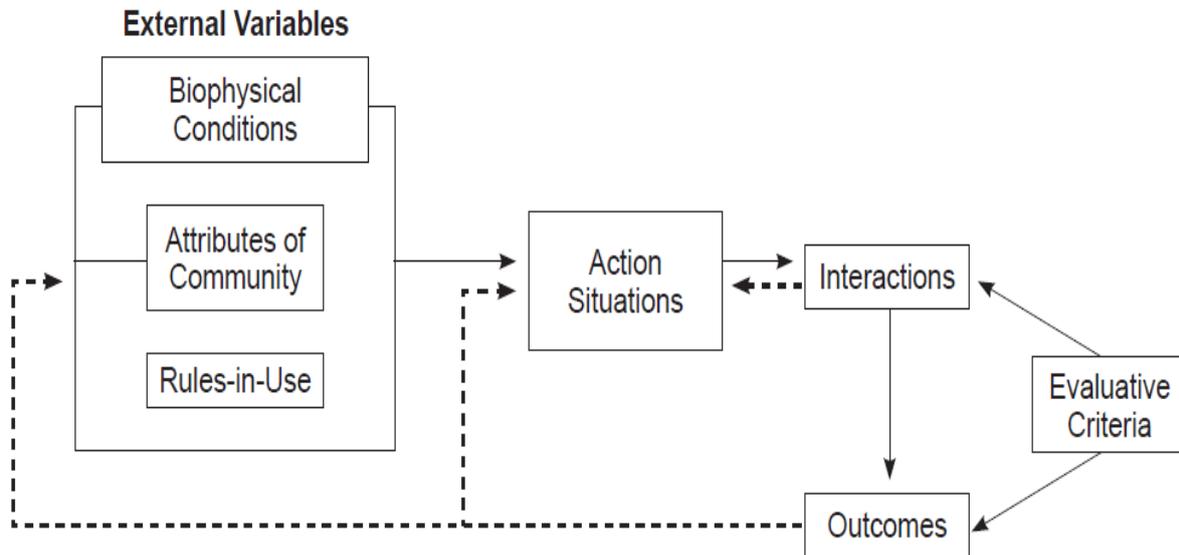


Figure 5: Institutional analysis and development (IAD) framework

(Adapted from Ostrom, 2011)

Ostrom (2011) conceptualised institutional interactions using IAD framework, and suggested three major components of IAD framework;

- 1) action situation,
- 2) interactions that lead to outcomes and
- 3) external variables

Action situation and the participants – the stakeholders

This is a situation where stakeholders that are impacted by resources obtain information regarding management of the resources. The stakeholders then choose actions, interact with others that share a relatively similar interest and receive outcomes from their interactions. McGinnis (2011) suggested that the action situation is a “black box” of research management and development policy, and that action

situation is the key component that determines choices made by institutional stakeholders that manage resources. In applying IAD framework, one needs to ask questions of action situations for which the institutional setting of the stakeholders can be mapped while considering the analysis of their impacts. In doing that, relevant questions need to be asked: what are essential actions or practices or roles of the stakeholders that need to be understood? In answering this question, action situation on which institutional arrangements may be built would be identified to enable expected outcomes. Ostrom et al. (1994) argue that however, stakeholder's strategy regarding their actions and interactions in an institutional setting would be affected by internal structure, they are in positions to decide among diverse action (*in the light of available information*) how their actions are linked to expected outcomes – cost and benefits. In addition, Ostrom (2005) explains that stakeholders are decision-making entities with capabilities to choose from a set of alternatives in a decision-making process as well have the capacity to play essential roles in the processes.

Outcomes of interaction are the product of the actions of stakeholders, and that success or failure of the outcomes would be based on stakeholders' evaluative criteria (Ostrom, 2011). In agreement to Ostrom (2011), McGinnis (2011) advocates ten concepts of stakeholders' evaluative criteria for measuring outcomes of their interaction. These concepts include accountability, adaptability, consistency with normal ethics and values, equity, efficiency, fiscal equivalence, legitimacy, participation, resilience, and sustainability. McGinnis argued that actions are shaped by either more manageable internal and lesser manageable external influences.

The external influences can be a biophysical condition, socio-cultural attributes of the communities and socio-political policies. These can be extended to characteristics such as common agreement and trust among stakeholders and both the formal and

informal policies used in governing institutions. This research asked series of questions to the stakeholders that are impacted by environmental issues (resources as used by Ostrom) in the NOPR regarding their roles, the environmental management policies, their actions, and nature of their collaboration. The research also includes question that asked the stakeholders to evaluate the collaborative action situations and their collaboration outcomes. Respondents were asked about how they work together with other stakeholders in implementing environmental management practices; and if they work together in making environmental management policies.

4.7.2 Informing stakeholder analysis through IAD framework in the context of managing environmental issues in the NOPR

According to Aligica (2006, p.89), the Institutional Analysis and Development (IAD) framework has been “one of the most developed and sophisticated attempts to use institutional and stakeholder analysis to link theory and practice, analysis and policy.” Nowlin (2011, p. 44) concurs to the Aligica’s (2006) assertion and argues that IAD framework is one of the major policy theories that has been designed to be based completely on institutional analysis while considering an in-depth action of the stakeholders within a given institutional setting. Imperial and Yandle (2005) added that with the IAD framework’s strong arguments on informing stakeholder analysis, it has proven essential in understanding complex institutional arrangements in both developed and developing countries. Hence, it is imperative to discuss the relevance of the linkage between stakeholder analysis and IAD framework in managing of environmental issues in NOPR.

Ostrom’s (2005) IAD framework, was originally developed to the study of institutions, populations, and environmental change, it provides a structured approach to generically identifying action and rules (for actors and participants) based on the following four concepts: a situation according to initial conditions, the definition of the

action arena, and patterns of interaction with their outcomes and existing evaluation criteria. Methodologically, the principle of IAD framework is designed to identify rules that govern CPR in an institutional setting. Essentially IAD framework can be applied to analysis of rules in use and their outcomes within a case under study; a framework for analysing the effectiveness of the rule in a selected case; and an approach for an explicit analysis of institutional dynamics within selected context. Extending an application of IAD framework in the context of this research requires an understanding of rich information on the physical condition of the NOPR, analysis of their existing rules and institutional setting in the NOPR as well as comprehensive analysis of attributes of stakeholders.

The IAD framework has been applied in a similar case as it is in this research to provide a systematic analysis of the structure of situation face by stakeholders in managing environmental issues while considering the nature of institutions affecting them. Kiser and Ostrom (2000) suggests that in analysing the behaviour of stakeholders in an institutional setting, one need to focus on five main components: the decision maker, stakeholders affected, services that interacting stakeholders are interested in; the institutional arrangements that guides decisions of the stakeholders, and contextual situations on which stakeholders make their decisions. Drawing on these suggestions, this research is designed based on the underpinning of the stakeholder analysis which tends to be more pragmatic in understanding the need of policy makers by identifying the perceptions of stakeholders with regards to their roles in managing the affected environment. Johnson et al. (2004) suggest that stakeholder analysis can be used as an instrument to overcome obstacles to the adoption of policies, rules, norms, strategies, adapt technologies to relevant different user groups. In a similar study, Pain (2004) suggest stakeholder analysis can be used to understand

how to work effectively with other stakeholders, facilitate implementation of decisions and objectives, and feasibility of future policy options.

Particularly, Dougill et al. (2006) and Prell et al. (2008) suggest that clear criteria must be drawn at the outset of the stakeholder analysis to consider geographical and institutional characteristics in selecting subjects in environmental management research. They recommend placing stakeholders in a Venn or Rainbow diagram, classifying them based on the degree they affect or affected by environmental issues or the actions. These suggestions were considered in this research design by focusing on the NOPR – defined geographical areas in Nigeria, selecting three institutional stakeholders – i.e., government agencies, multinational oil companies and local communities, use of qualitative research methods – document analysis and semi-structured interviews. The instrument of stakeholder analysis is an essential tool in this research as it is designed to understand the perception of stakeholders in relation to their institutional interests to develop a framework for stakeholders' collaboration.

4.8 Towards a successful stakeholders' collaboration: stakeholder analysis

Stakeholder theorists (e.g. Coase, 2013; Freeman, 2010; Rowely, 1997) categorise stakeholders in the context of environmental management as polluters and victims, as from the notion of whom/what affects or is affected, to the notion of national capital investment, externalities, and property rights. Checkland (1981) suggests that whoever pollutes environment should be a co-owner of the process to clean it. However, there are debates (Friedman, 1962; Frooman, 1999; Freeman and Miles, 2002) about the legitimacy of the stakeholders. Researchers (e.g., Brugha and Varvasovsky, 2000; Pain, 2004) suggest stakeholder analysis can be used to

understand how to work effectively with other stakeholders, facilitate implementation of decisions and objectives, and feasibility of future policy options.

Some researchers (e.g., Lindenberg and Crosby, 1981; Salam and Noguchi, 2006) suggest that such analysis could have a role in gauging the importance of stakeholders, mapping their relationships and understanding their potentials. The collaborative approach built on the participation of interested stakeholders advocates for an on-going and evolving involvement of stakeholders at every stage (Rowley and Moldoveanu, 2003; Stringer et al., 2006). In this way, the dynamic nature of stakeholder needs, priorities and interests can be captured in pollution prevention initiatives. In addition, it can be used to understand diversity and conflicting stakeholders' interests such as covert interests, hidden agendas and costs (Prell et al., 2007).

Some researchers (e.g., Donaldson and Preston, 1995; Friedman and Miles, 2006) attempt to classify different approaches to stakeholder analysis: normative, instrumental and descriptive. Instrumental and normative require an understanding of the current state of stakeholders while descriptive is in effect a necessary precursor. The normative approach has been advocated in environmental management, emphasising empowerment of stakeholder in decision-making and their legitimate involvement (Boatright, 1994; Hendry, 2001). Some normative stakeholder theorists (e.g., Roling, 1996; Jonker and Foster, 2002) have been influenced by Habermas' theory of communicative action: communicative rationality (shared understanding and cooperation to solve a common problem), instrumental rationality (controlling by changing reality) and strategic rationality (winning by making strategic moves).

Checkland's (1999) soft systems approach agrees with Habermas (Habermas, 1984; 1987) and argues that stakeholders need to recognise that they face common environmental issues which cannot be solved by hard system approach of thinking. For this reason, some researchers (e.g., Roling and Jiggins, 1997; Rist et al., 2006) argue that it is important that sustainable environmental management require soft system – a platform that facilitates participation by learning, sharing and validating understanding of the environmental situation to reach consensus.

Arheimer et al. (2004) suggests that this is pertinent in environmental management; particularly in the case of the NOPR where there is need for consensual targets and priorities to be reached between the stakeholders –i.e. Nigerian government, multinational oil companies and host communities; where it is particularly important to identify existing challenges and conflicts between stakeholders, to ensure that they are not repeated while proposing a new management initiative. However, Reed et al. (2009) advise that stakeholder analysis may not necessarily lead to change in attitudes and behaviour because of potentially conflicting interests of stakeholders in appreciating each other views.

Instrumental stakeholder analysis tends to be more pragmatic in understanding the need of policy makers by identifying the perceptions of stakeholders regarding their roles in managing the affected environment. Johnson et al. (2004) suggest that stakeholder analysis can be used as an instrument to overcome obstacles to the adoption of new management strategies, adapt technologies to relevant different user groups. The instrumental stakeholder analysis is an essential tool in this current research which demands implementation of best environmental management practices among the agencies, companies, and communities with different roles. This

effort can provide a more robust knowledge base from which to build a sustainable environmental management initiative.

4.9 Stakeholder analysis: theoretical lens for this research design

Various researchers suggest that analysis of stakeholders should be based on their level of interest and influence (Lindenberg and Crosby, 1981), cooperation and threat (Savage et al., 1991), influence, legitimacy, and urgency (Mitchell et al., 1997). Other researchers (e.g., Eden and Ackermann, 1998; De Lopez, 2001) classify stakeholders into key players, context setters, subjects, and crowd. In this current research, the key players are government agencies, oil companies who are actively interested and influence management of environmental issues in the NOPR. Subjects are communities whom can have high interest, supportive but lack capacity like resources for impact. They can be influential by forming alliances with other stakeholders, Reed et al. (2009) cautioned. Sometimes, subjects are often marginalised which is typical of perceived communities in the case of NOPR.

While context setters can be NGOs whom may be influential with little interest, and there may also be little or no need to consider them. The analysis was done based on the idea that environmental issues dictate the stakeholders and on other hand, stakeholders dictate how to resolve the issues as opposed to the one-way approach suggested by Reed et al. (2008). Tuchman (1984) and Grimble et al. (1995) suggest that, as it is in this case, where the main concern of the stakeholders is issues of costs, planning, enforcement and implementation, all the essential stakeholders may need to participate, but priority should be given to those stakeholders who are most likely to impact the functioning of the project or institutions by contributing their interests, influence, and resources.

Dryzek and Berejikian (1993) propose two approaches for categorising stakeholders namely top-down categorisations and bottom-up reconstructive methods. Hare and Pahl-Wostl (2002:50) recommend that analytical approaches should be applied based on the analysis of the phenomenon in question and “*embedded in some theoretical perspectives of how the systems functions.*” Drawing from this recommendation this research uses qualitative research embedded in stakeholders’ collaboration to observe how the stakeholders affect environmental issues. Some researchers (e.g. Grimble and Chan, 1995; Mac-Arthur, 1997) argue that one of the main drawbacks of analytical categorisation is that it often leads to the under-representation of marginalised and powerless stakeholders.

In response to the limitations of analytical categorisations, researchers (e.g., Dryzek and Berejikian, 1993; Hare and Pahl-Wostl, 2002) recommends qualitative perspective analysis. In this current research, this perspective is applied as it uses document analysis and interview to identify different stakeholders, their perceived roles, drive and hindrances in relation to achieving the goal of managing the environmental issue in the NOPR. Cornelius and Faire (1989) suggest that this perspective, often can be repeated through interviews, is like conflict mapping which focuses on needs rather than state positions or goals.

Reed et al. (2009) suggest that considerable documentary evidence can be used to provide an intimate knowledge of stakeholders in relation to their interest in the environmental issues under investigation. In a case of incomplete knowledge of the stakeholders, further investigation may be needed to clarify most pertinent issues. Reed et al. (2009) suggest that understanding stakeholder analysis towards effective participation and collaboration varies considerably from passive consultation (providing information for analysis) to active engagement (two-way exchange of

information between researchers and stakeholders). Reed et al. (2009) suggest that identifying stakeholders can be an iterative process that necessitates a clear understanding of the environmental issues under investigation, during which further analysis involving expert opinion, semi-structured interview, and convenience sampling, or a combination of these.

However, Clarkson (1995) notes that there is a risk of omitting some relevant stakeholders. To avoid this, researchers (e.g., Clarke and Clegg, 2000; Varvasovszky and Brugha, 2000; Dougill et al., 2006; Prell et al., 2008) suggest that clear criteria must be drawn at the outset of the research. They suggest that essential criteria should include geographical and institutions in selecting subjects in environmental management research. They recommend placing stakeholders in a Venn or Rainbow diagram, classifying them based on the degree they affect or affected by environmental issues or the actions. Lewis & Gilmore (2005) and Bryson et al. (2002) suggest that this representation helps to describe the roles of stakeholders based on an inclusive perspective since the capacity for management strategies and policies depend on including all the appropriate stakeholders. These suggestions were considered in this research design by focusing on the NOPR – defined geographical areas in Nigeria, selecting three institutional stakeholders – government agencies, oil companies and local communities, use of qualitative research methods – document analysis and semi-structured interviews.

4.10 Summary

This chapter provides an understanding of theoretical analysis for the design of a framework for stakeholders' collaboration. Environmental management theory advocates understanding the stakeholders' roles regarding their interests and drives

for collaboration. Environment management is inherently linked to the environmental governance and management theories and their application. Overall, this chapter has identified the vital theories that guide the development of a conceptual framework for stakeholders' collaboration through defining environment as a common pool resource and institutional perspectives of managing environmental issues that formed the basis stakeholders' collaboration. The key concepts of environmental management lie in recognising these concepts and management paradigms. These paradigms conceptualised that management of environmental issues are influenced by actions and interaction with external agents: funding bodies, business organisation, government agencies, and researchers.

Effective interaction of these agents can be perceived as essential elements for successful stakeholders' collaboration. Thomson and Perry (2006) explain collaboration as a process of interaction involving self-governing actors. This process can be either formal or informal with the aim to create rules to govern their roles on the issues that brought them together. Both Rutherford (1996) and Ostrom et al. (1994) analysed the institutional structure as rules that underpin critical success factors that can provide insight into genuine collaboration in managing environmental issues. Stakeholder analysis can be used to answer the question of how stakeholders can work together with other stakeholders while facilitating implementation of decision-making regarding environmental management. Next chapter provides explanations on research methodology for answering this question in the context of the NOPR.

CHAPTER 5: RESEARCH METHODOLOGY

5.0 Introduction

This chapter covers research design and approach employed in the study. It identifies the study's epistemology perspective. It is essential that the epistemological background of this study is identified and established to discuss the research methodology and research methods. It further looks at the empirical research approaches adopted to achieve the research objectives. Fransson and Garling (1999) suggest that the choice of research methodologies in environmental management is often dictated by research paradigm. Dunlap and VanLiere (1978) and Arcury and Christianson (1990) have argued that there is 'no fit it all' research methodology for the studying of environmental management due to its multi-disciplinary dispositions.

5.1 Research paradigm and method

Various research methodologies differ in underlying paradigms and philosophies of which many may or may not be compatible with multi-disciplinary nature of environmental management (Vaccaro et al., 2010). As defined by Kuhn (1970), an epistemological paradigm is the underlying assumptions and intellectual structure upon which research and development in a field of inquiry are based. It is then left to the volition of the researcher to choose the research paradigm that provides the appropriate analysis of the research problem under investigation. As the nature of disciplines such as physical science and social sciences differs so is the design of their

research methodology and methods. Environmental management research, with its multi-disciplinary nature, has attracted various research methodologies (Arcury and Christianson, 1993).

Saunders *et al.* (2007) expressed methodology as a theory and analysis of how research should start; it provides justification for the methods of a research project and not the project themselves. The decision to choose a specific methodology, either qualitative or quantitative, should be based on the suitability of the methodology to provide an appropriate answer to the research questions (Bryman, 1988). Berg (2001) provided the distinction between qualitative and quantitative research and argues that qualitative research is characterised with definitions, concepts, description of things, meanings and symbols, while quantitative research is characterised with counting, measurements, and analysis of the causal relationship between variables and things. Qualitative and quantitative research approaches differ in some major areas which include the general framework, analytical objectives, types of the question posed, degree of the flexibility, techniques of the data collection and types of data produced.

Snape and Spencer (2003) emphasise on four key elements of the qualitative research. First, it provides an in-depth understanding of the social world. Second, the sampling population is often based on small sample scale. Third, it uses interactive techniques of data collection such as documentary analysis, interviews, and participant observation. Fourth, it allows the researcher to explore new issues and concepts. These key elements fit into this research design. It was designed to investigate the roles of stakeholders in the socio-economic setting of managing environmental issues in the NOPR. Second, the sampling of participants is designed to focus on the selected key stakeholders –i.e. government agencies, multinational oil companies and host communities. Third, the document analysis and interviews as the integral approach of

a qualitative methodology are employed to explore how the stakeholders' collaboration would be developed in the NOPR. In addition, this chapter covers the analysis of collected data. It concludes with the essential research design issues including ethics, validating and triangulation of the research approaches.

Qualitative research was adopted as a strategy as it is distinguished by its features to examine the phenomenon of managing environmental issues in the NOPR from stakeholders' collaboration perspectives. This chapter explores and rationalises the research methods and sampling strategies used for collecting and collating data. The chapter then looks at the qualitative research methodology and approaches: document analysis and semi-structured interview, used for analysing collated data. It concludes with a discussion of issues of validity, reliability, triangulation, and generalisation of the research results. This chapter has two aims: to contribute to the understanding of the place of environmental management in the research philosophy and examines research methods that aid to achieve this research aim.

5.2 Rationale for the choice of a qualitative methodology

In as much as the rationale for choosing qualitative research methodology in this research builds on the theoretical lens of the stakeholders' analysis (discussed in chapter 4), it also builds on the following four rationales. First, it was based on the suggestion Denzin and Lincoln (2005) that qualitative research is an activity which locates the researchers in the world around them. It allows research to be conducted in a natural setting, makes sense of, and interpret phenomena in terms of the meaning people bring to them. Smircich and Morgan (1980) add that qualitative research is an approach rather than a particular set of techniques and that its appropriateness is usually derived from the nature of the social phenomena to be explored. Hence,

qualitative research is chosen to help this research to understand the roles of stakeholders and the people within a socio-cultural context that they operate.

Second, Stake (1995) suggests that a qualitative research should be chosen in typical research context when the research problem requires the researcher to seek the contextual meaning within a bounded and intricate system. This study is similar in context; as this research seeks to interpret the environmental issues in the NOPR as a bounded Nigeria society setting. In this study, the focus is on the roles of the stakeholder in managing environmental issues. The emphasis is on studying environmental issues from the boundary of the peculiar nature of Nigeria as an institution. The features of qualitative research enabled this research to deal with stakeholders' roles and to understand the focus on the relationship between stakeholders and their institutional setting. Denzin and Lincoln (2011) suggest that qualitative research design provides an advantage and way to explore and understand the phenomenon and context when the boundaries between them are not clear. The use of qualitative methodology provides an in-depth understanding of the environmental issues in the NOPR by providing a rich picture on the actual circumstances surrounding the environmental management practices across key stakeholders – i.e. the Nigerian government agencies, multinational oil companies and local communities in the NOPR.

Third, Gray (2004) emphasises that qualitative research is distinguished by its highly contextual features where data is collected in a natural setting with the flexibility to fit into the resources available for the research. It can answer how and what questions with flexibility rather than giving a brief view tied to controlled theoretical assumptions about the phenomenon. These suggestions are tied to one of the rationales for using qualitative research in this study as this study asked the following questions of: what

are the global recommendations for stakeholders' collaboration; how can the key stakeholders collaborate and what are the critical factors of stakeholders' collaboration in the NOPR.

Fourth, Hirschman (1986) and Merriam (1998) suggest that qualitative research methodology is suitable when the research activity is an inductive theory building as opposed to deductive approaches. Marshall (1997:17) explains that deduction is the technique that depends on a sort of logical leap based on a given theory; that requires researchers to develop knowledge in a more mature field of enquiry. On the contrary, Saunders et al. (2003) suggest that induction is useful when researchers are required to explore a new line of enquiry and find out that there are no 'mature' or useful theories available from which to deduce propositions for testing. An inductive approach is theory building approach that starts with collecting data with an aim to develop a theory, and this concept of inductive approach underpins the purpose of this research. This research started by identifying the research problem. It set out the research objectives aimed at developing a stakeholders' collaboration framework for management of environmental issues in the NOPR. This research process then continues with exploring and collecting data from multiple sources of evidence: document analysis and interviews. In doing this, it allows for analysis of the data from the stakeholders' perspectives that contribute to building knowledge; as has been suggested by Glasser and Strauss (1967), a qualitative research design is a suitable research instrument to provide an empirical data for theory building.

Fifth, this research also buys in the suggestion of Algozzine and Hancock (2006) that qualitative research methodology 'is such', an intermediate research approach which helps to match philosophy, methodology, and the research problem. In this research, qualitative research methods were envisaged to be effective in answering the research

questions. The collected data would be analysed with appropriate techniques to meet the research aim and objectives.

With these four rationales that have been discussed, qualitative research methodology was chosen instead of quantitative research methodology. Quantitative research is not used in this research because the concept of quantitative research is not suitable to achieve the aim and objectives, as the purpose that this research is not designed to test hypothesis.

Other vital reasons for not adopting the quantitative research are as follows. First, the definition of quantitative research suggested by Bryman (2008) and Creswell (2007) are not in line with the argument of this study. This research aims to develop a conceptual framework. And this aim would be achieved through inductive approach influenced by cultural and social perspectives. Several authors (e.g., Glaser and Strauss, 1967; Denzin and Lincoln, 2005) have argued that quantitative research assume a value-free and objective report and ignore social and cultural influences. Moreover, this argument does not support the design of this research and cannot contribute towards achieving this research aim.

Secondly, Glasser and Strauss (1967) argued that pure statistical logic can trivialise the development of theory and might lead to failure in generating theory from data. And this can be a challenging weakness of employing quantitative research in this study. Previous studies (Groundwork, 1995; Meritt, 1998) reported a number of research design issues in investigating environmental issues by using a quantitative approach such as a questionnaire. Researchers (e.g., Malhotra, 1993; Meritt, 1998; Davies and Dodd., 2002) point that research results derived from the quantitative-based questionnaire tend to be inconclusive because of four major issues. First, there is often the case of low response rate from the research participants. Second, there

are cases of misunderstanding of the questions by the research participants. Third, there is a tendency for participants to overstate their concern and interest in the questionnaire to create the impression that their organisation or company is abiding by environmentally friendly practices. Fourth, would be a tendency for respondents to give answers which might be in compliance or agreeable from the social point but might not be accurate.

The final reason is that the use of quantitative research cannot clearly define hard factors which influence stakeholders' behaviour and their interaction in managing environmental issues. Hence, there is a possibility that the quantitative research would not aid in achieving the purpose of this study. TABLE 6 below summarises the arguments for rejecting quantitative research in this study by comparing the objective of quantitative and qualitative research based on the arguments of several researchers (e.g., Bryman, 1998; Creswell, 2007; Denzin and Lincoln, 2005; Denscombe, 2010).

These arguments in TABLE 6 are contextualised with this research aim and objectives. Based on the above arguments and suggestions, the place of quantitative research methodology in this research is not adopted. This is because of the 'strictly' positivist concept of the quantitative research which emphasises the measurement and analysis of the causal relationship between variables; carried out in a 'value free framework' (Denzin and Lincoln, 2005). On the question of *what methodological paradigm is relevant to this research*, it was viewed that the quantitative-based positivistic concepts of 'value free' and 'one world' would not be helpful (Denzin and Lincoln, 2011). Besides, due to the concepts of quantitative research having been originated from natural sciences, it is useful to define the relationship, numerical methods, and surveys. Moreover, this is not the case in this research.

Table 6: Comparison of qualitative and quantitative research

(Adapted from Bryman, 1998; Creswell, 2007; Denzin and Lincoln, 2005; Denscombe, 2010)

Research/ Arguments	Qualitative Research	Quantitative Research	Development of an environmental framework for the NOPR
Purpose/ Objective	To provide insight into the settings of a problem; Primary purpose is to describe on going processes; To gain understanding of underlying reasons and motivations	To measure various views and options in a chosen sample; Primary purpose is to determine cause- and-effect relationships; To quantify data and generalise results from a sample to the population of interest	To provide insight on the environmental issues in the NOPR; to provide a stakeholder analysis of the roles; To gain an understanding of their underlying reasons and motivation in managing the issues.
Setting hypothesis	Hypotheses are developed during the investigation; questions govern the purpose of the investigation; theories are developed inductively.	The Precise hypothesis is stated at the start of the investigation; theories govern the purpose of the investigation in a deductive manner.	
Variable types	There is no specific independent variable; the concern is to study naturally occurring phenomena without interference.	The independent variable is controlled and manipulated	There is no specific variable. The analysis is based on themes and key words.

Data collection method	Participant observation, semi-and unstructured interview, focus groups, in-depth discussion and discourse analysis. Objective collection of data is not a requirement; researcher may interact with the participants	Objective collection of data is a requirement; Closed ended questions, questionnaire surveys experiments	Document analysis, In-depth interview
Research design	Research design is flexible and develops throughout the investigation	Research design is specified before the start of the investigation	The development of the framework is based on the building process. First is the framework design, followed by validation/
Data analysis	Data are represented or summarised narrative or verbal forms Use of logical analyses to control or account for alternative explanation	Data are represented and summarised in in numerical form, Use of design or statistical analyses to control for threats to internal validity	Verbal forms, Keywords, Themes, Categorisation, De-contextualisation
Validity and reliability	Reliability and validity determined through multiple sources of information (triangulation) Use of similar cases to determine the generalizability of findings (logical generalisation) if at all; Rely on the researcher to come to terms with procedural bias	Use of inferential statistical procedures to demonstrate external validity (specifically, population validity) Rely on research design and data gathering instruments to control for procedural bias	Triangulation

	Phenomena are studied holistically, as a complex system	Phenomena are broken down or simplified for study	
Sample frame	Samples are purposefully selected, or single cases are studied.	Samples are selected to represent the population	Purposeful samples: Selected MNOC, Government Agencies, and Community leaders
Study of behaviour	Study of behaviour is in the natural setting	Study of behaviour is in the natural or artificial setting	Company headquarters, government offices, Community leaders home town
Strengths	cross-case comparisons and analysis can be conducted; Provides understanding and description of people's personal experiences of phenomena; Complex questions that can be impossible with quantitative can be examined; Issues can be examined in detail and in-depth.	Data can be easily generalised Variable used can be measured Data are obtained from large samples	Cross-case analysis
Weaknesses	Less easily generalised; Knowledge produced might not generalise to other settings more difficult to test hypotheses; Scope is limited due to in-depth, comprehensive approach; More easily influenced by the researcher's personal biases and idiosyncrasies. Findings can be more difficult and time consuming to characterize in a visual way	Enforces researcher's perception to build questions; Less helpful in generating theories; Limited to rigidly definable variables	Limited to NOPR

5.3 Research design

Crotty (1998, p.3) explains research design in the context of research methodology as “...*the plan of action, process or design and strategy lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes*’. This definition has influenced the researcher’s choice of research design of qualitative and inductive approaches. While building on the concepts of the qualitative and inductive approaches, it is important to draw from the literature review and the arguments from the stakeholders’ analysis. The findings from previous chapters have presented the need to examine issues relating to considering stakeholders’ collaboration while considering the global recommendation, roles and critical factors in managing environmental issues in the NOPR. Previous studies have shown that there are several research designs that underpin qualitative methodology which can be used to achieve an in-depth research outcome in managing environmental issues. The common strategies used in the social sciences in the context environmental management research include research philosophy, research sampling, research methods and data analysis techniques (Baldwin et al., 2002).

5.3.1 Research philosophy

Marynard (1994:10) contributed to the definition of epistemology by characterising it as a philosophical grounding which allows research to decide what kind of knowledge is possible. Marynard further asserts that epistemology allows the researcher to decide how to ensure that these kinds of knowledge are both adequate and legitimate. Epistemology is defined by Crotty (1998:8) as a way of understanding and explaining how we know what we know. Denzin and Lincoln (1988) add that epistemology seeks to answer two basic questions; first, how can we know the world? Second, what is the

relationship between the known and researcher/inquirer? While answering these questions, the knowledge seeker would be able to conceptualise beliefs, thoughts, and views of the world around in relation to the phenomenon under study. And in doing so, the research would be more concerned with identifying the origin of knowledge (Dawson, 2002). These suggestions from the researchers (e.g. Denzin and Lincoln, 1998; Marynard, 1994; Crotty, 1998 and Dawson, 2002) in relation to the definition of epistemology are used as a guide to form the philosophical perspective of this research approach. The beliefs, thoughts, and views of the research participants (selected from government agencies managing environmental issues in the NOPR, the oil companies and the communities in the NOPR) were reached based on perspectives of constructionism, phenomenology and interpretivism. The rationale and justifications behind the choice of selecting these perspectives are discussed in the subsequent sections. The linkages and relationship between these perspectives are described in FIGURE 6.

5.3.1.1 Constructionist perspective of this research

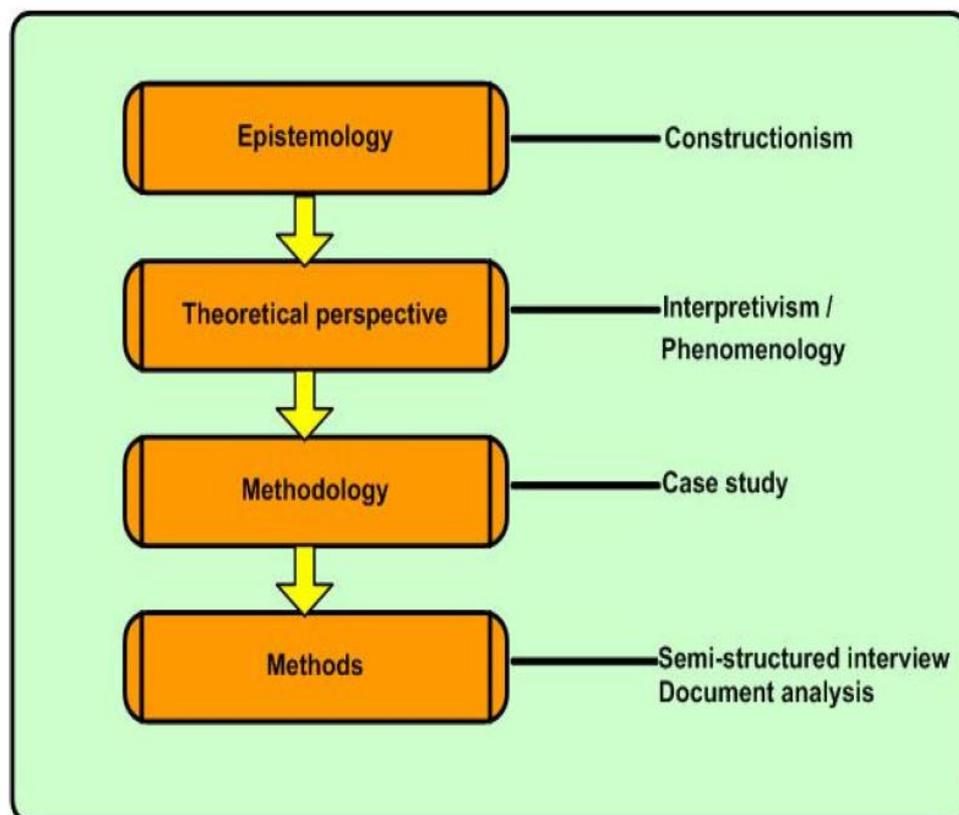
Several researchers (e.g., Schwandt, 1998; Saunders et al., 2003) assert that constructionists perceive reality as if it is socially constructed. Social constructionism, as explained by Shadish (1995, p. 67), is constructing knowledge about reality not constructing reality itself. Guba and Lincoln (1988) explain that constructions exist in the mind of the individuals. It is the role of the researcher/inquirer to investigate, understand, analyse and critique beliefs and views of the participants in the way that leads to meaningful research findings and outcomes. Based on these explanations and arguments, Crotty (1998) concludes that that this epistemology of constructionism rejects the objectivists' perspective of knowledge. Guba and Lincoln (1998) agree with

Crotty (1998) and suggest that epistemology allows the belief that both object and subject actively participate in the creation of the meaning.

The social reality can be conceptualised as being constructed. Smith (1989, p.85) explains that social reality can be based on a continuous process of clarification and re-clarification of the meaningful behaviour of individuals and researchers. It should be clear that explanation of phenomenon under investigation is a constructive procedure and therefore an inquirer cannot be put in isolation from the investigation. Individuals tend to construct meaning in different ways when they examine the same phenomenon (Crotty, 1998). Schutt (2006) looks at the constructionism from different angles and refers to it as a perspective that emphasises how different stakeholders in social settings construct their beliefs, thoughts or views. In this sense, the research aims to understand and reconstruct the stakeholders' views while endeavouring to reach a common consensus of the inquiry. As more information is collected from the stakeholders, the constructs are opened to new understandings and interpretations (Carr and Kemmis, 1986). Crotty (1998) argues that constructionism and phenomenology are interrelated in a way that one cannot be phenomenological. Hence, constructionists conceptualise that reality is constructed and there is no truth without mind. Adhering to the above arguments, this research has undertaken constructionism as an epistemological stance.

Constructionism would allow the researcher to engage with the social world of NOPR trying to explore, understand and construct the reality from perspectives of different stakeholders who experienced or lived with environmental issues being studied. All participants of this research are carefully selected and would be challenged to reach the appropriate level of consensus regarding environmental issues in the NOPR being

studied. A common perspective would be achieved from the participants by applying an effective method of data collection, analysis, and interpretation. In doing so, an inductive approach is employed which involves the construction of theory through analysis of data. The research results and outcomes based on the review of the collated data, repeated ideas, and concepts would be tagged with codes and categories to form the basis of the new theory – framework for managing environmental issues in the NOPR. This perspective is what Crotty (1998:3) refers to the philosophical stance which informs the research methodology. Crotty further explains that constructivist perspective allows for developing and grounding the methodological principles and rationality.



**Figure 6: Epistemological perspective of this research
(Adapted from Crotty, 1998)**

5.3.1.2 Phenomenological perspective of this research

Phenomenology holds that an attempt to understand social reality (research problem in this case) should be grounded in participants' experiences of that research problem (Tesch, 1988). Hence, phenomenology requires that researcher and participants must lay aside their prevailing understanding of the phenomena and revisit the problem in order that new meanings may emerge (Remenyi and Williams, 1995). In other words, this is gaining the subjective experience of the research problem by the researcher through 'assuming' the place of the subject (Chen et al., 2011). Hence phenomenology becomes an exploration, via prevailing cultural understanding and personal experience. In doing these, the value is ascribed not only to the subjects, but also to the interpretations of the research (Paul, 2004). Since this logic of phenomenology seeks to find the internal logic of the subject which is far from using a theoretical model that imposes an external logic, it supports the stance of this research which tends to find the internal value and logic of the subject and refine them to build a framework.

Tesch (1988) and Carter and Little (2007) suggest that phenomenological research adopts the epistemological stance which is based upon interpretation and description of culture and human experience of the 'life-world' (Tesch, 1988). As put by (Titchen and Hobson, 2005, p.121), phenomenology studies human phenomena in their social contexts. It looks at the phenomena from the social perspective of those that experience them. Gray (2004) argues that phenomenology allows the researcher to provide a new meaning of the phenomena by exploring human experiences and perceptions through the use of unstructured data collection methods.

In doing so, phenomenological researchers could use in-depth interviews to engage the people who live with and/or experiences the phenomena (Patton, 2002). The in-depth interviews as a prime mode of data collection sometimes can be supplemented

by observation data and document analysis for clarification (Easterby-Smith et al., 2002). Adhering to this phenomenological stance, the environmental issues in the NOPR would be treated as a phenomenon and examined from different perspectives, including those agencies, companies and local communities.

The phenomena of environmental issues in the NOPR would be investigated using multiple qualitative research methods to explore and understand the selected stakeholders' roles and experiences. The methods include: documentary analysis and semi-structured interviews. Using these qualitative research methods would allow the researcher to interact effectively with the selected stakeholders. It would also enable the researcher to discover their in-depth views from different perspectives and angles regarding environmental issues in the NOPR.

5.3.1.3 Interpretivist perspective of this research

Interpretivism asserts that social reality and laws of science (natural laws) are different and therefore require different kinds of method (Fay, 1996). While the laws of science are looking for consistencies in the data to deduce laws which are excluded from the scope of this research, the social science deals with the actions of the individual which is the context of this research. The interest of this research focuses on exactly those aspects that are unique, individual and qualitative, which is relative and dependent on both institution and/or individual perspective. The researcher status on this research shares the interpretivist views which encourage that there is no absolute reality; that truth is not singular, and knowledge is created by the knowers; and there are multiple social realities, and they are created by our lived experiences.

From interpretivist belief and views, Gray (2004) asserted that the social reality is a complex world which might be less easy to reduce into observable laws. This belief

allows that generalizability is not as important as an interpretation of the observations and conditions of the reality. Hence, the crucial goal of the interpretivist is to interpret his or her understanding of the meaning of social reality from the perspectives of the people who live it. The researcher would need to understand the phenomenon, interpret the process of the meaning of reality that has been constructed. And then tell the story of what the meaning of the reality is embodied in the people's experiences and actions (Schwandt, 1998).

This interpretivist status geared the researcher's view on the attempt to generate 'unknown' realities – environmental issues in the NOPR, through stakeholders' perception of their roles and experiences on managing environmental issues in the NOPR. And this is important in this study to enable the researcher to give voice to the participants and to be able to tell a story about this research in the end. The interpretivist concept allows the researcher to acknowledge and explore the complexities of different stakeholder issues in relation to environmental management in the NOPR. In addition, interpretivist status enables the researcher to connect the findings (through document analysis and interview) and determine the context and then imagine whether the measurement procedures (validation of framework) would yield the same data if replicated.

Throughout this research endeavour, data are garnered from a number of different stakeholders (i.e. government agencies, multinational oil companies, and local communities), each with the potential of differing perceptions and roles. Interpretivist status of the research allows close collaboration between the researcher and participants – i.e. environmental management agencies, multinational oil companies and oil producing community, which enables the researcher to tell the story of this research based on different interpretations alluded by the participants.

Miles and Huberman (1994) argue that research which involves collaboration between researcher and management, that focuses on an issue identified as significant by the participants and which is carried in the institution is more likely to have an impact on practice. Hence, there is more pronounced impact of research findings on practice if the researcher-participant relationship involves interaction over a length of time (Crotty, 1998). And this is contextual in the case of NOPR, where the researcher and participants interact before and during the data analysis and write-up phases. Crotty (1998, p.67) argues that the interpretivist stance is a major anti-positivist (value-free). Interpretivism looks for 'culturally derived and historically situated interpretations of the social life-world' and attempts to establish a relationship between researcher/participants (subject) and the world (object).

The problem of environmental issues in the NOPR can be interpreted through the classification schemas of the human mind (perceptions and experiences of research participants in the selected institutions: i.e. government agencies, multinational oil companies, and community) (Williams and May 1996). It is imperative for the researcher as an interpretivist to find out the subjective meanings or realities which stimulate the selected institution's actions. The understanding of the subjective meanings would allow the researcher to make sense of the institution's perceptions and actions in a way that is reasonable for the institutions (Saunders et al., 2003). The researcher's perception of the collected data and interpretation of the meaning attached to the data could not be certainly valid than the perception of the same data by other researcher. This is because there exist multiples of realities in the social world, but different researchers understand social realities in varying perspectives and meanings (Rubin and Rubin, 1995). Hence, this research adopted interpretivist status to explore the roles and perceptions of the stakeholders that manage environmental

issues in the NOPR to engage with them and collect information regarding the issues. This approach allows the researcher to understand what stimulated their roles, actions, practices, and decisions they made. Then the researcher would make interpretations of the collected data to achieve the purpose of this study.

5.3.1.4 Appraisal of positivist and interpretivist approaches: The discussion of Frank Fischer's (2003) Reframing the Public Policy

This is an appraisal of positivist and interpretivist approach in the context of this research based on the discussion of the Fischer's (2003) Reframing the Public Policy. This discussion is extended in this research to critically review the place of positivist and interpretive approaches. Frank Fischer has made huge contributions in constructing critical discussions of both positivist and interpretivist in the field of policy analysis. Generally, positivists use quantitative methods such as social surveys, structured questionnaires, and official statistics to understand how social facts shape individual actions. Positivists attempt to get an understanding of society as a whole to explore social trends. In that, positivism is more interested in patterns and trends of social action.

As argued by Fischer (2003), positivism can be used to establish a 'value neutral' basis for *manipulations of social systems on the part of policy makers*. Fischer advocates that technocrats' employs 'value neutral' positivist methods which end up supporting distorted communication and interaction concealing socio-political conflicts. This approach does not allow policy analyst to uncover such conflicts which often provide a limited understanding of values and interests of the policy makers. Not only would positivism with a heavy emphasis on quantitative analysis neglect critical socio-political variables, Fischer (2003) argued, but analytical results seldom moved from the research back to practices and implementation without political distortions.

Consequently, such research proved to be unreliable for strategic planning purposes since the quantitative policy analysis can be open to manipulation. Sharp et al. (2011) concurred with Fischer and made their case based on ecological governance that positivist approach enables a researcher to provide a narrow policy analysis with limited interpretation of considerable issues for a robust environmental management.

In practice, positivists use a large quantitative data set that seeks to establish general 'truths' that can be used to test how social facts shape individual actions. For instance, Cairney (2015, p.494) extended theoretical lens of positivism to explain the interaction between *"the five core causal processes . . . Institutions, networks, socioeconomic process, choices, and ideas"*. Using positivist approach, Cairney analysed the advocacy coalition framework – a framework that aims to make sense of complex policy-making systems which: contain multiple actors and levels of government, process policy in very different ways; and produce decisions based on limited information with high levels of uncertainty and ambiguity. This evidence from Cairney's analysis agrees with Fischer's (2003) criticisms levelled against policy analysis underpinned by the positivist approach, especially in the contemporary research era of alternative approaches such as interpretive approaches.

Advocates of the application of interpretivism in policy analysis, such as Frank Fischer, suggests that facts are not only constructed by theory and society but also shaped by the value of researchers or policy analyst. Fischer (2003, p. 5) has strongly argued that *"to satisfy a good description of what decision makers actually do, it is in fact an inherently interpretive activity."* Drawing from Fischer's suggestion, interpretivist views underpins researcher's stance which shapes policy analysis through discourses, scripts, and scenarios. And this is the stance of the researcher in this research which enables interaction with stakeholders through document analysis and interviews.

Hence, Fischer concludes that in this interpretive perspective, policy analysis is far from objective, but represents a particular conception of reality based on ideas as well as interests.

Interpretivist asserts that social reality and laws of science (natural laws that often underpinned by positivism) are different and therefore require different kinds of method (Fay, 1996). In contrast, while positivist is looking for consistencies in the data to deduce laws and this does not agree with the perspective of this research, interpretivism relates with the actions and values of the individual, and this perspective agrees with this research. The stance of this research shares the interpretivist views which encourage that there is no absolute reality; that truth is not singular, and knowledge is created by the knowers; and there are multiple social realities, and they are created by our lived experiences.

This interpretivist perspective enables the researcher to 'deconstruct' decision process to understand the background of the stakeholders in relation to their values that influence their decision making process. In that, it enables research to define hard factors (e.g., values, institutional interests) which influence stakeholders' roles and their collaboration in managing environmental issues in the NOPR. This research frames the management of environmental issues in the NOPR as an integral component existing within an overall framework of environmental governance. This position has been established in chapter 4 where the Ostrom's '*The governance of the commons*' was discussed.

As Mulvihill and Ali (2016) argued, the success of environmental governance is measured by the degree to which the governance in question fosters collaboration among stakeholders. Innes and Booher (2001) in series of their research publication

has it that an overall theory for collaboration is a deliberative governance strategy. This conclusion was drawn from a decade of in-depth case studies on collaborative dialogue in a variety of environmental management and planning. Governance and the issues associated with it, Mulvihill and Ali (2016) suggests, constitutes central approach of interpretivist. The notion of interpretivism as discussed by Fischer (2003) is a critique of an established critical approaches in the policy analysis, where Fischer questions the positivist approach of separating facts and values. A policy analysis research that is not designed to address a 'crisis of values,' argued Fischer, is less than useful, if not itself a part of the research problem, and to continue to employ positivism is to hide the nature of actual decision making process that requires to take place in policy analysis.

Fischer argues that the object of interpretive policy analysis is not limited to analysis within the context of government as an institution alone, but within the communities of the citizenry and executive agencies. In addition, Fischer suggests that governance is a resultant of a 'regime of practices' which recast policy analysis as it concerned with both communicative and deliberative nature of political activity. Hajer and Wagenaar (2003) have it that policy analysis should best thought of as fundamentally interpretive. They advocated that interpretive perspective encourage participatory democracy and development of policy analysis that emphasizes deliberative interaction between citizens, research analyst and policy makers. This encapsulates this research design as the researcher is central to the interaction between the stakeholders to provide access and explanation of data across stakeholders, and to facilitate discussions of collaborative management of environmental issues in the NOPR. Yanow (2006) in drawing out what an interpretive approach should imply for a policy analyst, argues that interpretive approach should be both systematic and reflexive. In agreement,

Fisher agrees with Yanow (2006) and explain that in the 'fair' discursive field of policymaking, the role of the researcher is to facilitate citizen's capacity for democratic deliberation and collective learning.

In contrast, as Fischer and Yanow has it, it is not the role of the researcher to suggest (as would be required by positivist) effective or efficient solutions that could bring political discussions to an end. However, it the role of an interpretivist to be a facilitator in policy analysis. By assuming the role of a facilitator, the researcher would then explore the views of citizen's capacity as it relates to issues of values, preferences, and assumptions make about self and others as well as issues of power sharing and their desirability for solutions and outcomes. As this research has it, the researcher adhered to Fischer's suggestions and assumed a role of an interpretive researcher to explore the views of stakeholders as it relates to their values and preferences. Throughout this research endeavour, data were garnered from a number of different stakeholders (i.e., government agencies, multinational oil companies and local communities), each with the potential of differing institutional perceptions and roles. By understanding the needs of stakeholders, interpretive approach seeks to represent a wider range of arguments, discourses, and interests in the analytical process. Part of this is done in this research through stakeholder analysis and exploring to understand critical success factors of stakeholders' collaboration. This is done by examining and clarifying the ways in which stakeholders interest are discursively interpreted and how they hold their individual interests and how they are influenced by their specific institutional interests.

Interpretivist status of the researcher as a facilitator allows close collaboration between the researcher and participants which enables the researcher to tell the story of this research based on different interpretations alluded by the participants. And this is what

Fischer (2003) calls a value-critical policy analysis research that recognised the central role of social values, including the importance of taking seriously narrative story-telling about policy problems

5.3.2 Sampling strategy

Descombe (1998) suggests that sampling frame, whether probability or non-probability/purposive, for any chosen research strategy, should be relevant and appropriate with precision to answer the research questions. Purposive and snowballing approaches are adopted in this research because it reflects the chance of each research participants to be chosen in the sample that is unknown. In the purposive sampling, the features of the population are used as the main feature for sample selection and it is suitable for small-scale and in-depth studies like this (Ritchie et al., 2003). This suggestion supports this research design. Although there are other types of non-probability samplings such as availability sampling and quota sampling. Schutt (2006) suggest that purposive and snowball samplings are particularly suitable when the research question investigates a small population. These are also suitable when the research is conducting an exploratory study. A purposeful sample as suggested by a Patton (1990, p.169) and McMillan and Schumacher (1993) comprises purposefully selected participants, who can best offer insight on the research questions and who are “information rich.”

5.3.2.1 Rationale for choosing Nigerian government agencies (NGAs)

This research was designed in the context of Nigeria. The Nigerian federal government has created various agencies (e.g. Nigerian national petroleum corporation (NNPC), Ministry of Environment, Niger-delta development commission (NDDC), National Oil Spill Detection and Response Agency (NOSDRA), National Environmental Standards and Regulations Enforcement Agency (NESREA)) to work alongside the oil companies

and local communities in managing environmental issues in the NOPR. The literature review suggested that these agencies have been saddled with majority of roles in managing environmental issues in the NOPR. They are the main players saddled with the responsibility for environmental management (Ite and Idemudia 2006; Federal Republic of Nigeria, 2007). Moreover, these two agencies were created to support oil companies and the local communities in the NOPR to undertake environmentally friendly practices (Federal Republic of Nigeria, 2007).

Secondly, for instance, NNPC and NDDC have executed the highest numbers of environmental management projects in the NOPR compared to other agencies (United Nations Development Programme (UNDP), 2012). They have the highest number of employees and have obtained the largest allocation from the Nigeria government compared to other agencies, in addition to funding granted from UNDP. To understand more comprehensively the whole aspects of issues regarding managing environmental issues in the NOPR, it is essential to investigate the role of the agencies and explore the inter-relationship and collaboration within them and with the oil companies. This purposive selection of participant is in line with the suggestion made by Descombe (2008) that such strategy allows the researcher to focus and understand relationship and processes that exist among research participants. And this is very important to this research as it is designed to investigate stakeholders' collaboration.

Moreover, the researcher was guided by the suggestion by Rubin and Rubin (1995). Rubin and Rubin named the three key guidelines that could guide the researcher in selecting the appropriate purposive sample. First, the research participant should be knowledgeable about the research topic. The Nigeria federal government agencies: Ministry of Environment and NDDC in particular, satisfy this requirement because they are two of the largest agencies saddled with the management of environmental issues

in the NOPR. And they are deemed to have acquired lots of knowledge about the situation in the region. The second guideline suggested by Rubin and Rubin (1995) is that the participant of the sample should be willing to talk about managing environmental issues in the NOPR

These agencies showed interest to discuss this research. For instance, this is evidence of the way NDDC welcomed the researcher during the informal visit to seek their acceptance to be participants. They did not only provide their acceptance letter to the researcher; they gave the participant a master plan of the organization. The third requirement that was met by these agencies is that they are representative of the range of points of view. These agencies are key agencies upon other agencies are depending on operating. NDDC as a commission that controls all issues concerning the NOPR while Federal Ministry of the environment as a ministry is a Nigerian federal government department headed by a minister to oversee the administration and operational issues of managing environmental issues in the NOPR.

5.3.2.2 Rationale for choosing the multinational oil companies

Similar to the selection of the government agencies, a purposive approach was used for the multinational oil companies (MNOCs). Various multinational oil companies were identified from the literature review. However, two multinational companies: FSA and FAB were selected instead of the others: Chevron Nigeria Limited (CNL), Mobil Producing Nigeria Unlimited (MPNU). The rationale behind choosing these two is because these companies have contributed to a group that has more than 75% of oil production activities in the NOPR (Federal Republic of Nigeria, 2007).

Moreover, these companies by the nature of their business and industrial operation satisfy the entire requirements recommended by Rubin and Rubin (1995) regarding

selecting a purposive sample that has been discussed in the section 5.3.2 above. In a nutshell, these selected companies and agencies have the experience of the research topic and were willing to cooperate and communicate their experiences. Secondly, oil production is an important sector and because of its environmental impacts of causing major environmental issues on the local communities in the region. In socio-economic terms, the oil production industry shapes the livelihood of the people of NOPR and affects communities' ability to respond to environmental challenges such as oil pollution and land degradation.

Third, MNOCs in the NOPR are established to be highly regulated, and there has been a number of environmental legislation introduced in this sector over the previous decades from both national and international directives. The MNOCs in the NOPR has also received high profile environmental related media and literature attentions, for example in relation to Shell Petroleum Development Company (SPDC)'s recent \$84m deal over the oil spill in the NOPR. Thus, the experience of Nigeria oil production sector can be taken as an important indicator of experiences of other oil developing regions in the developing countries.

5.3.2.3 Rationale for choosing communities in the NOPR

The rationale for selecting participants from the host communities in the NOPR is because of the role of the communities in the management of environmental issues. The findings from the literature reviews and stakeholders' analysis reveal strong recognition to understand the roles of the communities in managing environmental issues in the NOPR. NOPR is the home to more than 140 ethnic groups in the nine states, and this ethnic diversity has often led to competition for environmental resources, of which oil and petroleum resources are inclusive.

Out of all the nine oil producing states in the NOPR, four states: Abia, Bayelsa, Imo, and Rivers were selected because these states belong to the group of states that account for 80% of oil production in the region. For instance, Rivers state is famous for her vast reserves of crude oil and natural gas, and they are the major oil producing states and home for the chief oil refining cities in the Nigeria. Bayelsa is the home to Oloibiri – the local government where crude oil was first discovered in commercial quantity in 1956.

Moreover, this research requires that participants from these diversities need to be interviewed to find out how they can be involved in active stakeholders' collaboration in decision making on environmental issues. There is also need to identify how the local communities can contribute, control, influence and support the NGAs and MNOCs regarding managing environmental issues in relation to their cultural and socio-economic interests.

5.4 Rationale for data collection methods

These research methods are what Crotty (1998, p.3) has defined as the procedures or techniques that could be used by the researcher to gather and analyse data. Some of the qualitative methods include archival records, documents analysis, direct observation, interviews and physical artefacts. Adhering to this definition, this research adopts document analysis and semi-structured interviews. Building on the rationales that have been discussed in the previous section, these methods are adopted based on their distinguished features which were found appropriate in this research.

5.4.1 Rationale for document analysis

The emphasis on the importance of document analysis in social science research has spanned across the emerging research domains including but not limited to environmental management and social sciences. In analysing the history of documentary research, Cook (1997) notes that role of document analysis has changed from being supplementary references to becoming a reliable research approach for research knowledge enthusiasts. Documentary records in the form of archives, business report, organisation project plans, and repositories, have become a potential research value for micro-analyses of the creator's key functions, activities, programmes and interactions with wider organisational research.

Document analysis can be used to get a holistic picture of the on-going phenomenon in the organisation and could be used to address research issues of change over time. Hadfield (2010) suggest that document analysis provides multiple levels of evidence – individual, community, organisation, and society to any given research problem. It provides a detailed, objective and subjective description of events from multiple viewpoints.

These attributes of document analysis allow for the provision of rich documented evidence comparatively to other form of data collection. Document analysis enables the researcher to make use of the documentary data that have been processed by research expertise. It reduces the chances of flaws in the data analysis and increases the validity of the collated data (Gabriel, 1990). For instance, Durkheim's (1966) study on 'change on women's status; he compared the institutionalisation and suicide rates' by using the United Nations data collected from 45 nations. As used in this research, the majority of the data collated for the analysis were garnered from the libraries and internet archives of government institutions and regulatory bodies and organisations.

The analysis of the collected documents would avail the researcher the opportunity to establish a timely and sequential historical records that answers research questions of the case under study, and it saves the researcher resources. In addition, document analysis enables the researcher to gather reliable data on what participant might not be comfortable in some critical line of inquiry (Holt et al., 2012). As it is in this research that deals with policy related issues across selected institutions and organisations, documents analysis is adopted based on the above arguments and rationales. The use of document analysis in this research allows the researcher to combine it with the semi-structured interview as means of triangulation.

Eisner (1991:110) suggests that triangulation allows confluence of evidence that breeds credibility. Some researchers have combined document analysis with other research methods to provide credible research outcomes. For instance, Rossman and Wilson (1985) combined document analysis with a semi-structured interview to identify agencies that played a role in supporting school improvement programmes. In their research, Rossman and Wilson examined mainly the missions of the agencies in providing knowledge through training and technical assistance.

Similarly, Sogunro also combined document analysis and interviews to examine the impact of training on leadership developments. Emphasising the credibility of document analysis as it offered exemplary clarity; Sogunro noted that analysis of the recorded 19-year old leadership training programme provided information on history, goal, objectives, enrolments and other substantive contents.

However, some critics (e.g., Yin, 1994 and Bowen, 2009) of document analysis suggest that it is not always advantageous. Some of the limitations pointed out by Bowen (2009) included insufficient details, low retrievability, and biased selectivity. The

limitation of insufficient details would be tackled by the use of semi-structured interview to complement the findings that might be seen as insufficient while using document analysis. Moreover, in the case where the documents are not retrievable, the intended research question that is supposed to be retrieved would be asked to the interview participants from that particular agency or companies, as the case might be. Although Bowen (2009) suggests that these limitations could be seen as the flaws, he argues that given the cost-effectiveness and efficiency of document analysis, its advantages clearly outweigh the limitations.

5.4.2 Rationale for semi-structured interviews

Semi-structured interviews have been identified by research as one of the most effective instruments for gathering deep insights about how organisations, companies, and people experience, feel and interpret the social world (Mack et al., 2005). Saunders et al. (2003) on their contribution to importance of qualitative interviews and how they can be used in a case study research, classified interviews into three: structured, semi-structured and unstructured.

The semi-structured interview has been used by most of the researchers in social sciences because of its flexibility during the data collection (Dawson, 2002). It allows the researcher to pre-design a set of questions and the researcher can add or remove from the original design during the interview. That is, the researcher is not necessarily required to follow a specific order of questions. The order of question can vary depending on the dynamic or flow of discussion between the researcher and respondents.

As it applies to this research, semi-structured interviews would enable the researcher to probe for more detailed information regarding environmental issues in the NOPR by

asking the respondents to give more clarification to their answers. Saunders et al. (2003) point out that this feature of semi-structured interviews is significant for researchers who adopt a phenomenological approach because the main concern is directed to understanding the meaning the research participants ascribe to the phenomena. This suggestion summarises the definition of an interview that was given by Kvale (1996, p. 14) that qualitative research interview is a construction site for knowledge. He further added that an interview is literally an inter-change of views between two persons conversing about a theme of mutual interest. However, with these benefits of a semi-structured interview, it is not without a flaw.

Semi-structured interviews like every other type of interview could be influenced by the level of awareness of the interviewer. Secondly, it could be influenced by the emotional state of the respondent which would lead to the issue of biased data. These potential flaws of interviews were tackled by the researcher through maintaining own knowledge of research topic, allowing the interviewee to feel free with responses and by monitoring the dynamics of response tones and facial expressions (May, 1997).

5.5 Research framework

Coffey *et al.* (1996) define a qualitative research framework as a set of broad concepts that guide researchers within constructionist and interpretivist paradigms. As this research is underpinned by these paradigms, Coffey *et al.* (1996) further argued that it is not a research technique or a method that determines the qualitative nature of research phenomenon; rather it is how the research is conceived, what is to be accomplished and how the collected and collated data are understood. Hence, it is imperative to design a coherent research framework that tailors these key issues: the

conception of the research, accomplishment of the research and understanding of the data. The structure was divided into two main phases: MPhil and Ph.D. The MPhil phase covers literature review, theoretical framework and document analysis that lead to the outcome of the designed framework. Ph.D. phase provides a synthesis of whole research finding which involves validation of the designed framework via an in-depth semi-structured interviews analysis and discussion. FIGURE 7 below shows this research framework, with colours depicting research activities conducted in MPhil and Ph.D. phases.

5.5.1 Literature review

A literature review is used as the first step of this research data collection to establish the context of the research problem. Randolph (2009) suggests that literature review is a very essential aspect of data collection which enables the research in a systematic identification and evaluation of existing body of knowledge. In addition, Fink (1998) suggests that literature review identifies the gaps in knowledge and research methodology that have been used in extant related studies. The related literature in this study was critically reviewed throughout the study.

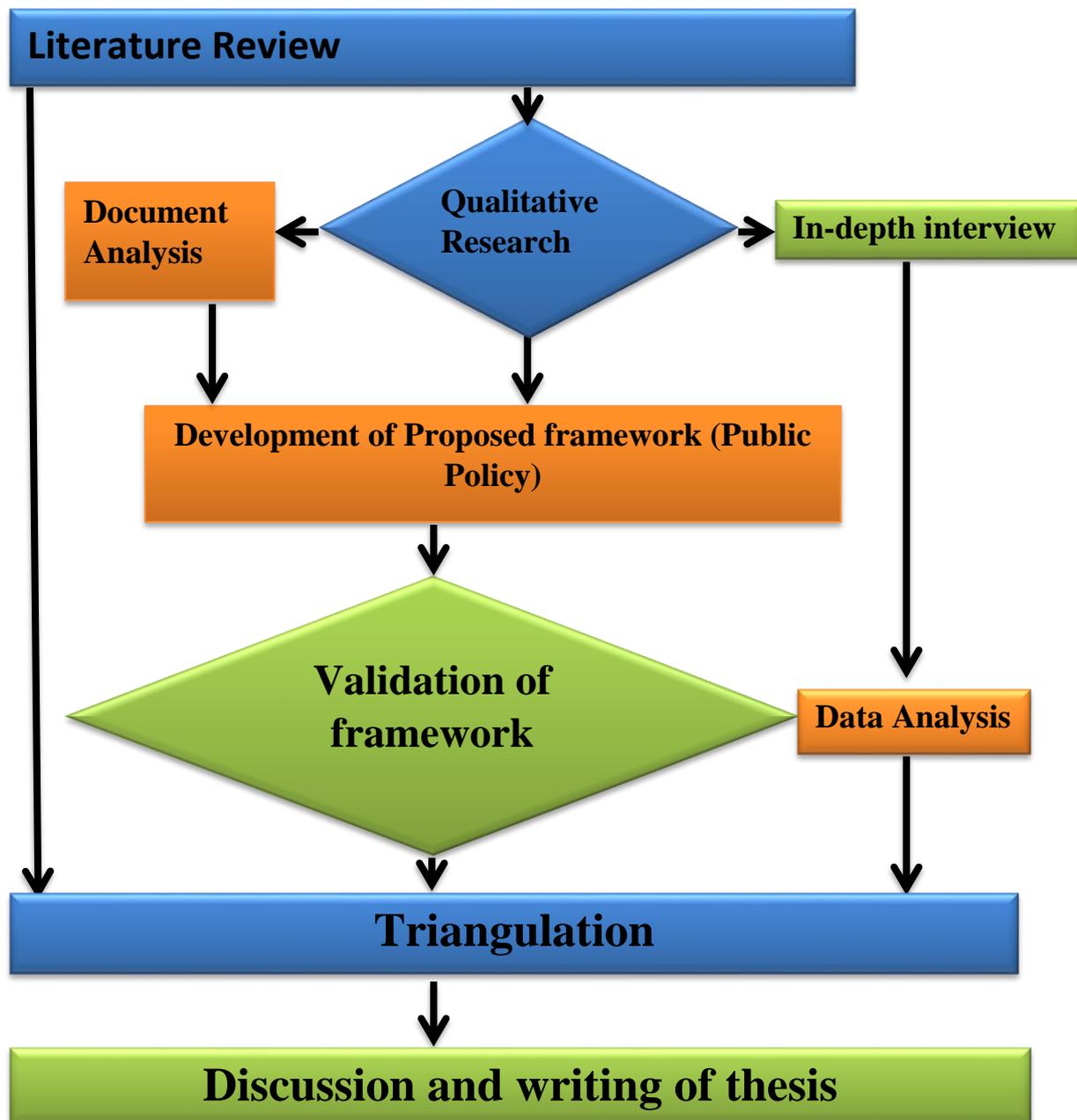


Figure 7: The Phases of this research framework

Blue boxes depict research activities in both MPhil and PhD

Orange depicts research activities in MPhil phase

Green depicts research activities in Ph.D. phase

The knowledge provided in the literature enables the researcher to build the foundation, arguments, and assumptions for exploring the research problem and research questions. In addition, the literature helps the researcher to provide a theoretical basis for the inquiry.

The literature review has been structured to cover the subject of environmental management, recommendations on the environmental management, theories for designing effective environmental framework and its applicability within the NOPR. Sources of literature used in this study include journal articles, books, conference proceeding, and reports. The findings from the review directed the construction of themes/keywords for document analysis as well as the construction of the research questions for in-depth interview. The literature review was carried throughout the phases of this research. For instance, the last review of the literature was done before the final submission of the research report to update the research finding in relation to the latest research in environmental management. The discussion of the literature in relations to research findings helps the study to interpret the theories and critique of emerged findings of this research.

5.5.2 Document analysis

As one of the empirical data collection methods in this research, document analysis is used to achieve two purposes. First, document analysis provided supplementary research data to literature and interview. And this allowed the research to explore library catalogues and archives for documents to be analysed as part of the research processes. Second, the document analysis was used as a means to tracking change and development regarding various projects on environmental management that have been embarked by the Nigerian governments and oil companies in the NOPR. Third, it was used to provide data on the context within which selected stakeholders and participants operate. Further, there were focused interests on views of stakeholders on the environmental issues in the NOPR, the impacts, and risks (e.g., pollution, loss of biodiversity, socio-economic conflicts); the implication of the issues for wider Nigerian economy, roles of stakeholders and how to reduce their risks.

Table 7: Contextual and Diagnostic Questions

Contextual questions	Diagnostic questions
<ol style="list-style-type: none"> 1) What are the roles of stakeholders in relation to their attitudes, perceptions, and practices that this study population (i.e. government agencies, oil companies and local communities) held? 2) What is the form of stakeholders' experiences? 3) What are the needs of the stakeholders' in managing environmental issues? 4) Is there existing collaborative system and what are the essentials features of stakeholders' collaboration? 	<ol style="list-style-type: none"> 1) What factors drive/hinder stakeholders' roles? 2) Why certain actions and decisions have been taken or have not been taken regarding environmental management in the NOPR? 3) Why are there particular needs in some stakeholders but not in others?

To achieve the research outcome of the document analysis, context and diagnostic research questions were asked. This approach aims to guide the research questions for the design of a conceptual framework for managing environmental issues in the NOPR. Contextual questions were designed to help identify the nature of what roles, whom and how the stakeholders manage environmental issues in the NOPR. Similarly, diagnostic questions, as shown in TABLE 7 above, include an examination of the drivers of, reasons for and what collaboration exists in relation to stakeholders' roles in managing environmental issues in the NOPR.

5.5.2.1 Approach to document analysis: Ritchie and Spence's framework

Design of document analysis was built on Ritchie and Spencer's (1994) framework (RSF), draws on methodological platforms established by other studies (e.g., Rossman and Wilson, 1985; Sogunro, 1997) which has been discussed in the chapter 4. Ritchie and Spencer (1994) cited some studies (e.g., Finch, 1988; Thomas and Finch, 1990) to reflect the diversity and application of the 'Framework' approach in applied social policy research. The RSF allowed the classification of stakeholders in relation to their roles into themes, characterise and sort written inputs, identify patterns and relationships between stakeholders' roles and themes, and process out asymmetric information (e.g., statements not related to roles of stakeholders).

Further, the framework allows manual coding process in data content analysis (Krippendorff, 2004). The seven key features of the RSF which are central to its development and application in the document for document analysis are summarised in TABLE 8 below.

Table 8: Key Features of RSF (Adapted from Ritchie and Spencer, 1994)

Features	Explanation
Grounded/Generative	It is based in and driven by the original accounts, observation and experiences of the research population it is about
Dynamic	It is open to change, addition, and amendment throughout analytic process
Systematic	It allows methodological treatment of all similar units of analysis
Comprehensive	It allows full, and not partial or selective, review of the material collected
Enables easy retrieval	It allows access to and retrieval of, the original textual material
Allows between- and within-case analysis	It enables comparisons between, and associations within, cases to be made
Accessible to others	The analytic process, and the interpretations derived from it can be viewed and judged by people other than the primary analyst.

Drawing from the seven features in TABLE 8 above, RSF was used in the following four analytical processes conducted in the document analysis;

- 1) Defining concepts: for understanding the internal structure of research stakeholders, mapping the range and nature of environmental issues as phenomena under study;
- 2) Creating topologies: categorising different types of roles, attitudes, behaviours, practices, perceptions, behaviours, motivations, challenges across cases
- 3) Finding associations: between management experiences and attitudes, between attitudes and behaviours of organisations, between circumstances of projects and motivations of the stakeholders
- 4) Seeking explanations: explicit across cases and implicit within cases; developing new ideas emerging from the findings and apply the ideas to develop theories and strategies.

These processes enabled this research to provide findings based on the three rationales of document analysis: elicit meaning, gain understanding and develop empirical knowledge (Rapley, 2007; Corbin and Strauss, 2008; Bowen, 2009). Further, this enabled this research to provide a '*confluence of evidence that breeds credibility*,' and it helps to guard against the critics that this current research finding is simply artefacts of a single document analysis, a single source, or a single researcher's bias (Eisner, 1991:110). Hence, the selected documents were examined and interpreted to elicit their meaning and gain understating of issues regarding the stakeholders' collaboration in managing environmental issues in the NOPR.

To achieve these processes, Ritchie and Spencer's (1994) suggested five distinct but explicitly interconnected stages:

- 1) Familiarisation and selection
- 2) Identifying a thematic structure,
- 3) Indexing, charting,
- 4) Mapping and
- 5) Interpretation.

However, Bryman and Burgess (1994:179) suggested that although some stages logically preceded others and the process followed an analytical order, the RSF' *"is a purely mechanical process with guaranteed outcome."* In conducting this document analysis, the subjective view of this process should be appreciated while adopting the process of annotating the textual data in the documents. The strength of the RSF is its flexibility and platform of well-defined stages which allows verification of processes because the analytical 'framework' has been stated and made accessible. Each of these five stages is described and applied to collected documents from the selected cases: i.e., government agencies, multinational oil companies, and host communities, as shown in TABLE 9. Using this framework, the gathered documents were sifted, charted and sorted in accordance with key issues and themes. The documented views of stakeholders were captured and integrated into an analytical or pictorial schema.

Table 9: Application of Ritchie and Spencer framework in this research

Familiarisation and selection	Data sources were cross-checked against other data sources with a focus on the current documents (2010 to 2015, except in some cases where the document is very rich with vital data), to reduce reporting bias and reduce selectivity. In some cases, materials were collected from both the 'dependent' (corporate documents) and 'independent' (NGOs) sources. See appendix 2 for the list of selected documents
Thematic framework	Key themes within the selected documents were sifted and sorted based on their recurrence in stakeholders' comments and views. The catalogue of the theme was sorted using excel spread sheet for easy access and manipulation.
Indexing	Focused on charting using index heading. The columns replicate the textual extracts and the content of index categories which relate to the key themes and how different themes are interwoven. Appendix 3, appendix 4 and appendix 5 are for samples of indexing some selected documents. For instance, a single document may contain several different themes (see appendix 6 which depicts the screen shot indexed document).
Charting	Based on headings and subheadings derived from the thematic framework and research questions, the chart is laid out per the thematic analysis across all cases. This ordering and grouping of individual stakeholders enabled the researcher to link themes that relate to collaborative management of environmental issues in the NOPR. Each stakeholder is ordered to ensure that the whole data set for each case can easily be revisited and be reviewed. For instance, in the case of host communities, six key subject charts were constructed: roles, barriers, and drivers. With charted themes, a comparison can be made between and within cases and to reference the original text to the document source; which can be traced, examined and replicated.
Mapping and interpretation	Applied the key features of qualitative analysis: defining concepts, mapping the themes of emerged from analysis of the environmental issues in the NOPR, creating typologies of stakeholders' interests, finding associations between stakeholders, providing explanation and developing strategies (systems, policies, and practices) on how they collaborate to manage the issues.

5.5.2.2 Familiarisation and selection: sources of collected documents

Before the process of sorting and sifting of data, this research appreciated the range and diversity of documents across the selected stakeholders. This was done to gain an overview of the body of materials gathered and to form an idea about the key research issues and emergent themes. It was important that at the outset of document analysis – at this familiarisation stage, set of key research issues were clarified in the context of the current research by taking stock of the documents materials. The familiarisation is imperative to reduce the chances of the recollections being partial and selective. Essentially, the familiarisation techniques employed include immersion in the data, reading reports and studying projects observation notes. In some cases, there was need to review all the material selected. For example, in the case of local communities, where only a few of materials regarding their roles in managing environment issues in the NOPR have been documented. However, in some cases reviewing all documents was not possible because of the timetable of this research was too pressing combined with the extensive volume of materials required.

Notwithstanding, it was ensured that a range of various projects reports, cases, sources, time and periods were reviewed. For example, in the analysis of barriers to multinational oil companies in implementing environmental management practices, materials were collected from both the ‘dependent’ and ‘independent’ sources. The independent here means the sources such as documents published by non-governmental environmental management agencies that may have linked with UNEP; whereas dependent means sources from the oil companies’ publications and government agencies. For the analysis of documents, the treated issues from the host communities, the research chose to review publications across the selected oil

producing states identified in chapter 2, partly to enhance the clarification of environmental issues contextual to the individual state.

Consequently, documents were selected for analysis to include different research questions regarding environmental issues at different stages of the fieldwork as well as a mix of time and volume of the publications. At the final procedure of familiarisation of materials, key concepts, ideas and recurrent themes from the collected materials were listed. In some cases, where the research objective is to explore substantive issues regarding stakeholders' roles, for example in the case of managing perceptions, experiences, and attitudes, notes were made on the general structure of the document and ease or difficulty of which the materials explained.

The majority of the documents are text based consisting of written documents. Internal content of the documents is detailed and in the microform (e.g., descriptions of experiences, projects reports and collaborative work between stakeholders in managing environmental issues in the NOPR). Coherence and structure to the collected documents data set were maintained by retaining the original accounts and sources from which the documents were derived. Major sources of documents of main stakeholders: i.e. the government agencies, oil companies, and host communities, are their websites, libraries, newspaper archives and their offices.

Collected documents are printed and electronic copies which include agendas, internal correspondence, and minutes of meeting, manual, background papers, books and brochures, journals, event programmes (i.e., printed outlines), letters and memoranda, newspapers (clippings/articles), press releases, programme proposals, application forms, and summaries, corporate/companies/organisational or institutional reports, survey data, and various public report. National newspaper reports and environmental

magazine report from environmental interest groups (e.g., farmers' association, and scientist research groups) were also included as well as and scholarly literature. Some non-governmental organisations (e.g., Friends of the Earth International) documents that appeared in the national newspapers and magazines were also included. Structure of text inputs compiled from selected documents, with a breakdown of main stakeholders in relation to their interests, drivers, and barriers in managing environmental issues in the NOPR are presented in appendix 7.

Most of the documents reported on the projects initiated by the oil companies and government agencies and their impacts on managing the environmental issues. However, there were a few documents related to the host communities. As this research is designed to employ data derive from official documents to explore roles of stakeholders in managing environmental issues in the NOPR, document analysis facilitated this purpose and formed one of the bases for data analysis conducted in this research.

5.5.2.3 Identifying a thematic structure

This stage involved the process of abstraction to identify important recurrent themes and issues. The identification of the concepts, themes, and key issues enabled setting up of themes within which documents were sifted and sorted. While constructing identifying the themes, the key theoretical constructs from recurrence/patterning of views/experiences were drawn. For example, TABLE 10 presents the key themes about local community in managing environmental issues as well as the corresponding research questions.

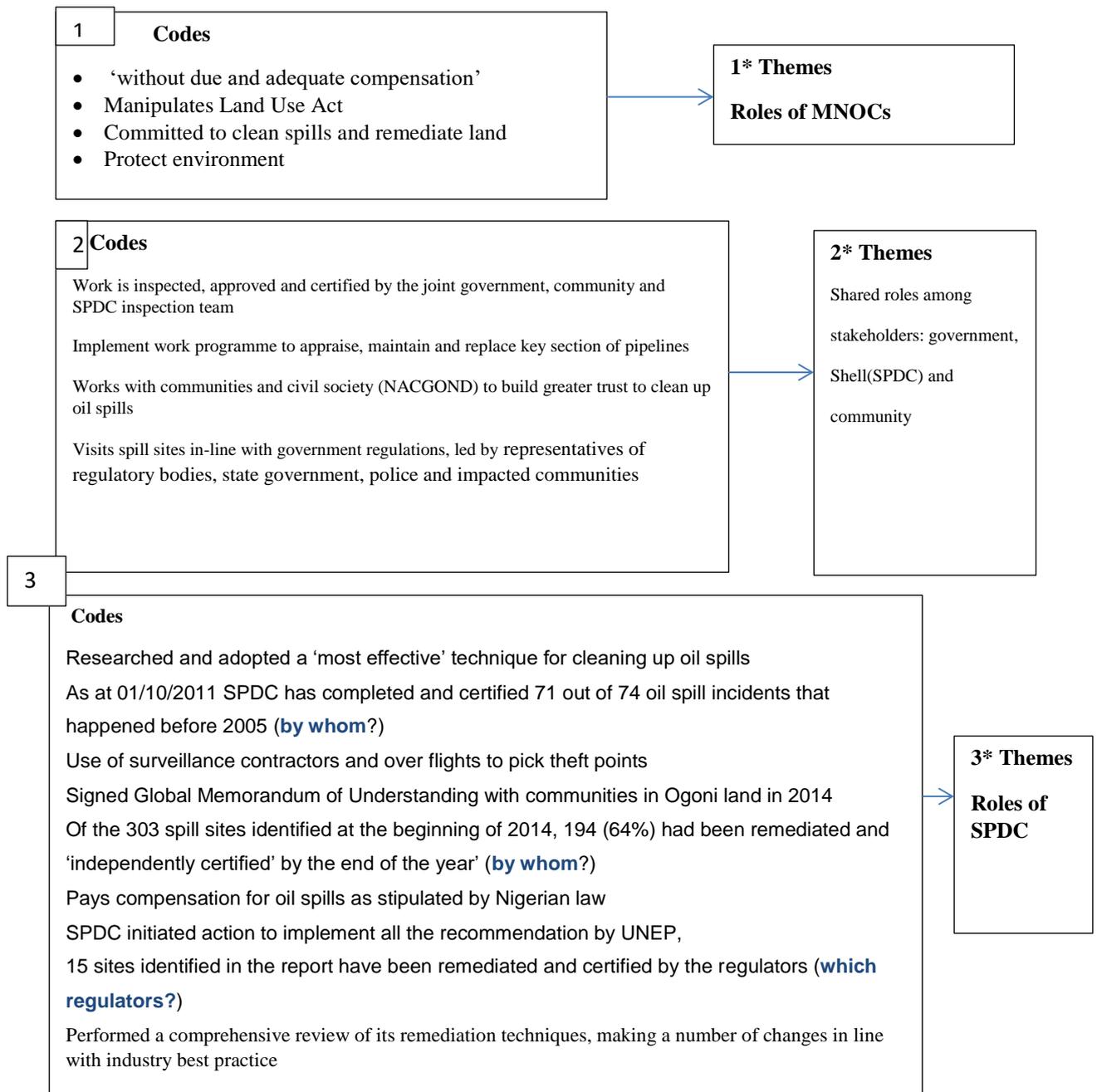


Figure 8: Sample of coded themes in SPDC document

The outcome of the thematic structure of index categories was largely descriptive in the form of codes as shown FIGURE 8 which captured the research concept and represented the diversity of case experiences, while ensuring that original research questions were fully addressed.

Table 10: Thematic structure for document analysis of host communities' roles

Key research thematic structure: roles of host communities in managing environmental issues	Questions that guided the thematic structure: roles, drivers and barriers, and implications of stakeholders' collaboration
<ol style="list-style-type: none"> 1) Socio-economic characteristics/structure/status/attitudes toward environmental management 2) Level of their contribution, extent of their roles/practices in managing environmental management 3) Main drives and interests of the communities in managing environmental issues in the NOPR 	<ol style="list-style-type: none"> 1) The main impact of host communities' roles in managing environmental issues: what/how has changed? 2) What tools have contributed to the change-better management environment? 3) What has been prevented, controlled or managed effectively, how was it done, what facilitated it? What didn't work and what was the effect? 4) What are their major needs: resources? 5) What are the communities' experiences with government agencies and oil companies in relation to managing the issues? 6) What are the tools that may have promoted or hindered stakeholders' collaboration in managing environmental issues in the NOPR?

5.5.2.4 Indexing

This involved the process of applying the thematic framework in its textual form. Indexing references were recorded on the margins of the document by using an index heading. For instance, a single document may contain several different themes. While referencing this kind of document, multiple indexing was applied to highlight the patterns of association within the document. However, this process is subjective, by adopting the process of annotating the textual data in the documents; the process is made open and accessible to others for verification and repetition.

Appendix 4 and appendix 5 show samples of indexed pages from the documents of the Nigerian Federal Ministry of Environment and multinational oil companies respectively. The second column in each case replicates the textual extracts from the

documents. The third column shows the content of index categories which relates to the key research themes. These are presented for clarification. This illustration shows how several different index prefixes appeared on certain documents. In addition, it also illustrated that different themes of this research problem are interwoven. The illustration was extended to the case of multinational oil companies and communities.

5.5.2.5 Charting

Having established the thematic framework of documents, the data was built by considering the roles for each stakeholder based on the key research themes. In doing so, data was lifted from their contextual document to form an appropriate thematic reference. This process of charting as applied in this research was devised with headings and subheadings based on the thematic structure and research questions. The chart is laid out per the thematic analysis across all cases. Charts were drawn for each key subject area, and entries were made for cases on each chart.

The ordering and grouping of individual cases enabled the researcher to link themes (e.g., stakeholders needs, drivers, and barriers) that are perceived to have a significant impact on stakeholders' collaboration in managing environmental issues in the NOPR. For clarity, cases are ordered for each subject chart to ensure that the whole data set for each case can easily be revisited and reviewed. For instance, in the case of communities in the NOPR, four key subject charts were constructed: roles, needs, and drivers and barriers. By arranging the stakeholders based on the order of the key themes, the comparison was made between and within cases. The use of charting enabled the researcher to link the chart headings to index categories identified in the indexing process. The link between the emergent themes helps to reference the original text to the document source; which can be traced, examined and replicated.

5.5.2.6 Mapping and interpretation

When all datasets from the documents were sifted and charted based on the identified themes, the datasets were mapped to key theoretical constructs. Emerging relationships were recorded and noted. In this stage, the key features of Ritchie and Spencer's (1994) framework were reflected upon: defining concepts, mapping nature of the environmental issues in the NOPR, creating typologies of what affects – causes and managements, finding associations between cases (stakeholders) and causes, providing explanation and developing strategies and policies on how to manage environmental issues in the NOPR.

In applying these key features resulting to the synthesis of research outcomes into three subsections: nature of environmental issues in the NOPR; collaboration between stakeholders; and developing of strategies and policies while explanation was provided on how these are guided by research questions and by the themes and associations that emerged from the documents. Further, the features provide a basis for an empirical knowledge by establishing a convergence among outcomes of literature, document analysis and with semi-structured interviews.

5.5.3 Semi-structured interviews

Semi-structured interviews was used to investigate the perception of selected stakeholders: i.e., government agencies, oil companies and host communities, in relation to their roles and challenges in managing environmental issues in the NOPR. Semi-structured interviews focused on further exploration of issues that emerged from the document analysis, as part of the validation of the framework for stakeholders' collaboration. This allowed flexibility in structuring research questions which allowed for follow-up questions and clarification during the interview sessions (Berg, 1998). The rationale and justification of the choice of the selected participants have been

discussed in section 5.3.2. A purposive sample of participants from the selected key stakeholder organisations was interviewed to obtain a comprehensive view of stakeholders' collaboration in managing environmental issues in the NOPR. The views of the stakeholders enables an investigation of critical success factors of stakeholders' collaboration in relation its drivers and hindrances in managing environmental issues.

5.5.3.1 Semi-structured interview design

Creswell (1998) suggested that though there are no hard rules for determining the size for semi-structured interviews, it is important for the researcher to know when the sample size reaches saturation and know the variation within the target research population. This research targeted at least 30 interview participants, ten individuals from selected stakeholders: i.e., government agencies, oil companies, and host communities, to allow for the identification of consistent patterns and the point of saturation – when there is nothing new to learn. It was envisaged that the targeted sample size of 30 participants in this research would be large enough for the variation that is represented in the population of interest (Bryman, 2012). However, in actual research conduct of this research, 20 individuals participated in total – three from multinational oil companies, eight from the Nigerian government agencies and nine from the host communities. These sample sizes of 20 participants might have seemed small, but this research focused on the richness of subjective data rather than quantity. That is, this sample size facilitated more in-depth interview sessions, which allowed more time to be spent on interview sessions, which helped to improve the reliability of findings.

Table 11 summarises selected stakeholders with their respective participants, their job roles and years of work experiences as well as their transcription codes. The participants were selected to achieve a comprehensive and broad representative view

of stakeholders. The average years of experience of participants in their present job role were eight years with most experienced participant with 17 years and least experience with four years.

Table 11: Description of interview participants and their job roles

Transcription codes	Years of working experience	Job roles	Stakeholders Coded		
PCA	15 years	Health, safety, and environment	FSA	Multinational oil companies (MNOCs)	
PYB	15 years	Health, safety, and environment	FAB		
PCC	14 years	Geologist	FAB		
PBD	15years	Pollution control and Environmental health	FMC	Nigerian government agencies (NGAs)	
PJE	11 years	Environmental Assessment	FMC		
PLF	10years	Environmental protection and control	FDG		
PRG	8 years	Erosion and irrigation	FDG		
PAH	9 years	Director Environmental standards and regulations	FEE		
PIL	9 years	Oil fields assessment	FOD		
PIJ	10 years	Health safety and environment	FPF		
PKK	6 years	Health safety environment	FPF		
PYL	5 years	Youth leader	FBH		Host Communities
PLM	7 years	Youth leader	FRI		
PEN	6 years	Community leader	FAJ		
PEO	4 years	Community NGO	FNK		
PZC	8 years	Community leader	FRI		
PYC	4 years	Community religious leader	FIL		
PXC	13 years	Community resident	FAJ		
PWC	17 years	Community leader	FBH		
PVO	10 years	Community leader	FIL		

5.5.3.2 Semi-structured interviews procedure

The need for piloting of the interview questions was not neglected in this study. A pilot study was designed and conducted to ensure the reliability and validity of this study. The piloting was done to ensure that the research questions were consistently and well-targeted to achieve the research aim and objectives. All the 20 individuals that participated in the study were interviewed through telephone interviews. Each interview lasted 1 hour to 1 hour 30 minutes. All the interview sessions were recorded using digital recorder except two participants who asked not to be recorded. In addition, one of the participants refused to provide a name; however, was introduced as participant X. All the semi-structured interviews were preceded by a presentation detailing the aim of this research and components of the designed stakeholders' collaboration framework. Participants were then asked to consider each of the identified roles that were relevant to their collaboration in terms of the barriers and drivers to achieving their roles. Following the presentation of the research aim, participants were asked to narrate and reflect on their experience of collaborative roles in managing environmental issues in the NOPR while answering the evaluative and strategic questions as shown in TABLE 12 below. The interviews were digitally recorded and transcribed verbatim. The interview questions addressed the following areas of the designed framework;

- 1) Roles of stakeholders in managing environmental issues together
- 2) Policy review and development,
- 3) Strategic management development,
- 4) Systematic implementation of strategies,
- 5) Periodic review,
- 6) Drivers for, and barriers to stakeholders' collaboration

Table 12: Summary of Evaluative and Strategic Research Questions

Evaluative research questions	Strategic research questions
<p>1) How would the objectives of the designed framework be achieved?</p> <p>2) What would affect the successful delivery of components of the designed framework?</p> <p>3) How would the experiences of the management in the study population (stakeholders) affect their roles in managing environmental issues?</p> <p>4) What are the potential barriers to implementing the recommendations?</p>	<p>1) What types of roles, practices, perceptions, and services are required by the study population (stakeholders) to meet essential needs regarding management of environmental issues?</p> <p>2) What are the essential actions and elements are required to make the designed framework more effective?</p> <p>3) How can the designed framework be improved in line with the existing systems in Nigeria?</p> <p>4) What strategies are needed to be incorporated into the designed framework to minimise the impact of newly defined or emerged problem or potential barriers?</p>

Table 13: Interview questions

Interview questions	Purpose
<p>Roles of stakeholders in working together to manage environmental issues together.</p> <ul style="list-style-type: none"> i. What actions have you taken (as an agency, host community or company) to help others in managing environmental issues? ii. Who from the government/oil companies'/host communities are involved in managing environmental issues in the NOPR? iii. Why do you work together with others (stakeholders: government/communities/oil companies) in managing environmental issues? iv. What are (if any) '<i>working together/collaborative programmes</i>' your organisation/company have initiated with other stakeholders? v. Are the collaborative programmes (if any) working as expected? What are the benefits? vi. Would you recommend that your organisation is better off working independently or working with other stakeholders? Why? <p>Success factors and barriers to stakeholders' collaboration</p> <ul style="list-style-type: none"> i. What is nature (e.g., support, influence, interest, and driver) of your collaboration with other stakeholders? ii. What factors (e.g., policy, culture, economic and politics) help or hinder effective working together with other stakeholders? iii. How do you describe the effectiveness of your working with other stakeholders? How do you work effectively with them? iv. What are the major challenges your organisation/company faces in working with others in managing environmental issues? 	<p>To examine how stakeholders' collaboration can be applied to effectively manage environmental issues in the NOPR:</p>
<p>Policy review and development</p> <ul style="list-style-type: none"> i. What policy and regulation do you use as a reference point in your organisation and how does the regulation affect your relationship with other agencies/companies/communities in managing environmental issues in the NOPR? ii. Who make those policies/regulations used by your organisation? iii. What problems are associated with the policies and regulation ? iv. How do you tackle the problems or how are they being overcome? <p>Systematic Implementation</p> <ul style="list-style-type: none"> i. Have there been policies or regulations that have been adopted in your organisation for the past five years? Do you think they are enough or you need new policies? ii. How do you ensure that policies and regulation are being implemented by your organisation? And what impact do other companies, communities or agencies, make to the implementation of policies? iii. How do you evaluate the impact of those policies? iv. How are the policies being implemented? ...by your organisation alone or together with other stakeholders (government agencies, MNOCs, and host communities)? v. Does your organisation find policies and regulations difficult to implement? And what resources will be needed to achieve this? For instance, Is EIA found to be effective, and how is it implemented to ensure that all stakeholders are involved? vi. What are the challenges/constraints or the factors that contribute to their successful implementation? 	<p>To review/refine how the components of the framework for stakeholders' collaboration can be applied in managing in the NOPR</p>

Further questions were asked to clarify some areas where the participants did not provide sufficient responses. This approach allowed for an in-depth probe and discussion of the research questions shown in TABLE 13 above. Some contextual evaluative questions discussed in this section includes appraising the effectiveness of what exists, and what has been suggested in the designed framework for the stakeholders' collaboration. Similarly, strategic questions were explored with intent to validate the designed framework by identifying new actions, plans, and policies. These questions were also guided by the theoretical analysis regarding stakeholders' collaboration in managing environmental issues in the NOPR. TABLE 13 above summarises both the evaluative and strategic questions.

5.5.3.3 Interviews data analysis: content and thematic analysis

Analysis of the collated data from the interviews was done during and after data collection. This approach allowed sufficient time to deal with the data management – transcription of the audio data and writing of the field notes. In analysing the collated data, both content and thematic analysis were used. First, content analysis was used to “*describe the characteristics of the documents by examining who says what, to whom, and with what effect*” (Bloor and Wood, 2006). In addition, the suggestions by these researchers (e.g., Mayring, 2000; Gbrich, 2007) were adopted. They suggested that content analysis is a systematic analysis that can be used to explore large amounts of textual information to enable research to determine patterns of words, the frequency of words, their relationships, as well as the discourses and structures of communication. As suggested by Elo and Kyngas (2007), content analysis allowed this research to draw inferences from collected data to the research context.

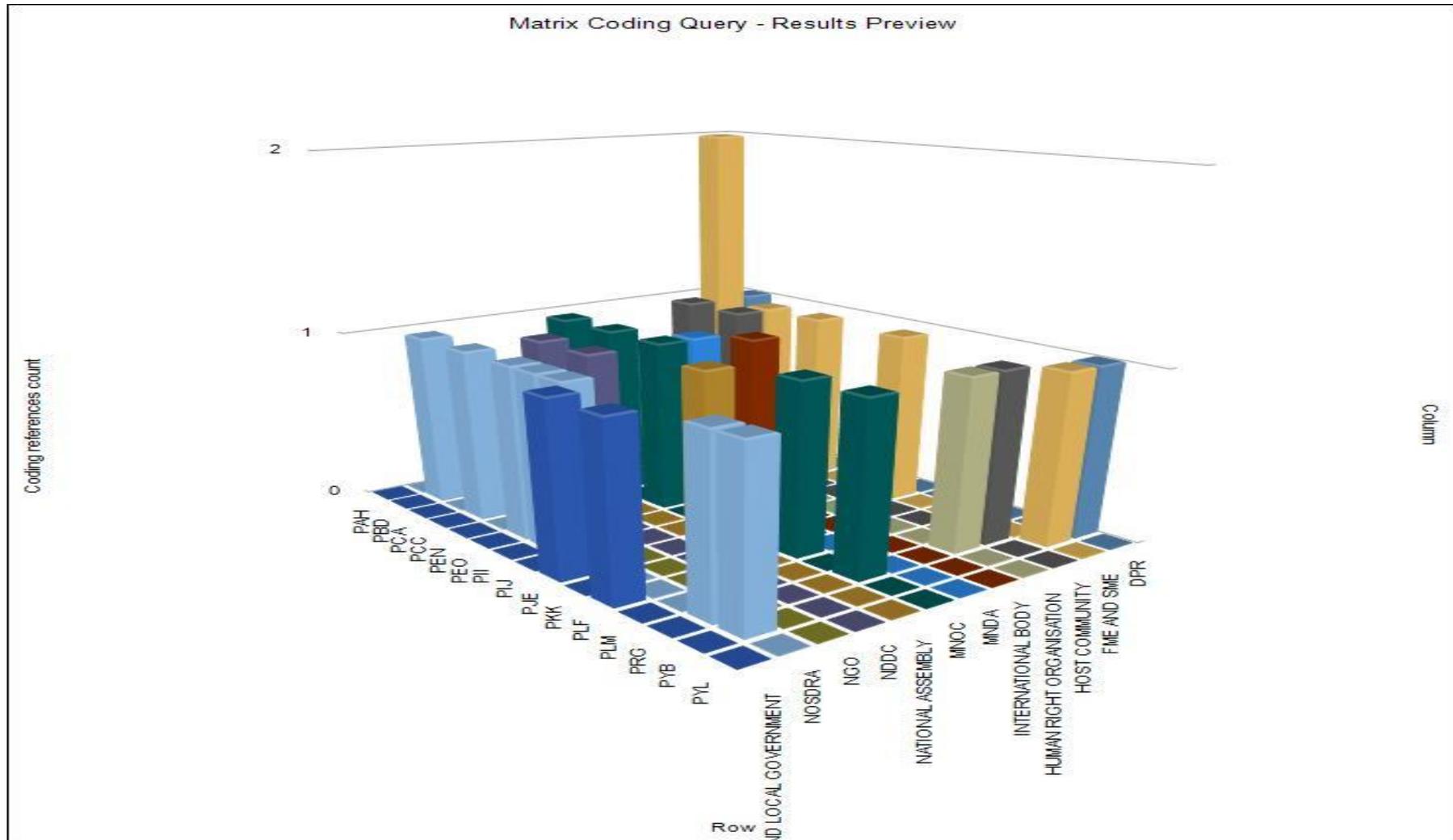


Figure 9: Descriptive analysis of number of stakeholders based on themes generated by NVivo 11

Table 14: Thematic Counts Identified Success Factor by the Participants

Success factors/codes of participants	A: PAH	B: PBD	C: PCA	D: PCC	E: PEN	F: PEO	G: PII	H: PIJ	I: PJE	J: PKK	K: PLF	L: PLM	M: PRG	N: PYB	O: PYL	Sum
Transparent Consultation	0	2	2	0	0	0	3	1	5	0	0	0	0	0	1	14
Stewardship and Ownership in managing EI	1	1	1	2	2	3	2	3	3	2	2	1	4	2	5	34
Sharing of resources	3	2	1	1	1	1	1	1	1	1	1	1	1	2	0	18
Other success factors	5	1	1	2	0	4	1	0	1	0	1	0	2	0	1	19
Understanding inner workings	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	3
Joint EIA	1	1	0	0	0	1	1	0	2	0	1	0	1	1	0	9
Environmental training, education and awareness	6	1	0	0	0	7	3	1	0	1	0	0	5	0	2	26

By using content analysis in this research, it allowed the transcribed data to be qualitatively analysed as well as quantitatively at the same time (Gbrich, 2007). This also allowed detailed analytical approach in both interpretations of quantitative counts of the generated codes and the description (Morgan, 1993). For instance, Table 14 shows the thematic counts of the number of times each identified success factor was mentioned by the participants. Second, thematic analysis as an independent qualitative approach is used as suggested by (Braun and Clarke, 2006:79), as “*a method for identifying, analysing and reporting patterns (themes) within data.*” In addition, the use of thematic analysis provided an approach that allowed for an in-depth, detailed analysis and a purely qualitative account of the collected data (Braun & Clarke, 2006). For instance, FIGURE 9 below shows the descriptive analysis of a number of stakeholders involved in managing environmental issues in the NOPR based on the themes generated by NVivo 11.

Overall, the use of both content and thematic analysis was suitable in this research for answering the key research questions as suggested by Ayres (2007b). These questions include: what are the concerns of people (stakeholders) about the event (managing environmental issues)? What reasons do people (stakeholders) have for using or not using a service or procedure (designed framework)? As the collected data was intended to be used for validation of the designed framework, drawing from the suggestion by (Krippendorff, 1980), both content and thematic analysis allowed the researcher to derive knowledge and representation of facts from collated data. In addition, the use of both approaches enabled the research to test the theoretical constructs to enhance the understanding of this research problem (Yin, 2003).

As suggested by researchers (e.g., Berg, 1998; Braun & Clarke, 2006; Ayres, 2007b) the combination of content and thematic analysis were used in this study to organise

the transcripts of semi-structured interviews and to compress them into fewer themes and categories. Drawing from the suggestions by Hsieh and Shannon (2005) on the three approaches to content analysis: directed, conventional and summative, conventional content analysis was used to derive themes and categories directly from the text data. The analysis was done systematically in the following procedures. First, verbatim transcription of recorded voice data was arranged and stored as computer files. Second, NVivo 11, a computer-aided software coding was used.

NVivo was used to provide scientific and more reliable research results (Bazeley, 2007). Moreover, the computer-aided coding was used instead of manual coding to avoid time consuming and human-error associated with manual coding (Carley, 1990). Third, drawing from the suggestion by Smith and Humphreys (2006) that content analysis allows for conceptual and relational analysis of text data, the coded texts documents were reviewed several times for co-occurrence of meanings and concepts. Fourth, themes and categories of coded text in the form of models were clustered and generated under each research questions as shown in Figure 10 below. This, as suggested by Miles and Huberman (1994), enabled the research to show express research questions under defined categories and themes. The adoption of these procedures of content analysis enabled the conduct of an inductive coding through the generation of themes from relevant concepts derived from a set of defined data (Benard, 2006; Richards, 2010).

Nodes clustered by coding similarity

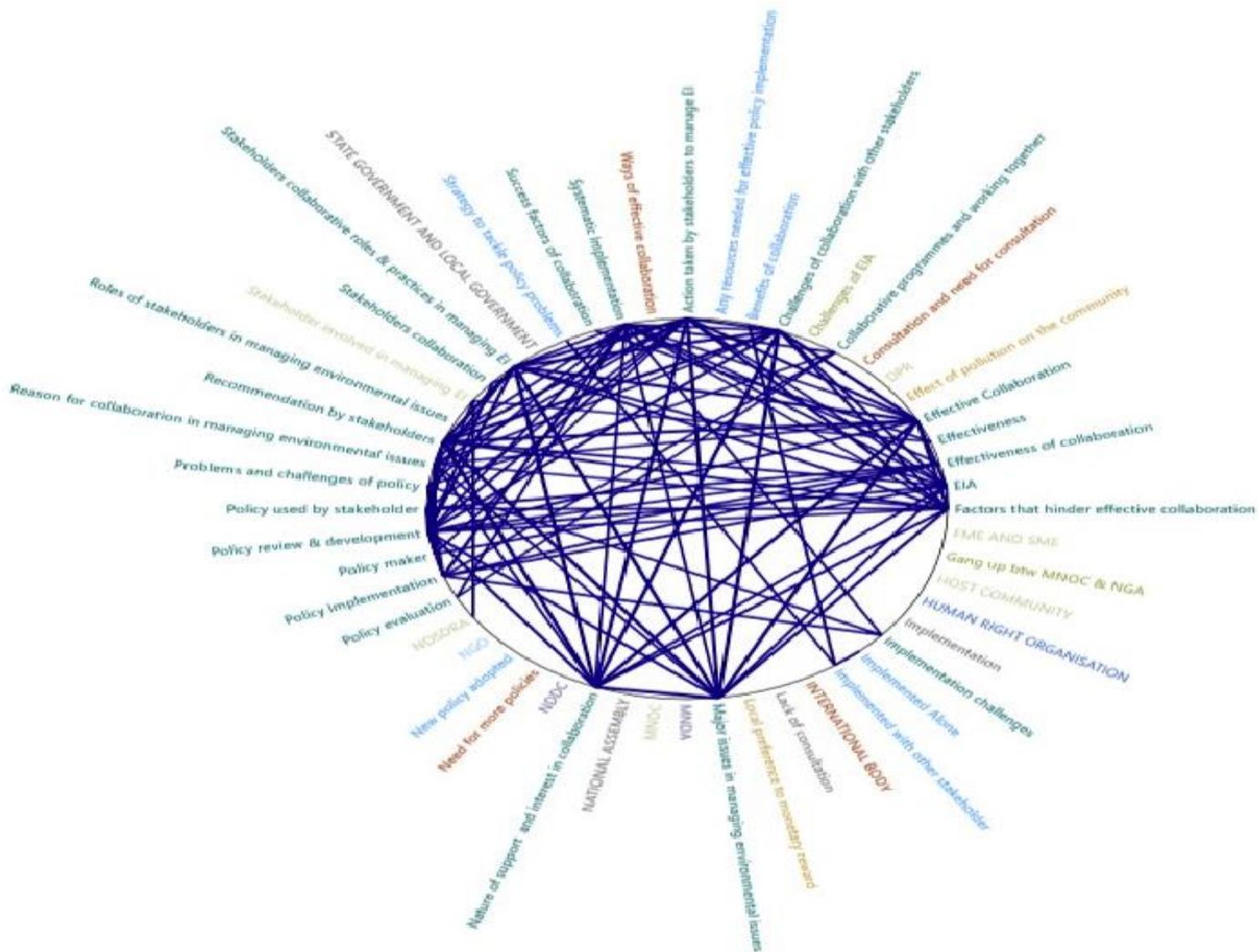


Figure 10: Themes clusters in NVivo 11

5.5.3.4 Interviews data analysis: themes and categories

While reviewing, the themes produced based on the content analysis procedure discussed in the previous section, the various categories and subcategories of concepts were derived. The categories are organised based on the research questions. Interview questions outlined in Table 14 were analysed by categorising the

responses of each participant under respective themes. This analytical pattern was used for all phrases coded. For instance, '*working with multiple regulatory bodies*' was coded under the '*role conflicts related issues*' as one of the challenges faced by stakeholders in working together to manage environmental issues in the NOPR. Similarly, '*costly facilities to stop gas flaring*' was coded under the 'lack of resources.' However, the subcategories that did not fit into research question were eliminated. For instance, one of the participants stated that '*variation in weather conditions*' as one of the challenges faced by them. Since the issue of weather conditions is out of the context of this research problem, this phrase was not included in the categories. In some cases, subcategories featured in more than one category. Such cases represent issues that may have experienced by more than one stakeholder. Overall, this pattern of analysis was used for presentation of the findings. Hence, using the process of systematic coding to represent phrases from respondents across selected stakeholders, and by comparing their narratives and generated codes, the concepts and anecdotes were synthesised.

5.6 Triangulation

As described by Stake (2000), triangulation is a process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or interpretation. Triangulation is employed in this research to improve validity and reduce the likelihood of misinterpretation of empirical data (Nair and Riege, 1996). Kaplan and Duchon (1988) suggest that triangulation of qualitative data in the multidisciplinary research increases validity. In agreement with Kaplan and Duchon (1988), Carson and Gilmore (1996) argue that collecting different kinds of data by different methods from different sources provides a wider range of coverage that may result in a fuller picture of the

phenomenon under study. This argument forms the basis for the relevance of triangulation in this study – to allow the use of multiple methods that would increase the robustness of results which can be strengthened through the cross-validation achieved when different kinds and sources of data converge and are found congruent.

Denzin and Lincoln (2005) described topologies of triangulation as data, between methods, investigator, methodological, multiple and within-methods. Kelle (2001) described triangulation into complementarity and trigonometrically; Deacon et al. (1998) expressed it as planned and unplanned; whereas Morse (1991) categorised triangulation as simultaneous and sequential triangulation. This research employed these topologies of triangulations suggested by the researchers. For instance, the validation of the designed framework provides an opportunity for the use of the between-methods triangulation (suggested by Denzin and Lincoln (2005)) – document analysis and semi-structured; whereas analysis of the findings from the document analysis and interview involve simultaneous triangulation – the content analysis and coding. For the overall analysis, the research uses both theoretical and methodological triangulation. Vaccaro et al. (2010) suggest that environmental management research that involves qualitative methods provides complementary sources of sound evidence, valid research findings and high discoverability of attributes in research. The section below discusses this reliability and how selected methods designed to provide valid research data.

5.7 Bias, reliability and validity

Because of the personal nature of semi-structured interviewing, there may be the cases where the research would not have followed the predesigned order of questions.

Also within the interview sessions, interrogation error may occur; that is when questions are phrased differently from respondent to the next. Other identifiable biases may be interpretation and recording error. The interpretation may occur due to the subjective judgement of the researcher as to how to code answer. This might have happened when the potential answers are pre-coded, and the researcher has to squeeze the interviewee's answer in to the pre-existing code. There may be an error due to multi-tasking nature of interviewing – speaking, listening, observing, writing and recording. This may have resulted to mistake in the interpretation of the data and a tendency to abbreviate answers, not necessarily correctly. The researcher made a concerted effort to reduce the potential error and bias to strengthen both reliability and validity of this research by considering the following techniques. First, due to the multi-tasking nature of the interviewing, the researcher devised an interview schedule and considered; what questions to ask, how to phrase the questions, depth, and breadth of topics to be included and the questions sequence. These strategies allowed for consistency that may be reproducible.

Second, the researcher conducted a pilot before the full scale of this study. The piloting enabled the researcher to assess the participants' understanding regarding the research questions. Radhakrishma (2007) advocates that development of reliable and valid research questions reduce bias. In addition, Groves (1987, p. 162) states that piloting provides researchers with an understanding of the "discrepancy between respondents' attributes and their responses." Peer and Gamliel (2011) suggested that piloting also helps in determining who the respondents are and their background, their readability, their sample population and the access to them. The draft of interview questions was tested with some selected academic experts in environmental management practices. In response to the feedback of the pilot study, the drafted

questions were then used to modify and establish content validity (Radhakrishma, 2007). This was done to ensure that the research questions were consistently and well-targeted to whatever they tend to inquire in relation to this research aim and objectives.

5.8 Ethical consideration

Ethical issues were considered as an essential aspect of this study. De Vaus (2013) suggests that consideration of ethical issues helps researchers to be in control of data collection, data analysis and data presentation. Being aware of the ethical issues in this research enabled the researcher to promote the research quality while protecting participants as well as institutions/organisations under study. Creswell (2007) suggests that the integrity of the researcher as well as the confidentiality of the participants has to be protected. Creswell added that providing comprehensive information to the participants promotes an interactive relationship that can enhance the confidentiality and the quality of data collected. Adhering to these suggestions, the researcher has obtained ethical approval from the University of Central Lancashire's Ethics Committee before formal contact with this study's participants. This research was conducted in accordance with the Nigeria and UK National Research Ethics Services, and the University of Central Lancashire Ethical Principles.

Anonymity and confidentiality were duly guaranteed to participants. Therefore, all participants were asked for their consent before they involved in this research and they were given unreserved assurance that they can revoke their participation at any point before data analysis. Consent forms were sent to the prospective participants seeking their permission before the research. Onwuegbuzie et al. (2009) suggest that written consent before research participation is essential; as such it provides the participants

with clear information on the research problem, its aim and objectives and research questions.

Due to the importance of confidentiality in regards to interaction between the researcher and interviewees, written consent motivated the participants to interact freely to some extent without holding back on their experiences. In addition, clear explanation of the importance of this research was employed to encourage the participant to be open and explicit in narrating their perceptions. In addition, the strategy of sending the written consent before the scheduled sessions enabled the researcher to assure the participants that their confidentiality and anonymity is well valued. Participation in this research was voluntary, and participants were encouraged to withdraw at any point without any threat or consequences to their decision of not participating. All the research data recorded was stored in the University of Central Lancashire computer system and was managed according to the University data protection policy in a way that ensures confidentiality.

5.9 Summary

This chapter has provided explanation on this research methodology and approach to data collection. It has laid the foundation for the philosophical perspectives that underpinned this research and has drawn on these perspectives to provide the rationale for the use of document analysis and semi-structured interview. Further, it discussed approaches used for data analysis. It concludes with a discussion of issues of validity, reliability, triangulation and ethical issues considered in this research.

Management of environmental issues in the NOPR is a contemporary issue, therefore, a phenomenological perspective built on an interpretative and qualitative approach

was proposed. Stakeholders managing environmental issues in NOPR were selected as the subjects of this research. The use of qualitative research design was chosen taking into consideration data analysis and triangulation as well as research time required. The use of multiple sources of evidence – interviews and document analysis from different stakeholders of Nigerian institutions –i.e. government agencies, multinational oil companies and host communities, and data analysis design using NVivo 11 software were adopted to improve the reliability of this research. The next chapter will synthesise the findings from document analysis and chapter 3 for design of a framework

CHAPTER 6: DESIGN OF STAKEHOLDERS' COLLABORATION FRAMEWORK

6.0 Introduction

The purposes of this chapter are, firstly, to design a framework for stakeholders' collaboration for managing environmental issues in the NOPR through the synthesis of the outcomes of the document analysis and global recommendations (discussed in chapter 3). Secondly, to answer the following research question: *how do the key stakeholders perceive their collaborative roles in managing environmental issues in the NOPR?*

6.1 Approach to design of a framework for stakeholders' collaboration

Various studies (e.g., Peterson, 2000; O'Brien and Toms, 2008) have suggested the use of relevant existing theory as one of the common approaches to the development of a conceptual framework. O'Brien and Toms (2008) argue that the use of this approach allows the framework to be guided by the theoretical lens to achieve the research aim and objectives. O'Brien and Toms (2008) suggested six phases of conceptual framework development: theoretical analysis, design, validation, extension and then evaluation. Chapter 4 has provided theoretical analysis – stakeholders' collaboration, stakeholder theory and institutional theory that underpins this framework design. In addition, O'Brien and Toms suggest that a conceptual framework should provide answers to three key questions. First, what is the objective of the framework? Second, how is it conceptualised? Third, what are the components? The aim of this research answers the first question. The first question dictates the overall aim of this research. The subsequent section provides answers to the second and third question through the synthesis of outcomes of document analysis and global recommendation for managing environmental issues.

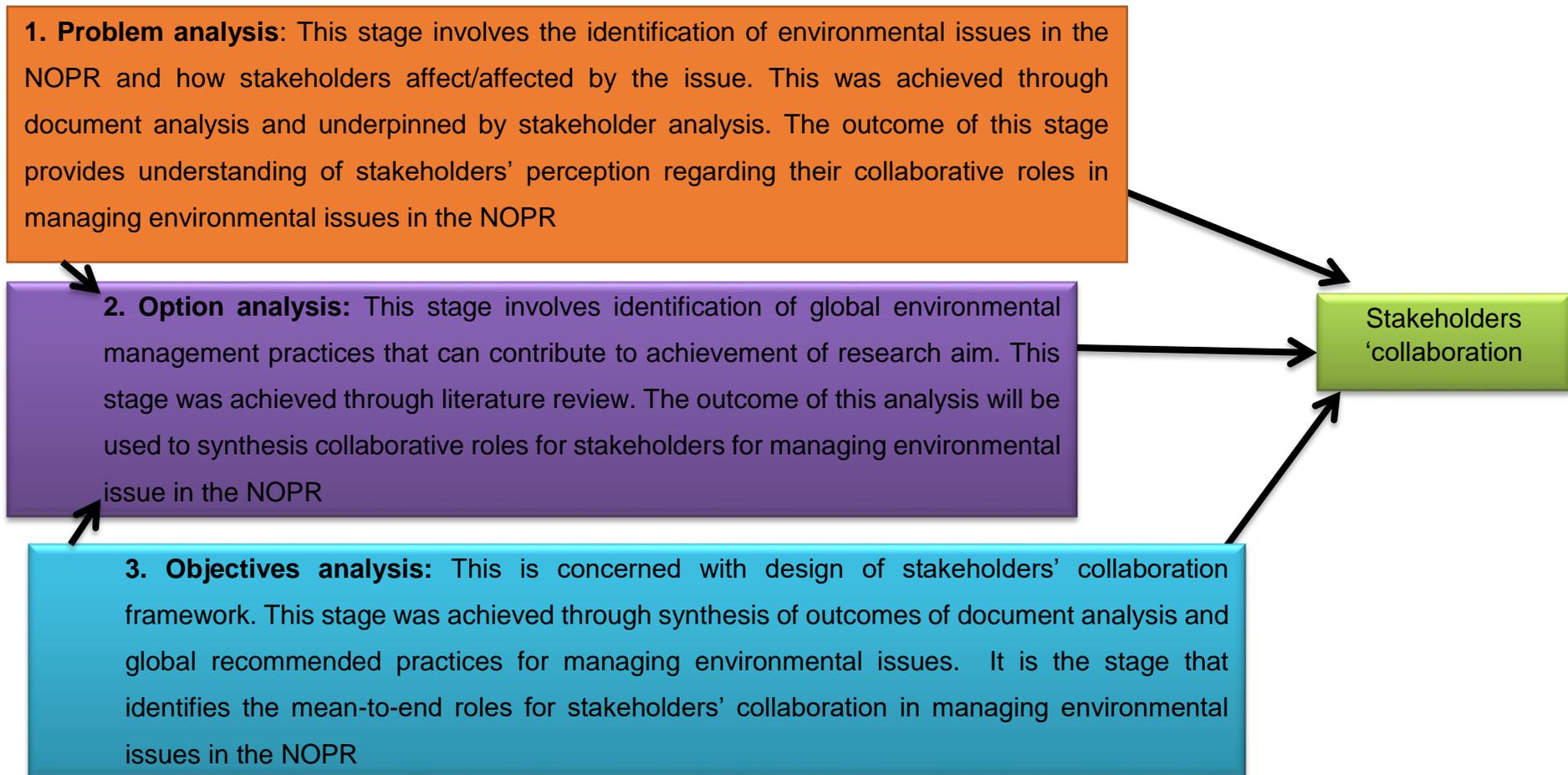


Figure 11: Logical Approach for design of framework for stakeholders' collaboration

The approach towards the design of a framework for stakeholders' collaboration was based on logical approach. This approach has been suggested as a tool to support a collaborative decision-making (Kareko and Siegel, 2003; Couillard et al., 2009). Based on this approach, the structure of the framework for stakeholders' collaboration is divided into three stages as shown in FIGURE 11 above.

6.2 Problem analysis: understanding stakeholders' perception

How the environmental issues and their management in the NOPR are perceived differs across government agencies, oil companies, and communities. Within these stakeholders, it was identified that their roles and interests had a bearing on their judgement of environmental management in the NOPR. Various studies (e.g., UNCED, 1992, Chambers, 1994, Walter et al., 1997; Lawrence, 2006; Reed, 2009, Freeman, 2010) suggest that stakeholders' analysis is used as an *apriori concept* to understand the perception of stakeholders in managing environmental issues in a complex system. Drawing from this suggestion and the analysis provided in chapter 5, stakeholders' analysis has been embedded in this study to provide an in-depth understanding of stakeholders' collaboration in managing environmental issues in the NOPR. Various studies (e.g. (Friedman and Miles, 2006; Reed and Bruyneel, 2010) advocate stakeholder analysis in three perspectives that: defines phenomenon; stakeholders; and prioritises their needs. A multidimensional analysis – typologies, shows where two or more dimensions are linked to different views of stakeholders regarding the range of nature of environmental issues in the NOPR.

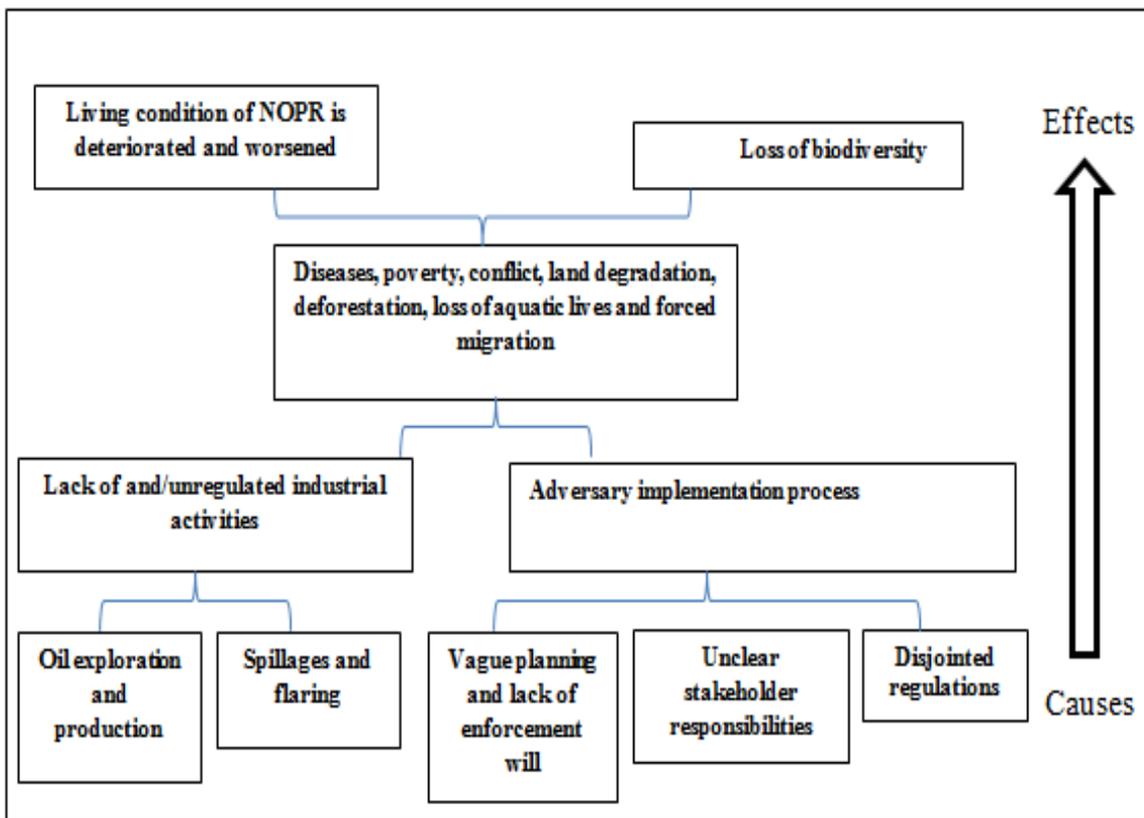


Figure 12: Nature of environmental issues in NOPR: sample topology

In addition, there is an analysis regarding the relationship between the collaborating stakeholders and their interests in managing environmental issues. In this study, it is important to establish the nature of environmental issues and relationship between stakeholders to understand the context of their roles, in relation to their needs and challenges. Key dimensions of causes of environmental issues in the NOPR were identified, and the basis of the impacts. By illustrating nature of environmental issues into a hierarchy of causes and effects, the following topology of nature of environmental issues in the NOPR was constructed as shown FIGURE 12 above.

There is a perception that the industrial operations of the multinational oil companies (MNOCs) are the major cause of environmental issues in the NOPR. Over 90 per cent of oil spills cases were linked to their negligence practices (e.g., use of old and corroded equipment, non-compliance with best environmental management systems)

of oil companies. MNOCs are motivated to embrace best practices of sustainable environmental management because of communities' agitation. In doing so, they provide scholarship programmes and infrastructures and payment of compensation to empower the communities. However, companies fund bulks of environmental management investment in the region but they only attain 50 per cent of compliance with pollution regulations because of lack of enforcement will of government agencies. MNOCs are unlikely to commit their resources unless government authorities create clear rights and obligations and support their economic viability. Various Petroleum and Pollution Prevention Acts advocate good oil exploration practices, but a few provide clear scientific criteria and standards while enforcement of the basic regulation depends on non-stringent rules.

Nigeria federal ministry of environment is the main regulatory body under which other states and communities' agencies operate to provide legal and institutional frameworks. However, this structure has failed to live up to expectation due to duplication of roles and scarce resources and lack of commitment to enforcement. The institutions of enforcement have not made much impact because they are ill equipped to discharge their roles and these have led to frustrations among communities. The communities perceive that there is collusion between NGAs and MNOCs in matters of implementing policies. They argue that the Nigerian government agencies (NGAs) conceal environmental issues because 90 per cent of Nigeria's revenue is hugely dependent on oil production. This is the reason government agencies lack the economic and political will to enforce relevant laws in the NOPR. NGAs fear that strict implementation of laws might hurt revenues and profits from oil production. There is also a perception that communities are excluded from key decision-making processes regarding oil production. Consequently, they express their

frustration by indulging in bunker – breaking into oil facilities to steal crude oil or refined petroleum products, vandalism – breaking into or stealing of oil facilities, kidnapping of oil workers for ransom, and sabotage by damaging pipelines for compensation. In particular, one of the documents analysed as shown in appendix 4, which assessed the Oil Pollution Management and Environmental Assessment in the Niger Delta: A Case Study of Operations of Chevron Nigeria Ltd In Ugborodo Community in Delta State Of Nigeria, listed common environmental issues which include: oil pollution, corrosion of the pipelines, blow outs, sabotage, equipment malfunction, effluent discharges, gas flaring and emissions, tank leakages, valve malfunctioning, , pipeline ruptures, tank leakages and overflows, road tanker and sea tanker, malfunctioning of valves and pumps at jetties. Impacts of these issues to the NOPR are significant and widespread: from cultural, health, climatic, conflicts to forced migration.

Some documents presented the discrete impact of oil in the region 'as oil producing regions,' there is no comprehensive data to show overall distribution of the impacts in a 'defined state or region.' Government agencies rely only on MNOCs self-reporting of accidents, leaks, and emissions. For instance, *A Case Study of Operations of Chevron Nigeria Ltd in Ugborodo Community in the Delta State of Nigeria*, claimed that over 90 per cent of oil spills cases were linked to their MNOCs negligence (e.g., use of old and corroded equipment, non-compliance to best environmental management systems). Instead of complying with best practices, MNOCs are more interested to provide scholarship programmes and infrastructures and payment of compensation to the communities.

6.2.1 Nature of collaboration among stakeholders

The results from indexing and charting document materials showed that there is patterning of views of the stakeholders in relation to their collaborative relationship.

For instance, there is 'uneven' relationship between oil companies, government agencies, and communities in the management of environmental issues in the NOPR. Evidence of this effect is that government agencies use insufficient, in some cases, there were non-existing regulation mechanisms during the approval of EIA that were carried out by oil companies. This government consultation with oil companies is not disclosed to communities. Even, when the government does, the communities are not involved in the decision-making. To illustrate this evidence, a pictorial analysis in the form of Venn diagram (FIGURE 13) to illustrate the association between attitudes, perceptions, and motivations of the stakeholders.

Similarly, in the analysis of roles of the stakeholders, it was revealed that different stakeholders are characterised by different interests, practices, drivers, and barriers. This association was identified by constructing a central subject 'labels' chart across the reference documents of the respective cases.

The four different 'labels' associated with stakeholder roles in environmental management, were chosen to form subheadings and the cases were plotted according to their particular requirements, as shown in TABLE 15. For this analysis to provide a comprehensive summary, the fourth column highlights potential implications of requirements that characterised each stakeholder. Whereas this table attempts to provide the most inclusive requirements for the stakeholders, some of the requirements might not have been given explicit definitions.

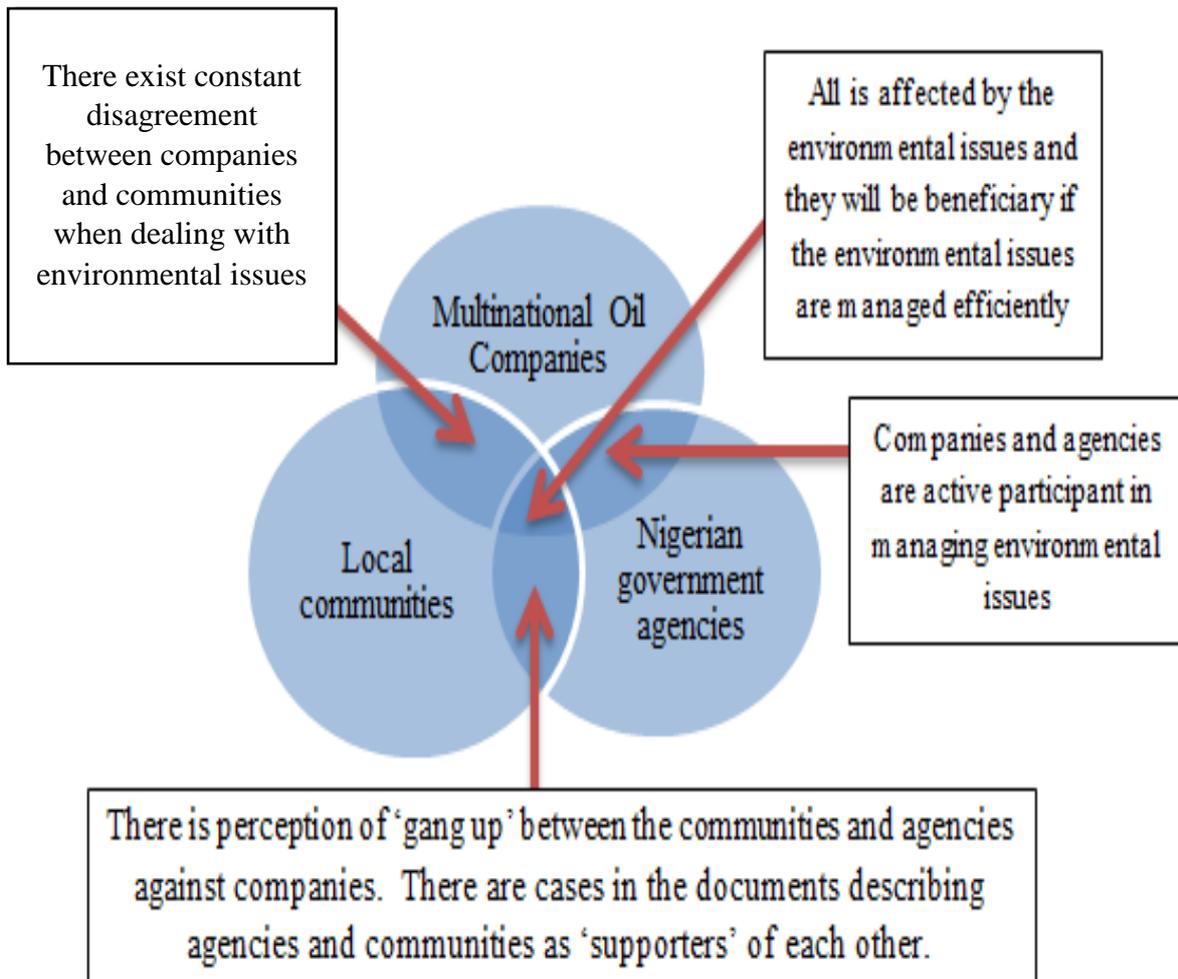


Figure 13: Collaboration among stakeholders' in managing environmental issues

The roles of stakeholders are reflected in a series of socio-political and cultural influences exhibited by them in collaborative environmental management decisions. Some of the driving factors of stakeholders' collaborative roles are categorised according to the stakeholder groups. Different stakeholders were identified, who have contributed to various aspects of managing environmental issues in the NOPR. Their major contributions include environmental issues awareness and education, funding and convenorship and criminal justice system. Among these stakeholder groups, NGAs, MNOCs, and host communities' roles influence the majority of environmental management decision making in the NOPR.

For instance, in the stakeholders' treatise of oil spill case by the Shell Petroleum Development Company of Nigeria (SPDC) often refer to its collaborative role with the National Coalition on Gas Flaring and Oil Spills in the Niger Delta (NACGOND). Similarly, the SPDC comments on their relationship with communities. SPDC documents stated '*we visit spill sites in-line with government regulations, led by representatives of regulatory bodies, state government, police and impacted communities*' (see appendix 3) However, this document did not report the name of representative of the regulatory bodies, as coded in FIGURE 8 in section 5.5.2.3.

6.2.2 Perceived stakeholders' interests

It is in the interest of key stakeholders identified in this research that major causes of environmental issues in the NOPR are identified to reduce the environmental risks and impacts. For instance, Shell Petroleum and Development Company (SPDC) – one of the multinational oil companies (MNOCs) whom their documents were analysed was interested in environmental protection, joint management inspection, and certification by stakeholders (NGAs and host communities) and effective implementation. However, as one of the MNOCs, SPDC have vested interest in economic gains accruing from oil exploration, business profits, corporate image and community engagement. This is shown by their strong and influential lobbying of NGAs and host communities. It was evidenced as shown FIGURE 8 of chapter 5, *coded as SPDC signed Global Memorandum of Understanding with communities in Ogoni land in 2014*. This shows that MNOCs has various collaborative roles in relation to host communities in the NOPR. SPDC uses memoranda of understanding (MoU) with host communities as part of its collaborative roles.

Table 15: Sample of the roles of stakeholders in managing environmental issues

Stakeholders	Roles in managing environmental issues	Drivers stakeholders collaboration	Potential implication for stakeholders' collaboration
Government agencies	<p>Policy development and regulation</p> <p>Resource conservation</p> <p>Intermediary between communities and oil companies,</p> <p>Regulation and enforcement;</p>	<p>Economic interests; Loss of investments; Development</p> <p>Corruption; resources</p>	<p>Can change policy and regulation, resistance to bad practices of MNOCs</p>
Host communities	<p>Represented by chiefs and community leaders</p> <p>active in reacting to the environmental issues</p> <p>familiar with the pollution hot spots;</p> <p>reporting capabilities and</p> <p>Resource conservation.</p>	<p>Basic sources of living are destroyed; Decrease in their income; Community development</p> <p>Illiteracy, lack of skills, poverty.</p>	<p>Strong support to resource conservation and pollution prevention;</p> <p>Resistance in case rights to resource ownership is limited</p>
Oil companies	<p>Important in the economic contribution</p> <p>Corporate social roles</p> <p>Strong and influential in lobbying stakeholders</p> <p>Strong inclined to corporate gains,</p> <p>Leadership, innovation, technology, skills, capital</p>	<p>Profits</p> <p>Interest in corporate image</p> <p>community engagement,</p> <p>vulnerable to competition</p>	<p>Strong lobbyists and influential on the government decisions; resistance in case of profit losses and facility destruction</p>

Similarly, Chevron uses their companies' environmental management principles as a collaborative influence to host communities, which it refers to as 'Operational Excellence Management System (OEMS)' to identify and manage risks associated with environmental issues. As stated in the data input coded from their document, Chevron opined that: '*...we use our Operational Excellence Management System (OEMS) to help us identify and manage risks and to improve reliability and safety in all our operations. Our Environmental Principles help us guide our decisions*'. See appendix 4.

These observed perceptions of oil companies while collaborating with other stakeholders has shown that their relationship is dependent on their vested interests, drives and expected gains from other stakeholders. The identified drives include: economic interests (corporate investments, profits, and corporate image), community engagement, sources of income being destroyed, and underdevelopment, health risks and conflicts. On the other hand, the stakeholders' roles are associated with barriers that affect their collaborative relationship in managing environmental issues in the NOPR.

6.2.3 Perceived drivers of stakeholders' collaboration

Some of the driving factors of stakeholders' collaboration include greater host communities' expectation for better environmental management, and policy commitments made by Nigerian government agencies and MNOCs to involve (at least key stakeholders) in their collaborative management roles. However, MNOCs are unlikely to commit their resources unless government authorities create clear rights and obligations and support their economic viability. Even when the MNOCs have shown interests to commit resources, they face other barriers which include a lack of host communities' confidence and trust in the decision-making of government

agencies and MNOCs. There is an 'uneven' relationship between MNOCs, government agencies, and communities in the management of the NOPR environment. Evidence of this effect is that government agencies use insufficient, in some cases non-existent, management and regulation mechanisms during the approval of EIA that were carried out by MNOCs. Even, when the government does, the communities are not involved in the decision-making. Various Petroleum and Pollution Prevention Acts advocate good oil exploration practices, but a few provide clear scientific criteria and standards while enforcement of the basic regulation depends on non-stringent rules.

The Nigerian federal Ministry of Environment is the main regulatory body that dictates operations of agencies to provide legal and institutional frameworks. However, this ministry is faced with challenges ranging from duplication of roles, scarce resources to lack of commitment in enforcement. In addition, existing stakeholders' collaboration in the NOPR faced hindrances because stakeholders are not aware of or have not adopted effective environmental management practices used in the developed countries. For instance, almost all the documents of MNOCs and government agencies analysed used some terms such as '*promotes cooperation in environmental science and conservation technology with international bodies*', '*Cooperate with Federal and State Ministries, Local Governments, statutory bodies and research agencies*', '*Prescribes standards for regulations*', '*monitors and enforce environmental protection measures*', '*approved and certified by the joint government, community and SPDC inspection team, Works with communities and civil society (NACGOND) to build greater trust to clean up oil spills, signed Global Memorandum of Understanding with communities in Ogoni land in 2014, Federal government is required to take the lead on coordinating the activities of the numerous stakeholders involved*'), they are

implemented in an ad hoc manner, thus failing to transfer and institutionalise policies and best practices.

Some of these promoted environmental management initiatives evidenced in the documents of the stakeholders cannot be verified. For instance, the common claims made by the SPDC in their document. SPDC claimed in one of their documents that: *15 sites identified in the report have been remediated and certified by the regulators. As at 01/10/2011 SPDC has completed and certified 71 out of 74 oil spill incidents that happened before 2005; Of the 303 spill sites identified at the beginning of 2014, 194 (64%) had been remediated and 'independently certified' by the end of the year*; In these instances, the evidence of roles of regulators that were responsible for enforcement of cleaning of the identified spill sited could not be verified.

The institutional frameworks for enforcement have not made much impact because they are ill-equipped to discharge their roles and these have led to frustrations among communities. The communities perceive that there is collusion between NGA and MNOCs in matters of implementing policies. They argue that NGAs conceal environmental issues because 90 per cent of Nigeria's revenue is hugely dependent on oil production. This is the reason government agencies lack economic and political will to enforce relevant laws in the NOPR. Government agencies fear that strict implementation of laws might hurt revenues and profits from oil production. There is a perception that communities are excluded from key decision-making processes regarding oil production. Consequently, they express their frustration by indulging in bunkery, vandalisation of oil facilities, kidnapping of oil workers for ransom, and sabotage by damaging pipelines for compensation.

Drawing from the outcome of the document analysis (presented above), government agencies are at the helm of affairs regarding their collaboration with the oil companies and communities in managing environmental issues in the NOPR. However, it was observed from the document analysis that there is a kind of 'gang up' that existed among the stakeholders; which means either the government agencies and host communities 'unite against' oil companies or oil companies and government agencies are 'united against' host communities. This relationship may not have existed between communities and oil companies.

The implication of these kinds of collaboration acknowledges the assumption that different levels of collaboration are likely to be appropriate in a different context by different stakeholders. Tippett et al., (2007) argue that this implication should be considered because the outcome of collaboration could be influenced by the objectives of stakeholders and interests. Interestingly, this is in line with what Habermas (1987) regards as the basis of stakeholder collaboration which entails a democratic right to participate in environmental management decision-making not just because it is a 'fair practice' but because it is a means to an end.

6.3 Option analysis: recommended practices for stakeholders' collaboration

This stage involves the identification of different environmental management options that can contribute to the achievement of effective collaborative management of environmental issues in the NOPR. Various researchers (e.g., Cocks, 2012; Poopola, 2013; Barton and Bruder, 2014) advocate that collaborative efforts of stakeholders may not have achieved an effective environmental management in the NOPR because global environmental management practices and standards have not been empirically

contextualised in the NOPR. The United Nations Environment Programme (UNEP) (2014) recommends that environmental management practices needs to be performance-based systems, as opposed to traditional command and control approach. Adhering to these suggestions, documents of environmental management practices, especially noteworthy that have made a positive impact on environmental practices, from oil producing regions were reviewed in chapter 3 of this study. These include: U.S. Environmental Protection Agency (EPA) Working Paper (2008), Asia Industrial Gases Association (AIGA)'s Good Environmental Management Practices for the Industrial Gas Industry (Bradley, et al., 2010), The European *Eco-Management and Audit Scheme's (EMAS)* Sectoral Reference Documents on Best Environmental Management Practice (2014), etc.

The recommended environmental management practices that are common to these documents include but are not limited to: clear and comprehensive oil project legislation, the establishment of fiscal terms such as tax reduction, pollution reduction based on methodological approaches (e.g., identification of risks and strategies consistent with host government policies). The UNEP (2014) requires a compliance framework and strict enforcement and recommends application and integration of Health, Safety and Environmental Management Systems (HSE-MS) to ISO 9000 series and ISO 14000 series with key components: policy and strategic objectives; organisation, resources and documentation; evaluation and risk management; planning; implementation and monitoring; and review. *EMAS* (2008) emphasise that the host government should develop policies that cover entire MNOCs operation life cycle and should be designed around environmental assessment, emission and discharges, emergency, and reclamation of sites.

Moreover, EMAS (2014) argues that for these practices to thrive, they must be a culture of commitment and resource management through leadership and communication; public environment through training, awareness and institutional capacity building; and the concept of self-regulation, goal setting, consultative and negotiated agreements.

6.4 Objective analysis: structure of the stakeholders' collaboration framework

The components of this objective analysis are an integral part of the framework for stakeholders' collaboration. It comprises elements derived from the optional analysis. Overall, it is the means-to-end component of the designed framework. The structure of this analysis is not standalone approach. The components are adapted to conform to ISO 14000 and ISO 9000 series along with HSE-MS (E and P Forum,1994). The components reflect both reactive and proactive strategies that will be applied to transform the roles of stakeholders regarding the effective management of environmental issues in the NOPR. The components are analysed by integrating the roles of the stakeholders in relation to their socio-political, economic and cultural interests. It is structured in four parts: policy review and development, strategic management development, systematic implementation of strategies, and periodic review.

6.4.1 Policy review and development

Various studies (e.g., Alba et al., 2010; Oilvoice, 2012; Poopola, 2013) suggest that policy review is essential if not indispensable to managing environmental issues in the NOPR. Most of the existing policies (e.g., Oil Pollution Act of 1990) were developed based on the requirements of foreign countries, and they are not applicable in the context of the NOPR. Developing environmental management policies based largely

on socio-economic consideration of the affected society are becoming important. The EU is a prime example where policies are implemented through the integration of policies requirements of stakeholders: governments, companies, and communities (EMAS, 2014). Although analysis and interpretation of varying legislations and conventions, prioritisation of environmental issues and integration of stakeholders' views may be difficult, the outcome can be essential in setting and modifying existing policies and strategies to set up new ones.

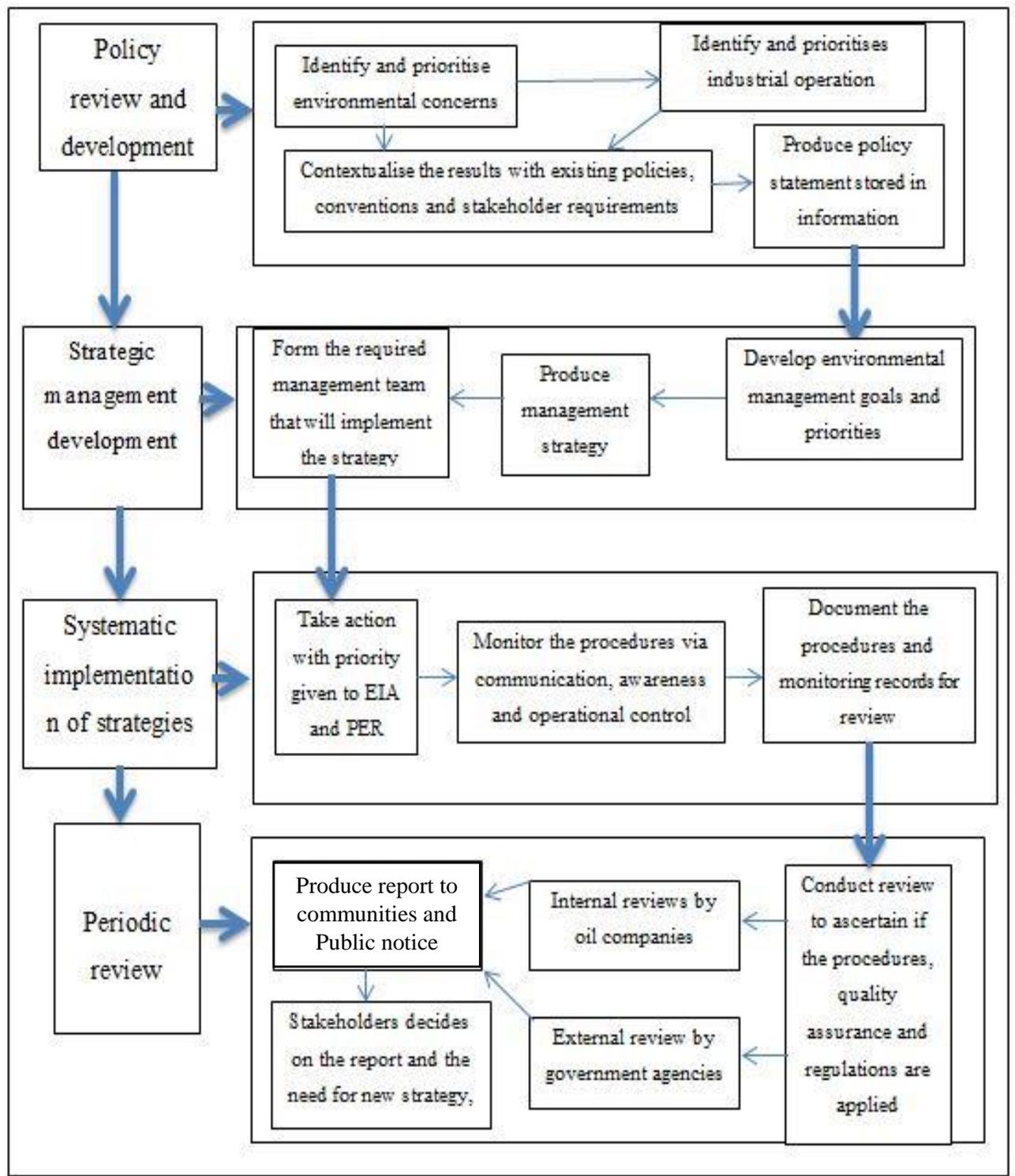


Figure 14: Structure of framework for stakeholders' collaboration

Nigeria government agencies will need to work with MNOCs and host communities to set up policy review committee comprising policy audit and environmental management experts. In the case of NOPR with different multifaceted stakeholders,

UNEP (2014) suggests that legislations should be merged in to a single framework to ease delivery and implementation. The content of the policy should present a clear set of prioritised concerns and a workable legislation. Drawing from the findings of the document analysis, the new policy should be developed and delivered based on three elements:

- 1) Identification of major environmental concerns: pollution, gas flaring.
- 2) Prioritisation of the concerns: causes – operations based on scientific evidence and most affected, strategies that required fewer resources,
- 3) Analysis of the views of the stakeholders via consultation.

The content of the policy should be structured and documented in central information systems. This instrument is very essential to direct companies regarding legislations that will apply to their operations requirements. The system will be used as a reference point for improvement of oil pollution prevention policies, setting up of management objective, stakeholders' training and awareness. UNESCO (1992) requires that the public has the right to environmental information. In doing so, the stakeholders may understand the need to participate in protecting their environment by reporting oil leakages to relevant authorities rather than taking advantages of oil leakages to vandalise oil pipelines (Babalola et al., 2010).

In addition, Good Environmental Management Practices for the Industrial Gas Industry (Bradley et al., 2010) requires that media campaign should be established to conscientize the citizens on the issues, this could also be applied in the case of NOPR. Environmental protection campaigns should be established through schools and media in the NOPR to conscientize the citizens and students on the issues. Various researchers (e.g., Kappor, 2001; Reid et al., 2006; Berkes, 2008) note that the

collaboration of multiple knowledge systems enhances decision-making towards sustainable environmental management.

6.4.2 Strategic environmental management development

This component relies on policy delivery regarding operations of the oil companies and prioritised environmental issues. The management will comprise of representatives from government agencies, companies' corporate managements and community leaders. The role of the management will be to develop a strategy based on prioritised goals derived from evaluation and review of existing goal while considering their commercial and socio-economics requirements. The strategy will form baseline to be used to drive management approval procedure, preparatory environmental review (PER) and environmental impact assessment (EIA). Although EIA exists in Nigeria but the process is hampered by lack of skilful and competent independent assessors. The PER should be made mandatory for oil companies in the NOPR. This mandate will make the companies liable in case of potential environmental issues even when the EIA is not properly conducted. Alba et al., (2010) suggest that there is need to incorporate other review approaches such as gap analysis to provide an in-depth analysis and best practicable environmental option (BPEO). The rationale will be to prioritise the environmental issues of concern based on their significance, benefits to the company and financial implications.

If the objectives of the prioritised environmental issues are to be achieved, there will be the need for strategic management concepts such as SMART: specific, measurable, achievable, realistic and time-scale. MNOCs will have to be compelled to apply this concept. The communities will monitor and report the progress of expected actions of the companies. The report of the monitoring will then be evaluated by the stakeholders to decide whether there is a need for improvement regarding the

specified actions, priorities and strategies. This collaborative participation among stakeholder will enable empowerment and team building mentality which will foster accountability, commitment, ownership and responsibility (Kappor, 2001; Delmas and Toffel, 2004). However, Okowa (2013) argues that commitment of stakeholders to stakeholder collaboration would depend on the extent of political and structural changes (e.g., adoption of appropriate legal frameworks, leadership, and political will).

6.4.3 Systematic implementation of strategies

The ISO 14 000 recommends that implementation is an essential process for improving the developed strategic plans (E and P,1994). Since the scale of implementation process depends on the individual goal, there is a need for all the stakeholders to be allocated to clear tasks in the implementation process. UNEP (2014) recommends a continuing and integrated process throughout oil project life cycle. The best practices integrate environmental issues into corporate decision through the use of systems (e.g., ISO 14020 and 14024) (Hitchen *et al.*, 1999). However, Poopola (2013) suggest that most of the oil companies in the NOPR do not adhere to these standards notwithstanding their importance. MARPOL (1973/78) recommend communication, documentation and operational control as the three main functions for successful implementation. Considering the situation in the NOPR, the absence of information systems policy has made these functions non-achievable. There is a need for stakeholders to agree and set up procedures for communicating the state of environmental management implementation in the region. The procedure needs to be documented and made assessable to the companies for monitoring and control of their operational activities. The records of implementation procedure will form the basis of the periodic review.

Risk evaluation should be a fundamental requirement to be considered by oil companies alongside investment, management and control decisions. These should be based on the best possible scientific information and analysis of risks (UNEP, 1992, 1994). In this case, where there is no available clear legislative control, UNEP recommends that companies should initiate risk management decisions before consulting stakeholder for approval. Other implementation decisions recommended by UNEP as part of oil companies' best practices to reduce pollution include: standards for noise, radiation, chemical exposure: integrated pollution control (IPC); and protection of indigenous and cultural heritage.

The strategic implementation of these practices provides the operator with authority to explore given environment. In line with this concept of self-regulation, US EPA (2008) recommends institutional capacity building and resource commitment

Institutional capacity building: E and P. (1997) suggest that there is a need for the provision of education, awareness, training, leadership, and constituency with regards to environmental management.

These provisions will enhance the capacity of government, oil companies, communities, and NGO's to manage the environment sustainably on a long-term and strategic level. Oil companies can support by fostering, through training and capacity building, government efforts to make authorities more self-sufficient.

Resource commitment: E and P Forum suggest that resources are required to make environmental programmes effective. Oil companies should be committed to complying with environmental management laws and policies whether or not it is rigorously enforced. This is very essential in the case of NOPR where local services and technical infrastructure (e.g., specialised waste services, well equipped

laboratories, good transportation systems, and efficient emergency response) do not exist.

6.4.4 Periodic review

Eurocontrol (2014) recommends review as an essential tool for verification and on the effectiveness of environmental management performance. Periodic review of how well stakeholders are performing should be aimed to facilitate the management control of their practices and assessment of their compliance with policies and regulatory requirements. The UNEP (2014) in their technical report of environmental audit report recommends review as an essential requirement for verification and on the effectiveness of environmental management performance. International Chamber of Commerce (1989) notes that periodic review of how well stakeholders are performing should be aimed to facilitate the management control of their practices and assessment of their compliance with policies and regulatory requirements.

UNEP (2014) recommends that periodic review in the form of audit should be done by stakeholders in two parts: internal and external environmental audit/review, which when combined provides comprehensive information on the operational activities and management strategies that need improvement and corrections. Considering the situation of the NOPR, the internal review is only done by the oil companies. The government agencies will need to establish independent bodies to carry out the external audit. The report of the review will be used as an indicator to crosscheck the reports of the oil companies and to evaluate the success of the actions they have taken to prevent/reduce oil pollution.

Document analysis suggests that at present there exists no scientific produced mechanism to hold MNOCs accountable for their practices. Even when they exist,

some corrupt government agencies officials manipulate compliance and evaluation report to satisfy oil companies to the detriment of the environment in the NOPR. Moreover, when dealing with oil companies (e.g., Shell, Chevron, Agip) whose corporate power and size dominate their competitors and communities, it is important to curb their excesses through implementing external environmental protection standards. The result of the audit will also be made available to the communities as an evidence of the effort of the oil companies (Herrmann, 1995). In addition, this provision will enable reviewing the existing policies and strategies to decide if there is a need for new ones.

6.5 Summary

Overall, this chapter has achieved the third objectives of this research. It summarised the findings from the review of global recommendations and theoretical analysis and applied the outcomes for the design of the stakeholders' collaboration framework. The framework is designed based on the following components: policy development, resource planning, and strategic implementation and review of operational impact. Policy development will help to outline the strategic environmental management practices that are most important to interest groups: companies and government agencies. The clear definition and establishment of policy provide the foundation upon which other environmental management practices will be built upon. The policy documents need to be made available and communicated to the stakeholders. Resource capacity planning will help to identify the key multinational industrial activities and channel the resource (financial and human).

The planning needs to answer the question of roles and responsibilities: who controls or influence. Moreover, the resources will be prioritised in accordance with the pressing needs of the interest groups. This process should be in tandem with the legal and institutional requirement and also provide room for improvement and review. Strategic implementation and operational review: This step involves a process of monitoring the practical performance of established environmental management practices to ensure that appropriate legal requirements are being met. The monitoring process needs to ensure that environmental management targets are established and are on track in meeting institution's goals.

It is essential to validate all components of the frameworks. This allows innovation and tracking of changes in the institutional/industrial operations and provides rooms for improvement. The resulting outcomes of the validation will aid identification of gaps in the framework and need for improvement. Hence, next chapter attempt to validate the designed framework based on the findings from the semi-structured interview.

CHAPTER 7: VALIDATION OF FRAMEWORK FOR STAKEHOLDERS' COLLABORATION

7.0 Introduction

The purpose of this chapter is to validate the framework for stakeholders' collaboration that was designed in chapter 6. The analysis in chapter 6 provided information about collaborative roles of the stakeholders in managing environmental issues in the NOPR. However, there are unanswered questions in relation to how the roles are coordinated and their effectiveness. For instance, it is not fully known how the collaborative roles are implemented, and why the successful collaboration (between multinational oil companies and government agencies) works or unsuccessful collaboration (for host communities and multinational oil companies (MNOCs) are not working.

The designed framework in chapter 6 recommended that driving factors of the framework would depend on the key capabilities of the stakeholders: *coordinated effort to policy delivery, strategic commitment to objectives and genuine compliance*; yet how these mechanisms will be achieved are unknown in the context of NOPR. These unanswered questions required semi-structured interview that allows an in-depth over the breadth of the research problem.

Miles and Huberman (1994:434) suggest that researchers need to '*get inside the black box*' to understand how and why something about research phenomenon happened. The discussions presented in this section are substantiated with previous research finding to provide a critique of this research outcome.

7.1 Validation of framework for stakeholders' collaboration with reference to Frank Fischer's Policy Analysis as Discursive Practice: The Argumentative Turn

Farr (1987) as cited by Fishcher (2003, p.194) defined validation as *an interpretive process of reasoning that takes place within the frameworks of the normative belief systems brought to bear on the problem situation as a whole*. Farr (1987) suggested that validation process should draw on qualitative methods such as those developed for interpretive anthropological and sociological research. This suggestion is adhered to in this research since the research design is built on interpretivist perspective and qualitative research approaches. A semi-structured interview was used at validation phase of the framework for stakeholders' collaboration which not only allows an opportunity for examining the applicability of the framework but also enables an in-depth assessment of the validity of the research (Patton, 1987).

Instead of measuring the applicability per se, Fischer (2003) argued that validation enable policy analyst to examine the conceptualisation and assumptions underlying the problem situation that the policy is designed to influence. Chinn and Kramer (1991, p. 203) concurs with Fischer and defined validation as *the process that focuses on the accuracy of conceptual meanings in terms of empirical evidence*". Drawing from the definitions, the validation of framework for stakeholders' collaboration focuses on whether the framework as a policy tool is applicable in managing environmental issues in the NOPR. The validation process involved selected participants from key stakeholders involved in managing environmental issues in the NOPR. This process allows the researcher to interact with the research participants to understand their views regarding the components of the framework. The process is what Fischer (1995b) calls deliberative inquiry which focuses on critical questions and gathering relevant data to facilitate decision-making regardless of the position of the participants.

The Frank Fischer's book (Reframing Public Policy) on *Policy Analysis as Discursive Practice: The Argumentative Turn* focuses on clarifying the deliberative role of policy analyst and developing interactive approaches that facilitate argument and dialogue among analysts and participants in developing policy programme. As Majone (1989) has it that *argument, either oral or written, is central in all stages of the policy development process*. Fischer (2003) advocates that the validation of a policy programme is one of the essential approaches that should be considered in policy evaluation. Stone (2002) as cited by Fischer and Gottweis (2012) suggested that policy development is fundamentally an ongoing discursive struggle over the definition and conceptual framing of problems, the public understanding of the issues, the shared meaning that motivate policy responses and criteria for evaluation. In that, policy instrument should apply evaluation methods (validation as it is in this research) to examine content, its implementation and potential impact of the policy programme to the beneficiaries. While examining the content of the policy, Fischer (2003, p.192) has it that validation allows dialectical communication relevant to deliberation between the participants and a policy analyst, as well as allows an opportunity to illuminate the discursive components of a complete policy. As an evaluative criterion for policy evaluation, validation allows an opportunity to recognise different stakeholder perspectives and establish a rational basis for "argumentative" democratic deliberation of their assessment and relevance of the policy component.

As this research is aimed to develop a framework for stakeholders' collaboration, it is important that validation which is integrated into this research allow verification of its applicability. This allows the research participants to discourse their existing institutional policy and see how the framework could better be applied in providing expected outcomes in managing environmental issues in the NOPR. From the

empirical verification of framework outcomes, Fischer (2003, p. 194) recommended three vital questions that research should ask in using validation process to provide policy evaluation. The questions are adapted in the context of this research as follows: is the framework components and objectives relevant to the problem statement – management of environmental issues? Are there circumstances in the problem situation that requires an exception to be made on the components of the framework – the implication of using the framework? Moreover, are there criteria relevant to the problem situation – critical success factors?

While these questions are answered, argued on and deliberated upon in the validating the framework for stakeholders' collaboration, the findings enabled this research to extend applicability and usefulness of stakeholders' collaboration as a policy instrument in managing environmental issues. The identified critical success factors provided evidence to support the validity of the framework, its components and the implication of its application in practice. Hence, the validation was carried out in this research to demonstrate the potential for practical application of the designed framework. This is an essential stage and pathway to apply a framework for stakeholders' collaboration as an instrument of a better policy programme for managing environmental issues in the NOPR.

7.2 Approach to the validation of stakeholders' collaboration framework

The validation of the framework for stakeholders' collaboration was achieved through analysis of data collected from the semi-structured interviews with selected participants of the key stakeholders: i.e., government agencies, MNOCs and host communities. Interviews were conducted based on the questions related to the four main components of the designed framework – policy review and development,

strategic management development, systematic implementation of strategies, and periodic review. Twenty (20) participants were engaged in the semi-structured interviews. The framework was assessed regarding its usefulness in managing environmental issues in the NOPR.

The assessment focused on answering the questions of practical application of the framework, important interests of the stakeholders as well as critical success factors that may drive or hinder its successful application. The outcomes of the semi-structured interviews enriched a deeper insight as to how this framework for stakeholders' collaboration can be implemented to effectively manage environmental issues in the NOPR.

Three main themes emerged from the semi-structured interviews. These included:

- 1) Collaboration of stakeholders
- 2) Drivers for stakeholders' collaboration
- 3) Barriers to stakeholders' collaboration.

Each of these themes is presented with their respective sub-themes as an important factor to achieving a successful collaboration of stakeholders in managing environmental issues in the NOPR.

7.3 Theme 1: Collaboration of stakeholders in managing environmental issues

Observations from the interviews suggest that there are several stakeholders (e.g., government agencies, institutions organisations, MNOCs, non-governmental organisations (NGOs)) that work together in managing environmental issues in NOPR.

The stakeholders include Nigerian Federal Ministry of Environment, the Nigerian Oil Spill Detection and Response Agency, Ministry of Petroleum Resources, Department

of Petroleum, state government, and local government; multi-national oil companies such as Shell Petroleum Development Corporation, Nigeria Agip Oil Corporation, Exxon, Seplat, and host communities from 9 oil bearing states in Nigeria. As stated by a participant from one of the Nigerian government agencies;

“Government is collaborating with other 3 tiers of government (national assembly) and collaborating with the state government and local government”. In similar response, one of the participants from the MNOCs stated that, *“the United Nations development programme (UNDP) assisted us in funding that programme”* Nigerian government agency (NGA)

However, some of the stakeholders understand stakeholders’ collaboration as internal affairs within the organisation or institution. For instances, one of the participants stated;

“We have the environmental protection and control (EPC), we have other directorate that they are all working together to ensure a successful management of the environment.”

In similar response, it was suggested that stakeholders’ collaboration is an internal affair, a participant from one of the MNOCs stated;

“we have HSE division and we have environment department inside the HSE division (health safety and environment)” MNOC.

These suggestions agreed with findings from the document analysis that although government agencies, MNOCs, and host communities are perceived as the key stakeholders that manage environmental issues in the NOPR, there other ‘hidden stakeholders.’ This shows the diversity of stakeholders involved in managing environmental issues which have been noted by Prell et al. (2007).

7.3.1 Sub-theme 1: Collaboration led by the government agencies

It was suggested from the interviews that various collaborative actions were taken by various stakeholders in managing environmental issues in the NOPR. However, it was observed that identified actions are led by some stakeholders depending on the nature of the environmental issues and their stakeholders' roles. This finding conforms to findings of previous studies (Koontz and Thomas, 2006; Smith, 2015) that almost every level of government has come to be part of environmental and natural decision making. Smith (2015) asked the question of situations in which collaborative management works well and others in which it should be avoided entirely. This question has been answered, in part, in this study.

The findings from this interview analysis have shown that some collaborative roles are peculiar to government agencies compared to oil companies and host communities. It was noted that some government agencies lead others in managing environmental issues, depending on the nature of the issues. National Environmental Standards Regulatory and Enforcement Agency (NESREA) has the mandate of coordinating the activities of the national bodies that are in-charge of enforcing environmental issues, while the NDDC is an intervention agency set up by the federal government. For instance, in managing oil spills, one of the participants stated that

“National Oil Spill Detection and Response Agency (NOSDRA) is responsible for tier 3 of oil spills and that it is the responsibility of this agency to coordinate the response using all other agencies at their wish”. NGA

Majority of the collaborative actions suggested to have been carried out by the government agencies were all summed up in regulations and enforcement roles. In a statement from the NGA;

“as at today we have over 24 national regulations that we enforced”.

In support of these regulating roles, NGA stated that

“we monitor their facilities regularly through what we call routine monitoring; we have a form that is filled we call it routine facility monitoring form.”

It was also suggested that there is an Establishment Act that every oil company is supposed to have. They noted that this Act contains oil spill contingency plan (facility oil spill contingency plan) that ensures that MNOCs do not implement the plan but also make sure that they can certify their preparedness to manage the oil spill. In agreement, participants working for one of the NGAs noted that they do interactive sessions with the oil companies, presentation of papers, discussions on what NGAs have seen them doing at one point or the other that may need some improvement, where there are needs for commendation we do that. They also stated that they had engaged the host communities;

“in what they called consultative forum whereby we exchange ideas.... they tell us their problems, what the oil companies have done for them, what the oil companies have not done for them, what they expect from the oil companies.... we just did twice within the last 6 months what you call disaster risk reduction workshop”. NGA

However, in contrast, PEO stated that some multi-national oil companies just go and see some elites, maybe few youth leaders, very influential youth leaders or some community leaders and take their decision. Another participant noted that what most MNOCs do is:

“Just passing information to the community.... there are no consultation”. NGA

It was observed that NGAs work with the MNOCs in a way that ensures the MNOCs employ registered environmental consultant for the oil spill clean-up, remediation of oil impacted site. The NGAs make sure that only the registered consultants are employed by the MNOCs by accrediting them and analysing the samples that are taken from the field to test for various parameters that will enable them to know whether a place is clean or not. NGAs made it mandatory for all of the oil companies not to give any job to any environmental consultant that is not registered with them.

7.3.2 Sub-theme 3: Collaboration led by the multinational oil company (MNOC)

MNOCs were perceived to be complying with the environmental management regulations. A participant from one of the MNOCs stated;

“we have environmental studies, waste management manual facilities we comply with regulation, we do compliance monitoring.”

The participant added that their company often respond to remediation guidance and procedures and that they ensured that there was biodiversity conservation. In agreement, another participant stated that;

“at every point in time you must be ready with the team to go and recover if there are many spill and repair, so that you can continue operations so to reduce the number of spills... we have to set up emergency response teams”.

MNOC

As a remark of the extent of the project this company has done in reducing gas flaring in the NOPR, a participant stated;

“we are still flaring gas but we have invested over \$14million in gas gathering projects, we are still building more and the plan is that we would stop with these flaring”. MNOC

This statement suggests complacency in some of the actions of the MNOCs that since they can comply with the regulations or pay out sums, they can act as they wish to continue to indulge in gas flaring.

A different view from the MNOC, a participant, stated that

“scientifically we have sensors now planted along those pipelines and we have monitoring system now in our offices now, so the moment anything spill happens to these lines we notice it from the reduction of pressure and we trace it and go and see the point where the spill occurred that is one, then we also use communities to also help to manage in the monitoring so all of these help knowing a spill site more effective”. MNOC

This suggests that host communities are enjoined to monitor the facilities of the oil companies to the extent that they have to set a tax force that will monitor oil facilities. In addition, it was stated that the MNOCs had established a clean Nigeria associate who is a consortium formed by all of the oil industry players funded by all of them where they contribute resources together to respond to especially tiers 1 and 2 spills.

7.3.3 Sub-theme 4: Collaboration led by the host communities

Host communities held different views of the law-abiding tendency of the MNOCs and regulatory role of the NGAs. The works of the host communities in working with other stakeholders were more of complementary, offering support to both the oil companies and government agencies in the areas the communities are in need. The findings of the interviews suggest that the host communities are more of the informant. This

observation agrees with findings of Von der Porten et al., (2015) which suggested that approach to involve indigenous people in the environmental decision-making process is by creating opportunities for relationship building between indigenous people and policy or governance practitioners.

This finding is evidence from the statement by a participant from one of the host communities that there is an issue of law that is guiding the environmental culture in Nigeria and it is beyond what the natives (host communities) can undertake on their own. In agreement, a participant stated that;

“it has been speculated for a long time that the federal government will ask the oil companies to stop gas flaring which is also an impact of environmental degradation but have not seen it in practice up till now and with the control of oil activities it rest squarely on the federal government. The immediate environment has little or nothing to do and that is why all over the country where there is oil exploration, exploitation people have been crying out, shouting that they have been living in worse condition than they were before”. Host communities

As part of their actions to work with other stakeholders, a youth leader from the NOPR stated;

“remediation comprises government, FSA, community, everybody will come together and find solution to the entire spill.” Youth leader from the host community

These findings show that communities collaborate with MNOCS by trying to identify oil spill location and setting up an inventory of oil spill site and implement remediation.

In the statement by a participant from the host community stated they;

“try to coordinate, alert, sensitize, so we have like awareness campaigns that is meant to strictly sensitize, our awareness campaign.”

This is also evident from the statement from a community, that

“...some communities have some bodies that are setup to checkmate these things.”

Another participant added that their community has been working with the Niger Delta Development Commission (NDDC) for the past 7 years and the NDDC has been sponsoring most of these our sensitization campaigns and again we have also been trying to reach out to some of these multinational oil companies” PEO further added that the community NGOs sensitize the youth who are going into these pipeline vandalism or local refining that there is the need for them to preserve our environment. It was learnt from PEO that there were some funds that have been given to the communities in managing environmental issues. Some of the fund which in derivation fund and ecological fund came from the government agencies and international bodies respectively. In the discussion on how the funds are being managed, one of the participants stated that majority of oil producing development region’s commission manages the funds that are coming which is around 13% derivation that is originally accrued to this oil bearing states.

7.4 Theme 2: Drivers for stakeholders' collaboration

The collaborative works of the stakeholders in managing environmental issues has been established in the above section. Success factors for stakeholders' collaboration as they relate to drivers of stakeholders working together were identified to be associated to various benefits which include environmental stewardship, environmental ownership by the host communities, curbing assets vandalism and restiveness.

To provide answers to questions of the fourth objective of this research. Participants were asked the question of "what has enabled you to successfully work together with others in managing environmental issues," the themes that were observed across the stakeholders as their drivers include;

- 1) Sharing of resources: knowledge and information
- 2) Transparent consultation and conforming to culture of the stakeholders
- 3) Stewardship and ownership in managing environmental issues
- 4) Understanding of inner-working of stakeholders in managing environmental issues
- 5) Joint conduct of EIA
- 6) Environmental management training and awareness
- 7) Timely revision of policies and regulation;
- 8) Outsourcing for innovative and alternative means to attracting funding through collaborative efforts;
- 9) Training and capacity building programmes;
- 10) Establishing a common ground for all the stakeholders and community awareness;
- 11) sharing of success stories awaken the consciousness of other stakeholders;
- 12) Motivated manpower;
- 13) Early engagement with stakeholders;

14) Global memorandum of understanding (GMOU); and

15) Transparency.

7.4.1 Sub-theme 1: Sharing of resources: knowledge and information

Sharing of resources was identified by 14 out of the 20 participants as the one of the key drivers to stakeholders' collaboration. This finding conforms to that of Bauer and Randolph (2000) which suggests that one of the basic elements of collaboration among government agencies, businesses and communities is sharing of resources including information and power. Bauer and Randolph (2000) found that, based on a study of 76 cases of environmental management, 80% of the cases have interest in information sharing, and 65% of the cases has interest in power sharing. In contrast, the finding in this research shows that 70% of the participants indicated that sharing of resources is a vital driver for stakeholders' collaboration in managing environmental issues.

In contrast, the number of cases in the research by Bauer and Randolph (2000) was conducted by the case studies compared to this study that used semi-structured interview of 20 participants; there is an indication that sharing of resources is an important factor of stakeholders' collaboration.

One of the research participants expressed this kind of knowledge sharing as "*mutual aiding*." In a narrative, the participant expressed how their company contributed in cleaning oil spill site by sharing equipment that was brought by other oil companies: "*there is an arrangement that other operators around gave us material to aid us mutually so that we can respond to it together, especially for the tier 2 spills. Thereafter the emergency has been arrested, and the environment salvaged we can now begin to look at how to balance each other*". It was noted that continuous update of

knowledge on latest products and technology for managing environmental issues had helped some stakeholders.

Participants from the MNOCs identified that feedback from the host communities on what knowledge and methodologies needed helped to solve the problems. This enables them to support their companies' work force by leveraging on the skills of the professionals from the local communities. However, training of people from the host communities has been used as a competitive business advantage. In one of PCA's comment, it was stated that: *"we will use the knowledge sharing to solve our problems with host communities we can advise, if you handle this you will have this.... because the other company will not let another oil company know because each company has its own trade secret... they want to be the best company that the community will hear... I would not tell you but we are in an advantage position to see how the communities behave, how the oil companies behave and they are always advised or update in a way that will not be exposing the plan of others"*.

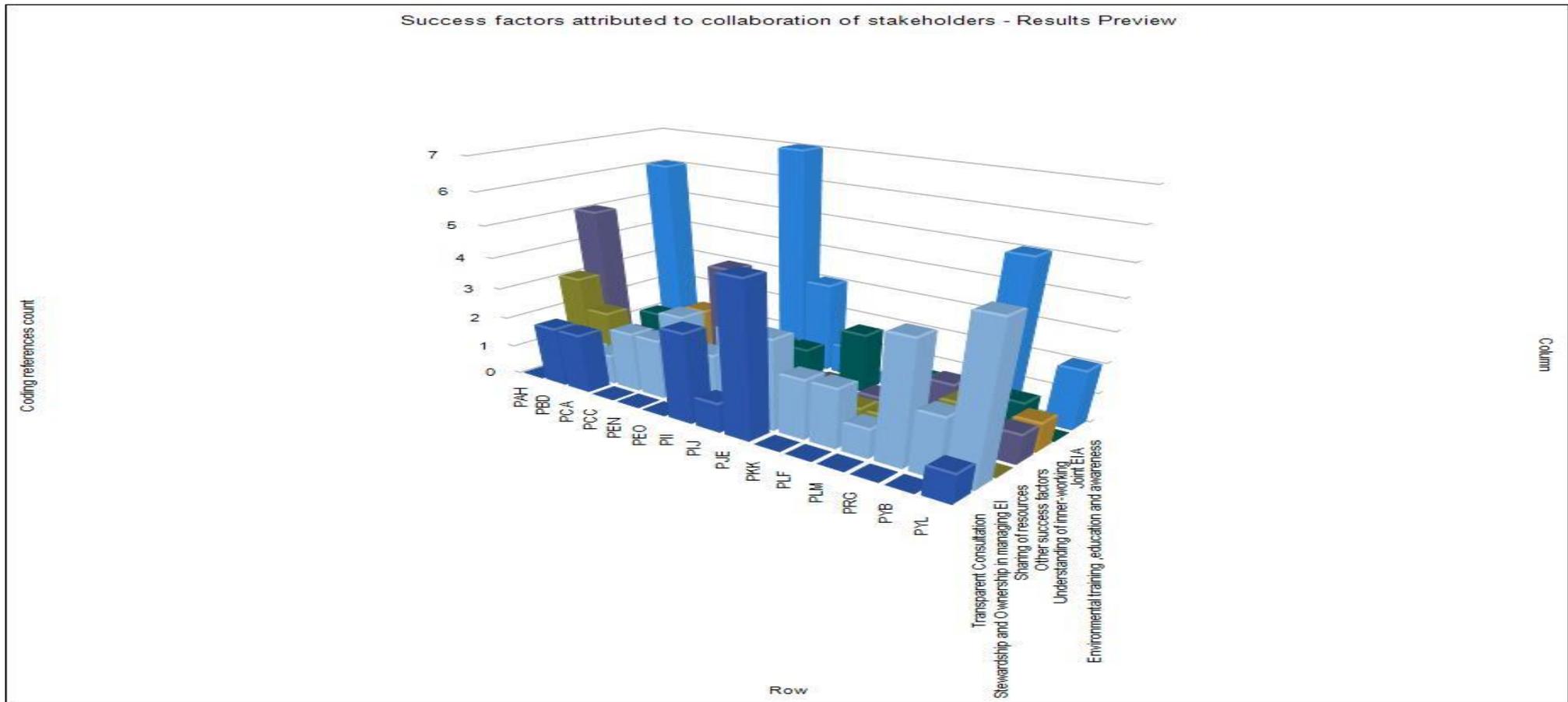


Figure 15: Success factors of stakeholders' collaboration from NVivo 11.

7.4.2 Sub-theme 2: Consultation and conforming to culture of the stakeholders

It was identified that stakeholders conform to the institutional culture that is in line with their institutional policies in collaborating with other stakeholders. One of the participants noted that government agencies invite the oil companies to meet with the host communities to discuss issues of contention in managing environmental issues. In the statement of one of the participants;

“we invited the two oil companies that have facilities in those communities that were being rampantly vandalised to cause environmental damages, we invited them, they came, they heard themselves what the communities alleged that they were not doing... it’s more or less consultative although it was to focus on disaster risk reduction, but it provided room for consultation”. NGA

It was also identified that they engage in a continuous consultation starting from the scoping level. This continuous consultation enables the host community to understand what the environmental management projects are all about and the merits and demerits of the projects. PJE emphasised the importance of continuous consultation that is used to establish a condition of approval or acceptance. The host communities are willing to collaborate with both the government agencies and oil companies. However, it is indicative of the findings that the nature of collaboration among the stakeholders’ ranges from active engagement attributed to resource control to passive dissemination of information of which Arnstein’s (1969) calls ‘manipulation.’ In particular, the stakeholders perceive the nature of collaboration among the agencies and MNOCs, and between MNOCs and communities as consultative collaboration.

7.4.3 Sub-theme 3: Stewardship and ownership

Majority of the participants (13 out of 20, i.e., 65%) identified that collaborating with other stakeholders has contributed to successfully managing project relation to

tackling environmental issues in the NOPR. It has helped to establish a sense of stewardship and ownership which has contributed in protecting the oil infrastructures. In affirmation, The MNOCs noted that working together has enabled their company to work jointly to make an effective impact and stated that

“in the joint investigation visit we prepare one report which is published online so it aims to transparency and reputation enhancement, so the impact assessment for example has led to increment in the process by involving stakeholders in the impact assessment process, it has led to an improvement in the process”. MNOC

In other benefits linked to collaboration, a participant noted that working with other stakeholders has helped their community to enhance their training and skill acquisition. A participant from the NGAs stated that working together has provided them with

“Consultative forums that has helped reduced oil spills from 14 to 3 in two communities”. NGA

In agreement to these, a participant from the NGA also noted that

“Collaboration help them as a government agency to have a successful completion of a project in a good time acceptable by the community themselves and to the acceptable standard all over the world”. NGA

7.4.4 Sub-theme 4: Understanding of inner-working of stakeholders

60% of the participants noted that collaboration helps them to achieve their mandate regarding enforcement of environmental management policies. This suggestion is evident from the opinion of a participant that;

“our collaboration with other stakeholders is quite evolving and with our resolve to fulfil our mandate, we will continue to work on our relationships with other stakeholders.”

A participant from the MNOCs noted that collaboration has been an instrument for their effective work in managing environmental issues in the NOPR, that it provides them with the opportunity to understand the inner working of other stakeholders. In agreement, a participant from the host communities noted

“That there is a positive significant relationship between collaboration and the achievement of cleaner and better environment of the environment of the NOPR and its management.”

However, another participant from the MNOCs, in contrast, noted that although there have been some benefits of collaborative efforts in managing environmental issues there is little or no impact of the benefits;

“some of those collaborative efforts have been very successful but not so much.” MNOC

This statement conformed to the view of one of the participants from the agencies, *“I think it’s fairly working effective.”* Some of the participants from the agencies rated that stakeholders’ collaboration in terms of percentage is about 50% to 60%. These views suggest that stakeholders’ collaboration is working but not as expected.

7.4.5 Sub-theme 5: Joint conduct of environmental impact assessment (EIA)

The joint conduct of environmental impact assessment was recognised by most of the participants as one of the benefits of working together. 13 participants out the 20 indicated that publishing the report of the EIA through a website for the public interest

of all the stakeholders allow them to contribute and air their views regarding the EIA report. A participant from one of the NGAs stated that

“...as part of their stakeholder’s collaboration, we have town hall sections, we have public displays of the draft EIA reports where people are invited and they can make input and we publish it on the web, when its approved we publish it on the web.”

This provides an avenue for the community to be involved in the decision-making.

One of the participants indicated that the in the recent review of the EIA Act that it was suggested that relevant stakeholders should be carried along in the EIA process. It was noted that EIA is very effective because EIA provides a robust environmental management plan that can adopted by MNOCs in managing their projects to ensure a sustainable environmental practice. This finding agrees with results of Cockerill et al. (2007) that recommend stakeholders embarking on a cooperative effort that includes reviewing and establishing clear guidelines for team interaction early in the project and remaining flexible, to allow the project to evolve. As it was evidence, in this research reviewing project before the start helps stakeholders’ decision making process. This is very substantial especially for big projects that are likely to have an impact that might not have been considered when such projects are either being designed, conceived or being implemented. Hence, cooperative effort helps stakeholders see what ordinarily you would not have imagined before you go into implementing the project. In answering the question of how stakeholders’ collaboration has helped their agency to be effective, EIA, one of the participants stated that

“EIA gives room for project stakeholders to be involved at a meeting where you let them know what the project look like and they bear out their mind and a lot

of contribution is needed from the local community in terms of local intelligence.”

However, some of the participants noted that provisions of the EIA were not followed before the project commission and that if it was followed, there might be the need for environmental management in the first place. This finding is an interesting issue that may need to be explored in further research.

7.4.6 Sub-theme 6: Environmental management training and awareness

Education of the local communities regarding how to keep the environment clean was one of the success factors noted. It was indicated that environmental management awareness through training could help stakeholders fit into the various areas of environmental management. When there is a pollution in any of the environment of these communities, you may not need to wait for experts to come from outside of the communities or even abroad to come and do a clean-up, so there are training the youths to contribute in managing the exiting environmental issues in the NOPR. One of the participants stated that their agency is already training some community youths;

"NDDC are training some of the boys in Cotonou in King Amachree Academy on different skills. NDDC is also training some persons on oil spill clean-up management, currently, it's going on. They have trained thousands of Niger delta youth, NDDC has also taken some youth on maritime academy Oron for training for seafarers".

This finding suggests that sensitization and training make the host communities feel that they are empowered to contribute in managing environmental issues in the NOPR, and it makes them understand that government is trying to help them to protect their environment.

7.4.7 Other driving factors for stakeholders' collaboration

Other drivers as success factors for stakeholders' collaboration were identified by some of the participants includes: timely revision of policies and regulation; outsourcing for innovative and alternative means to attracting funding through collaborative efforts; training and capacity building programmes; establishing a common ground for all the stakeholders and community awareness; sharing of success stories awaken the consciousness of other stakeholders; motivated manpower; early engagement with stakeholders; Global Memorandum of Understanding (GMoU); and transparency.

7.5 Theme 3: Barriers to stakeholders' collaboration

Although it was observed that there was a consensus that stakeholders have benefitted from working together in managing environmental issues in the NOPR, there are some barriers that have hampered their efforts. 15 out of the 20 interviewees (75%) identified the following barriers to stakeholders' collaboration:

- 1) Lack of resources
- 2) Ignorance
- 3) Money mind-set and attitude of the stakeholders
- 4) Accusation of gang-up and reluctance to participate
- 5) Poor legal framework for environmental management
- 6) Fragmented environmental management policies and legislations
- 7) Issues of politics, power, and socio-cultural diversity
- 8) Too much expectation from stakeholders
- 9) The issue of poor synergy among stakeholders
- 10) Negligence
- 11) Issues are sabotage
- 12) Duplication of efforts/role

These barriers as generated from Nvivo as shown in FIGURE 16.

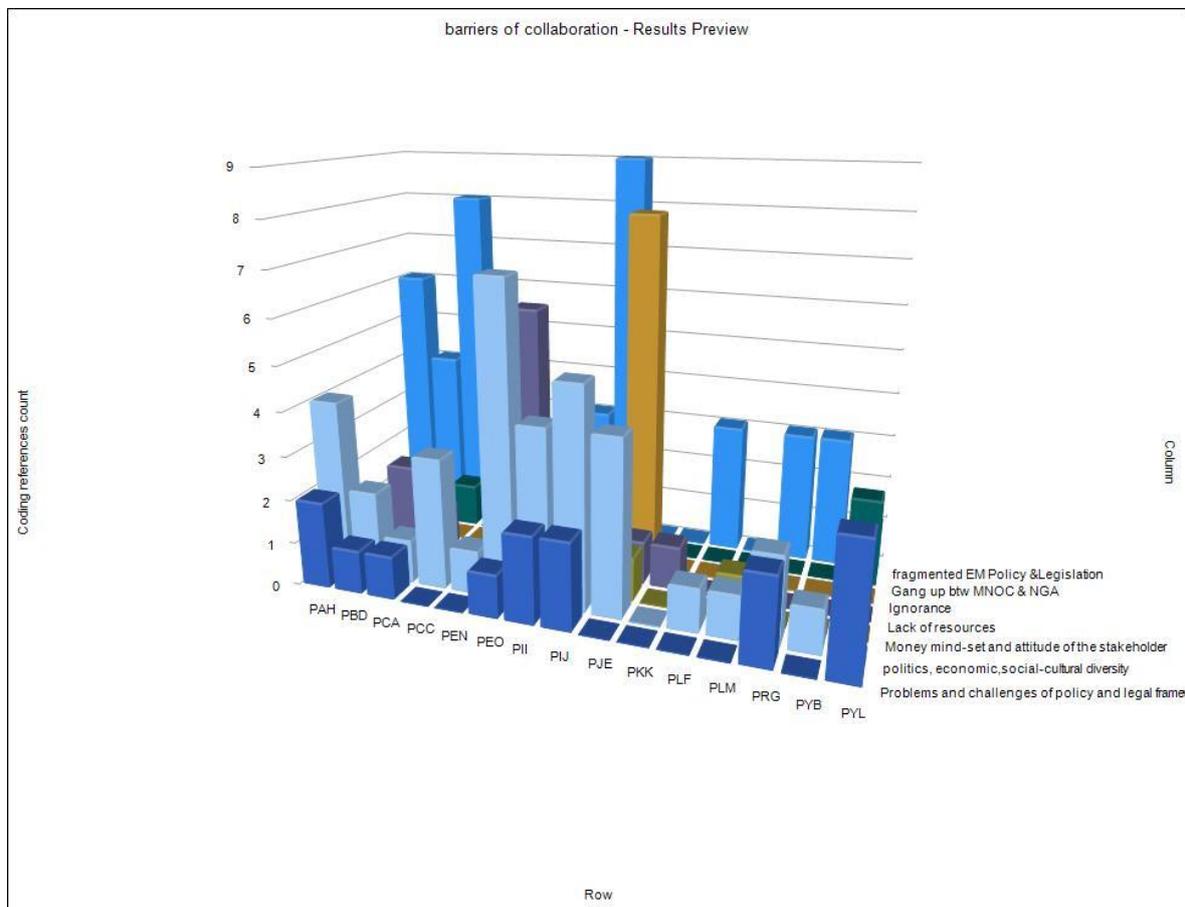


Figure 16: Barriers of stakeholders' collaboration generated from NVivo 11

7.5.1 Sub-theme1: Lack of resources

Lack of resources is one of the major issues that were identified by the majority of the participants. Lack of resources includes: funding, budgetary constraints, lack of man power, lack of equipment, inadequate capacity building and utilization, infrastructure deficit, overstretching of available resources and poverty. There are so many challenges particularly the issue of financing; for instance, the federal government and the multinational oil companies owe the NDDC over NGN700 billion which ought to have been applied in various areas of the human capital and infrastructural development for managing environmental issues in the NOPR. It was pointed that the

oil companies are supposed to be statutorily contributing a certain percentage of their earnings to NDDC, but they are not meeting up.

One of the participants stated that

“we have actually also shut some of our facilities because we don’t have gas gathering facilities because we felt it’s expensive”. MNOC

One of the participants added that in some cases,

“we have to outsource the clean-up of spill site in the Niger delta region, however we lack capacity and competence of consultants; the consultants we use, their capacity and competence for the studies is poor.” MNOC

One of the implications of lack of resources in working together to manage environmental issues such as oil spill is response and reaction to spillage site. A participant from the NGAs stated that

“we have not been able to really much prevent spills from happening.... due to inadequate staffing, what we try our best to do as much as possible to respond as quickly as possible whenever and wherever such come to our attention that they have been some release especially from our pipelines into the environment...” NGA

In agreement with this statement, one of the participants stated that they are not doing much on that because of the lack of resources. The technology for ensuring that there is no gas flaring (reinjection technology) or technology even to harness the gas is still not enough in circulation in Nigeria and the cost of having to acquire such technology is significantly high, and the MNOCs argue that they cannot afford it in Nigeria. In some cases, the available resources are overstretched.

“we feel the resources of DPR in terms of human resources and NOSDRA most time we over stretch them because daily we have two or three places to investigate, of course the community will follow too for such investigation.” NGA

7.5.2 Sub-theme 2: Ignorance

Another issue raised by the majority of participants is ignorance as shown in FIGURE 16 above. Some of the collaborating stakeholders are ignorant of the impact of the environmental issues. One of the participants stated that

“Issues of environment especially in this part of the world among the populace are not something that was actually inculcated in them. They really don’t see why they should do it and it calls for constant education”. Host community

This issue of ignorance is one of the major barriers, as people do not know their right. PEO narrated a case story where they carried out a damage assessment for a set of communities, and they believe the communities’ asset that was damaged by oil spills was in the region of NGN1.4billion. However, somehow out of greed or ignorance the community went behind and collected NGN32 million and oil companies was now saying to them they have settled with these communities, and even the communities wrote to them to say that they are satisfied with whatever they got from the oil company. The community is ignorant of what to ask for, ignorant of the effect of environmental issues of the MNOC’s projects and what the project will cause to their lives. They are ignorant of how to manage the onset of the environmental disaster caused by the projects and the implications of signing the Memorandum of Understanding before the beginning of projects.

7.5.3 Sub-theme 3: Money mind-set and attitude of the stakeholders

It was learnt from the interviews that there is an issue of short-changing among stakeholders, especially when you want to enforce the regulation of facilities. Some of the policies are not implemented because of the idea that companies can easily settle out the agencies or the bodies' in-charge. In resolving environmental issues that need all the stakeholders to be involved, host communities expect government agencies to form an alliance with them against oil companies. One of the participants from the NGAs stated that in such situation,

“The community will want us to bypass the company” NGA

There is an attitude of money mind-set of the people of the host communities each time you engage them they expect you to give them money. One of the participants stated that

“It has become something that is a cankerworm in the Niger delta generally be it developmental programme ... you want to do anything in anywhere quote and unquote the Niger delta, they will tell you to bring money”. NGA

This money conscious mind-set kind of attitude has damaged the reputation of the host communities regarding their genuine contribution in managing environmental issues in the NOPR. In this same issue of money mind-set, one of the participants also affirmed that

“Stakeholders go to the project owners to ask them to give them money instead of going to the global Memorandum of Understanding that will help the environment and help them (stakeholder who asked for money). This is as a result of ignorance of people and lack of awareness”. MNOC

These findings suggest that MNOCs go to the communities and give money to influential people – the chiefs and few leaders who are intellectuals or who are educated, whom they know can challenge them at any point.

In affirmation, one of the participants stated that other participants are right by their comments on the issues of money-mind-set, that

“People are right that the chiefs are collecting money and this is one of the biggest challenges that we are facing in our communities or in any Niger delta regions where oil are explored.” Host community

7.5.4 Sub-theme 4: Accusation of gang-up and reluctance to participate

It was indicated by more than 50% of the participants that there is an existing perception of ‘gang-up’ between stakeholders. Majority of participants from the host communities noted that there is an ‘unfair’ relationship between oil companies and government agencies. According to one of the participants,

“those at the seat of power do not feel the impacts of these environmental degradations as regards oil or solid minerals exploration. It is those people within the environment that feel the impact and when we demonstrate or try to stop the oil companies from doing this or that they (oil companies) run back the federal government who is by law their landlord for cover because it’s only the federal government that provides safe haven for these oil companies to operate”. Host community

In this statement, the participant referred to those at the seat of power as the federal government agencies. Another participant described this kind of relationship between MNOCs and NGAs as follows;

“...they are benefitting on their symbiotic relationship both the federal government, multinationals and the communities are like in fact we are parasites...to cut cost they tend to move towards the federal government”. Host community

These comments suggest that government agencies have been very lenient on MNOCs. The oil companies are left at the centre of counter accusation. PCA stated that in their response that

“the government in Nigeria does not provide facilities, amenities and social welfareso the communities because they expect those things, especially here where they produce all the oil, they can't see government so the nearest people they see is the oil company and so they expect the oil company to take the place of government”. MNOCs

However, the participants concluded that since the oil companies have not been asked by the federal government to leave the country that means they have been performing their duties as with the tenancy agreement with the federal government. Hence, the communities may be right, but the government also have their reasons.

Moreover, it was identified that government is not giving the host communities free hands to be involved in evolving policies that will tackle the environment, so they just develop their own policies bring it straight down for us to implement, there should be a kind of participatory appraisal of programmes as far as the environment is concerned. For instance, in the statement by one of the participants,

“the oil joint investigation visits sometimes even with all the engagement the community will not allow us access to oil spill site, then sometimes we cannot

get the regulators to agree with us or to participate in the joint investigation visit ok, so we have some challenges, sometimes we have security challenges, sometimes community based agitation". MNOC

It was also noted that in some cases where there were environmental issues, the companies would sit back and wait for whom would be first to engage with the government agencies or the host communities.

7.5.5 Sub-theme 5: Poor legal framework for environmental management

It was noted that there is an inadequate legal framework that can guide stakeholders to say that these are critical stakeholders that should be involved in environmental management. Participants from the host communities noted that the laws government put in place are not effective, as the government have not been very serious in stopping the oil companies or in penalizing them when it comes to pollution and environmental issues, so the government on their part for us in not doing enough, the punitive measures are not strict enough. Even when the laws exist, they are rarely reviewed. One of the participants stated that

"the communities have a good point in that and are agitating for a review of that we have been trying our best to see that reviewed but we have not rarely gotten through because we cannot amend its law and it has to pass through the national assembly." NGA

One of the participants noted that they need what the participant called "*institutional framework*" that will help to implement the environmental management convention as it applies to the country (Nigeria); that is what brought about the National oil spill detection and response agency as the institutional framework to implement the national oil spill contingency plan.

Other issues related to poor legal framework include: absence of seamless implementation of the policies and regulation; inadequate enforcement capacity and capability; absence of efficient penal system; ambiguous provisions in the regulation; and less deserving political will to implement policies and regulation. Even when the legal frameworks are there, is enforcement in place? One of the participants from the host communities put it in this narrative:

"if the laws are in place... how you can specify NGN100, 000 fines for gas flaring...[X] can decide to flare gas on planet earth for the rest of their lives because they know they can afford to pay. When you give stringent conditions that can deter somebody performing an act that's when we say yes we have legal checks". Host community

It was learnt that even when the MNOCs approach the government to discuss some of the existing policies, the government refused to listen; they just want the MNOCs to comply. This indication was affirmed by the participants that

"the government is not giving the people free hands to be involved in evolving policies that will tackle the environment, so they just develop their own policies bring it straight down for us to implement, there should be a kind of participatory appraisal of programmes as far as the environment is concerned" MNOC

When one of the participants was asked the question: how can a group of people called multinational companies come together to explore and exploit oil in a community, and then they operate different kinds of laws, different standards? The participant answered that

"Our policies (meaning environmental management policies) has their own challenge, like any policy which requires continuous review, now we have passed different reviews but funds have not been adequate enough to carry those reviews out." MNOC

In some cases, the law was enacted to favour the federal government; for instance, the Land Decree of 1978. As a remark, PEO stated that "I still believe we need strong laws and the government needs to enforce these laws to make the oil multinationals meet up to their responsibilities." When the question of when was the last time the policy you use in environmental management was reviewed, one of the participants answered that

"In 4 to 5 years for the first time we came up with a policy governing our environmental performance and such policies requires a review as a mark of transparency and to show everybody that we are making progress in that line"

NGA

7.5.6 Sub-theme 6: Fragmented environmental management policies

There are various policies noted by the participants. PAH from the government agencies, states that they have over 24 policies and up to 32 regulations. PBD conformed with PAH and listed some of the policies used by their agency, which includes: NOSDRA Establishment Act, 2006; the No 25 – Oil Spill Recovery, Clean up, Remediation and Damage Assessment Regulations, 2011; the Sec. 1 No 26 - Oil and Waste Management Regulations, 2011; environmental impact assessment act 86 of 1992; Niger delta master regional plan; DPR Act; the National Dispersant Use Policy, the National Oil Spill Contingency Plan (NOSCP) and other environmental legislations. When one of the participants from the one of the MNOCs was asked how

their company related and implement the policies listed by the NGAs, PCA noted that they have their company's police. One of the participants stated that

"We use the environmental guidelines and standards for the petroleum industry in Nigeria (EGASPIN)." MNOOC

This participant added that their company use EGASPIN along with the federal ministry of environments chartered standards and guidelines, and the health, safety, security and environment and social performance control framework is a book of guides for the different aspects.

In some cases, MNOCs may have to refer to DPR policy depending on the nature of the environmental issues, the participant added. Other participants indicated their use of the provisions of the Environmental Impact Assessment Decree of 1988, NOSDRA Act and NESREA Act. There are also Petroleum Acts and the Pipelines Act that requires MNOCs to clean up whatever impact their industrial operation has on the environment. In addition, there is the ministry of environment national and global environmental policy which started since 1989 which has been amended severally. Although these Acts are meant for different stakeholders to manage various issues, these findings suggested fragmented nature of policies and legislations used by the stakeholders in managing environmental issues in the NOPR.

Policy evaluation

When the participants from the government agencies were asked the question of how do they evaluate the impact of agencies' polices, some the participants stated that their policies are evaluated based on the following status: level and quality of compliance with a review period; feedback from target segment of the industry; effectiveness of our procedures and systems based on the environmental reviews as

well as ISO audit, periodic audit report; by producing the oil spill response procedure report - outsourcing to VERITAS; setting up of a Niger delta panel to come and look at the oil spill response vis a viz the oil spill incidences impact on biodiversity and make recommendations; and audit cycles because every asset has an audit cycle so periodically it's audited.

However, one of the participants from other agencies refuted the above claims and stated that

"I will give them 60-70% because sometimes they bring poor quality contractors to do the remediation and policy evaluation jobs". NGA

Other participants agreed and stated that

"The policy evaluation are not very not very effective.... the new policies are not really effective". NGA

One of the participants stated that their agencies evaluated the impact of their policies by *"winning our court cases, it shows that our policies are working."* The claims and counter claim among agencies suggest some gap in relation to the knowledge of policy impact evaluation in managing environmental issues.

Policy implementation

When the question of how the policies are being implemented by the stakeholders, majority of the participants indicated the challenges, they are facing in implementing environmental management policies. The challenges include MNOCs putting their companies' operation first before environmental policies compliance, lack of cooperation from the government agencies and numerous policies from different agencies. However, PYB stated that their companies engage in implementation by

carrying out the following: external review from our headquarters, routine compliance monitoring programme; annual and quarterly report submission; and through annual and quarterly audit programme.

In some cases, these engagement procedures were not possible because their company would collaborate with other international oil companies in Nigeria (IOC) and oil producers trade section. In one of the statements from MNOCs;

“we will work together to see how we can either partner with each other or engage the regulators together, or you know we learn from each other to be able to overcome or comply to that regulation.” MNOCs

These findings have shown that although some MNOCs are complaining about the challenges they face in implementing the policies, others have some successful way of carrying out the implementation. This suggests that setbacks for effective management of environmental issues in relation to the policy implementation boiled down to negligence by some MNOCs.

7.5.7 Sub-theme 7: Issues of politics, power, and socio-cultural diversity

7 out of the 20 participants noted that some stakeholders feel that they may lose the socio-political position if they collaborate with other stakeholders in managing environmental issues. This factor was noted by participants from government agencies. One of the participants stated that

“Some agencies that were on board before we came, they see us as if we are coming to dominate.” NGA

One of the participants from the MNOCs added that this power issue had been the cause of role conflicts among agencies. In a statement, the participant expressed that

“...some of the stakeholders have their laws and policies and then when we bring our own laws to be implemented by them, they are usually conflicts.”

MNOC

This issue of tussling with policies and politics of powers hampers successful working together between agencies. These suggestions point that stakeholders are protective about their interest and are very careful that their interests are not overridden by others.

In other hand, there was also the factor of the social status of individuals working for the stakeholders. For instance, it was identified that community leaders have a huge influence in the decisions that were made by host communities when working with either MNOCs or NGAs. Even when the government policies were laid down for every stakeholder to comply, communities would still have to listen to their leader and chiefs. In a statement by a participant from one of the MNOCs, it was expressed how complex it is to navigate through the culture issues:

“you have to understand the dynamics, chieftaincy issues, and the politics, a lot of things have to be looked into, you have to also understand the culture of the people, understand how they live and see how you can play with all these parameters to get along with them safely... you know it is quite a complex issue engaging them in discussing environmental issues”. MNOC

This diversity of stakeholders involved in managing environmental issues in the NOPR has bred *“oil politics and the natural politics of governance have brought a lot of political camps,”* and the implication has extended to *“oil politics of divide and rule which is seriously affecting the Niger delta area.”*

This issue of 'divide and rule' was raised by the participants from the communities. They noted that MNOCs often manipulate the community and cause a problem among them by offering money to the community leaders. One of the participants stated that

"... over the years these oil companies they have devised a means that introduced divide and rule, even in the communities even though they are bodies responsible for this task, the oil companies will cause problem, they will try to cause a division between these bodies so that the people will not have one voice... So they have succeeded in using that divide and rule to shut the people's mouth from protesting". Host community

In agreement, another participant stated that

"[one of the MNOCs] will go back to meet some other person, pay that person off, make sure that they bitch you around your contemporaries in your community, very serious problem, they will use this other person if they were supposed to pay you NGN20million, they will give another person in the community 5million to arrange their boys, when you finish we will pay you the other balance, with that they cause frackers ". Host community

7.5.8 Other identified barriers to stakeholders' collaboration

There are a number of other barriers that were identified by various participants.

Too much expectation from stakeholders: There was an indication that the host communities expect a lot from government agencies and oil companies. A participant from one of the NGAs stated that

"I must confess they see us as federal might, so they expect that every resources, everything must come from federal, so sometimes when they are

not forthcoming as they wish you know, the other collaborators withdraw because it all boils down that the reason for collaboration is what they would gain from them” ... NGA

This statement conforms to the suggestion of the Smith's (2015) research on stakeholders' collaboration. He stated that an under-funded stakeholder (host communities in this case) might be sitting at the table with a wealthy corporation (MNOCs) who might find it in their best interest to avoid collaboration and, instead, look for opportunities to pursue their interests through the courts or regulatory agencies. This extract is what has been found in this research.

Smith (2015) added that the regulators (government agencies) are most likely to be able to identify a position that reflects the general interests of underrepresented parties. And this is reflected by the relationship between government agencies and host communities (who see themselves as an underrepresented party). If you accept that reasonable assumption, then environmental regulators might be doing the best job they can when they evaluate the resources of potential participants and make an independent decision of when they should invite stakeholders to play a bigger or lesser role in their decision-making processes.

The issue of poor synergy among stakeholders: though they have been working together but no good synergy. Another barrier is a misappropriation of funds – money meant for managing the environment may be diverted to other areas and not for which it is made, and there is no accountability coupled with the issues of bureaucracy concerning releasing government fund.

Negligence: Both the federal government and the multinational oil companies have not been taking environmental issues very serious. In a statement by one of the participants, it was noted that

“Flaring affects our community because of the smoke but government is not doing anything about it. It has an impact on the health of our community member. We have written to the government but up till now nothing has been done and since we are a peaceful community, we can’t do much”. Host community

These statements suggest that the companies are deliberately running away from some of their responsibility and it is causing many problems in the NOPR and the government on their part neglected this attitude of MNOCs.

Issues of sabotage: The level of poverty amongst the people and the level of disenchantment, with their inability to control their resource most people feel that what they would do to vent that grievance is to go bursting pipes to cause more damages to the environment.

Duplication of efforts/role: it was indicated that there is a rivalry between two agencies – the DPR and NOSDRA, who feel that each other is playing roles which should be for the other. For instance, it was noted that DPR staff would not want to be around the same time when the NOSDRA staff is supervising the activities of clean-up of the environment. The implication of this tussle for power causes a delay for my company to respond to the spill and sometimes you face sanctions and penalties for inefficiencies that are coming up from this friction. There is much duplication that has come into play; most of the agencies are playing conflicting roles as such for most operators in the industry it is worrying and calls for concern because the companies should do the same with two or three different agencies.

7.6 Summary

This chapter has provided answers to the questions of the fourth objective of this research which is to validate the stakeholders' collaboration framework by identifying the critical success factors and potential constraints for its successful application. This objective has been achieved by analysing the findings from the semi-structured interview, by identifying the collaborative roles of the key stakeholders that manage environmental issues in the NOPR. In addition, it has identified the drivers of stakeholders' collaboration as well as the barriers in relation to critical success factors for the stakeholders' collaboration framework implementation.

This chapter has suggested that stakeholders' collaboration can be successfully applied to implement the components of the framework (identified in chapter 6) by appreciating the barriers which include lack of resources; ignorance; money mind-set and attitude; 'divide and rule', gang-up and reluctance to participate; poor legal framework; fragmented policies and legislations; issues of politics, power, and socio-cultural diversity; too much expectation; poor synergy; negligence; sabotage; and duplication of efforts/roles. These barriers can be grouped based on Dieleman and de Hoo (1993) suggestions: conceptual barriers, organisational barriers, technological barriers; economic Barriers and barriers related to the availability of knowledge.

Conceptual Barriers: conceptual barriers are centred on the common perception of the stakeholders in this research that environmental management in relation to preventing pollution is expensive. Moreover, this believes can be a basis for widespread of negative attitudes and disinterest of the organisational contribution toward environmental management issues. This perception can cause stakeholders, for instance, the multinational oil companies, to underrate the inclusion of

environmental management in the companies' corporate strategy. The consequence is that the stakeholders would opt for environmental performance that aimed primarily for regulatory compliance. Since implementing pollution prevention practices surpass regulatory requirements, the stakeholders would be reluctant to implement them.

Organisational Barriers: Environmental management requires cooperation among professionals such as environmental managers, engineers, and scientists. Dieleman and de Hoo (1993) suggest that bureaucratic structures in the corporate organisation may hinder the cross-functional cooperation. This observation is indicative of the research as organisational issues such as lack of resources and lack of equipment results to difficulties in introducing innovative environmental practices that might have required the approval of multiple functional stakeholders' roles. It was observed in this research that the organisational barriers include the limited authority of companies or government agencies to initiate organisational changes.

Barriers related to the availability of knowledge: The issue of knowledge transfer in relation to the application of new technology in environmental management is a challenge for stakeholders. It was identified in this research that the stakeholders lack the commitment to training and in documenting any successful experiences. The limited knowledge transfer experienced among stakeholders, especially oil companies, has been linked to competition within the industry. It was further suggested that government agencies and host communities lack the information systems infrastructure to manage the record in advance in a situation where the companies are willing to share their successful environmental management practices with competitors.

Technological barriers: It was identified that technology for environmental management requires time for the development. In some cases, due to the cost of resources needed for effective management of the environment, stakeholders tend to be sceptical of adopting new technology. They would wait for the time of critical mass experience to be developed in relation to the technology application in the industry. This issue of scepticism can limit the adoption of recent technological advancement in environmental management.

Economic Barriers: The issue of resource allocation and investment for initiating environmental management hinders the success of the organisation in implementing successful practices. As it was identified in this research, stakeholders do not allocate environmental management cost based on the priority of environmental issues, because they have a poor understanding of environmental issues. Consequently, organisations tend to bundle their environmental cost as overhead into administration. In addition, this can limit the identification of how costs could be saved to maximise the allocation of other related projects.

Overall, the outcome of this validation suggests that use of stakeholders' collaboration framework for managing environmental issues such as pollution and oil spillages should start with the identification of what drives their stakeholders' interest in working together as well as potential hindrances to their successful collaboration. Next chapter will provide this research discussion by synthesising lessons learnt from the outcomes of this chapter and other previous chapters.

CHAPTER 8: RESEARCH DISCUSSIONS

8.0 Introduction

This chapter discusses research results in relation to the research questions of: the global recommendations for stakeholders' collaboration in managing environmental issues in the Nigerian oil-producing region (NOPR); how the key stakeholders can collaborate effectively to manage environmental issues; and what critical success factors may drive or hinder stakeholders' collaboration in managing environmental issues in the NOPR. While discussing how these questions are answered, it focuses on how the aim of this research is met by pulling together the research findings on how each research objective is met.

First, it provides an overview of this research by looking at the problem statement. Second, it discusses results derived from both document analysis and interviews regarding the investigation of perceived collaborative roles of stakeholders in managing environmental issues in the NOPR. Third, it highlights the recommendations for environmental management practices that underpinned the structure of stakeholders' collaboration framework.

Finally, it contrasts the research results with existing studies and with the structure of stakeholders' collaboration framework and provides the discussion on implications of critical success factors for application of the framework. This chapter enables the critique of implications of this research design not only to the field of collaborative environmental management but also on both practical and theoretical perspectives.

8.1 Environmental issues in the NOPR and stakeholders' collaboration

Past research has shown that the environmental issues in the NOPR have been an intergenerational problem since the oil discovery in the region in the 1950s. The increased degradation of the biophysical environment in the NOPR has affected and continue to affect the socio-economic value of people in the region. The environmental issues in the region have inestimable impacts and have been linked to unregulated industrial activities of oil production. It was shown from the literature review that the environmental issues in the NOPR consist of numerous causes and socio-economic impacts (Onwumere, 2011; Iteh et al., 2013; Kostianoy et al., 2014).

These impacts pose huge challenges to stakeholders that are saddled with responsibilities of managing the environmental issues in the region. Environmental management controls, such as policies, standards, and legislation have been put in place by the stakeholders. In addition, the increased pressure from both national and international bodies is demanding a more strategic stakeholders' collaboration to effectively manage the environmental issues. However, these actions and efforts of the stakeholders that work together in managing the environmental issues, as evidence in this research, have not yielded expected outcomes because of various institutional and socio-cultural difference.

The United Nations Economic Commission for Europe (UNEC) (2001) in the Aarhus Convention suggests that more empirical research on understanding of the stakeholders' collaboration can promote environmental governance through its focus on the need for collective interests' in managing environmental issues. Plummer and Armitage (2007) agree to the UNEC's (2001) suggestion that an in-depth research on stakeholders' collaboration could throw more lights on stakeholders' roles and needs

that influenced their varying interests in relation to resource management. The varying interests and efforts of stakeholders, as argued by the Plummer and Armitage (2007), if not managed and harnessed toward common goals can undermine the cultural and traditional practices of the socio-political institutions that manage environmental resources. The varying roles of stakeholders in relation to their institutional interests in most cases, as has been shown in this research, create inter-organisational stakeholders' conflicts, as shown among the stakeholders.

Previous studies (e.g., King and Toffel, 2007; UNDP, 2011 and Dudley, 2013) advocate that effective collaboration of stakeholders can be a significant determinant in resolving the environmental issues in the oil producing regions. This research has probed this suggestion and has identified some determinant of effective collaboration by looking at the interests of the stakeholders saddled with the responsibility to manage environmental issues in the NOPR. The findings from the document analysis have shown that institutions share some common interests; however, in contrast with evidence from semi-structured interviews, stakeholders also possess substantial differences regarding their interests in managing environmental issues in the NOPR.

It was shown that Nigerian government agencies (NGAs) share common interests with multinational oil companies (MNOCs) in their collaborative roles of managing environmental issues in the NOPR in various ways: inclusive and participatory engagement, best practices, economic interest. These interests influence the perception of the stakeholders in relation to their roles in working together in managing environmental issues in the NOPR. Interesting perceptions of the stakeholders were noted based on the analysis of both document analysis and interviews. First, the key

stakeholders reserve their organisational culture and often maintain their institutional perception of how the environmental issues in the NOPR should be managed.

Secondly, there was a common perception among stakeholders on the importance of information sharing early in the management of environmental issues such as oil spill incidents and environmental impact assessment (EIA). Where this information sharing is implemented, the stakeholders felt more informed and supported in enjoining decision making about such incident. Third, challenges of resource management were prevalent across stakeholders including lack of manpower, ignorance, and fragmented environmental management policy. These perceptions have a direct impact on the collaboration of stakeholders and their roles in managing environmental issues.

8.2 Influence of perceived stakeholders' interest on collaboration

The findings of this research suggest the importance of knowledge on how key stakeholders interact across their socio-economic setting in managing environmental issues in the NOPR. Document analysis has shown that different stakeholders are, to varying degrees, constrained by socio-economic interests and needs. This suggestion agrees with findings from previous studies (Marshall, 2012; De Vita et al., 2015; Dallimer and Strange, 2015) that benefits of stakeholders' collaboration largely depend on how socio-economic interests are aligned to accomplish stakeholders' roles and responsibilities. In addition, this research has shown that collaborative efforts of stakeholders in managing environmental issues in the NOPR can be extended beyond a single stakeholder' roles and institution needs. This finding concurs with suggestions of previous studies (e.g., Prager, et al., 2011; Benson, et al., 2013; Eurocontrol, 2014)

that effective resource management is an inclusive approach involving government agencies and communities who are working together with a common goal.

In contrast, other studies (e.g., Head, 2014; Smith, 2015) suggest that common goal of an effective environmental management could be a driving influence for stakeholders' collaboration. And this is evidence in this research where the socio-economic interests of both the multinational oil companies and government agencies influence their collaboration in managing environmental issues in the NOPR. This empirical evidence points to the perception that key stakeholders are unlikely to succeed independently in managing environmental issues without working together. The observations construe collaboration between key stakeholders that have different roles but share the same goal. This observation agrees with Clarke (2001) and Baughn (2007) suggestion that the key stakeholders may make different environmental management decisions but share common socio-economic interests.

Some of their common interests, as found from the document analysis includes: regular inspection; robust and innovative strategies; compensation; global best practices; stakeholders' engagement; economic interest; empowerment and training. Some of these interests are interconnected showing that some interests-based relationship occurs among the stakeholders, as depicted in FIGURE 17. For example, the government agencies, as of one of the key stakeholders that manage environmental issues in the NOPR share interests with multinational oil companies, which include: best practices and economic interests. Similarly, multinational oil companies and host communities have common interests as the case with the agencies and host communities.

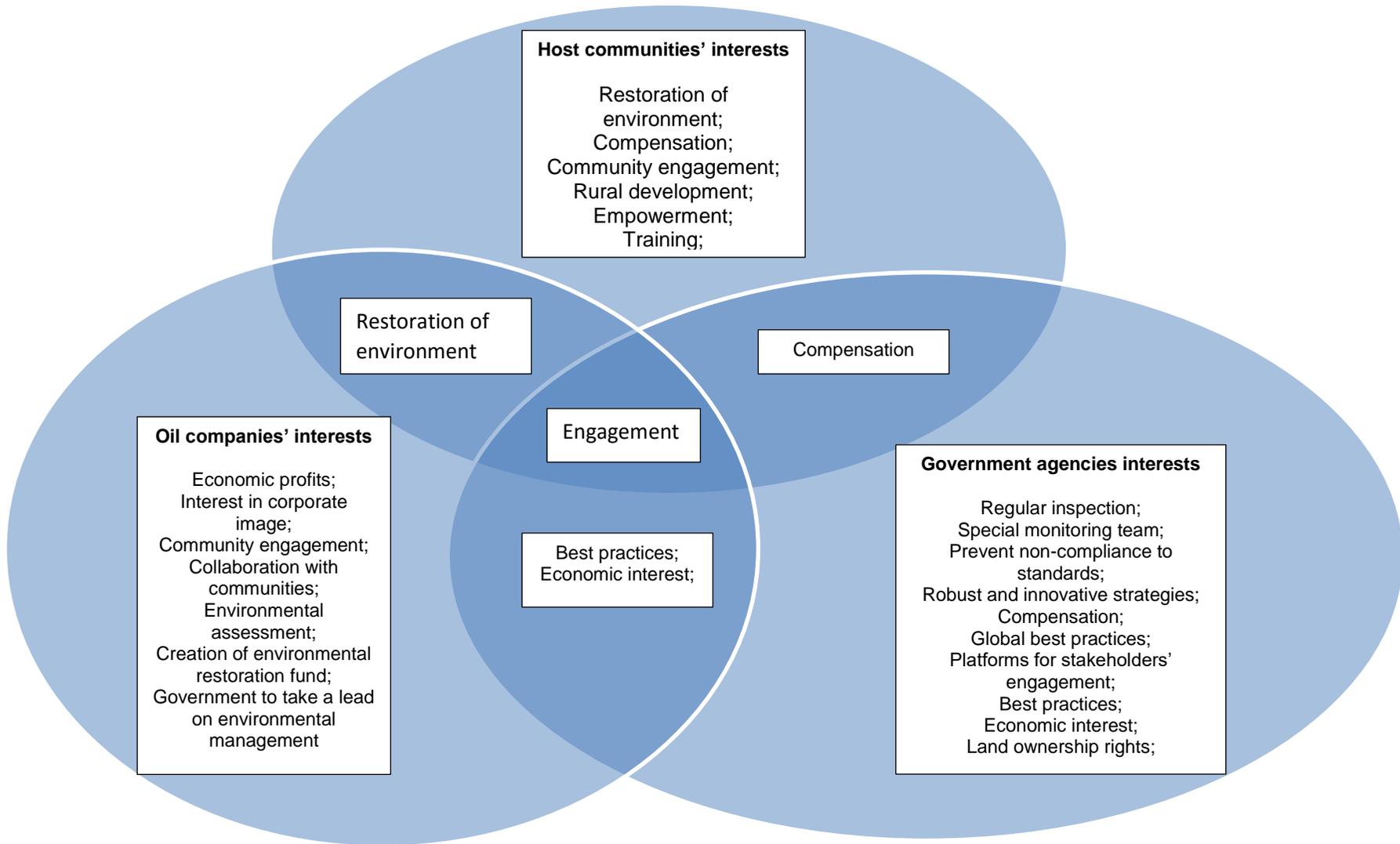


Figure 17: Interconnected stakeholders' interest in managing environmental issues in the NOPR

However, this research has shown that there is evidence among the key stakeholders that have taken advantage of their common socio-economic interests in managing the environmental issues in the NOPR; and this has been acknowledged by them as a manipulative attitude. For instance, the interest of host communities on compensation has bred the attitude of the money mind-set. This attitude is perceived by host communities as a 'divide and rule' way of manipulation of multinational oil companies that pay compensation settlement for pollution management. This finding is revealing as it agrees with Prell et al.'s (2007) suggestion that an in-depth analysis of stakeholders' roles can be used to understand diversity and conflicting stakeholders' interests such as covert interests, hidden agendas, and costs. In the same vein, the government agencies make the case of their economic interest, since the economy of the country depends on the oil resources. In contrast, the host communities opted for their rural development, empowerment, and restoration of their environment. Interestingly, all the stakeholders have interest in engagement with each other, and the need for collaboration becomes inevitable.

These stakeholders' interests identified through document analysis agreed with the perceived drivers of the collaboration that were also identified through the semi-structured interviews. The drivers include sharing of resources such as knowledge and information; transparent consultation and conforming to culture of the stakeholders; stewardship and ownership; understanding of inner-working; joint conduct of environmental impact assessment; training and awareness and capacity building programmes; establishing a common ground; sharing of success stories; motivated manpower; early engagement with stakeholders; and endorsement of the global memorandum of understanding (GMoU). Importance of

these drivers of collaboration conforms to the previous studies (e.g., Ministry of Niger Delta Affairs, 2010; Benson et al., 2013) that collaboration can drive an effective environmental management that can be applied to understand roles of the stakeholders while exploring their economic interests. In addition, this finding contributes to bridging the research gap noted by Babatunde (2013) on the need for further in-depth research to critically investigate the roles of stakeholders to understand what drives their interests towards attaining their collaborative goal in managing environmental issues.

8.3 Lessons from the framework for stakeholders' collaboration

A central argument from contemporary studies (e.g., Hyde et al., 2007; Prager et al., 2011; Eurocontrol, 2014) has been that environmental management framework incorporating collaboration across multiple stakeholders are essential to meet the needs arising from environmental issues. Effective stakeholders' collaboration requires, among other components, devising management strategies based on global recommendations that can address environmental issues at designated geographical region and scales (UNDP, 2011; Dudley, 2013; Maciejewski et al., 2015). Drawing from this argument for the development of stakeholders' collaboration framework, it is important to make a more precise analysis about how, and under what roles, collaboration improves effective management of environmental issues in a defined socio-cultural and economic setting like the NOPR. Otherwise, the present study may risk generating knowledge for collaboration that may not be applicable and even counterproductive in managing environmental issues. Instead, this research argues that sustainable stakeholders' collaboration requires an in-depth analysis of stakeholders' roles in relation to their needs and interests. Otherwise, a lack of clarity of information or misguided roles

and interests can lead to stakeholders' mistrust and failure of the implementation. It is essential that clear information about each of the components of the framework be provided in managing environmental issues.

8.3.1 Joint development and review of policies

This first component of the designed framework has been advocated by previous studies (e.g., Alba et al., 2010; Oilvoice, 2012; Poopola, 2013) as an essential, if not indispensable, to managing environmental issues in the NOPR. The evidence of this recommendation as an effective instrument for an effective environmental management in Europe has been suggested by the EMAS (2014) where policies for managing environmental issues were implemented through the integration of policies and the requirements of stakeholders: i.e., governments, companies and communities (EMAS, 2014). However, this management activity through stakeholders' collaboration has been noted to be a challenging issue because of difficulties involved in the interpretation and analysis of policies. This suggestion by the EMAS (2014) agrees with the findings of this research that host communities may not make an expected contribution in policy review and development due to ignorance on the issues of environmental management. In this case, there is a need for representatives of the host communities to work with agencies and oil companies. However, there may be an issue of intra-institutional trust within the communities regarding who would be able to represent them effectively and carry everyone along in making a decision that concern their interests.

8.3.2 Strategic environmental management

The second component of the framework for stakeholders' collaboration recommended that all the stakeholders including government agencies, oil

companies, and host communities should work together in developing a strategic management. It was suggested that strategic management concept such as SMART: Specific, Measurable, Achievable, Realistic and Time-scale, should be adopted. This collaborative strategic management, as suggested by previous studies (e.g., Kappor, 2001; Delmas and Toffel, 2004) enable an empowerment and team building mentality which would foster accountability, commitment, ownership, and responsibility.

This suggestion conforms to results of this research from the semi-structured interview that sense of ownership and empowerment are among the key drivers of the stakeholders' collaboration. However, as it has been noted by Okowa (2013), that commitment of stakeholders to stakeholder collaboration would depend on the extent of political and structural changes (e.g., adoption of appropriate legal frameworks, leadership, political will). Likewise, as found in this research, for collaborative strategic management to be sustained, the barriers related to issues of politics, power, and socio-cultural diversity should be tackled.

8.3.3 Systematic implementation of strategies

The third component, the systematic implementation of strategies recommends that all the stakeholders should be provided with clear information on their tasks while considering their interests. This recommendation was based on the marine pollution (MARPOL) (1973/78) that communication, documentation and operational control are the three main functions for successful implementation in managing environmental issues. As suggested by E and P (1997), this goal can be achieved through resource commitment and institutional capacity building.

These factors were identified during the validation phase of the framework as the drivers of the stakeholders' collaboration in the NOPR. Hence, this research finding

of shared training, learning, and awareness as the key drivers of collaboration in managing environmental issues conformed to the recommendation of the E and P (1997). However, Susskind et al. (2012) has argued that this strategy of shared learning, in most cases is not realistic but could only be realised through 'genuine collaboration.' 'Genuine stakeholders' collaboration allows both shared power and negotiation developed with broad representation of stakeholders' interests and that is what Borisov et al. (2012) concluded as a successful collaboration.

8.3.4 Periodic review

As the last component of the framework, the periodic review should be conducted as recommended by UNEP (2014) by all the stakeholders to cover both internal and external environmental audit/review. This provision, when combined, provides comprehensive information on the operational activities and management strategies that need improvement and corrections. The document analysis and interview findings show that, although stakeholders have interests in reviewing the project implementation, the issues of lack of transparency, corruption, and issues related to money-mind-set and divide and rule would have to be resolved to provide an expected outcome of the stakeholders' collaboration.

8.4 Lessons from validating framework for stakeholders' collaboration

The validation of the framework for stakeholders' collaboration is vital to improve the effectiveness of the components of the designed framework in managing environmental issues, enhancing their implementation by the stakeholders. Use of an in-depth interview provided the understanding of the implementation issues. There is little or no previous research suggestion on standardised techniques for validation of stakeholders' collaboration in managing environmental issues. Bailey

and Grossardt (2010) used the Arnstein Gap as a technique to understand how the stakeholders' interests are satisfied while working together. They suggested that stakeholders should choose and implement their collaborative roles by not only focusing on their goal to achieve effective environmental management but also appreciate the prioritisation of the environmental issues and available resources.

The successful implementation of the components of the stakeholders' collaboration framework would depend on broad consideration of majority of the critical success factors identified at the framework's validation. For instance, this research has shown that federated democracy and consensus of all tiers of government from federal to state level in Nigeria play important roles in the implementation of environmental management projects. The consultation between different government agencies is a routine for multinational oil companies. However, collaboration with stakeholders from agencies, oil companies, and host communities is promoted but has not been improved especially in the areas of environmental management.

Collaboration is promoted at different government agencies in the implementation of environmental management policies and legislation. This is evident from the findings of the interviews where it was identified that majority of the government agencies identified themselves as 'the enforcers' of the policies. For example, the government agencies would often remind the host communities about the Land Use Act whenever the issues of interests of host communities are raised in collaboration. In addition, the existing environmental management policies give the right to every institution to enjoin other stakeholders in managing environmental issues.

This power underpinned by the federated state explains the reason stakeholders' collaboration has been perceived as an important idea in managing environmental issues in the NOPR across the stakeholders that participated in this research. Further, it explains increasing need for providing a sustainable management of environmental issues in the NOPR has been one of the major issues in Nigeria since the industrial revolution. There have been collaborative efforts to restore the state of the environment in the region and enhance their environment's socio-economic functions. However, the efforts of stakeholders involved in managing environmental issues in the NOPR has been fragmented and jeopardised by lack of 'genuine' collaboration. Hence, the stakeholders' collaboration framework designed in this research suggests that key stakeholders should be integrated into the collaboration to effectively manage the environmental issues in the NOPR.

8.5 Implications of framework for stakeholders' collaboration

Identifying and understanding the drivers for stakeholders' collaboration in managing environmental issues is to enable stakeholders to assess the impact of their roles and identify areas of improvement. As it has been discussed above, the knowledge of interests of the stakeholders answers the question of how they should collaborate. This would help them to review the environmental management framework at their disposal to embrace their interest while appreciating the barriers to collaboration. The framework for stakeholders' collaboration was developed based on the concept of logical framework approach. This approach has been used for three main purposes: (a) analyse the problem of environmental issues in the NOPR, (b) conceptualise the understanding of stakeholders' roles, and (c)

identified the critical success factors for stakeholders' collaboration in managing environmental issues in the NOPR.

The goal of the framework is to focus on the priority interests of stakeholders that work together to manage environmental issues in the NOPR. That is, before successful application of stakeholders' collaboration framework, the stakeholders should consider critical success factors – the drivers and barriers, within an integrated structure of a stakeholders' collaboration. If these factors are not considered, the purpose of the framework may not be achieved as the drivers may make and the barriers may break the successful implementation of stakeholders' collaboration framework.

The framework for stakeholders' collaboration is an essential environmental management practice drawn from global recommendations, underpinned by the theoretical lens of both stakeholders' analysis and institutional analysis and development framework for managing environmental issues in the NOPR. Although, the components are simpler than, for example, the contemporary environmental management frameworks, the integration of the drivers and barriers makes stakeholders collaboration more applicable. This means the underlying process associated with the components sufficiently incorporate the observed constructs of stakeholders' roles in relation to their collaboration.

8.6 Practical implication of this research in managing environmental issues

The development of the stakeholders' collaboration framework extended the application of collaborative environmental management approach in addressing environmental issues in the NOPR. The framework draws on existing global

recommendations on environmental management within collaborative management approach (*EMAS*, 2008; Bradley et al., 2010; UNEP, 2014). The framework for stakeholders' collaboration recommended simple and specific environmental management practices for stakeholders in managing environmental issues in the NOPR.

Another important practical benefit of the framework for stakeholders' collaboration is the identification of the critical success factors. The validation of the framework identifies a degree of involvement for each stakeholder regarding the application of the stakeholders' collaboration in the NOPR. The drivers of and barriers to implementing of stakeholders' framework were identified during the validation process. It was observed that the key stakeholders are interested in the engagement and empowerment to partake in decision-making and consultation before environmental management-related project implementation in the NOPR. Understanding these critical factors such as drivers and barriers to stakeholders' collaboration provides an opportunity for heterogeneous decision-making involving all the key stakeholders – i.e., oil companies, government agencies and host communities.

Successful implementation of the stakeholders' collaboration framework should include elaborate information on these success factors. The identified drivers and barriers would enable the stakeholders to prioritise environmental issues, and this determines their level of participation. This evidence agrees with suggestions of the UNCED (1992) that people's participation, accommodation of indigenous knowledge and interests and values should be a platform for a 'blueprint' approach to environmental management. In addition, Stringer and Reed (2007) pointed out

that in the case where the collaboration of stakeholders is perceived to be sectional, it would endanger the impact of collaborative management practices by ignoring attributes of multiple actors and interests. This issue is evident in this research where host communities perceived that they are neglected by a 'gang-up' between the companies and government agencies. These findings of this research have substantially increased our understanding of the perception of stakeholders regarding their collaborative role while considering drivers and barriers that make stakeholders' collaboration effective in managing environmental issues in the NOPR.

8.7 Theoretical implication of this research in managing environmental issues

The complex and dynamic nature of environmental issues in the NOPR requires a comprehensive theoretical framework that embraces the role of stakeholders with varying institutional interests. For the aim of developing an applicable stakeholders' collaboration framework for managing environmental issues in the NOPR, the concepts of stakeholder analysis methodology, and institutional analysis and development framework have been encapsulated. The need for an in-depth understanding of stakeholders' collaboration has motivated adoption of these theories that guided theoretical argument of this research and discussion on the implications of stakeholders' collaboration while identifying the drivers and the barriers. The approach to this research draws on Goes and Simon (2011) suggestion that selecting a good theoretical framework assures that research is not based solely on personal instincts and guess, rather that the research is informed by established theory and empirical facts obtained from credible studies.

It is evident in this research that the barriers of applying collaborative environmental management can be controlled by considering the roles of stakeholders and by appreciating their institutional interests. This research evidence concurs with Reed (2008) suggestion that the quality of stakeholders' efforts in working together to effectively manage environmental issues is strongly dependent on the nature of the process leading to the implementation. The findings purport that stakeholders' collaboration must be grounded by a concerted emphasis on the key essential processes that are essential for effective environmental management which includes empowerment of stakeholders, equality among the stakeholders, inclusive learning and environment for trust. Furthermore, the process of effective collaboration in managing environmental issues should be guided by a philosophy of clear roles and objectives with an embedded legitimate environmental management practices. And this process should not overlook the integration of local and scientific knowledge to provide a more comprehensive understanding of environmental issues. These findings as a theoretical contribution to stakeholders' collaboration can be utilised as a foundation for further research to identify the appropriate instruments for improving environmental management in the NOPR.

Researchers (Brown et al., 2006; Tate et al., 2010) argued that if the clear identification of roles and available resources in managing environmental issues are given concerted consideration, the application of stakeholders' collaboration will create an organisational culture. Such a culture can facilitate achievement of environmental management goal in a situation where outcomes are necessarily uncertain. Hence, there is a possibility that effective application of this research

results on managing environmental issues in the NOPR can provide expected outcomes.

The framework for stakeholders' collaboration complements interpretive-based qualitative research design, in that it explicitly embraces a stakeholders' analysis perspective focusing on stakeholders' roles and their interests in working together to manage environmental issues. One of the main benefits of this research design is that it enables empirical analysis to focus on theoretical constructs that capture essential elements of the stakeholders' collaboration. It thus provides means to qualitatively analyse the stakeholders' perceptions of their roles that underpins their collaboration in the context of the NOPR. Qualitative analysis for stakeholders' roles enables a research design starting with document analysis on interests for stakeholders' collaboration, which later extended to semi-structured interview to provide an in-depth analysis of stakeholders' drivers and barriers to collaboration.

8.8 Methodological implication of this research in managing environmental issues

This research has successfully triangulated the findings of document analysis and semi-structured interviews to synthesis the design and validation of the framework for stakeholders' collaboration. The attributes of the stakeholders' collaboration – the stakeholders' roles and stakeholders' interests, were found to be redefined, whereas the drivers and barriers to collaboration were identified. The redefinition of stakeholders' roles shows a tendency for the stakeholders to collaborate or work together in accordance with specific interests, whereas identified drivers and barrier implied factors that might have been a setback for some stakeholders to

participate in collaboration. For instance, it was identified from the document analysis that corruption was one of the barriers to collaboration whereas it was identified in the interview as 'compensation' that breeds 'money-mind-set attitude' among the stakeholders. This evidence from both the document analysis and interviews suggest that stakeholders that share similar interests tend to collaborate. The implication of this evidence is that stakeholders who share similar interests may have a propensity to work together for effective management of environmental issues. Hence, the need for policy review and development, which was found to be of major interest to both government agencies and multinational oil companies, should be implemented by both stakeholders. This move would promote collaboration between them. In other words, this joint implementation helps to cement their relationship in managing environmental issues by promoting inner working between stakeholders.

The results from semi-structured interviews identified the barriers that might suppress the stakeholders' collaboration. The fact that the barriers to collaboration were identified could be parts of progress that can be made to further strengthen successful application and effective implementation of the framework for stakeholders' collaboration. The findings from the interviews implied that the framework is developed to effectively address differences in stakeholders' interests and align their effort to priority issues in managing environmental issues in the NOPR. Previous studies (e.g., Yeung and Petrosyan, 2012; Benson et al., 2013) suggest that stakeholders are keen to work together to restore their environment if there are some sustained common interests among the stakeholders.

8.9 Summary

Management of environmental issues is a complex problem that requires an understanding of the roles of key stakeholders with a common interest and degrees of genuine collaboration. Research on a framework for stakeholders' collaboration to manage environmental issues is still evolving both conceptually and methodologically. Hence, in the overall research venture of exploring the application of the stakeholders' collaboration in managing environmental issues in the NOPR, the findings of this study contributed to research by addressing the question of 'who should collaborate' and 'how should they collaborate' in managing environmental issues.

On the other hand, the validation of the designed framework identifies some interesting drivers to stakeholders' collaboration. One of them is the need to share resources with transparency to minimise the risks of barriers identified in this research. The key contribution of this research is its comprehensive analysis of stakeholders' roles, consideration of stakeholders' institutional interests, and its incorporation of recommended practices while identifying the critical success factors of the implementation in the NOPR. The lessons from the case of the NOPR have shown the importance of an understanding of roles of key stakeholders in managing environmental issues; and seeking to understand the critical success factors for stakeholders' collaboration in implementing effective environmental management.

The next chapter provides this research conclusion and recommendation.

CHAPTER 9: CONCLUSIONS AND RECOMMENDATIONS

9.0 Introduction

This chapter concludes this research, summarizes the main research contributions, provides recommendations for implementation of the framework for stakeholders' collaboration, acknowledges the research limitations and provides suggestions for further research.

9.1 Summary of research design

The management of environmental issues in NOPR has been studied by various extant studies. Likewise, the concept of collaboration in studying the management of environmental issues, as noted by several authors, has been adopted with some useful findings. However, a few of the previous studies examined the application of stakeholders' collaboration in managing environmental issues, but no research has taken a conceptual approach like the logical framework of using integrating stakeholder analysis methodology and institutional analysis and development framework to understand stakeholders' collaboration in managing environmental issues in the NOPR. This research has bridged this identified research gaps. It has produced a framework for a collaborative management of environmental issues in the NOPR. This aim was achieved based on the following four research objectives: (1) by identifying global recommendations for stakeholders' collaboration in managing environmental issues and established how they could be applied in the NOPR; (2) by investigating perception of stakeholders regarding their collaborative roles and how they collaborate to achieve successful management of environmental issues in the NOPR; (3) by designing a framework for stakeholders'

collaboration for managing environmental issues in the NOPR through the synthesis of outcomes of the first and second objectives; (4) by validating the designed framework designed by identifying critical success factors for its successful application.

In achieving these objectives, the primary question of how applicable is the stakeholders' collaboration approach in managing environmental issues in the NOPR was answered by asking the following three sub-questions; (1) what are the global recommendations for stakeholders' collaboration in managing environmental issues in the Nigerian oil-producing region? (2) How can the key stakeholders collaborate to effectively manage the environmental issues in the NOPR? (3) What critical success factors of stakeholders' collaboration may be applied to drive or hinder effective management of environmental issues in the in the NOPR.

These research questions were answered through interpretive-based qualitative research design. Qualitative research was conducted using document analysis and semi-structured interviews. A literature review was used to answer the first research question. Document analysis was used to answer the second question; whereas semi-structured interviews were used to answer the third research questions. Further, this research design was guided by the theoretical lens of stakeholders' analysis and institutional analysis and development framework (IAD) and collaborative environmental management.

The synthesis of the findings from these research approaches formed the outcomes that underpinned the design and validation of the designed stakeholders' collaboration framework. This research problem arose out of the

identified need to enhance collaboration for stakeholders who are responsible for managing environmental issues in the NOPR. The main research focus was on the interface collaborative roles of key institutions (i.e., Nigerian government agencies (NGAs), multinational oil companies (MNOCs) and host communities (HCs)) and implications of collaborative decisions they made at this interface.

9. 2 Summary of research methodology

The method adopted in this research was largely dictated by the nature of the research problem and theoretical analysis. Interpretive perspective and qualitative approaches used in this research were very useful. It revealed the interconnecting perceptions of stakeholders associated with their institutional roles and interests in managing environmental issues in the NOPR. This was achieved based on real life experience of selected participants across the key stakeholders. It was used to achieve the purpose of synthesizing stakeholders' perceptions about issues relevant to the management of environmental issues under a theoretical framework.

The flexible characteristic of this research strategy allowed opportunities to unveil unexpected issues about stakeholders' collaborative actions in managing environmental issues in the NOPR. For example, the informal roles of engagement and consultation that exist among key stakeholders. Research questions and theoretical analysis based on stakeholders and institutional analyses were used to explore research problem of such socio-cultural and political complexity with a context of competitive economic interests.

In this research activity, an integration of stakeholder analysis methodology and IAD framework has been extended in the context of collaborative environmental management in the NOPR. The research activity enabled a generation of a theoretical framework of stakeholders' collaboration that was relevant to the research subjects. The purpose of this research was to contribute to the theoretical development of stakeholders' collaboration and not to verify the theory. This relationship between theory and data in this research is synthesised in terms of stakeholders' collaboration derived from the evidence of the empirical data.

Multimethod qualitative research approach through document analysis and semi-structured interviews allowed for triangulation of this research evidence, and this strengthens the theoretical development of stakeholders' collaboration. The review of the literature on recommended environmental management practices and audit support through peer researchers were helpful to improve reliability and reduce bias in this research interpretation. The research design which focused on the NOPR and key stakeholders provided a homogeneous set of research experience. This design allowed for an opportunity for comprehensive comparison between key stakeholders' experiences and perceptions as well as provide a holistic understanding of issues associated with managing environmental issues in the NOPR.

9.3 Summary of this research outcome

This research has shown that diversity of stakeholders in relation to their institutional interests is affecting the actions of the stakeholders in relation to their collaborative roles in managing environmental issues in the NOPR. These issues

are revealed in this research as disincentives for the stakeholders that work together to re-examine their roles and their intra- and inter-organisational relationship in managing environmental issues. This research has confirmed that stakeholders share some similar interest in working with other stakeholders in managing environmental issues in the NOPR. Restoration of the environment and rural development with an empowerment through training were found to be an important driver for their collaborative interest among all stakeholders. However, a common interest is shared among stakeholders in working together to manage environmental issues; this research has shown that there is a lack of genuine collaboration among stakeholders because of institutional factors.

The evidence drawn from the semi-structured interviews has shown that all the key stakeholders acknowledged that they are aware of huge impacts of environmental issues from oil production; their responses on how to address the issue vary according to their institutional allegiance. This issue was identified as a cause of other barriers to collaboration, ranging from issues of politics and power to socio-cultural diversity. The key stakeholders – i.e., Nigerian government agencies, oil companies and host communities, expressed their need for collaborative engagement. However, their agreement is driven by different institutional interests. Economic interest and best practices in managing environmental issues were found as the major interests of government agencies and oil companies, while compensation was the main interest of the host communities. Likewise, it was found that the multinational oil companies have a main interest in their corporate images, and they would demand government agencies to take the lead in environmental management in the collaborative management of environmental issues in the NOPR. Although compliance to

environmental management policies and regular monitoring were identified as the main interests of the government agencies, there is not much evidence of their enforcement because of lack of political will of the Nigerian government.

This research has reviewed the critical success factors of stakeholders' collaboration in managing environmental issues in the NOPR. The analysis of the views of the stakeholders through consultation as an integral part of policy review can provide an opportunity for stakeholders to review their roles. The findings of this research have confirmed that the stakeholders lack the commitment to training regarding review of environmental management policies within the organisation. Robust implementation of participatory consultation and collective policy review would provide a clear understanding of collaborative actions of stakeholders and their impact in their respective institutions. A collective consultation which was found to be one of the drivers of collaboration as evidenced by interviews would address the issue of constant role competition among stakeholders that hold firmly to their institutional interests. Competition as part of resource control has been observed by previous researchers (Salam and Noguchi, 2006; Ogbonnaya, 2011) and has been confirmed in this research. It was found that the limited knowledge transfers among stakeholders, especially oil companies, has been linked to competition within the industry. This issue of knowledge transfer in relation to the application of new technology in environmental management can be a challenge to stakeholders.

The diversity of stakeholders' interests makes this competition a complex issue among stakeholders in managing environmental issues in the NOPR. This was observed in this research as the oil companies published environmental

management policies that are different from their collaborative actions and roles in their working together with other stakeholders. For instance, it was observed that some of their industrial activities were commissioned before the results of environmental impact assessment were produced. In similar instances, some oil companies' websites suggested that they have completed projects regarding pollution control and remediation, but the website has no information regarding commissioning of such projects. These bogus publicities promoting environmental management principles by companies are some ways companies promote their public perception of their roles in managing environmental issues in the NOPR. It is a general belief that stakeholders' perception of their roles in managing environmental issues in the NOPR should justify their actions. However, this belief can be misguided as this research has evidenced in the case of some oil companies whose roles in managing environmental issues were for their economic and business interests. Although the oil companies may argue that environmental management standard requirements are meant to be voluntary for their companies.

In conclusion, it important to note that this research sought to primarily answer the question of how applicable is the stakeholders' collaboration approach in managing environmental issues in the NOPR. This purpose motivated the development of stakeholders' collaboration framework. However, the elements of the framework are developed (based on the global recommended environmental management practices) to address challenges of managing environmental issues in the NOPR and are by no means exhaustive. The framework for stakeholders' collaboration was structured to be a flexible approach to represent the key principles associated with effective management of environmental issues. The

framework for stakeholders' collaboration was developed to show that a collaborative environmental management approach can be applied in the NOPR. Findings of this research have shown that collaboration among stakeholders goes beyond economic interests; hence it should be extended in managing environmental issue while considering institutional implications. This conclusion concurs with previous studies (e.g., Ostrom, 2011; McGinnis, 2011) suggestion that stakeholders' actions and interactions should not be restricted to socio-economic resource management alone, they should also have extended to the biophysical environmental management.

9.4 Summary of this research contributions

The justification for this research rests in its potential theoretical and practical benefits of the framework for stakeholders' collaboration. Theoretically, it contributes to the field of collaborative environmental management in the context of oil producing regions not just in Nigeria but other parts of the world. First, by suggesting an examination of perception of collaborative roles of stakeholders in managing environmental issues in the NOPR, this research goes some way to meeting the challenge of providing a framework that integrates stakeholders-based priorities (cultural, socio-economic and socio-political considerations) in environmental management.

Second, this research adds to environmental management literature through design and validation of a framework based on perspectives that have been rarely prominent by embracing the roles of key stakeholders (i.e. government agencies, oil companies and host communities). It replaces the misinterpretation of

environmental management concept of "polluter pays" principle that suggests that managing of environmental issues should be an independent role of multinational oil companies (Gaines, 1991; De Guzman, 2016).

Third, this research contributes to the development environmental policy literature by drawing attention to the importance of developing appropriate environmental managements policies that would be impactful and befitting to the NOPR. In providing knowledge of essential components of stakeholders' collaboration to effectively manage environmental issues in the NOPR, this research developed an empirically informed theory of stakeholder analysis that explicitly considers interconnected roles of multiple stakeholders. To this end, this research has demonstrated how analysis of key stakeholders and institutions can be embedded within collaborative management approach, which builds on a concept of stakeholders' collaboration for managing environmental issues (Orji and Zhao, 2015).

When efforts in managing environmental issues require inputs from various stakeholders across institutional settings, the stakeholders struggle to work together to effectively manage the issues. In the case of the NOPR efforts that foster stakeholders' collaboration is needed. The sustainability of such collaboration, however, depends on how well the roles of stakeholders are aligned with their respective needs and interests. The results of the analysis of the stakeholders' roles have provided knowledge that can help to identify drivers and barriers in developing a better understanding of how to develop a framework for collaboration to effectively manage environmental issues in the NOPR.

Fourth, this research argues for the development of empirically informed stakeholders' collaboration in managing environmental issues in the NOPR. This research is not only able to incorporate global recommendations but also explicit in taking the complex socio-economic roles of stakeholders into account. This provides vital knowledge of how and why stakeholders work together and which collective interests are their priorities to be able to address the barriers to stakeholders' collaboration in managing environmental issues. This finding supports Wood and Gray's (1991) argument that collaboration can be achieved in a platform where the stakeholders can satisfy their differing interest 'without loss to themselves.'

Fifth, the practical implications of this research concerns improvement of effective environmental management policy formulation and validation in the context of the NOPR. As environmental management domains are entwined with complex institutional and government bureaucracies, the identification of the social, cultural, economic and political issues and their priority concerns and addressing those issues would contribute to achieving an effective environmental management framework in the NOPR.

In addition, as there is a paucity of empirical research to address these issues, this research not only investigated new areas but also provided background information and literature for future environmental research in Nigeria. Though this research is contextual to Nigeria, it shares lots of features with oil producing regions in the developing countries. The findings of this research would be useful to environmental manager/consultants in Nigeria to avoid duplication of research resources and efforts as well prioritised the environmental issues which

considered the stakeholders' interests. Multinational oil companies can utilise this research finding to gain perspective on the environmental issues in the NOPR and the needs to optimise their investments and promotion of collaborative management.

9. 5 Research recommendations

Responsibility of implementing the developed framework for stakeholders' collaboration is not limited to the key stakeholders: i.e., government agencies, oil companies and host communities. It is the responsibility of every interested stakeholder to set goals within which the framework should operate; which needs to be based on an understanding of the management questions that arise at different components of the designed framework, and on appreciation of the institutional concerns and expectation of the stakeholders that are involved in managing environmental issues in the NOPR.

Environmental issues in the NOPR have multifaceted dimensions and should be dealt with the collaboration of stakeholders from a holistic perspective. In terms of the socio-economic resources needed for implementation, the public awareness is least expensive and perhaps most reinforcing. Education on the awareness of environmental issues for the stakeholders is important. However, this might place the emphasis on managing environmental issues in the NOPR to the public. Similarly, government agencies need to incentivise their commitment to strategic environmental management in the NOPR. Implementing and monitoring of environmental policies for managing environmental issues in the NOPR may have been shown in this research to have an effective impact in stakeholders'

collaboration, but the delay in harmonising the inconsistencies in the existing policies may frustrate the goal of this framework. The clarity of the respective roles of the stakeholders by specific legislation will provide an implementable platform that encourages participatory consultation to achieve effective stakeholders' collaboration in managing environmental issues in the NOPR.

9.6 Research limitations and further research

Researchers have noted that generalisation is one of the major drawbacks of qualitative research design. This research was conducted based on selecting various research subjects – different participants from different institutions with varying job roles. The collated data were synthesised in an integrated theoretical context reflecting stakeholders' in relation to their institutional interests. It was not the aim of this research, as qualitative research design, to enumerate frequencies but to expand and generalise a theoretical proposition of stakeholders' collaboration. Interpretation of this research, as a qualitative research design, is a drawback as this research investigation was led by one researcher. However, the use of multiple approaches to data collection based on multiple source of empirical information as well as abiding by the guidelines of the University of Central Lancashire research ethics helped to minimize the bias.

The outcomes of document analysis were peer reviewed by independent researchers and were published as both a conference and journal paper. This approach has helped to reduce issues of research bias. However, as suggested by Freeman (1993), the researchers' claims to objectivity and neutrality could be a matter of perspectives. The issue of access to this research subjects was a challenging one. However, with persistence and support from the university, a

reasonable assess was granted by the selected institutions. It is important to note that government agencies showed more interest to share their experiences and perceptions on environmental issues in the NOPR compared to oil companies and host communities.

The outcomes of this research have suggested that there is vested interest of key stakeholders to work together to tackle environmental issues in the NOPR. However, it is difficult for stakeholders to neglect their institutional interests. Further research should be designed to explore which institutional factors present opportunities or threats to stakeholders' collaboration. This research has identified some interesting drivers and barriers to stakeholders' collaboration. Further research needs to focus on examining how some of these success factors are affected by the stakeholders in relation to their institutions. For instance, how institutions perceive and react to some of these drivers and barriers can be compared within a defined institution. Furthermore, an identification of how the observed barriers affect the suggested components of the developed framework for stakeholders' collaboration also require further investigation. Such research design can also be extended to stakeholders' interests for collaboration. For example, how does the shared interests or conflicts between government agencies and oil companies or between government agencies and host communities affect collaboration?

A collaborative relationship of other institutions in the context of a defined environmental management problem should be explored and compared to the framework for stakeholders' collaboration developed in this research. This move will perhaps help to reveal some elements that were not identified in this research.

This research observed that economic interests is one of the key issues affecting collaboration in managing environmental issues in the NOPR. Further exploration of issues of economic interests of stakeholders in managing environmental issues should be explored. Further Research should investigate the nature of economic interests and its effect on the institutions in managing environmental issues.

As in the case of the design of most qualitative studies, this research design has limitations that should be considered in its interpretation. A longitudinal study of collaborative environmental management processes could offer insights, which may take longer than three years, beyond those obtained by relying on document analysis and a semi-structured interview. In addition, the research outcomes were based on primary data collected from semi-structured interviews of the key stakeholders managing environmental issues in the NOPR – i.e., the Nigerian government agencies, oil companies, and communities.

Due to the restrictions by the base University to allow students travel to Nigeria, face-to-face interviews were not possible; instead, the Interviews were conducted over the telephone. Further research can be designed to include a range of stakeholders, other than the key stakeholders. This may help identify some hidden but important roles and practices which might help to identify other interests excluded in this research that should be considered in designing and implementing the stakeholders' collaboration framework across different stakeholders. Potential findings from such research design may contribute to the findings of this research, though generalising across organisations and industry sector can be difficult. While appreciating the subjective nature of this kind of qualitative research design, an in-depth comparative analysis was not possible during the investigation of the

roles of research subjects. These limitations should be considered when interpreting the findings.

However, even despite the subjective and interpretive nature of this research, it offers several important contributions that have been discussed above. This research has contributed to knowledge of applying stakeholders' collaboration in the management of environmental issues. The author of this research does not doubt that future research will build on findings of this research and present new evidence that will provide the opportunity to develop further the ideas presented here. Research on the environmental management issues in the NOPR being such as a contemporary topic is far from complete.

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APPENDIX

Appendix 1: Selected documents on environmental management practices.

1. Best environmental management practices: the reference document for the waste management sector- European commission, joint research centre, and institute of prospective technological studies 2014.
2. Bradley, S.C., Arrighi, M., Duboudin, S., Finger. F. H., Revuelta. F., Delgado, G. C., Simic. L., Szweda, C. (2010). Good environmental management practices for the industrial gas industry. Asia Industrial Gases Association (AIGA), Globally Harmonised Document 006/10, pp. 1-32.
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6. Earthworks:Bestpracticesoverview(2012)
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7. AGENDA 21 United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992
8. Environmental governance in oil producing developing countries: finding of survey of 32 countries by Alba Eleodoro Mayorga: extractive industries for development series 17, June 2010
9. E & P forum/Unep 1997: Environmental Management in oil and gas exploration and production: An overview of issues and management approaches. UNEP IE/PAC Technical Report 37, E&P forum report 2.72/254.ISBN 92-807-1639-5.

Appendix 2: Selected documents from Nigerian government agencies

Government/Official Documents

1. Niger Delta Development Commission: Development Master Plan (NDDC's DMP), 2006, Federal Republic of Nigeria, Chapter 1-8, from 2000-2006.
 - *Chapter 1 of NDDC's Development Master Plan: Niger Delta Region, Land and People, pp. 49-99.*
 - *Chapter 2 of NDDC's Development Master Plan: Regional Development Efforts, pp.101-110.*
 - *Chapter 3 of NDDC's Development Master Plan: Nature of the Plan, pp. 113-121.*
 - *Chapter 4 of NDDC's Development Master Plan: Integrated Approach to Planning for the Niger Delta Region, pp. 141*
 - *Chapter 5 of NDDC's Development Master Plan: The Master Plan, pp.145-161.*
 - *Chapter 6 of NDDC's Development Master Plan: Niger Delta Regional Development Master Plan, pp. 220-235.*
 - *Chapter 7 of NDDC's Development Master Plan: Administrative Framework for Plan Implementation, pp. 241-246.*
 - *Chapter 8 of NDDC's Development Master Plan: The Road Ahead, pp.248-258.*
2. Department of Climate Change, Federal Ministry of Environment, Nigeria, 2012, Website Report

Non-Governmental Sources of documents on environmental pollution in Niger-delta

1. Shell and Nigeria have failed on oil pollution clean-up, Amnesty says- the guardian (published 4 august 2014).www.theguardian.com/environment/2014/aug/shell-nigeria-oil-pollution-cleanup).
2. Niger delta oil spills clean-up will take 30 years, says UN- the guardian (published 4 August 2011). <http://www.theguardian.com/environment/2011/aug/04/niger-delta-oil-spill-clean-up-un>.
3. Vidal J. (2013) Shell made false claims about Niger delta oil pollution, says Amnesty (Published 7 Novemeber, 2013) <http://www.theguardian.com/global-development/2013/nov/07/shell-oil-niger-delta-pollution-amnesty>.
4. TELL, February 18, 2008. (50 years of oil in Nigeria).
5. Environment law and underdevelopment in the Niger delta region by E. Duru (2011) of e-international relations students (<http://www.e-ir.info/2011/01/06/environment-law-and-underdevelopment-in-the-niger-delta-region>), accessed 28/01/2015.
6. Oil Pollution Management and Environmental Assessment in the Niger Delta: A Case Study of Operations of Chevron Nigeria Ltd in Ugborodo Community in Delta State Of Nigeria by Tosan S. N. Eyitsede and Prof.Babajide I. Alo, pp. 1-127.
7. Kadafa A.A (2012) Oil Exploration and Spillage in the Niger Delta of Nigeria. Civil and Environmental Research www.iiste.org ISSN 2222-1719 (Paper) ISSN 2222-2863 (Online)Vol 2, No.3.
8. Ite A.,Ibok U.,Ite M.,Petters S.,(2013) Petroleum Exploration and Production: Past and Present Environmental Issues in the Nigeria's Niger Delta. *American Journal of Environmental Protection*, 2013, Vol. 1, No. 4, 78-90 Available online at <http://pubs.sciepub.com/env/1/4/2> © Science and Education Publishing DOI:10.12691/env-1-4-2.

NATIONAL ENVIRONMENTAL STANDARDS AND REGULATIONS
ENFORCEMENT AGENCY (NESREA)

LIST OF THE 28 GAZETTED REGULATIONS

1. National Environmental **(Wetlands, River Banks and Lake Shores)** Regulations, S. I. No. 26 of 2009:
2. National Environmental **(Watershed, Mountainous, Hilly and Catchments Areas)** Regulations, S. I. No. 27 of 2009
3. National Environmental **(Sanitation and Wastes Control)** Regulations, S. I. No. 28 of 2009
4. National Environmental **(Permitting and Licensing System)** Regulations, S. I. No. 29 of 2009
5. National Environmental **(Access to Generic Resources and Benefit Sharing)** Regulations, S. I. No. 30 of 2009
6. National Environmental **(Mining and Processing of Coal, Ores and Industrial Minerals)** Regulations, S. I. No. 31 of 2009
7. National Environmental **(Ozone Layer Protection)** Regulations, S. I. No. 32 of 2009
8. National Environmental **(Food, Beverages and Tobacco Sector)** Regulations, S. I. No. 33 of 2009:
9. National Environmental **(Textile, Wearing Apparel, Leather and Footwear Industry)** Regulations, S. I. No. 34 of 2009
10. National Environmental **(Noise Standards and Control)** Regulations, S. I. No. 35 of 2009
11. National Environmental **(Chemicals, Pharmaceuticals, Soap and Detergent Manufacturing Industries)** Regulations, S. I. No. 36 of 2009

National Environmental (**Standards for Telecommunications and Broadcasting Facilities**) Regulations, S. I. No. 11 of 2011

National Environmental (**Soil Erosion and Flood Control**) Regulations, S. I. No. 12 of 2011

National Environmental (**Desertification Control and Drought Mitigation**) Regulations, S. I. No. 13 of 2011

National Environmental (**Base Metals, Iron and Steel Manufacturing/Recycling Industries**) Regulations, S. I. No. 14 of 2011

National Environmental (**Control of Bush/Forest Fire and Open Burning**) Regulations, S. I. No. 15 of 2011

National Environmental (**Protection of Endangered Species in International Trade**) Regulations, S. I. No. 16 of 2011

National Environmental (**Domestic and Industrial Plastic, Rubber and Foam Sector**) Regulations, S. I. No. 17 of 2011

National Environmental (**Coastal and Marine Area Protection**) Regulations, S. I. No. 18 of 2011

National Environmental (**Construction Sector**) Regulations, S. I. No. 19 of 2011

National Environmental (**Control of Vehicular Emissions from Petrol and Diesel Engines**) Regulations, S. I. No. 20 of 2011

National Environmental (**Non-Metallic Minerals Manufacturing Industries Sector**) Regulations, S. I. No. 21 of 2011

National Environmental (**Surface and Groundwater Quality Control**) Regulations, S. I. No. 22 of 2011

National Environmental (**Electrical/Electronic Sector**) Regulations, S. I. No. 23 of 2011

25. National Environmental (**Control of Alien and Invasive Species**) Regulations, S. I. No. 32 of 2013
26. National Environmental (**Quarrying and Blasting Operations**) Regulations, S. I. No. 33 of 2013
27. National Environmental (**Pulp and Paper, Wood and Wood Products Sector**) Regulations, S. I. No. 34 of 2013
28. National Environmental (**Motor Vehicle and Miscellaneous Assembly Sector**) Regulations, S. I. No. 35 of 2013

Appendix 3: Index of Nigerian Federal Ministry of Environment' document extracts

Primary Source: Federal Ministry of Environment, Nigeria	Extracts	Extracts
<p>About the Federal Ministry of Environment (FME), Nigeria(http://www.climatechange.gov.ng/index.php/fme/about-fme)</p>	<p>* Prepare a comprehensive National Policy for the protection of the environment and conservation of natural resources, including procedure for environmental impact assessment of all developing projects.</p> <p>* Prepare in accordance with the National Policy on Environment, periodic master plans for redevelopment of environmental science and technology and advise the Federal Government on the financial requirements for the implementation of such plans.</p> <p>* Cooperate with Federal and State Ministries, Local Government, statutory bodies and research agencies on matters and facilities relating to the protection of the environment and the conservation of natural resources.</p> <p>* Prescribe standards for and make regulations on water quality, effluent limitations, air quality, atmospheric protection, ozone protection, noise control as well as the removal and control of hazardous substances, and</p> <p>* Monitor and enforce environmental protection measures.</p>	<p>Roles</p> <ul style="list-style-type: none"> • 'prepare a comprehensive National Policy for protection of environment...., including procedure for EIA for all developing projects' • 'Prepare periodic master plans for redevelopment of environmental science and technology' • 'Advises Federal Government on the financial requirements for implementation of plans' • 'promotes cooperation in environmental science and conservation technology with international bodies' • 'Cooperate with Federal and State Ministries, Local Governments, statutory bodies and research agencies' • 'Prescribes standards for regulations' • 'monitors and enforce environmental protection measures'

<p>Special Federal Ministry of Environment, Nigeria Units (Parastatals) (http://www.climatechange.gov.ng/index.php/fme/special-fme-units)</p>	<p>The National Oil Spill Detection and Response Agency (NOSDRA) was established by Act No. 15 of 2006 as a deliberate and articulate response by the Federal Government to the persistent environmental degradation and devastation of the coastal ecosystem especially, in the oil-producing areas of the Niger-Delta region. NOSDRA is statutorily empowered to coordinate oil spill management and ensure the implementation of the National Oil Spill Contingency Plan (NOSCP) for Nigeria in accordance with the International Convention on Oil Pollution Preparedness, Response and Co-Operation (OPRC) 1990, which Nigeria has ratified. The NOSCP is a blueprint for checking oil spill through, containment, recovery and remediation/restoration. It was drafted in 1981 and first reviewed in 1997, and further reviewed in 2000 and 2006. NOSDRA is essentially mandated to play the lead role in ensuring timely, effective and appropriate response to all oil spills, as well as protect threatened environment and ensure clean-up of all impacted sites to the best practical extent. NOSDRA is currently headed by Dr. B. A. Ajakaiye. NOSDRA Website: www.nosdra.org</p>	<p>Attitudes Deliberate and articulate response to persistent environmental degradation and devastation</p> <p>Roles and practices</p> <ul style="list-style-type: none"> • Coordinate oil spill management • Ensure implementation • Ensure timely, effective and appropriate response to oil spills • Ensure clean-up of all impact sites to best practical extent <p>Capabilities International Convention on Oil Pollution Preparedness, Response and Co-Operation (OPRC): containment, recovery and remediation/restoration</p>
<p>Minister-Federal Ministry of Environment, Nigeria(http://www.climatechange.gov.ng/index.php/fme/the-honourable-ministers)</p>	<p>Environment has impacted on raising the issue of environmental consciousness in the minds of Nigerians as well as the interface with the global environmental best practices. It has focused on evolving innovative strategies that emphasize the use of environmental reengineering as a veritable tool for poverty eradication, ensuring food security, encouraging sustainable economic development and the general improvement in the livelihood of the Nigerian populace.</p>	<p>Attitudes</p> <ul style="list-style-type: none"> • Raise environmental consciousness • Interface with the global environmental best practices • Focused on evolving innovative strategies • Emphasise the use of environmental reengineering as a veritable tool

Appendix 4: Index of the oil companies' documents extracts

Documents from Oil Companies	Extracts	Content of categories that relates to key research themes
<p>Shell Petroleum Development Company (SPDC)</p> <p>Theft, Sabotage and Spills - opens in new window</p> <p>(http://s07.static-shell.com/content/dam/shell-new/local/country/nga/downloads/pdf/theft.pdf)</p>	<p>Crude oil theft, sabotage and illegal refining are the main sources of pollution in the Niger Delta today and were the cause of 75% of spill incidents from Shell Petroleum Development Company of Nigeria Joint Venture (SPDC JV) pipelines in 2014.</p> <p>To reduce the number of operational spills, the SPDC JV is focused on implementing a work programme to appraise, maintain and replace key sections of pipeline. 132 km of new pipelines were installed during 2014, bringing the total for the last four years to more than 900km.</p> <p>The SPDC JV pipeline network is covered by surveillance contracts to ensure that spills are discovered and responded to as quickly as possible. There are also regular over-flights to detect new theft points. In 2014, the SPDC JV signed a series of agreements with communities in Ogoniland – which has seen some of the highest rates of theft in recent years – using the Global Memorandum of Understanding (GMOU) model through which the majority of SPDC JV social investment projects have been delivered since 2006.</p> <p>SPDC meanwhile works with communities and civil society across the Niger Delta to build greater trust in spill response and clean-up processes. Representatives of the principal NGO coalition in the Niger Delta, National Coalition on Gas Flaring and Oil Spills in the Niger Delta (NACGOND), are invited to join all joint investigation visits (JIVs), by which the cause and extent of oil spills is assessed. SPDC is the only oil and gas company operating in Nigeria to publish its spills data online.</p>	<p>SPDC's perception of environmental issues</p> <ul style="list-style-type: none"> • Environmental damage from oil and gas in the Niger Delta is through sabotage • Communities deny access to verify the spill and stop the cause of the leak • 70 per cent of the spills have been the result of sabotage (cross-checked by whom?) • Ogoniland has seen some of the highest rate of theft in recent year <p>Perceived roles and mandate</p> <ul style="list-style-type: none"> • Committed to clean spills and remediate land • Work is inspected, approved and certified by the joint government, community and SPDC inspection team • Implement work programme to appraise, maintain and replace key section of pipelines • Works with communities and civil society (NACGOND) to build greater trust to clean up oil spills • Protect environment <p>Roles</p> <ul style="list-style-type: none"> • Researched and adopted a 'most effective' technique for cleaning up oil spills • As at 01/10/2011 SPDC has completed and certified 71 out of 74 oil spill incidents that happened before 2005 (by whom?) • Installed 132km of new pipeline in 2014 bringing together to more than 900km (confirmed by whom?)

<p>Shell in Nigeria: Ogoniland http://s02.static-shell.com/content/dam/shell-new/local/country/nga/downloads/pdf/ogoniland.pdf</p>	<p>When a leak is identified production is suspended and efforts made to contain any spilled oil. In line with government regulations, a JIV team visits the spill site to establish the cause and volume of oil spilled. The team is led by the operating company and includes representatives of the regulatory bodies, police, the state government and impacted communities. The SPDC JV cleans and remediates the area impacted by spills from its facilities, irrespective of cause. In the case of operational spills, it also pays compensation, as stipulated by Nigerian law. Once clean-up and remediation are completed, the work is inspected, approved and certified by regulators.</p> <p>Of the 303 spill sites identified at the beginning of 2014, 194 (64%) had been remediated and independently certified by the end of the year. More than half of the backlog was in Ogoniland, where years of restricted access to the region created difficulties in identifying and remediating affected sites. Taking into account new spill sites identified during 2014 (the majority caused by theft and sabotage), there were 280 sites identified as requiring remediation at the beginning of 2015, of which 121 were in Ogoniland.</p> <p>In the period following SPDC's withdrawal, the security environment remained volatile and attacks on facilities continued. In 2007 the Federal Government of Nigeria commissioned the United Nations Environment Programme (UNEP) to carry out an environmental assessment of Ogoniland as part of a wider reconciliation process. UNEP delivered its report to the government in August 2011. The report highlighted significant environmental impacts from oil pollution in parts of Ogoniland relating to a variety of causes. It called on the Nigerian government, the oil and gas industry and communities to begin a comprehensive cleanup of the region and take coordinated action to end all forms of ongoing oil contamination.</p> <p>Most of UNEP's recommendations – including the creation of an environmental restoration fund – were directed at the Federal Government and require it to take the lead on coordinating the activities of the numerous stakeholders involved. The report</p>	<ul style="list-style-type: none"> • Use of surveillance contractors and over flights to pick theft points • Signed Global Memorandum of Understanding with communities in Ogoniland in 2014 • Of the 303 spill sites identified at the beginning of 2014, 194 (64%) had been remediated and 'independently certified' by the end of the year' (by whom?) • Suspended operation to stop oil leakages • Visits spill sites in-line with government regulations, led by representatives of regulatory bodies, state government, police and impacted communities • Pays compensation for oil spills as stipulated by Nigerian law • SPDC initiated action to implement all the recommendation by UNEP, • 15 sites identified in the report have been remediated and certified by the regulators (which regulators?) • performed a comprehensive review of its remediation techniques, making a number of changes in line with industry best practice <p>Needs</p> <ul style="list-style-type: none"> • Environmental assessment of Ogoniland • Creation of environmental restoration fund • Federal government is required to take the lead on coordinating the activities of the numerous stakeholders involved <p>Implications</p> <p>United Nations Environment Programme (UNEP) delivered report of environmental assessment of Ogoniland to Federal Government of Nigeria in 2011. More detailed information on implementation can be found at:</p>
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	<p>also contained a number of findings and recommendations relating specifically to SPDC as operator of the SPDC JV.</p> <p>SPDC has initiated action to implement all the recommendations directed to it by the UNEP report. The 15 SPDC JV sites identified in the report have been remediated and certified by regulators where further remediation was required. SPDC has completed an inventory and physical verification of assets for decommissioning and has performed a comprehensive review of its remediation techniques, making a number of changes in line with industry best practice.</p> <p>SPDC has initiated action to implement all the recommendations directed to it by the UNEP report. The 15 SPDC JV sites identified in the report have been remediated and certified by regulators where further remediation was required. SPDC has completed an inventory and physical verification of assets for decommissioning and has performed a comprehensive review of its remediation techniques, making a number of changes in line with industry best practice. SPDC has also shown leadership by delivering emergency measures related to drinking water in advance of action by the government. More detailed information on implementation can be found at: http://www.shell.com.ng/environment-society/our-response.htm</p>	<p>http://www.shell.com.ng/environment-society/our-response.htm NEVER EXIST (NO PAGE FOUND ON THIS)</p>
<p>Chevron Nigeria Limited (CNL) Environment: Protecting Nature(http://www.chevron.com/corporateresponsibility/environment/)</p>	<p>We are continually evaluating and striving to improve our processes to reduce emissions and waste, conserve energy and natural resources, and reduce the potential for environmental impacts from our activities and operations. From our everyday actions to major capital investments, we are focused on making the right decisions for the environment. We use our Operational Excellence Management System (OEMS) to help us identify and manage risks and to improve reliability and safety in all our operations. Our Environmental Principles help us guide our decisions. Oil pollution, as a major source of environmental degradation, has attracted global awareness especially since marine ecosystems are potentially at risk due to the activities of the oil</p>	<p>Perception roles</p> <ul style="list-style-type: none"> • A corporate citizen • Improve process to reduce emissions and waste • Reduce the potential environmental impacts from our activities and operation • Focused on making right decisions for the environment • Identify and manage risks and improve reliability and safety in all operations • State of constant alertness • Aimed to improve health and safety by initiating STOP (Safety Training Observation Program), SLA (Safety Leadership

<p>Oil Pollution Management and Environmental Assessment In The Niger Delta: A Case Study of Operations of Chevron Nigeria Ltd In Uborodo Community in Delta State Of Nigeria By Tosan S. N.</p> <p>Eyitsede http://uir.unisa.ac.za/bitstream/handle/10500/4941/thesis_eyitsede_s.pdf?sequence=1</p>	<p>industry. Chevron Nigeria Limited has been a corporate citizen of Nigeria for over 35 years. Chevron has successfully initiated and completed a multi-phase gas utilization project to eliminate gas - flaring in the Niger Delta, called the Escravos Gas Project (EGP). Supported by the World Bank due to the environmental friendliness of the project, this project costs well over one billion dollars.,CNL is zestfully committed to sound environmental and safety practices. At all times, the company maintains a state of constant alertness to combat any eventual oil spills. It maintains a highly trained oil spill response team equipped with state of the art spill response kits and tools. In addition, CNL is a member of Clean Nigeria Associates (CNA), a Nigerian oil spill response cooperative, The Company is also a corporate member of the Nigeria Environmental Society (NES – Nigeria Premier Environmental NGO). Chevron adopts environmentally friendly tenets and engenders safety on all producing facilities. There are other programmes within and outside the Company aimed at improving the health, safety and the environment (HSE) such as STOP (Safety Training Observation Program), SLA (Safety Leadership Authorization) among others. Chevron Nigeria Limited, in collaboration with Chevron Oil (Nigeria) Ltd has built and presented to an NGO, the Nigeria Conservation Foundation (NCF), a multi-million Naira Environmental Research and Education Center called 'The Lekki Conservation Center'.</p>	<p>Authorization) and Nigeria Conservation Foundation (NCF)</p> <ul style="list-style-type: none"> • Use of Operational Excellence Management System (?) • Use of Environmental Principles (?) • Initiated and completed Escravos Gas Project to eliminate gas flaring • Committed to sound environmental safety and practices • Cooperative with other oil companies in managing oil spill through CNA and NES
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Appendix 5: Index of Niger Delta Development Commission (NDDC) document extracts

Primary Source NDDC Events/Project News	Extracts	Content of categories that relates to key research themes: Attitudes, interests, collaboration, efforts, capabilities,
<p>'NDDC builds Long-Span Bridge in Bayelsa' (http://www.nddc.gov.ng/news_id7u.html)</p>	<p>The NDDC Chief Executive Officer said that it was not enough to just sit in the office to look at files and generally go through paper work. According to him, such an approach would not give a full picture of the current status of projects on the ground. "That is why I find it 'necessary to be inspecting projects on a regular basis'. As for this project, I want to see it completed this year. The contractor just has to speed up work on the bridge before the rain starts," he said</p>	<p>Roles 'sit in the office to look at files and generally go through paper work' Interests</p> <ul style="list-style-type: none"> • Regular project inspection • special monitoring team would be set up by the commission to supervise the contractor • To ensure that standards were not compromised
<p>Banks, Contractors Face Sanctions as NDDC steps up Projects Inspection (http://www.nddc.gov.ng/news_id6r.html)</p>	<p>Banks and contractors doing business with the Niger Delta Development Commission, NDDC, may need to gird their loins as the interventionist agency is ready to stop all those contributing to the delays in the completion of development projects in the Niger Delta region.....Stating the no-nonsense position of the commission, after inspecting some of its major projects in Rivers . NDDC Executive Director Projects, Engr. Tuoyo Omatsuli, warned that all offending parties may face sanctions Engr. Omatsuli frowned at the slow pace of work, which he blamed on the non-release of funds by a particular bank to the contractor. "We paid in the money for work to continue on the project three months ago and the bank failed to make it available to the contractor. This is totally un-acceptable and we are going to tackle the matter at the</p>	<p>Roles</p> <ul style="list-style-type: none"> • 'Interventionist agency', • 'no-nonsense commission', <p>Practices</p> <ul style="list-style-type: none"> • 'Imposing sanctions', • tackle the matter at the board level, • act against any bank that is delaying work our work' • create guidelines for Advance Payment (APG) disbursement <p>Drivers</p>

	<p>board level to act against any bank that is delaying our work,” he said.</p> <p>He warned that the banks working with the commission stood the risk of being blacklisted if they hinder the work of contractors, noting that it was wrong for some of the banks to set up different conditions for the contractors outside the guidelines by the commission for Advanced Payment Guaranty (APG) disbursement.</p> <p>To ensure that standards were not compromised, he said that a special monitoring team would be set up by the commission to supervise the contractor to effect all the necessary corrections.</p> <p>Engr. Omatsuli, said that apart from putting up the structures, the NDDC was already partnering with professionals in medical administration for the running of the two specialist hospitals</p>	<ul style="list-style-type: none"> • partnering with professionals • Engage and consult with stakeholders • Redefining our vision, mission, priorities and responsibilities • Confidence, involvement and active support from stakeholders • Public, private partnership arrangement • Local governments and communities to take ownership of the projects <p>Challenges</p> <p>‘non-release of funds by banks to the contractor’,</p> <ul style="list-style-type: none"> • delays in projects,
<p>NDDC Stakeholders’ Engagements in 9 states including Bayelsa and Rivers (http://www.nddc.gov.ng/news_id6m.html)</p>	<p>the NDDC Managing Director, Barr. Bassey Dan-Abia, said that it was necessary to engage and consult with stakeholders to communicate to them the resolve of the commission to evolve new robust and innovative strategies for delivering its mandate.</p> <p>“We as a commission have started the process of redefining our vision, mission, priorities and responsibilities in a manner that will engender confidence, involvement and active support from stakeholders. We are exploring public, private partnership arrangement to leverage our ability to undertake major/critical projects in the actualization of our mandate, the NDDC MD said....</p>	<p>Interests</p> <ul style="list-style-type: none"> • New robust and innovative strategies • Ability to undertake major/critical projects • Platforms for stakeholders to agree on the best ways to address development challenges in the Niger Delta • Drive implementation • Create a synergy • Adopts a bottom-up strategy...in line with global best practices <p>Collaborative roles</p>

Barr. Dan-Abia, who was represented by Chief Ephraim Etete, the representative of Rivers State on the board of the NDDC, said that the meetings would provide **needed platforms for the stakeholders to agree on the best ways to address development challenges in the Niger Delta**, in order to achieve better service delivery....

Barr. Dan-Abia underscored the urgent **need for all stakeholders, including states, local governments and communities to take ownership of the projects** in their areas as such would ensure sustainable development. He further said that the NDDC was already **reactivating the Partners for Sustainable Development (PSD) Forum as a platform to vigorously drive the implementation of the master plan** endorsed as the region's development road map.

In his own address, the NDDC executive Director Projects, Engr. Tuoyo Omatsuli, said that the **commission would in line with global best practices adopt a bottom-up strategy in its interventions in the development process**, noting that meetings involving communities and critical segments of the society would **create the necessary synergy that would strengthen the pursuit of development objectives**.

- NDDC Master plan
- Partners for Sustainable Development

Appendix 6: Samples of analysed documents with colour coding

SAMPLE 1

(pentane, hexadecane, octacosane, cyclohexane), aromatics (naphthalene, phenanthrene, benzene, pyrene), asphaltenes (phenols, fatty acids, ketones, esters, and porphyrins), and resins (pyridines, quinolines, carbazoles, sulfoxides and amides) [15,16]. Soils and sediments are the ultimate sink for most petroleum contaminants, such as benzene, toluene, ethyl benzene, and xylenes(BTEX), aliphatic and polycyclic aromatic hydrocarbons (PAHs). Petroleum hydrocarbon contamination of soils and sediment is a global concern because of the toxicity [16] and refractory character of the aromatic components in the absence of oxygen [17]. PAHs, which make up about 5% by volume, are a widespread class of environmental chemical contaminants of anthropogenic or natural origin (Block *et al.*, 1991). Although predominant oil pollution in the United Kingdom contains high volumes of aliphatic hydrocarbons [18], petroleum pollution in the tropical region like the Nigeria's Niger Delta contains complex mixtures of both the aliphatic and aromatic hydrocarbons [19,20].

The inadvertent discharges of petroleum hydrocarbons into the environment often pose threats to human health, safety and the environment, and have significant socio-economic consequences. Evidence of acute and chronic toxicity demonstrates the potential toxic and negative impacts of petroleum-derived wastes on the tropical environment [21]. However, some of the

multinational oil companies operating in the Niger Delta region have failed to adopt best practice strategies for risks mitigation and comply with environmental regulations. The poor environmental management practices by the petroleum industries and the failure of Nigeria's environmental regulations contribute towards environmental contamination with direct consequences on the surrounding populations' socio-economic wellbeing, human health and the environment. Environmental contamination, human health risks, safety and the environment, and negative socio-economic consequences of most petroleum pollution in the world depend on the intersection of the event, the geographic setting, the characteristics of the regional population, corporate governance systems and political economy. Environmental contamination and degradation associated with both onshore and offshore petroleum exploration and production operations in the Niger Delta has not yet been properly addressed for the past five decades.

This review examines the implications of past and present contributions of multinational oil companies operations and the Nigerian government towards environmental degradation in the Niger Delta. It will further highlights some of the issues of environmental degradation resulting from unsustainable practices associated with petroleum exploration, exploitation and production in the region.

SAMPLE 2

4 Good Environmental Management Practices

4.1 Implementing Good Environmental Management Practices

Companies should periodically and systematically review processes and operating practices to identify waste, discharge and release reduction opportunities and to optimise the use of resources.

Conducting an inventory will assist in targeting pollution prevention opportunities. When conducting an inventory the following information should be gathered for each waste, discharge or release to assist in prioritising opportunities:

- Source of each major waste, discharge or release
- Rates of generation
- Toxicity or hazard characteristics
- Disposal method and costs

When implementing GEMPs, preference should be given to the following waste minimization hierarchy:

- Reduce at source (most preferred)
- Reuse or recycle
- Treatment and/or energy recovery
- Disposal (Least Preferred)

Objectives and targets for improvement should then be set for the priority items and these targets should be monitored, measured and reviewed on a regular basis.

To the extent practical, companies should systematically identify and implement GEMPs applicable to their operations. Where laws and regulations have requirements more stringent than those found in this document, they should be followed.

Site Managers should promote employee awareness and conduct training of GEMPs that apply to their site. Periodic feedback and suggestions should be solicited from employees on ways to minimize wastes, discharges and releases. Employees should be recognized for significant ideas that improve environmental performance, reduce the generation of wastes, discharges and releases.

SAMPLE 3

Niger delta oil spills clean-up will take 30 years, says UN: A succession of oil spills by Shell and other companies over half a century will cost \$1bn to clean up, according to a major report

- Heavy contamination of land and underground water courses, sometimes more than 40 years after oil was spilled.
- Community drinking water with dangerous concentrations of benzene and other pollutants.
- Soil contamination more than five metres deep in many areas studied.
- Most of the spill sites oil firms claimed to have cleaned still highly contaminated.
- Evidence of oil firms dumping contaminated soil in unlined pits.
- Water coated with hydrocarbons more than 1,000 times the level allowed by Nigerian drinking water standards.
- Failure by Shell and others to meet minimum Nigerian or own standards.

The study wants emergency measures taken to warn communities and to clean up drinking-water wells, and says Shell and other companies working in the delta should overhaul the way they operate.

Achim Steiner, a UN under-secretary general and Unep's executive director, said the report provided the scientific basis for a long overdue restoration of Ogoniland. "The oil industry has been a key sector of the Nigerian economy for over 50 years but many Nigerians have paid a high price. It is Unep's hope the findings can break the decades of deadlock in the region. [The study] offers a blueprint for how the oil industry and public authorities might operate more responsibly in Africa and beyond at a time of increasing production and exploration across many parts of the continent."

Nnimmo Bassey, chair of Friends of the Earth International and director of Environment Rights Action in Nigeria, said: "The widespread pollution of Ogoniland as

be set up with a take-off sum of \$1bn is applauded. But we need a larger fund for the entire Niger delta."

Responding to the Unep report, Mutiu Sunmonu, the managing director of the Shell Petroleum Development Company of Nigeria, said it was a valuable aid to improving understanding of oil spills in Ogoniland. "All oil spills are bad – bad for local communities, bad for the environment, bad for Nigeria and bad for [the company]. Although we haven't produced oil in Ogoniland since 1993 we clean up all spills from our facilities, whatever the cause, and restore the land to its original state.

"The majority of oil spills in Nigeria are caused by sabotage, theft and illegal refining. We urge the Nigerian authorities to do all they can to curb such activity, and we will continue working with our partners in Nigeria, including the government, to solve these problems and on the next steps to help clean up Ogoniland."

Environment groups and Ogonis welcomed the report but said \$100bn was needed to clean up the entire delta, beyond just Ogoniland. Friends of the Earth International called on Shell to come up with an action plan with the Nigerian government to commence remediation actions immediately.

The Guardian has revealed that Shell accepted responsibility for two massive oil spills in the region that devastated a 69,000-strong community. Combined, the spills could be larger than the 1989 Exxon Valdez disaster in Alaska, and Shell faces a bill of hundreds of millions of dollars in compensation.

The Unep team collected more than 4,000 samples of soil, fish and air, and investigated, in depth, 69 of the many hundreds of oil spills in Ogoniland over the past 50 years. They studied 5,000 medical records and had 260 meetings with communities.

It is expected that the report will act as a baseline study for a massive clean-up operation required by the UN.

Oil drilling in Ogoniland ceased in the 90s after Shell was ejected for widespread pollution and failing to help regional development. More than £30bn of oil has been

extracted from the area but the majority of people are worse off than before the companies arrived.

"Even though oil operations have ceased in Ogoniland, oil spills continue to occur in alarming regularity. Since life expectancy in Nigeria is less than 50 years it is a fair assumption most people in Ogoniland have lived with chronic oil pollution throughout their lives," the report says. "Ogoniland has a tragic history of pollution but systematic scientific information has been absent about the ensuing contamination." Oil company records and investigations of spills in the delta are heavily disputed and politically sensitive, and the UN has been careful not to apportion blame for any particular spill.

Because Shell's subsidiary, the Shell Petroleum Development Company, which works in partnership with the Nigerian government, has been the largest operator in the region, the report will be seen as an investigation of their practices. The independent report was paid for in part by Shell, and commissioned by the Nigerian government.

The UN team was clearly shocked at some of their findings. In one place, Ejama Ebubu, the study found heavy contamination from a spill that took place more than 40 years ago "despite repeated clean up attempts". In Nisisoken Ogale, in Eleme, close to a Nigerian national petroleum company pipeline, researchers found 8cm of refined oil floating on groundwater that served community wells.

"Pollution of soil is extensive, widespread and severely impacting," says the report, which will be presented to Nigeria's president, Goodluck Jonathan, in Abuja on Thursday and will be released on Friday in London.

Appendix 7: Roles of stakeholders in relation to their interests and drivers

Stakeholder	Roles	Practices	Interests	Drivers
Government. Agencies	<p>Inspection (via files); Interventionist (NDDC); Strict mandate (NDDC); Creation of synergy; Drive implementation; Creation of master plan; Partners for sustainable development; Policy development (FME); EIA; Advises federal govern on financial requirement; Promotes cooperation; Prescribes standards; Monitors and enforce regulations and policies;</p>	<p>Impose sanctions; Enforce disciplinary actions; Create guidelines for funding disbursement; Articulate response to issues; Coordinate spill management; Ensure implementation; Containment; recovery and remediation; Restoration; Raise environmental consciousness</p>	<p>Regular inspection; Special monitoring team; Prevent non-compliance to standards; Robust and innovative strategies; Global best practices; Platforms for stakeholders' engagement; Manage issues to level of best practical extent; Economic interest; Land ownership rights;</p>	<p>Partner with professionals; Engage and consult with stakeholder; Redefining our vision, mission, priorities and responsibilities; Involvement and active support from stakeholders; Private and public partnership; Government and communities' ownership; Environmental reengineering as veritable tool; Innovative strategies; Global environmental global best practice</p>
MNOCs	<p>Commitment of environmental management; Protect environment; Implement industrial work practices; corporate citizen;</p>	<p>Communities deny access to verify the spill and stop the cause of the leak; Corporate social roles; Build trust with communities; Research; Commissioning and installation; MoU;</p>	<p>Profits; Interest in corporate image; community engagement; Collaboration with communities; Environmental assessment of Ogoniland; Creation of environmental restoration fund; Required</p>	<p>innovation; technology; Skills; Capital; Stakeholders engagement; Strong and influential in lobbying agencies and communities; Right decisions;</p>

		Pay compensation; Initiated programmes: STOP (Safety Training Observation Program), SLA (Safety Leadership Authorization) and Nigeria Conservation Foundation (NCF)	Federal government to take a lead on environmental management;	Cooperation with other oil companies;
Communities	Represented by chiefs Small but active in reacting to the environmental issues; Direct responsibility for monitoring TNP under agreement of <i>Global Memorandum of Understanding (GMoU) with SPDC</i>	Identify leakages; Request compensation;	Basic sources of living are destroyed Compensation; Community development	Knowledge of pollution hot spots; reporting capabilities; resource conservation.

Appendix 8: Drivers and barriers to stakeholders' collaboration

Stakeholder	Roles	Practices	Interests	Drivers	Barriers	Potential implication for the framework
Govt. Agencies	Inspection (via files); Interventionist (NDDC); Strict mandate (NDDC); Creation of synergy; Drive implementation; Creation of master plan; Partners for sustainable development; Policy development (FME); EIA;	Impose sanctions; Enforce disciplinary actions; Create guidelines for funding disbursement; Articulate response to issues; Coordinate spill management; Ensure implementation; Containment; recovery and remediation; Restoration;	Regular inspection; Special monitoring team; Prevent non-compliance to standards; Robust and innovative strategies; Global best practices; Platforms for stakeholders engagement;	Partner with professionals; Engage and consult with stakeholder; Redefining our vision, mission, priorities and responsibilities; Involvement and active support from stakeholders; Private and public partnership;	'no genuine collaboration; Lack of funding; Lack of equipment; Lack of expertise; Project delays; Vested socio-economic interests at detriment of other stakeholders; Manipulation of land use by MNOCs	Change in policy and regulation, resistance to bad practices of MNOCs

	<p>Advises federal government on financial requirement;</p> <p>Promotes cooperation;</p> <p>Prescribes standards;</p> <p>Monitors and enforce regulations and policies</p>	<p>Raise environmental consciousness</p>	<p>Manage issues to level of best practical extent;</p> <p>Economic interest;</p> <p>Land ownership rights;</p>	<p>Government and communities ownership;</p> <p>Environmental reengineering as veritable tool;</p> <p>Innovative strategies;</p> <p>Global environmental global best practice</p>		
MNOCs	<p>Commitment of environmental management;</p> <p>Protect environment;</p> <p>Implement industrial work practices;</p> <p>corporate citizen;</p>	<p>Communities deny access to verify the spill and stop the cause of the leak;</p> <p>Corporate social roles;</p> <p>Build trust with communities;</p> <p>Research;</p> <p>Commissioning and installation;</p>	<p>Profits;</p> <p>Interest in corporate image;</p> <p>community engagement;</p> <p>Collaboration with communities;</p> <p>Environmental assessment of Ogoniland;</p>	<p>innovation;</p> <p>technology;</p> <p>Skills;</p> <p>Capital;</p> <p>Stakeholders engagement;</p> <p>Strong and influential in lobbying agencies and communities;</p> <p>Right decisions;</p>	<p>Pollution from oil exploration;</p> <p>Poverty;</p> <p>Unemployment;</p> <p>Diseases and health hazards</p> <p>Death;</p> <p>Oil theft and bunkery;</p> <p>Sabotage;</p>	<p>Strong lobbyists and influential on the government decisions;</p> <p>resistance in case of profit losses and facility destruction</p>

		MoU; Pay compensation; Initiated programmes: STOP (Safety Training Observation Program), SLA (Safety Leadership Authorization) and Nigeria Conservation Foundation (NCF)	Creation of environmental restoration fund; Required Federal government to take a lead on environmental management;	Cooperation with other oil companies;		
Communities	Represented by chiefs Small but active in reacting to the environmental issues; Direct responsibility for monitoring TNP under agreement of <i>Global Memorandum of Understanding (GMoU) with SPDC</i>	Identify leakages; Request compensation;	Basic sources of living are destroyed Compensation; Community development	Knowledge of pollution hot spots; reporting capabilities; resource conservation.	Decrease in their income Illiteracy; lack of skills; poverty; disfranchisement; inadequate basic amenities;	Strong support to resource conservation and pollution prevention; Resistance in case rights to resource ownership are limited

Appendix 9: Nvivo 11 Nodes of key themes

Nodes							
Name	Sources	References	Created On	Created By	Modified On	Modified By	
Bribery and non-transparency		1	3	05/10/2016 19:32	FMO	06/10/2016 14:53	FMO
Duplication of Roles		2	3	03/10/2016 18:52	FMO	05/10/2016 18:06	FMO
EIA		12	42	07/09/2016 12:38	FMO	06/10/2016 16:52	FMO
Challenges of EIA		4	4	04/10/2016 19:09	FMO	06/10/2016 16:52	FMO
Effectiveness		9	12	07/09/2016 12:38	FMO	06/10/2016 16:52	FMO
Implementation		7	7	07/09/2016 12:38	FMO	06/10/2016 16:52	FMO
Environmental issues		15	266	07/09/2016 11:19	FMO	05/10/2016 19:25	FMO
Ignorance		1	6	03/10/2016 18:56	FMO	04/10/2016 17:37	FMO
Insecurity		2	4	30/09/2016 18:59	FMO	05/10/2016 19:21	FMO
Lack of funding		5	6	03/10/2016 18:47	FMO	05/10/2016 18:23	FMO
Lack of technological know how		3	4	03/10/2016 11:17	FMO	05/10/2016 14:08	FMO
Policy implementation		14	227	07/09/2016 11:26	FMO	05/10/2016 19:35	FMO
Existing policies		12	39	07/09/2016 11:27	FMO	05/10/2016 19:20	FMO
New Policies		9	16	07/09/2016 11:28	FMO	05/10/2016 19:20	FMO
Policy evaluation		9	21	10/09/2016 16:22	FMO	05/10/2016 19:20	FMO
Policy makers		11	18	07/09/2016 12:32	FMO	05/10/2016 19:20	FMO
Problems and challenges associated with pol		12	50	07/09/2016 12:33	FMO	06/10/2016 14:59	FMO
Strategy to tackle policy problems		9	21	07/09/2016 12:34	FMO	05/10/2016 19:20	FMO
Stakeholders Collaboration		15	573	07/09/2016 12:13	FMO	05/10/2016 19:03	FMO
Trainings and programmes		12	50	07/09/2016 12:03	FMO	05/10/2016 16:00	FMO
Lack of training and awareness		3	3	03/10/2016 18:57	FMO	06/10/2016 17:38	FMO
stakeholders internal training and program		2	6	07/09/2016 12:05	FMO	29/09/2016 12:25	FMO
Success factors of programmes and sensitizat		2	4	29/09/2016 12:24	FMO	03/10/2016 15:46	FMO
Trainings offered to the community by other		7	12	07/09/2016 11:57	FMO	05/10/2016 16:00	FMO

Nodes

Name	Sources	References	Created On	Created By	Modified On	Modified By	
Environmental issues		15	266	07/09/2016 11:19	FMO	05/10/2016 19:25	FMO
Ignorance		1	6	03/10/2016 18:56	FMO	04/10/2016 17:37	FMO
Insecurity		2	4	30/09/2016 18:59	FMO	05/10/2016 19:21	FMO
Lack of funding		5	6	03/10/2016 18:47	FMO	05/10/2016 18:23	FMO
Lack of technological know how		3	4	03/10/2016 11:17	FMO	05/10/2016 14:08	FMO
Policy implementation		14	227	07/09/2016 11:26	FMO	05/10/2016 19:35	FMO
Stakeholders Collaboration		15	573	07/09/2016 12:13	FMO	05/10/2016 19:03	FMO
Challenges of Stakeholders Collaboration		14	86	07/09/2016 12:15	FMO	06/10/2016 15:02	FMO
Collaborative programmes		12	31	07/09/2016 12:20	FMO	05/10/2016 19:03	FMO
Consultation of stakeholders		5	15	03/10/2016 15:52	FMO	05/10/2016 18:31	FMO
Effectiveness of stakeholders collaboration		12	26	07/09/2016 12:25	FMO	05/10/2016 19:16	FMO
Factors that hinder collaboration		13	59	07/09/2016 12:24	FMO	05/10/2016 19:31	FMO
Gang up by NGA & MNOC		8	14	30/09/2016 13:57	FMO	06/10/2016 14:56	FMO
Locals preference to monetary rewards and in		7	14	30/09/2016 13:59	FMO	05/10/2016 18:31	FMO
Nature of support in stakeholder collaborati		14	41	07/09/2016 12:23	FMO	05/10/2016 19:15	FMO
Need for stakeholders collaboration		4	8	03/10/2016 19:13	FMO	05/10/2016 18:31	FMO
Non-inclusion of stakeholders		7	17	30/09/2016 17:25	FMO	06/10/2016 14:56	FMO
provision of amenities to other stakeholders		8	10	12/09/2016 19:42	FMO	05/10/2016 18:31	FMO
Reasons for Collaboration		14	30	07/09/2016 12:18	FMO	05/10/2016 19:35	FMO
Reccomendation by stakeholders		12	33	08/09/2016 18:52	FMO	06/10/2016 15:03	FMO
Roles of stakeholders in managing the envir		8	33	26/09/2016 16:47	FMO	05/10/2016 18:31	FMO
Stakeholders involved		8	30	26/09/2016 15:39	FMO	05/10/2016 19:08	FMO
Success Factors and Benefits of collaboratio		12	30	07/09/2016 12:13	FMO	05/10/2016 19:10	FMO
Ways of Stakeholders involvement		11	21	07/09/2016 12:17	FMO	05/10/2016 18:31	FMO
Trainings and programmes		12	50	07/09/2016 12:03	FMO	05/10/2016 16:00	FMO
Lack of training and awareness		3	3	03/10/2016 18:57	FMO	06/10/2016 17:38	FMO
stakeholders internal training and program		2	6	07/09/2016 12:05	FMO	29/09/2016 12:25	FMO
Success factors of programmes and senitizat		2	4	29/09/2016 12:24	FMO	03/10/2016 15:46	FMO
Trainings offered to the community by other		7	12	07/09/2016 11:57	FMO	05/10/2016 16:00	FMO

Appendix 10: published papers and poster presentation

Journal and conference papers

Orji, F.M. and Zhao, Y., 2015. Collaborative Environmental Management: A Case Study Research of Stakeholders' Collaboration in the Nigerian Oil-producing Region. *World Academy of Science, Engineering and Technology, International Journal of Environmental, Chemical, Ecological, Geological and Geophysical Engineering*, 9(12), pp.1322-1330.

Orji, F.M. and Zhao, Y. (2015) Collaborative Environmental Management: A Case Study Research of Stakeholders' Collaboration in the Nigerian Oil-producing Region. World academy of science and engineering technology conference Melbourne, Australia.

Achievements during the course of the PhD:

Best (pre-transfer) poster 2014 at the annual school postgraduate student research event.

Poster presentations

Orji, F.M (2015). Development of an environmental framework for the Nigerian oil producing region. Poster Presentation, Grenfell-Baines School of Architecture, Construction and Environment, University of Central Lancashire, UK.

Orji F.M (2014). Development of an optimum environmental management framework for the Nigerian oil producing communities. Poster Presentation, Grenfell-Baines School of Architecture, Construction and Environment, University of Central Lancashire.