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**A FRAMEWORK TO ENHANCE EMPOWERMENT OF
COMMUNITIES AFFECTED BY OIL SPILL
ENVIRONMENTAL HAZARDS ON LIVELIHOOD
STRUCTURES**

OSHIENEMEN ALBERT NDU

A thesis submitted to the University of Huddersfield in partial fulfilment of the requirement for the degree
of Doctor of philosophy

The University of Huddersfield

April 2019

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ABSTRACT

Globally, natural and human-made disasters are rising concerns for humanity, with contradicting opinions on the mitigation procedures across the world. The different natural and human-made hazards, which often leads to disasters can affect the built environment, environment, economic structure, waterways, societal structures, cultural settings, and livelihood structure of an affected population. Notably, different countries suffer these incidents in different dimensions cutting across from low-income countries to high-income nations, with more severity impact on the low income and or developing countries than the developed countries. Thus, the severity of the impact on the developing countries is alarming and are on the increase due to the lack of hard and soft infrastructural development, policy inconsistency and lack of policy implementations, making it difficult for the affected communities to bounce back when necessary, especially in Nigeria. The Nigeria disasters, especially oil spillages, have affected diverse communities across the Niger Delta region for decades with little or nothing as external support for the broken livelihood structure, cultural and economic damages of the people. Though, in the spirit of contribution to the communities affected by oil spills and negative consequence of petroleum production, the federal government at different times established some impressionistic bodies and agencies to oversee the affairs of the region as with regards to oil spillages and development. Thus, evidence indicates that the agencies/commissions are yet to manifest its practical achievement regarding community livelihood rebuild and development across the communities in the Niger Delta. As such, driving the communities towards the edge for the survival of the fittest strategies, where households have to hunt for alternative livelihood, rather than wait for physical livelihood intervention which may never manifest itself. More so, literature evidenced that communities have engaged in different alternative means for livelihood as the environment and their primary livelihood means continuous on the deteriorating state. Thus, such alternatives as revealed by different scholars are hostage-taking, agitation and violence in the call for livelihood support, environmental justices, and social justices and resources justices.

However, this study recognised that the strategies, as mentioned above, were not livelihood strategies, but rather, the act of frustration for the loss of primary livelihood means. As such, the study aim to develop a framework that would enhance the empowerment of the communities affected by the negative impacts of petroleum activities and oil spillages across the Niger Delta region. Also, the study is set out to explore the intervention of the oil and gas industry, and oil spill-related agency with regards to existing community livelihood support structure, relationship synergy, and how to improve such structure as a way of empowerment.

The study adopts a case study strategy to explore communities affected by oil spillages on livelihood structures and the alternative mechanisms adapted to reshape the damaged cultural activities and the socioeconomic aspects of the community's subsistence. The study employed the use of interviews and focus group discussions techniques amongst, traditional rulers, environmental activist, religious leaders, and

community development chairmen, women of the periwinkle picking company, youth leaders, farmers and fishers. More so, in order to support and triangulate with communities' evidence that emerges from the interviews and the focused group discussions. Several expert's interviews were conducted among the oil and gas and the oil spill-related agency to capture the policy aspects and how their intervention has contributed to the reduction of impacts on community livelihood structures. The participants which cut across liaison officers, community relations officers, environmental engineers, environmental expertise, and principal environmental officers were purposively selected. Thus, based on the empirical investigations, it was evident that the communities improvised alternatives that contribute to their everyday livelihoods, while, encountering challenges from government, non-availability of land and facilities. The findings further indicate that both the oil and gas industry and oil spill-related agency are faced with different challenges which have subsequently obstructed their intervention mechanism. As such, the study was able to create a common ground through the empirical evidence, where the three stakeholders could assimilate strategies that would reduce or help to overcome the challenges while empowering the communities affected by the negative impact of oil spill environmental hazards.

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DEDICATIONS

This piece of work is dedicated to all the victims affected by human and natural hazards, looking for survival means

LIST OF ABBREVIATIONS

DRR: Disaster Risk Reduction

KCMP: Key Community Member Participants

KOGMP: Key Oil and Gas Member Participants

OSAP: Oil Spill Related Agency Participants

JIV: Joint Investigation Visit

FGD: Focus Group Discussions

MOU: Memorandum of Understanding

IOC'S: International Oil Companies

CRS: Community Representative Selection

CSR: Cooperate Social Responsibility

NDC: Niger Delta Communities

NOS: Number of Oil Spilt

QSB: Quantities of Oil Spilt in Barrels

NNDR: Nigeria Niger Delta Region

NNDY: Nigerian Niger Delta Youths

CI: Community Infrastructure

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CHAPER 1: INTRODUCTION

1.1. Background and rationale

Disaster incidents from both human-made and natural are globally known as contributing issue to livelihood disruptions, environmental damages and human displacement (Motsholapheko, Kgathi, & Vanderpost, 2011). Disasters are undoubtedly causing vital impacts across the world (Udayangani, 2010) with significant economic losses, societal and human damages in both developed and developing countries. The incidents of disasters and the rise in climate change, global warming and different pollution ensued by human activities have thus, increased the quest for disaster studies (Karim & Mimura, 2008; O'Brien, O'Keefe, Rose, & Wisner, 2006), given that different disasters have hit the world gravely in the last 20 years (Debarati Guha-Sapir, Santos, & Borde, 2013).

Accordingly, it was evident that economic losses from disasters are huge aspects, which encompasses local economic and national economy. For example, CRED (2016), reports from a global perspective recorded an estimated US\$ 154 billion economic damage by a natural disaster in 2016. Also, a total estimated economic loss of USD 306 billion recorded in 2017, from both natural and human-made disaster (Poledna et al., 2018). A minimum of US\$ 157 billion worth of property and infrastructure were destroyed in 2012 (Debarati Guha-Sapir et al., 2013). Though, there are difficulties with the accuracy when calculating the economic losses with regards to quantification (Poledna et al., 2018), given that often, community economic loss to disasters are never quantified. Thus, it is evident that disaster whether human or natural has significant impacts across nations and communities, even though, it is the least developed countries that suffer the most and lasting economic impacts (Benson & Clay, 2000b). As empirically revealed by different scholars, developing countries suffer more impact from natural and human-made hazards, due to economic strength and resources availability (Benson & Clay, 2000a; Lindell & Prater, 2003; Strobl, 2012). While countries with higher income, great openness, higher educational attainment, more complete financial systems and small government experience fewer human and economic loss (Benson & Clay, 2000a).

However, Jose-Miguel (1993) argued that even though disaster is a problem of development, the underlying factors should be on a social and economic process that can reduce the impact rather than the unforeseen event that requires a large scale of intervention. As further pointed by Kreimer and Arnold (2000) that factors such as; geographical areas, nations economy, prevailing economic conditions, stage of development of a country, and stages of technical and scientific advancement all influences the vulnerability of mostly developing countries to hazards and the impacts on its economy. Kreimer and Arnold (2000) argument reinforced Zabbey, Giadom, and Babatunde (2019), and Michael (2019) who emphasised on how oil spill environmental hazards have caused various local economic stagnations thereby increasing poverty prevalence, agitation for the call for environmental justices, social and cultural justices with little or no attention thereby forcing communities into different alternatives for livelihoods in the

Nigerian context. Accordingly, it is evidence that communities across Nigeria oil producing region in the call for different environmental, social, local economy justices engaged in hostage taken, agitation and violent conflict (Babalola, 2019; Augustine Ikelegbe, 2001, 2005; Augustine Ikelegbe, 2006; Osaghae, 1995). More so, evidence revealed that the Nigerian government at different points established agencies and bodies to oversee the impacts on the communities and the entire livelihood across the affected region (Omotola, 2007). Hence, it is believed that the existing agencies positive impacts are yet to be felt, as such has left communities with nothing other than the search for alternative means for livelihood support. The available strategies from the existing agencies are unsuccessful in contributing to the community livelihood rebuild, as such making vital to explore how the communities could be empowered amidst the negative impacts from different oil spills and oil and gas activities. To this end, this research aims to develop a framework to enhance the empowerment of communities affected by oil spill environmental hazards on livelihood structures in the Nigeria.

1.2. Justification of the research

Studies have interestingly researched on the Niger Delta pollution and dilemma that accompanied everyday livelihood (Ebegbulem, Ekpe, & Adejumo, 2013; Oviasuyi & Uwadiae, 2010), with limited attention on how the communities with decades of impacts sources for alternative livelihood mechanisms. The emphasis of most of the research on oil spill environmental hazards has been on politics of conflicts over oil (Nwankwo, 2015), oil exploitation and conflict (Omofonmwan & Odia, 2009), failed cooperate social responsibilities of the multinationals (Duru, 2014; Mogaji, Sotolu, Wilfred-Ekprikpo, & Green, 2018), and internal population displacement (Opukri & Ibaba, 2008) of either physical or livelihood. Various studies have shown how the exploration of petroleum product increased poverty across communities whose primary livelihood sources were dependant on fishing and farming (Mmom & Igwe, 2012; Opukri & Ibaba, 2008).

More so, Nwilo and Badejo (2006); Ite, Ibok, Ite, and Petters (2013) pointed out that mismanagement and neglect of oil spills incidents and the welfare of affected communities have contributed to the undoubtedly debate of environmental damages that often diminishes community capability for subsistence, as such influencing antisocial incidents. Likewise, Fentiman and Zabbey (2015) mentioned that the decades of impacts of oil and gas production and oil spills have influence cultural erosion across the Niger Delta region. The multiparty of the effects of oil and gas production and the negative consequences that accompany the oil activities as argued by Nwilo and Badejo (2004) is rooted in mismanagement, policy inconsistency, none implementation of available policies and or exclusion of vital needs of communities in the formulation of the relevant policies. The inconsistencies in available legal documents have caused communities to push for economic decentralisation (Sobrasuaipiri, 2016), and greater local control of the resources found and exploited in the communities.

More so, while, much academic attention has been directed to political dynamics connected to environmental injustices, extraction of the oil product, human right issues and the political economy rising from the crude oil products, little attention and or fewer academic studies have focussed on the community impacts, responses and alternative livelihood support strategies. Furthermore, Mogaji et al. (2018), examined oil pollution and exploration impacts on fish and fishery production of fishing communities. Their study provided evidence of how communities moved from a multi-commodity economy to mono-commodity, loss of employment and deprivation of livelihood due to unscrupulous oil and gas activities. While, Nwachukwu and Mbachu (2018) explore the socio-cultural implication of the crude oil product on communities with much emphasis directed to the government on not adhering to the implementations of environmental recommendations. In addition, Oshwofasa, Anuta, and Aiyedogbon (2012) investigates the environmental issues in regards to socio-economic effects and reveals that the environmental degradation and the consequent explosion and death of the people within the oil and gas producing communities are reflections of institutional corruption and insignificance of the multinational operating companies shaped by lousy governance.

While, Ejiba, Onya, and Adams (2016), and Zabbey (2009) took a different perspective and explores the direct implication of oil spillages on the livelihood of the people, and revealed that the situation and negative consequences from oil and gas production had increased the vulnerability of households. Therefore, affecting the wellbeing of the people, with a threat to the region's future means of sustenance. Also, Sobrasuaipiri (2016), took the argument to more detailed on the vulnerability of the affected Niger Delta communities and explored the hidden everyday community response to livelihood implemented by households, while neglecting the measures that could practically contribute to the rebuild of the damaged household livelihood structures and revitalising the lost local economy and the cultural damages.

Even though there is a large amount of the research available on the impact of oil spillages within the Niger Delta context, there is a gap in the research, yet to be filled on how the communities can be empowered with the improvised livelihood adapted by their actions and skills. Several scholars have advanced the understanding of how oil spills affect the Niger Delta community's everyday livelihoods (Ejiba et al., 2016), traditional institutions, traditional livelihood and ways of life (Fentiman & Zabbey, 2015; Pegg & Zabbey, 2013). Hence, little attention is academically given to the alternative livelihood support improvised by the communities and how these could contribute to the rebuild of the socio-cultural and economic conditions, a gap identified and explored in this study. Therefore, this study takes a different dimension to explore oil spill affected communities improvised livelihood alternatives, to assess how such construct could reduce the impacts on the community while empowering and contributing to households support for subsistence. The study recognises and identified the several decades and or everyday impacts of oil spills, the alternative livelihood support, external and internal hindrances for the alternative mechanism and ascertain conceptual strategies to enhance empowerment for affected populations amidst policy inconsistency, failed corporate governance and failed corporate social responsibilities.

1.3. Research aim and objectives

1.3.1. Research Aim

The study aims to develop a framework to enhance the empowerment of communities with devastating livelihood means as resulted from oil spill environmental hazards.

1.3.2. Research Objectives

- Objective 1: Explore the impacts of oil spills and negative consequences of oil and gas activities on livelihood strategies of the Niger Delta affected communities.
- Objective 2: Explore the alternative livelihood of the affected oil spill communities amidst of the impact and how such alternatives contribute to socioeconomic and sociocultural rebuild.
- Objective 3: Identify and explore the strategies employed by the oil and gas industry and oil spill-related agency in reducing oil spill impacts and rebuilding community livelihood as a way of empowerment.
- Objective 4: Evaluate the challenges and barriers faced by oil and gas industry and the government-oil spill related agencies in the face of intervention and how to overcome them as a means to enhance empowerment and rebuild of community's livelihood.
- Objective 5: Propose a framework to enhance the empowerment of communities affected by oil spill environmental hazards on livelihood mechanism.

1.3.3. Scope of the research

Oil spill environmental hazard is a phenomenon that takes place in nearly every oil-producing country in different magnitudes, depending on the production activities, maintenance of high-pressure equipment and abiding by international standards of best practice and environmental laws. Oil spills are caused due to different scenarios with a series of impact when effective and quick response are not in place (Huijer, 2005). Accordingly, ITOPF (2017), revealed that most of the largest oil spill events that took place globally in 1979 to 2007 are termed worst, for example, from China, USA, Gulf of Mexico, Malaysia and Nigeria. Further, a majority of the incidents that were recorded before the 20th century, despite their large size, necessitated little or no response as the incidents where mostly distance offshore with little impact on costliness, except the Exxon Valdez and HEBEI SPIRIT which were classified worst in the history (ITOPF,2017), with different quantities of spills and the impact. While it is argued that oil spill incidents have reduced in recent times, Nigeria continuous to express medium-large, and small spills across the Niger Delta Region with a growing impact across households, livelihood and wellbeing (Daka & Ekweozor, 2004; ITOPF, 2017).

Hence, this study pays attention to the livelihood structures of the oil spill affected communities under the collective term 'environmental hazard management'. The study identifies what constitutes livelihood for

oil spill affected communities and the improvised mechanisms for household support due to the damages to the original livelihood strategies. As explained in section 2.6, livelihood mechanisms comprises the people's means of living, in the form of income and assets, food and capabilities to manage the asset owned. As such, community livelihood can be sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Chambers & Conway, 1991; Tao & Wall, 2009). This study poses the research problem from the environmental and socioeconomic perspective to investigate the alternative livelihood and how such can be used as a reshaping tool for livelihood sustainability in the Nigeria Niger Delta context. The study at the verge to investigate the alternative livelihood of the oil spill affected communities, identified challenges that accompanied the improvised mechanisms, thereby hindering the successfulness of the alternative mechanism, even though the improvised livelihood mechanisms contribute to daily subsistence across diverse oil spill affected communities within the region. However, considering the uniqueness of the Niger Delta region, and the petroleum production therein couple with the marginalisation issues revolving around the oil communities, this study proposes potential strategic solutions to enhance empowerment amidst the oil spill environmental impacts on the communities.

1.4. Research methodology

Chapter three presents the detailed explanation of the methods and methodology adopted for the conduct of this research while adopting the Saunders, Lewis, and Thornhill (2016), research onion, which provides more detailed and steps by step guide for an empirical study. The chapter explores the philosophical paradigms underpinning different research; as such, the study adopts philosophical positions relevant to the context of the study. Furthermore, the chapter explores the research approaches, methodological choice and research strategies, while selecting a more suitable and appropriate method, approach and strategies. Further, the study provides detailed information on the chosen strategy, namely, case study strategy, with a justification to the chosen of such strategy, while discussing the units of analysis within the case study. More so, the chapter provides discussions on the time horizon and the techniques adopted for data collection, and the procedures for the analysis of the data. The chapter afterwards, explains the data collection techniques, such as interviews, focus group discussions, document and observation. The chapter subsequently followed by the explanation of data analysis procedures, validity and reliability of the study, the semi-structured interview for validation and the comparison of the objectives with the data collection instrument. Finally, the chapter presents the brief expected outcomes of the research, followed by the summary and the links of the chapter.

1.5. Contribution to knowledge

The study intends to contribute to the existing body of knowledge by developing a framework to enhance the empowerment of communities affected by oil spill environmental hazards on livelihood structures. The study will, therefore, contribute to theory, practice and policy in the field of study. As such, the theoretical contributions encompass the demonstrations of how the communities affected by oil spill environmental hazards could be empowered amidst the impacts. The study contributes to theoretical knowledge by identifying the alternative livelihood of communities, interventions from stakeholders and the challenges that impede activities which have contributed to ineffectiveness, and as such, contributing to the unsuccessfulness of intervention and empowerment. Also, in terms of contribution to practice, the findings will be useful for relevant policymakers to understand the improvised community alternative, and how the local/ national policy can be amended to incorporate the community's plight in terms of long term and short damages to their sources of livelihood mechanisms. Further, in terms of global policy contributions, the study will contribute to the understanding of disaster risk with the help of the established priorities of Sendai framework for actions, through disaster awareness programs at community levels. Likewise, the findings will be useful for the communities to understand the policy in place through the environmental awareness campaign and the proposed emphasis on academic research.

More so, the demonstration of how the framework of this current study can contribute to making local communities understand oil spills as a disaster and how the adoption of the framework can reduce poverty across communities and empower communities are key channels to achieving some global policy target. For example, the Seventeen Sustainable Development goals agenda, and the Sendai framework for disaster risk reduction priorities for actions. Significantly, this study expressively contributes to two priorities of the Sendai Framework adopted by the United Nations for disaster risk reduction 2015-2030, priority 1 and 3 "Understanding Disaster Risk" and "Investing in disaster reduction for resilience". The outcome of this research contributes to priority 1 and 3 by recommending that oil and gas and other related bodies should invest in the communities through practical and concrete empowerment strategies. The outcomes from this current study pointed out that the oil and gas, and the related bodies need policy restructuring, structural and non-structural measures to improve the community socioeconomically, and sociocultural resilience while empowering them. As such, the study has provided a valuable contribution to practice through these practical statements for the Niger Delta communities affected by oil spill environmental hazards.

1.6. Thesis structure

1.6.1. Chapter one: Introduction

Chapter one explains the introduction aspect of the thesis. It gives a summary of the background and rationale to the study, the research justification, aim and objectives of the research, the scope of the research, research methodology adopted, the contribution of the research to the existing body of knowledge, and the structures of the thesis.

1.6.2. Chapter Two: Literature Review

Chapter two establishes state of the art and identifies key concepts for the current study. The chapter provides a detailed review of global and Nigeria disaster concept and effects, vulnerabilities, livelihood and sustainability concepts, links between concepts to the significant impacts of oil spill hazards on the built environment. The chapter further detailed oil spill management styles through existing policy statements and empowerment needs. After that, the chapter presents the gaps identified through the review of the existing literature for the current study, followed by links and summary of the chapter.

1.6.3. Chapter Three: Research Methodology

Chapter three provides the methodological design employed for this empirical study and justifies the philosophical assumptions, the research approach, methodological choice, research strategies, time horizon, data collection, and data analysis techniques while adopting Saunders et al. (2016) research onion as a guide for the entire study. After that, validation procedures, summary and the links for the chapter were presented.

1.6.4. Chapter Four: Conceptual Framework

Chapter four presents the conceptual framework of the study while highlighting the identified key concepts from the literature, which forms as a foundation for the research. The chapter describes the importance of the conceptual framework and justifies the need for the empirical study.

1.6.5. Chapter Five: Community Data Analysis

Chapter five discuss the findings from the community interviews and focus group discussion conducted for this research. The chapter first explains the background information of the participants, and the procedures adopted for the analysis. After that, the chapter presents the respondent's findings on what constitutes livelihood and how such livelihood strategies contribute to socioeconomic and sociocultural development. The chapter further presents the challenges associated with the identified livelihood alternatives and suggest ways to overcome such challenges. Thenceforth, the chapter presents the summary and the links.

1.6.6. Chapter Six: Oil and Gas Data Analysis

Chapter six presents the analysis of the oil and gas respondent concerning their intervention to reduce oil spill impacts on livelihood structures of the communities across the study region. The chapter first describes

the background of participants and the procedures adopted for the analysis. Afterwards, the chapter discussed the identified intervention measures employed by the oil and gas companies for community rebuild and empowerment as ways to reduce the negative consequences of oil and gas production on communities. The chapter further discussed the associated challenges obstructing the intervention strategies and proffer potential explanation to overcome the identified challenges, followed by a summary and links of the chapter.

1.6.7. Chapter 7: Oil Spill Agency Data Analysis

Chapter seven provides the findings of the oil spill-related agency perspectives concerning the relationship synergy between the communities and the oil and gas companies from an intermediary standpoint. First, the chapter presents the background information of the respondent and the procedures adopted for the analysis, followed by the intervention concept as a relationship synergy. Thenceforth, the chapter discusses the associate challenges that impede the intervention of the oil spill agency, followed by a summary and link of the chapter.

1.6.8. Chapter 8: Cross Unit Analysis

Chapter eight presents the cross-unit analysis from the three units of the study. The first section presents the similarities and contrasting opinions on what constitutes acceptable and unacceptable livelihood strategies, followed by the ‘intervention acceptability’ and sustainability. The chapter subsequently presents mechanisms for relationship and empowerment, and thenceforth the summary and links were presented for the chapter.

1.6.9. Chapter 9: Findings and outcomes

The chapter first discusses the fundamental issues associated with alternative livelihood as deduced across the three units of the study, linking to what constitutes acceptable and unacceptable livelihood while identifying similarities and contrasting opinions. After that, the chapter discussed the similarities and contrasting opinions on intervention mechanism, comparison of findings across the units of the study with literature and the final theoretical frameworks of the study were presented. The chapter concludes with recommendations, summary and links.

1.6.10. Chapter 10: Conclusion

Chapter ten presents the synthesis of the objectives, the contribution to knowledge, the novelty of the study, limitation of the study, further research and the final note for the study.

1.7. Summary and Links

This chapter encompasses the introduction to the research, explained the context and the justification for the research, the research aim and objectives, and brief methodological summary. The chapter further

presents the structures of the entire thesis, followed by the summary and links of the chapter. The next chapter that follows explains the state of the art, in-depth literature synthesis and key concepts in the field are explored to build the current study.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

The previous chapter explains a detailed introduction, background, aim, objectives, scope and justification of this research. This present chapter provides a detailed synthesis of literature and identifies key concepts in the field to be explored in this study. The chapter first presents disasters concepts and their effects on a global perspective. Thenceforth, present disasters in Nigeria context been the case study for this current thesis and then vulnerability concepts, to evaluate how the case study is encompassed in the concept of vulnerability. The chapter further presents detail synthesis on different impacts of the specific hazards (oil spillages environmental hazards) in line with the built environment concept, existing policies, and framework in place for impact reduction while establishing the gaps in the literature and presenting the summary of the chapter. Hence, a systematic search of various journals, articles, newspapers, books, government reports and peer-review journal papers are synthesised to build the study. Thus, the chapter begins with chronological illustrations that encompass key concepts in the study context, while demonstrating the contextual debate within the state of the art. Figure 1 presents the literature topics in the study context.

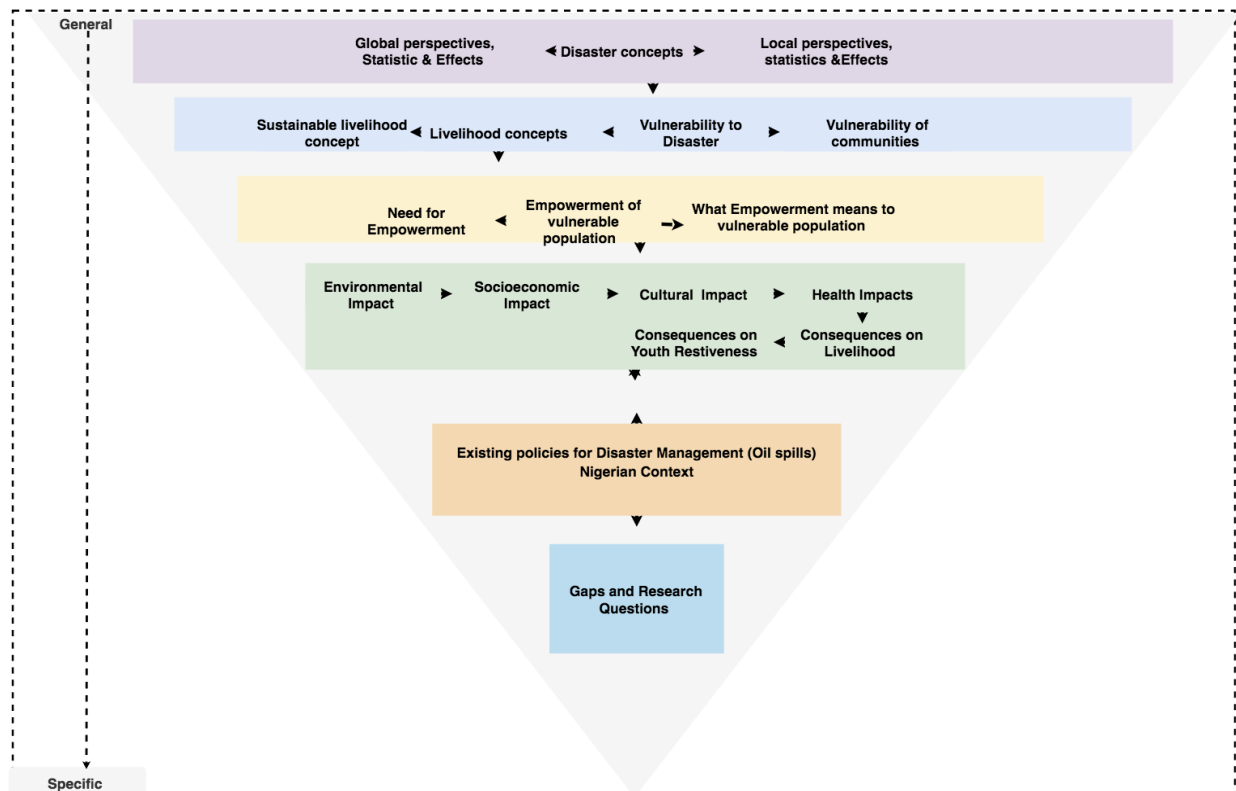


Figure 1: Chronological synthesis of literature

2.2. Concept of disasters and their effects

Over the years, the term disaster has undergone some effort at redefining with some more effective and inclusive than others. First, disaster was initially seen and termed the ‘art of God’ ‘Art of Nature’ ‘Art of war’ and presently seen as ‘Art of Society’ (Malalgoda, 2015, p.13; Quarantelli, 2005; Voogd, 2004). Even though O’Keefe, Westgate, and Wisner (1976) argue that disasters were never the act of God, society or nature, but the consequences of vulnerability. The term has, thus, explicitly undergone a paradigm shift from being described as a harmful attack brought by a war on human groups, nature and society to encompass different constructs, such as, collapse of buildings, technological mistakes that cause human death, economic damages across sectors, and natural adverse events that claim life and properties (Gow & Paton, 2008; Wisner, Blaikie, Blaikie, Cannon, & Davis, 2004). Accordingly, Quarantelli (1987); Shaluf, Ahmadun, Mat Said, and Journal (2003); Turner and Pidgeon (1997) stipulates that, there is no basis in logic and little hope in practice that a single definition for disaster can be devised that meets a universally acceptable and useful in all field of study, given the different ideological and philosophical underpinning of various fields. Supporting Alexander (1997) argument is Turner and Pidgeon (1997) who further reinforced that most concepts associated with natural disasters lack fixed definitions, given that different practitioners, disciplines and professionals describe the ‘term’ in their various perceptions thus, given rise to the different debates revolving around disaster definition.

Accordingly, Olorunfemi and Adebimpe (2008), defined disasters as an emergency occurring due to human-induced or natural hazards that result in noteworthy changes in circumstances over a period. While, Combs, Quenemoen, Parrish, and Davis (1999), defined disaster as *“a time and place-specific event that originates in the natural environment and the resulting disruption of the usual functions and the behaviours of the exposed human population”* Due to the no acceptability of one specific definition that encompasses every aspect such as the severity, environmental, social characteristics and external support structures. The United Nations International Strategies for Disaster Reduction (UNISDR) In 2009 stretched the definition as *“a serious disruption of the functioning of a community or society, involving widespread human, material, economic or environmental losses and impacts, which exceeding the ability of the affected community or society to cope using its own resource”* (UNISDR, 2009, p. 9). While, Dennis and John (2013) further defined disaster as *“an unusual natural or human-made event, including an event caused by a failure of technological systems, which temporarily crushes the response capacity of human communities, groups of individuals or natural environment and which causes massive damage, economic loss, disruption, injury and loss of life”*. The definition of the UNISDR, (2009) and Dennis and John (2013) encompasses detailed and severity of what a ‘disaster’ is termed. These definitions are in-line with CRED (2016) report which characterises disasters as an event which should contain at least ten death, 100 people affected or involving a state of emergency that the affected communities call for external assistance.

Furthermore, Quarantelli and Dynes (1977), identifies four primary references such as the agent, the physical consequence of the agent, evaluation of the impacts of the agent, and the disruption of social life, social changes and its impacts brought by the physical agent. These various perspectives of the concept encompass several features as such, not ignoring the impacts and the damages that emanates from both the human-made and natural disasters. Figure 2 below presents disaster events from 1900 to 2018, showing the peak and low numbers of a disaster event.

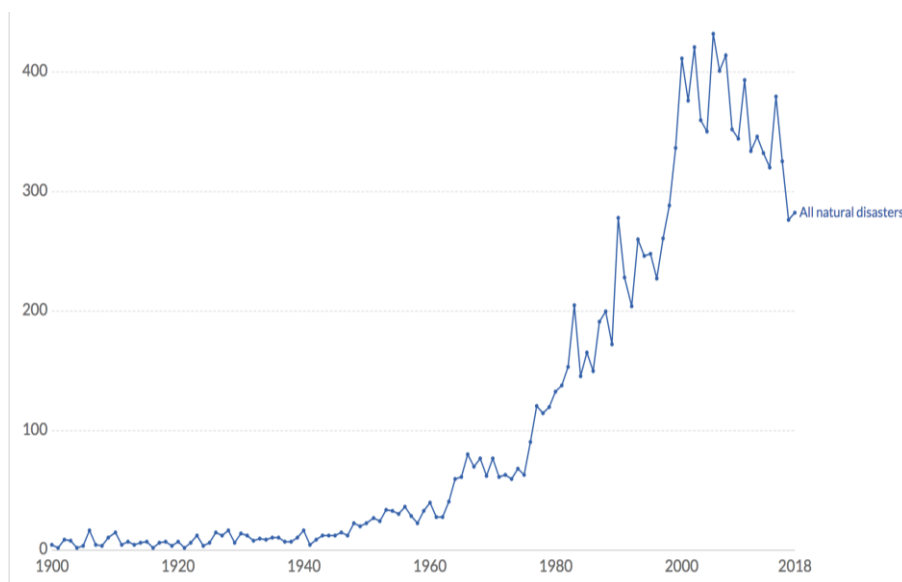


Figure 2:Trend of disaster event, 1900-2018; Source; EMDAT (2019)

Furthermore, while different scholars have categorised disasters into two main types such as, human-made and natural disasters, which encompasses geophysical (Earthquakes, Landslide, Tsunami and volcanic activities), Hydrological (Avalanches and flood), Climatological (extreme temperature, drought and wildfires), metrological (Cyclones and storms/waves surges) or Biological (Disease epidemic and insect/animal plagues), and technological/manmade which encompasses complex emergencies/conflicts, famine, industrial accidents, displaced population and transport accidents (EM-DAT, 2016, p.32; Quarantelli, 1991). Mohamed Shaluf (2007); Myers and Wee (2004) categorised disasters into three types such as; human-made, natural and hybrid. Despite the more specific classifications by EM-DAT (2016, p.32), Mohamed Shaluf (2007) detailed that there are disasters that result from both human error and natural forces. Such disasters, as described by Mohamed Shaluf (2007), are the clearing of jungles that results in erosion and subsequent heavy rain causing landslides. Thus, Table presents the classifications of disasters and their relevant categories in the study context.

Table 1: Categorisation of natural and manmade Hazards

Natural Hazards	Rapid-Onset Disasters	Earthquakes, volcanic Eruptions, cyclones, avalanches, Tsunami, flood, rockfall	Warning periods/ times are usually seconds/ minutes/ Days	General Effects Loss of life, Injury, Damage to and destruction of property, Damage to and destruction of subsistence and cash crops, Disruption of production, Disruption of lifestyle, Loss of livelihood, Disruption to essential services, Damage to national infrastructure and disruption to governmental systems, National economic loss, and Sociological and psychological after effects.
	Slow-Onset Disasters -usually concentrated on hazards	Drought, severe water, food shortage, famine, environmental pollution (growing concentration of toxic waste), deforestation, desertification, pest infestations	Warning periods/ times are usually Months/ years	
	Disease-Epidemic Disasters	Insect/animal plagues, Respiratory infection, Measles, Dysentery, Malaria, cholera, Prion infectious diseases, parasitic infectious diseases, viral infectious diseases, fungal infections diseases, insect infestation		
Manmade Disasters	Technological/ Industrial Disasters	Accident release, Explosions (Chemical Explosion, Nuclear Explosion/radiation, Chemical Explosion, Mine explosion), Pollution (atmospheric pollution), acid rain and fire		
	Complex Emergencies	Human right violation/protest, intra or internal conflict, war		
Hybrid Disasters	Natural and Manmade Hazards	Clearing of jungles that results to erosion and subsequent heavy rain causing landslides. Flood ravage community built on known floodplain. Location of residential premises and factories at the foot of an active volcano and or in an avalanche area		

Source : (Mohamed Shaluf (2007); IFRC (2018); Nick (2008)

2.3. Global policy, statistic and effects of disaster

‘Disasters’ as discussed in section 2.2 above has significant impacts all over the entire world (Debby Guha-Sapir, Vos, Below, & Ponserre, 2012). Interestingly, there is an increased concentration and awareness of disasters risk and effects due to economic losses, a number of mortalities, magnitudes and frequencies of the incidents and social losses that accompanied the phenomena (Das & Smith, 2012). Moreover, the global concern was drawn as a result of the 2004 Tsunami in Asia, Sichuan earthquakes in China, Hurricane in the United States, the 2011 Tsunami in Japan and also the rising concern over climate change (Debarati Guha-Sapir et al., 2013; Toya & Skidmore, 2007). However, the rising concerns thus increased the awareness, the call for research, formulation of different policies to prepare, mitigate, recover and reconstruct due to different effects that accompany such event. Also, the increase of economic losses has intrigue more development, adaption and implementation of different frameworks. For example, the Sendai Framework for Disaster Risk Reduction adopted by the United Nations to prevent new and reduce existing

disaster with seven targets and four priorities to be achieved in 2015-2030. Thus, the seven targets to be achieved are;

- 2016 – Target (a): Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020- 2030 compared to the period 2005-2015;
- 2017 – Target (b): Substantially reduce the number of people affected globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020- 2030 compared to the period 2005-2015;
- 2018 – Target (c): Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030;
- 2019-Target (d): Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;
- 2020-Target (e): Substantially increase the number of countries with national and local disaster risk reduction strategy by 2020;
- 2021 Target (f): Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of the present Framework by 2030;
- 2022 Target (g): Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

Further, the framework which was adopted at the third United Nations world conference on disaster risk reduction in Sendai on March 18, 2015 aims to achieve a substantial reduction of disaster, losses in lives, livelihoods and health, and in economic, social, physical environmental and cultural assets to persons, business, communities and countries (SFDRR, 2015-2030). In order to achieve this, the framework established four focus actions for across different sector, such as states at local levels, national, regional and global levels. Thus, the four priorities for action of the SFDRR are;

Understanding Disaster Risk

“Policies and practices for disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment. Such knowledge can be leveraged for the purpose of pre-disaster risk assessment, for prevention and mitigation and for the development and implementation of appropriate preparedness and effective response to disasters”. However, this is implemented at national, local, global and regional levels.

(b) Strengthening disaster risk governance to manage disaster risk

“Disaster risk governance at the national, regional and global levels is of great importance for an effective and efficient management of disaster risk. Clear vision, plans, competence, guidance and coordination within and across sectors, as well as the participation of relevant stakeholders, are needed”.

“Strengthening disaster risk governance for prevention, mitigation, preparedness, response, recovery and rehabilitation is, therefore, necessary and fosters collaboration and partnership across mechanisms and institutions for the implementation of instruments relevant to disaster risk reduction and sustainable development”.

(a) Investing in disaster reduction for resilience

“Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment. These can be drivers of innovation, growth and job creation. Such measures are cost-effective and instrumental to save lives, prevent and reduce losses and ensure effective recovery and rehabilitation”.

(b) Enhancing disaster preparedness for effective response, and to ‘build back better’ in recovery, rehabilitation and reconstruction.

“The steady growth of disaster risk, including the increase of people and assets exposure, combined with the lessons learned from past disasters, indicates the need to further strengthen disaster preparedness for response, take action in anticipation of events, integrate disaster risk reduction in response preparedness and ensure that capacities are in place for effective response and recovery at all levels”.

“Empowering women and persons with disabilities to publicly lead and promote gender equitable and universally accessible response, recovery, rehabilitation and reconstruction approaches is key. Disasters have demonstrated that the recovery, rehabilitation and reconstruction phase, which needs to be prepared ahead of a disaster, is a critical opportunity to “Build Back Better”, including through integrating disaster risk reduction into development measures, making nations and communities resilient to disasters”

The SFDRR 2015-2030, which is a non-legally binding agreement is designed to protect lives, reduce existing levels of risk, protect health, livelihood, ecosystems, critical infrastructure, and prevent emerging risk from both man-made and natural hazards over the next 15 years (Blanchard, Aitsi-Selmi, & Murray, 2015; Stein & Walch, 2017; Wahlström, 2015). As such, the framework encompassed different drivers for disaster risk reduction, through a socioeconomic, politico-institutional and environmental factor (Stein & Walch, 2017). More concretely, SFDRR aims to reduce vulnerabilities, protect human rights, and right for development through actions that target the consequences of poverty, inequalities, and marginalization of communities/ groups which are some underlying disaster risk drivers (Blanchard et al., 2015). Importantly, SFDRR contends for a more people-centred disaster risk reduction prevention approach through the engagement of women, children, community’s practitioners, aged population in policy design and

implementations (Stein & Walch, 2017). As such, disabilities groups, age, gender and cultural aspects should also be integrated into all policy and practices.

Furthermore, SFDRR identifies climate change as a driver for disaster risk, for example, priority three (3) which deals with investing in DRR for resilience, as such promotes the mainstreaming of disaster risk assessment into land-use policy development and implementation, and land degradation assessment (Stein & Walch, 2017). Importantly, this study (see section 10.3) established a practical statement through the study frameworks for the policymakers across Nigeria Niger Delta on how to invest in communities affected by oil and gas negative impact on livelihood sources for development and sustainability.

Thus, the call for state, regional, local and global responsibilities are correspondingly paramount in risk governance for successful disaster risk reduction, as such, the framework highlights fundamental institutional risks such as, rapid urbanization, poor land management and constituting factors like, weak institutional arrangement, unstable use of natural resources, and declining ecosystem for consideration in the implementation of the framework. As such, in achieving the aforementioned underlying factors, there are necessities to strengthen good governance in disaster risk reduction at the regional national, local levels for concrete preparedness, disaster response, rehabilitation and reconstructions. As emphasized by Stein and Walch (2017) “*This requires enhancing the capacity and capability of States through the implementation of integrated and inclusive economic, structural, legal, and social, health, and cultural, educational, environmental, technological, political and institutional measures*”.

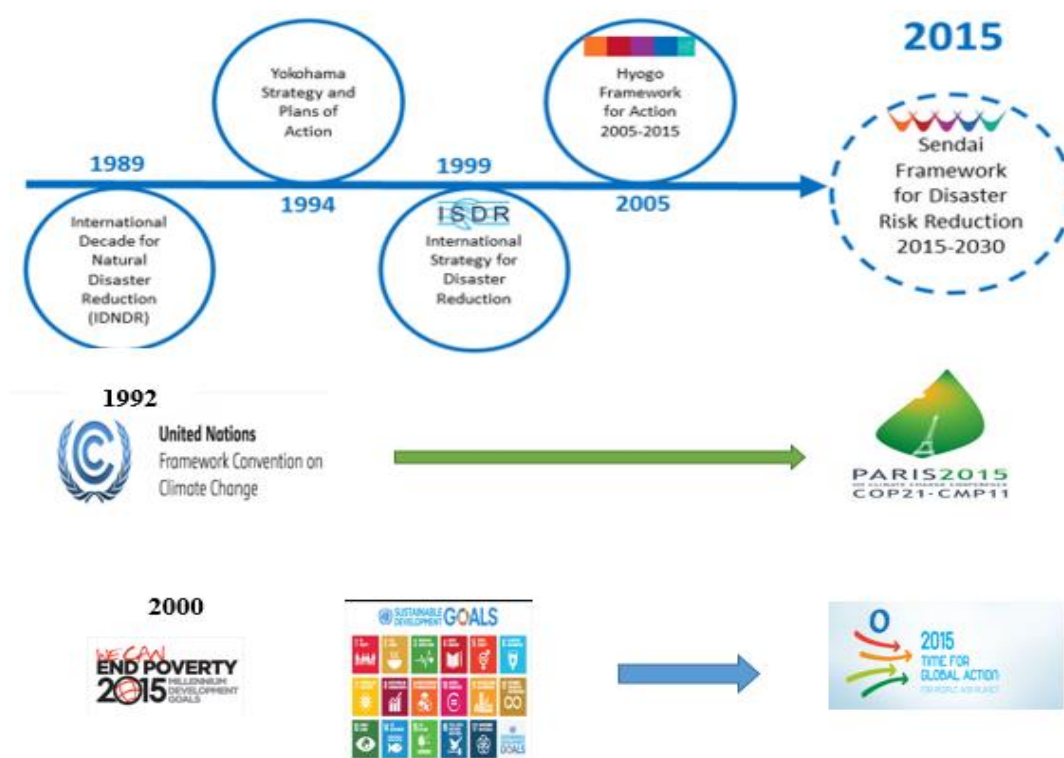


Figure 3: Global frameworks for disaster risk reduction

Adapted from (Aitsi-Selmi, Egawa, Sasaki, Wannous, & Murray, 2015; UNISDR, 2015)

Firstly, the economic impact of disasters as mentioned by Albala-Bertrand (1993); Horwich (2000), is one dominant construct that determines the severity of the event, given that how wealthy a community, society or nation determines the impacts either long term or short term on the affected population. Nonetheless, CRED (2016), reports from a global perspective recorded an estimated US\$ 154 billion economic damage by natural disasters in 2016. The total estimated economic loss of USD 306 billion recorded in 2017, from both natural and human-made disaster (Poledna et al., 2018). A minimum of US\$ 157 billion worth of property and infrastructure was destroyed in 2012 (Debarati Guha-Sapir et al., 2013). Even though the accurate, resulting in economic losses to the national economy are highly challenging to quantify (Poledna et al., 2018). Statistic profoundly shows huge economic cost/ losses from disasters yearly (EM-DAT, 2017), with the difference between decades, either increase or decrease in loss, fatalities and death.

More so, further reports indicate that Asia bore the brunt in disasters frequencies, death rate and affected populations in decades of disasters event (CRED, 2015). Accordingly, between 1994 and 2013, an estimated 2,481 disaster event took place within the southern, eastern and south-eastern with an estimated 48% of disasters within 2014 across Asia, and over 85% of death and 86% affected globally were Asia. However, frequencies of disasters were highly recorded in the 1990s before a decline and peak from 2005 (CRED, 2015). A further statistic shows that disasters in 2014 were lower than the annual average during 2004-2013 (CRED, 2015), while, the economic cost in 2012, was the highest for decades when Hurricane Sandy was reported to have cost an estimated \$50 billion.

However, Debarati Guha-Sapir et al. (2013) further mentioned that the awareness, attention and increased concentration towards disaster frequencies in recent times are largely due to the sustained rise in the climate-related event. In a similar vein, Amaratunga and Haigh (2011), revealed that human-made or natural hazards are predictably on the rise due to the growing population and infrastructural development across the globe, infusing the need for community's reconstruction in both social and physical aspect. Further, this points also amplify the need for the consideration of diverse alternatives for the aftermath of disasters on both the livelihood and environment of the vulnerable communalities therein, being technological disasters or climate-related disaster (Amaratunga & Haigh, 2011). According to EM-DAT (2017) report, nearly 240 climate-related disasters were recorded before 2000 and 341 incidents were recorded after 2000, a 44% increase. Climate-related disasters remain at more double than what was recorded in 1980-1989 (CRED, 2015; Poledna et al., 2018), that is, an average of 140 climate-related disasters per year, a 50% higher in 1994.

Furthermore, Figure 3 below presents a global death trend, showing high death rate in the 1990s while death declined in the late 1990s-2000 (EM-DAT, 2017). As mentioned in CRED (2015) report, there was also a declined in effects from an annual average of 260 million in 1994-2003 to 1750 million per year in the period 2001-2013. Also, EM-DAT (2017) report show that fewer population were affected in 2014 worldwide. Thenceforth, there have been different incidents of disasters but not compared to previous decades due to the different preparedness measures, pre and post-impact planning and mechanisms

established by professionals, scholars and practitioners. Figure 4 shows the death trend of disasters across decades.

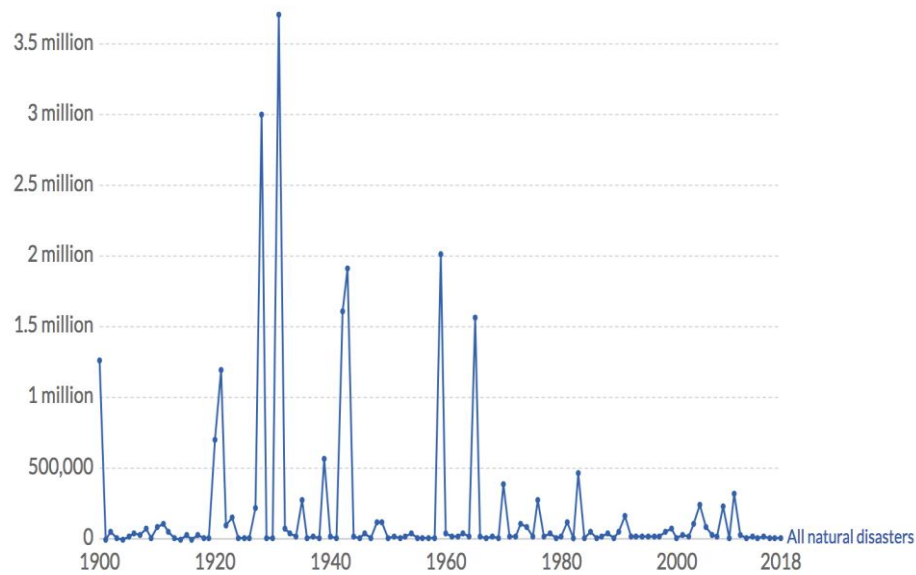


Figure 4: Death Trend from disaster (EMDAT, 2019)

The global trend of death, fatalities, and economic losses induced from disasters and the climate-related changes have increased the threat to the entire world. Even though there are decreases in mortality in recent times compared to decades ago (SFDRR, 2015-2030). Accordingly, scholars in the field of disaster and vulnerabilities which have investigated the relationship between development, urbanisation and vulnerabilities recognised that the impacts of disasters are likely to increase soon (Aini & Fakhrul-Razi, 2010; Malalgoda, 2015, p. 14). The prediction due to the various climate-related issues has increased human fears and awareness that different disasters could hit the human race, which amplifies the need for Disaster Risk Reduction (DRR) strategies by policy and decision-makers. Notably, a confirmatory examples of the predictions are; the 2018 Indonesia earthquake and tsunami (Meixler, 2018), the September 2018 Hurricane Florence in USA, the Super Typhoon Mangkhut and earthquakes in China, wildfire in California on July 2018, hurricane Michael in October 2018 (Slocum, 2018), 2012 & 2018 flood in Nigeria, 2010, earthquake in Haiti killing more than 230, 000 humans, and many recent disasters across the world (BBC, 2012; Njoku, 2012; Odufuwa & Adebayo, 2018).

Further, Quarantelli, Lagadec, and Boin (2007), pointed that the development of synthetic chemicals in the 19th century and the development of nuclear power in the 20th and 21st century have increased the risk of toxic chemicals/ technological disasters and crises from radioactive fallout while other natural disasters remains as climate continues to change. These predictions have further increased the human vulnerabilities in especially the most disaster-prone countries, forcing scholars, practitioners and professionals to device different mechanisms for preparedness, post-impact disaster recovery (build back better) and more frameworks for disasters risk reduction. The pressure revolving around disaster trend and impacts contributed to the focus of the SFDRR action plan to across states, local and international/ global levels in

paying depth attention to ‘understanding disaster risk’. ‘Strengthening disasters risk governance to the management of disaster risk’ ‘invest in disaster risk reduction for resilience and enhance disaster preparedness for effective response and to build back better’ in recovery, rehabilitation and reconstruction (SFDRR, 2015-2030).

Thenceforth, the call for disaster risk reduction practice, preparedness and understanding post impacts of disasters and the prediction are presumed to enhance local and national emergency planning and alternatives for post-disaster impacts reduction. However, scholars have argued that such practise requires detail assessments of the existing disaster management structures, especially at the local and national levels of developing countries (Coppola, 2006). For example, a developing country such as Nigeria disaster management structures as mentioned by Adedeji, Odufuwa, and Adebayo (2012) seems to have contradictions, unclear responsibilities and ineffective response strategies before, during and the aftermath of disasters. Importantly, considering the different concepts encompassed in this thesis, Table 2 below presents important working terminologies, concepts and definitions used across this study.

Table 2: Working definition of key concepts/ terminologies

Terminology	Definition
Vulnerabilities	“vulnerability means the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard” or “Potential to be harmed” or Vulnerability is the manifestation of the inherent states of the system (e.g., physical, technical, organizational, cultural) that can be exploited to adversely affect (cause harm or damage to) that system (Haimes, 2006).
Disaster	“a serious disruption of the functioning of a community or society, involving widespread human, material, economic or environmental losses and impacts, which exceeding the ability of the affected community or society to cope using its own resource” (UNISDR, 2009, p. 9).
Disaster Impacts	“The total affect from disasters which includes negative and positive effects (economic gains and losses) encompasses environmental impacts, economic, death, injuries, and human social, physical and mental wellbeing” (UNISDR,2009).
Disaster Risk Reduction (DRR)	“Is the concept and practice of reducing disaster risks through systematic efforts to analyses and reduce the causal factors of disasters. Also, reducing exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improving preparedness and early warning for adverse events” (UNISDR, 2009).
Adaptation	“The adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities (UNISDR, 2009)”
Livelihood	“A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Chambers & Conway, 1992)”.
Oil Spills	The release of liquid petroleum hydrocarbon into the environment (water or land) through human activities. Or is an accidental release of oil into waterbodies through offshore drilling rigs, ruptures of pipeline and vandals, often presenting hazards to environment and the marine world through human activities. Or any distilled products which can pollute the surface of water, environment and land, for example, gasoline, kerosene, jet fuels, and diesel fuels, lubricating oil, Stoddard solvent and hydraulic oils (Environmental Pollution Centre, 2017)

2.4. Disaster, Africa and Nigeria perspectives

The 54 countries in the African continent are susceptible and vulnerable, and their 1.216 billion people are exposed not just to human-made hazards, but also natural hazards, such as earthquakes, volcanic eruptions,

flood, landslide, cyclones (Loretto & Tegegn, 1997). Nigeria, as a disaster-prone country, just like other African countries and other disaster-prone developing nations, is frequently faced with both natural and human-induced hazards (Loretto & Tegegn, 1997). The natural and human-made multiple hazards cut across the yearly flood, drought, and different environmental hazards (NEMA, 2013). These hydro-meteorological, environmental origins and geological are often amplified by human activities and technology (Joshua et al., 2014; Olorunfemi & Adebimpe, 2008). While some of these disasters are rapid others are slow onset resulting in long term catastrophic situations that often lead to loss of properties, lives, increased poverty and environmental degradation. Such disasters as applicable in Nigeria are floods, building collapse, airline crashes, drought, oil spillages, bomb explosions and terrorist attacks (Joshua et al., 2014). Also, further disasters breakdown include; the EAS crash in Kano 2002 killing 148, the Bellview flight crash in Lisa village in 2005 killing 117 people, Sosoliso airline crash in Port Harcourt in 2005, which killed 108 on board, ADC airline crash killing 96 including medical practitioners and sultan of Sokoto in 2006 and Dana crash in 2012 killing more than 152 on-board (Obafunwa et al., 2015; Perlin, 2007).

Notably, statistics also show flood as one major disaster affecting the Nigeria population in recent times (Adedeji et al., 2012). Flood risk as a global trend in the context of disasters are forever increasing, for example, in 1995-2015, flood disasters affected over 2.3 billion people and killed over 157,000 with high global impact (Bernhofen et al., 2018). Flood risk also constitutes threats to the human race in recent years as the climate continues to experience divers change coupled with different water and temperature rises (Beck, 2009). More so, the African continent has been hit by flood disaster of different magnitude with various impacts just as other developing and developed countries. Specifically, flood disasters have affected Nigeria yearly with some year more disastrous than others combined with population explosion (Adedeji et al., 2012).

Nigeria as a Sub Sarah African located on the Gulf of Guinea, west coast is among the region with the high population growth prediction alongside Asia (UN, 2015), as current statistic show about 203 million inhabitants that covers an area of around 924 thousand square kilometres (OPEC, 2019). Thus, the increase in population and the increased fluvial flooding impact is expected to rise by 31% over the next 30 years (Bernhofen et al., 2018). For example, the most recent disastrous flood disasters in the history of Nigeria as recorded was in 2012 and 2018 (Ojigi, Abdulkadir, & Aderoju, 2013; Tami & Moses, 2015). According to the National Emergency Management Agency (NEMA), the 2012 Nigerian flood disaster affected over 363 people, displaced over 2.1 million and affected 30 states among the 36 states that made up the nation. According to Tami and Moses (2015), different livelihood sources and other biodiversity were gravely impacted couple with an economic loss of over 500,000 barrels of crude oil output per day. A further comprehensive need assessment conducted by the global facilities for disaster reduction and recovery, world bank and the united nations shows about a 19.9bn value of damages and losses from the 2012 flood (Tami & Moses, 2015). While 2018 flood affected more than 200 people and many displaced according to the National Emergency Agency (NEMA).

Furthermore, scholars have frequently mentioned that oil spillage is another major disaster affecting Nigeria's environment and local economy (Enyoghasim et al., 2019; Olayinka & Ogunsola, 2017). As earlier mentioned by Julius and Joseph (1972), oil spills is an ever-present and growing problems since the petroleum product is globally used for economic development in many nations. Accordingly, different oil has spilt across the globe, from China, USA, Gulf of Mexico, Malaysia, with different quantities of spills and the impact. Notably, the incidents of oil spills from the global perceptive are recorded to have reduced compared to decades before the 20th century (ITOPF, 2017). Statistics show about 53% of the most massive oil spill were recorded in the 1970s, and the percentage has decreased in recent times. Likewise, the average number of oil spills per year in 1990 was 28.1; thus, it has reduced to 14.9 in the 2000s from the global perspectives (ITOPF, 2017). However, Oil spillages in the Niger Delta region of Nigeria have increased considerably, and the decade impacts have forced affected populations into different survival means (UNDP, 2006). Accordingly, the incidents of oil spills and related negative activities such as gasoline explosion have affected the region over the years (Doherty & Otitoloju, 2013). For instance, an event of gasoline explosion in 1998, killed over 500 people and over 100 individuals were affected including different unrecorded types of gasolines and oil spill incidents across the region (Aroh et al., 2010).

According to the United Nations Development program analysis in 2006 shows estimates of 6,800 incidents of oil spills totalling over 3 million barrel loss between 1976 and 2001 (UNDP, 2006). While in the same vein, Orimoogunje and Ajibola-James (2013) revealed a total of 4,835 oil spills between 1976 and 1996, resulting in an estimated loss of 1,896,960 barrels of oil to the environment. According to Orimoogunje and Ajibola-James (2013), different oil has spilt in different localities, communities and forest without outstanding records. The incidents often reported are to somewhat significant incidents or mostly for political campaigns and or for compensations reasons (International Amenesty, 2015). Furthermore, in 1998, about 40,000 barrels of oil were spilt in a particular mobile platform in Akwa-Ibom coast without proper record (Orimoogunje & Ajibola-James, 2013). In a detailed analysis from the Department of Petroleum Resources (DPR) recorded over 5,724 oil spillages with an estimated loss of 2,571113.90 barrel into the environment between 1978 and 1998 (DPR, 2010).

However, some of the worst oil spills in the region which impacts are still felt up till date include; the oil blowout of January 17th, 1980 in River State affecting 320,000 population in 321 villages, spilling over 40,000 barrels of oil, and killing over 180, with 300 people infected with various illness through the direct contamination of water, and eating contaminated food (Aroh et al., 2010). The Escravos oil spill in 1986 involving the Nigerian National Petroleum Commission pipeline facilities (NNPC) with a great economic loss at about 2 million Nigerian Naira loss to the local communities (Aroh et al., 2010). The 1998 Jones Creek oil spillage led to the most significant mangrove forest devastation recorded worldwide (UNDP, 2006). Similarly, and most recent significant recorded incidents are 2008, 2009 at Bodo oil city in Rivers State affecting over 69,000 residents and rendering the community's livelihood systems incapacitated (Pegg & Zabbey, 2013).

Further statistics from a comparative study reveals that in the past fifty years of oil exploration in Nigeria, an estimated average of 1.5 million tons of oil has been spilt (Binuomoyo & Binuomoyo, 2017). That is, fifty times more than the volume of Exxon Valdez oil spills (10.8 million US gallons) in Alaska in 1989 (Binuomoyo & Binuomoyo, 2017). While Aroh et al. (2010) reveal that 60% of the volume of oil spilt incidents in the Niger Delta have resulted from sabotage, 30% equipment failures and 10% from corrosion of ageing pipelines and other facilities, even though the incidents from corrosion were numerically more than sabotage. Shell (2012) revealed that over 60% of oil spilt across the Niger Delta region are result from third party interference and sabotage.

Table 3 below presents a comprehensive number of oil spill incidents (NOS) and the quantities of oil spilt in barrels (QSB) across 1970-2013.

Table 3: Shows oil spill incidents analysis

YR	NOS	QSB	YR	NOS	QSB	YR	NOS	QSB
1970	1	150	1987	129	31,866.00	2001	412	120976.16
1971	14	15,110	1988	208	9,172.00	2002	446	241617.55
1974	105	-	1989	195	7,628.00	2003	609	35284.43
1976	128	20,023	1990	160	14,940.816	2004	543	17104.00
1977	104	31,144	1991	201	106,827.98	2005	496	10734.59
1978	154	489,294.75	1992	367	51131.91	2006	461	13772.92
1979	157	694,117.13	1993	428	9,752.22	2007	482	10848.00
1980	241	600,511.02	1994	515	30,282.67	2008	740	49524.80
1981	233	42,722.50	1995	417	63,677.17	2009	849	48935.56
1982	213	42,841.00	1996	430	46,353.12	2010	582	25383.15
1983	173	48,351.30	1997	339	59,273.30	2011	676	66907.87
1984	151	40,209.00	1998	390	98,345.00	2012	841	17665.03
1985	187	11,876.60	1999	198	29337.00	2013	883	3749.21
1986	155	12,905.00	2000	219	11542.00	-	-	-
14 yrs.	2,016	2049255.3	14 yrs.	4,196	11146099.206	13 yrs.	8,020	662503.27

Sources: Udotong, Udoudo, Udotong, and Ecotoxicology (2017); Olayinka and Ogunsola (2017); Aroh et al. (2010)

As shown in Table 3 above, different incidents of oil have spilt across decades in the Nigerian context. Importantly, the comprehensive list shows a total of 2,016 incidents of oil spilt between 1970 and 1986 with a total estimated loss of (2049255.3 barrels), and 1987 to 2000 a record of 4,196 incidents with quantity loss of (11146099.206 barrels). While, between 2001 and 2013, a total estimation of 8,020 incidents of oil spills were recorded with quantity loss of (662503.27 barrels). The estimations above indicate the increased incidents of oil spills into the environment and waterways across and within the region, affecting the livelihood structures, health, socio-economic and cultural aspects of the people. Even though there is a global decrease in oil spills event (ITOPF, 2017), Nigeria remains with a high increase of oil spills in either large, small or medium event. According to Shell, (2019) sustainability report, sabotage of oil and gas facilities contributed to 111 in incident 2017 compared to 62 incidents in 2016. Also, the volume of spills

within these two years rose from 1,600-12,000 in 2017 from 1,400 in 2016 (Shell, 2019). Notably, these increases are partly due to the availability of the multinational cooperation company's production facilities significant repairs in 2017 which gave local refiners of petroleum product the fortuitous to constantly improve their activities (Shell, 2019). Realistically, this gave rise to an emphasis on how the local refining of oil product has continuously supported the livelihood structures of the less privileged communities, as shown in the data analysis sections (sections 5.4.1.1). Thus, below discusses what constitute livelihood support across the region.

2.4.1. Niger-Delta Region and their Livelihood

The Niger-delta region of Nigeria coincides nearly to the south-south geopolitical zones of the nation, which consist of predominantly farmers and fishers (agricultural activities as the main occupation) across a majority of the communities before the discovery of crude oil produced in 1956 (Omofonmwan & Odia, 2009). Niger-delta Nigeria communities before the oil boom in the 1970s structurally maintained a sustainable traditional livelihood through a range of socioeconomic and sociocultural activities associated with the traditional livelihood systems (Erundu, 2015). Figue 5 presents the Niger Delta map and the constituent states therein.

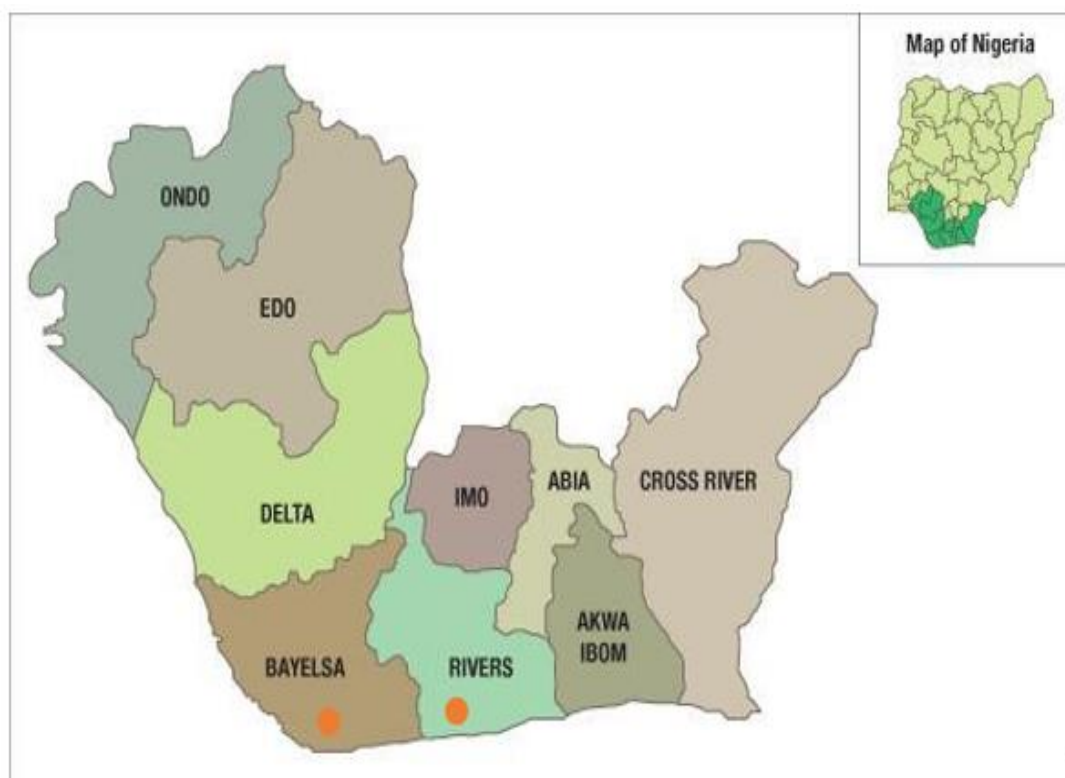


Figure 5: Map of Nigeria showing the Niger Delta Region

The Niger-Delta Region consists of nine states with a population of over 20 million people with more than 40 different ethnic groups (Ihayere, Ogeleka, & Ataine, 2014; Omorede, 2014). The Niger-Delta landscape constitutes large water bodies, wetlands and dry land which covers 70,00sq kilometres, with distinct

ecological zones, coastal ridge barrels, large spread of mangrove forest and swamps (Ebegbulem et al., 2013; Oviasuyi & Uwadiae, 2010). In addition to a web of rivers that cut across the landscape is dominated by rural communities that depend solely on their natural environment for subsistence (Ebegbulem et al., 2013). Importantly, the Niger-Delta covers a large amount of oil reserves located onshore, offshore, deep offshore and shallow offshore, and the petroleum product contributes substantially to the nation's treasury through resources development windfalls from the oil and gas exploitations and production activities within the region (Fubara, Iledare, Gershon, & Ejemeyovwi, 2019). Prominently, the oil and gas production within the Niger-Delta region accounts for over 95% to the Nigerian foreign exchange earnings (Joseph, Adadu, & Tom, 2019), over 60% contribution to the nations yearly budgetary (National Bureau of statistic, 2017), and about 15% contribution to the gross domestic product (Ukpong, Balcombe, Fraser, & Areal, 2019). However, irrespective of the enormous contribution of the Niger-Delta oil and gas production to the nation's treasury as evidenced from various empirical studies (Odularu, 2008; Osuma, Babajide, Ikpefan, Nwuba, & Jegede, 2019). The region and the entire nation remains with a high increase of poverty, despite the more attention and prioritise attached globally to poverty reduction through the adoption of sustainable development goals framework (Dauda, 2019). Dilapidated learning facilities, lack of proper health care facilities and basic amenities of life due largely to marginalisation and neglect to environmental and waterways damages (Kadafa, 2012a, 2012b), and the massive displacement of labour from the original livelihood sources due to natural economic disarticulation to the oil economy (Erondu, 2015).

Further, the Niger-Delta undisputable questions vestige draws to the livelihood structures across the communities, due to the vast attachment to fishing, farming, forestry engagement and trading (Fubara et al., 2019). Importantly, fishing, farming and trading were the primary sources for livelihood support of households before the discovery of crude oil in 1956 to its boom 1970s, in the Niger-Delta, Nigeria in a community called 'Oloibiri' (Oviasuyi & Uwadiae, 2010; Ukpong et al., 2019). However, evidence shows before the discovery of the petroleum product to its boom in the 1970s that the region sole depends on their natural environment and water channels for survival and contribution to their everyday livelihood subsistence (Ebegbulem et al., 2013; Onwuka, 2005; Ukpong et al., 2019). Thus, the livelihood structures remain at the verge of decrease due mainly to oil spills, gas flaring and other adverse events emanating from the oil and gas production (Kareem et al., 2012; Ugochukwu, Ertel, & appraisal, 2008).

More so, Amnesty International, (2015), revealed that Rivers state and Bayelsa states are two major riverine states with high decade impacts of oil spillages on their primary livelihood sources. The evidence from the literature foster the justification for the chosen locations for this current study. Also, the riverine sample communities within the two states for this study represent the entire communities affected by the oil spill environmental hazards in the region. According to scholar's, majority of the communities within the Niger Delta suffers the same impact given that the primary livelihood sources are generally the same (Abi & Nwosu, 2009; Odjuvwuederhie, Douglasson, & Felicia, 2006; Omofonmwan & Odia, 2009; Ugochukwu et al., 2008). Accordingly, a majority of the communities through environmental and livelihood damages

suffer physical and livelihood displacement (Opukri & Ibaba, 2008), majority battles with their livelihood and adaptation system (Kadafa, 2012a, 2012b). The traditional livelihood sources of the oil spill affected communities remains paramount given that it contributes to more than 80% of dependent (Odjuvwuederhie et al., 2006). Also, the selected areas for this study share cultural similarities, traditions and norms, and most especially the core aspect that deals with the livelihood systems of the communities.

Most importantly, the concept of livelihood as used in the context of this research means the indigenous socioeconomic and socio-cultural activities that are based on the available resources, which serve a means for everyday household's existence. According to Erondy (2015), the Niger delta traditional livelihood consists of any form of farming, fishing and agricultural activities which contributes to the local economic development of a community. As evident from different scholarly studies, a majority of the Niger-delta communities sources of livelihood revolves around the use of fauna and flora product for subsistence (Olawoye, 2019; Ugochukwu et al., 2008). Importantly, considering that a livelihood consists of any assets that can contribute to everyday subsistence of either household, groups of people or society. The Niger-Delta community's livelihood assets include both human and non-human resource on which livelihood is built to which the people, communities and societies have access. While most community livelihood sources hugely depend on waterways, some depend significantly on the available landed areas (traditional industrial livelihood) for subsistence which are a significant part of the existence of the people of the Niger-Delta region (Erondy, 2015; Uduji & Okolo-Obasi, 2019). Table 4 depicts what constitute livelihood support mechanisms for local communities across the Niger-Delta region of Nigeria.

Table 4: Traditional Livelihood component, contributions, damages and Needs quest

NDD Traditional Livelihood Mechanism	Contributes to the Traditional Livelihood Sustenance of Communities (CTLSC)	Damages caused on (TLM)	Resources Required to Revitalise and Improve (RRRI)
Farming/ Agriculture	<p>Agriculture is an important economic activity associated with Niger Delta traditionally</p> <p>-links the producers and consumers of food and non-food agricultural (farm related) products</p> <p>- incorporates dimensions such as the production, storage, processing, trade and use of these products, the natural resource base and the policy and regulatory environment that supports the system"</p> <p>- Most traditional livelihoods across the Niger Delta are tied around agriculture. Example, Crop cultivation, fishing and aquaculture</p>	<p>Oil and gas activities</p> <p>Oil spill pollution</p>	<p>land and water channels are highly needed</p> <p>-food security</p> <p>-Therefore, to stem the current slide towards poverty and food insecurity, the farming population needs to be empowered into enhanced agricultural productivity. Aquaculture practice is still at the very rudimentary level comparatively (Erondy, 2015)-Local processing industries and storage facilities are limited and still very rudimentary</p>
Hunting and forest resources usage	<p>-Hunting and harvesting of forest resources from the wild</p> <p>-Gathering of food through rural water and forestry resources among the rural communities constitutes viable sources of livelihoods for rural dwellers.</p> <p>-Niger-Delta forest zones encompasses array of resources that provides; Wood and non-timber resources, for example, nuts, leaves/medicinal leaves,</p>	<p>Oil and gas activities</p> <p>Oil spill pollution</p>	<p>-Taken with new techniques in biotechnology and phyto-chemical research, they can form the cornerstone of multi-million naira enterprises which sustain cottage industries engaged in the collection and primary processing</p>

	<p>fruits, spices, barks of trees (for medicinal purposes), cane for furniture making, reed for mate making and;</p> <p>-Wood contributes to labour intensive industry in different ways such as; saw and ply mills, construction and furniture industries, drugs manufacturing industries, and industrial production of useful chemicals</p> <p>Hunting from the wild provides a range of products such as snails, grass cutters and other edible animals that serve as delicacies in the food industry, and support the nutritional needs of people across a majority of communities within the Niger-Delta and the nation at large.</p>		of such products” NEST (1991; Onakuse and Lenihan,2003)
Fishing	<p>Fishing activities such as; harvest of fishes, oysters, periwinkles, crabs, shrimps, mullets, snappers, cichlids, tilapias, croakers, grouper, intertidal mudskippers and bonga, and molluscs which includes four varieties of edible common periwinkle, oyster, bloody cockle and dog whelk are some major constituent of traditional livelihood of Niger Delta.</p> <p>Harvested crustaceans which includes primarily the ‘swimming crab’ (<i>C. amnicola</i>), the purple mangrove crab (<i>Goniopsis pelii</i>), the pink shrimp (<i>Farfantepenaeus notialis</i>) and the invasive tiger prawn/shrimp (<i>Penaeus monodon</i>), and different species provided an extensive economic, food and cultural resource across many riverine Niger Delta communities.</p> <p>Fishing/ fish and fish product remains a significant ingredient on the global and local menu environmental balance which serves an important aspect for livelihood; protein for both adult and children (Pegg & Zabbey, 2013); (Abah,2013)</p>	<p>Oil spill pollution</p> <p>Oil and gas activities</p>	<p>To improve the management of fisheries and aquaculture, and application of new aquaculture technologies</p> <p>Local processing industries and storage facilities are limited and still very rudimentary, hence producers of perishables and raw materials also engage in the minimal and limited processing of their produce.</p> <p>The power sector has failed to power this sector of the traditional economy up to date. The resultant effect is that a lot of wastage and loss of potential income is experienced. This is very discouraging to farmers in particular and limits the number of people attracted to this traditional livelihood</p>
Trading	<p>-Trading in agricultural related and crafts products</p> <p>-Trade by batter activities across the region through fishing festival activities</p> <p>-However, due to poor infrastructural facilities such as poor communication and road networks, this economic activity has been limited in scope</p>	<p>Oil spill pollution</p> <p>Oil and gas activities</p>	<p>The Niger Delta is well known for its difficult terrain that hinders free movement, therefore the waterways becomes a viable channel for most community business. Waterways security means is needed for fishing population</p>
Crafting	<p>The cottage craft industry is another sector of the traditional economy of the people. These include canoe, mat, basket and cane furniture making</p> <p>All sorts of local farming implements and fishing equipment are made through the local craft industry. These include diggers, hoes, and machetes; fishing hooks, traps, racks and baskets</p>	<p>Oil spill pollution</p> <p>Oil and gas activities</p>	<p>Clear that our production system at this level lacks high level technology. This sector has a great potential if enhanced especially in terms of quality, designs and aesthetics, as currently the status of the products does not meet all the standards of the international market.</p>

2.5. Social Vulnerability and Livelihood Concepts

The rise of disasters and its impacts are highly associated with the vulnerability of the physical environment and socio-economic constructs of the people. Vulnerability has many innumerable connotations in a different research field, perspectives and individual background and context within which the concept is use (Birkmann, 2006; Cutter & Susan, 2012). Nonetheless, Cutter and Susan (1996), described vulnerability

as the “potential for loss, as an essential concept in hazards research and is central to the development of hazards mitigation strategies at the local, national and international level”. While, Blaikie, Cannon, Davis, and Wisner (2014, p.11), describe vulnerability “as the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of hazard”. In a similar vein, McCarthy, Canziani, Leary, Dokken, and White (2001) described vulnerability as the degree to which a system is susceptible to, or unable to cope with, adverse effect to extreme climate change such as, climate variabilities and extremes. Importantly, vulnerability signifies the exposure of an individual or group of persons to a risk and the inability to escape or engross such potential harm or the potential to be harmed by an event. As mentioned by Krantz (2001), such harm could be directly and or indirectly linked to the livelihood of the affected, as the inability of affected disaster population to cope are to somewhat reliant on the strength and available livelihood support mechanisms.

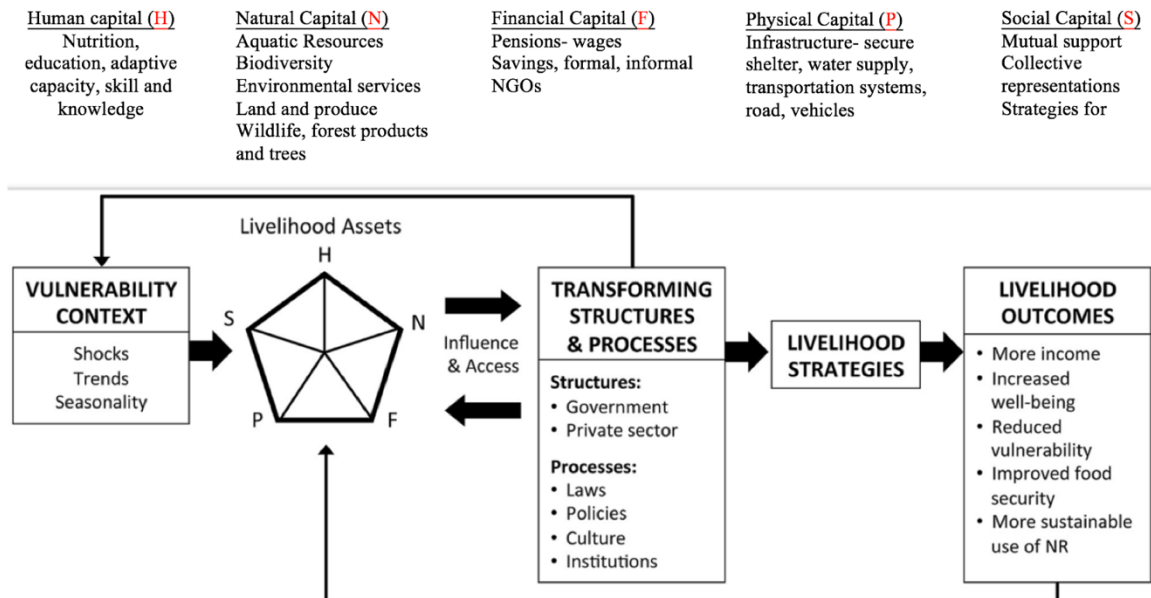
Subsequently, due to increased climatic changes, environmental degradation from toxic hydrocarbon elements, competitions for the search of scares resources and geological hazards, vulnerability have increased in most especially, the disaster-prone communities, societies and nations (Cutter & Susan, 1996). Nonetheless, other factors such as; poverty, armed conflicts, growing global population and underdevelopment issues, protest in calling for environmental justices, social and economic justices are increasingly influencing vulnerability (Malalgoda, 2015, p. 14). Also, influencing the threat to human capacity, especially at the local community level of developing nations where all most all necessities of life are lacking (Sobrasuaipiri, 2016). For example, Nigeria oil-producing communities (vulnerable to oil activities) lacks awareness of the long term negative impacts of the toxic chemicals on their environment, lacks the mental and emotional (capacity) preparedness mind-set towards disasters reduction as such, have struggled to withstand the impacts of such hazards when it strikes (Burgherr, 2007; Sobrasuaipiri, 2016). Furthermore, the vulnerability concept as widely accepted to be an extraordinarily elastic concept capable of being used at different situations, group of people and field (Carol, 2004), are increasingly linked to the livelihood of affected disasters victims. Given that, the capacity to recover from any disaster is reliant on the available livelihood structures and economic standards of a given society or nation. Thus, the next section discusses the sustainability of livelihood concepts.

2.6. Livelihood and Sustainable Livelihood Concept

A Livelihood comprises the people’s means of living, for instance, income, assets, food and capabilities to manage the asset owned (Goodman & Goodman, 1990). The management of assets, whether tangible or intangible assets are integral in the component of livelihood (Krantz, 2001). Scholars have described livelihood complex context in different dimension depending on what it intends to achieve at a given period (De Haan, 2012; Niehof, 2004). According to Chambers and Conway (1991), “A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of

living. Further, livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base". Chambers and Conway (1991), further added, that livelihood is socially and environmentally sustainable when it maintains or enhances the community, local and global assets on which livelihood entirely depend while benefiting to other livelihoods. Krantz (2001) mentioned that livelihood is socially sustainable when individuals or communities can cope and recover from the shocks and stress and provide for the future generation. Notably, the sustainability of the existing livelihood especially, within the most affected oil spill communities in Nigeria is yet unclear, given that the primary livelihood sources across communities are consecutively damaged due to oil spill environmental hazards and oil and gas production activities.

Livelihood concept as an analytical tool can be applied within the built environment and disaster concept, given that there is no uniform approach to applying the theory (Krantz, 2001). Importantly, the complexity of the concept aided the UK Department for International Development (DFID) with different practitioner's works and academics to develop a practical, sustainable Livelihood Framework (SLF) to understand the concept better (See Figure 4). The framework as an analytical tool is useful for the understanding of many factors on how people develop and maintain their livelihood and the interaction between the existing or an improvised livelihood and humans. Further, the framework was developed to aid organisational effort with regards to organising and improving measures to eliminate poverty. However, the poverty within some developing country such Nigeria and especially, the Niger Delta areas where all petroleum activities are carried out, quest for the application of such framework to reduce the negative impacts induced by oil spill environmental hazards. That forms part of the justification of the application of the framework for this study, as presented in Figure 4. Likewise, a means for the empowerment of the community members affected by the oil spill environmental hazards. Importantly, given that the communities suffer different kinds of impacts makes the framework significant within the Niger Delta scenarios. Figure 6 below presents vulnerability concepts encompassing the environmental, social and economic spheres, while also incorporating features such as; susceptibility exposure and coping capacity of the affected population to support this research. As such, the next section discusses the various impacts of oil spillages on the livelihood structures across communities and the built environment.



Application of the framework to community affected by oil spills in Nigeria

<u>Vulnerability Context</u>	<u>Access to Asset Type</u>	<u>Structures and Process</u>	<u>Strategies</u>	<u>Outcomes</u>
Farming (e.g. fertilizers, seedlings, landed areas) Fishing (e.g. speed boats, river banks and water) Rainfall (acidic rain on crops) Shocks Oil spills Gas flaring (on plants and waterways) Post-harvest losses (e.g. soil contamination with crude oil product, reduced yield)	H-Lack of environmental education, Modern farming and fishing skill culture N-Potential Agricultural areas and use of forest and forest produce for livelihood support F-Chronic incapacitation access to financial capital P-Lack of infrastructure and modern facilities for alternative livelihood support	Contradictions in statutory and customary Land laws as it relates to communities; insecure community right to land use Poor access to credit facilities and education; Means for livelihood support Poor access to distribution of agricultural produce; bad road network and transportation systems	Farm and share system of farming Farming on leased land Daily bricklaying Casual Jobs Local Refining of Petroleum Product (Oil Bunkering) Long Distant Fishing/ Deep sea Fishing Distant Timber production engagement Internship Farming system	Increased short term food security Income for households Increased social status through different farming system (alternatively)

Figure 6: Concept of Vulnerability

Adapted from Billie et al. (2003)

2.7. Significant impacts of oil spills on built environment

The built environment remains a significant aspect of human existence concerning humans' activities and the surroundings therein. Built environment ideas from 489BC to 408BC where the ancient Greek cities were developed using grid plans to mapping cities have evolved from making grid plans to make cities beautiful through the promotion of a reform idea to landscapes through architectural designs (Ngosong, 2015). The concept due to human quest for a more comfortable, convenient, enjoyable and safer environment has pushed different disciplines to adopt the concept, considering the involvement of human existence with its environment and the adaptability to adverse effects therein (Lawrence & Low, 1990; McClure & Bartuska, 2011), thereby making the concept relatively popular in recent times and in social science (Hassler & Kohler, 2014). The social scientist describes 'built environment' as human-made surroundings that provide the setting for human activities, ranging in natural, cultural and social capital.

Also, building parks or green space to neighbouring cities and region that can often include their supporting infrastructure that includes water supply and energy networks (Hassler & Kohler, 2014; Lawrence & Low, 1990).

Accordingly, while the built environment concept is applicable in architectural discipline, it agrees to the social-ecological systems where the built environment is considered artefact in an intersecting area between nature and cultural aspect, with interconnection in both directions (Hassler & Kohler, 2014; Ngosong, 2015; Taylor, 2017). The ideas that accompany the built environment is a material, three-dimensional and cultural product of human labour that combines physical element and energy in the form of living and working. Therefore, making the environment safe for work and human health and existence is paramount, which further include the dealings with negative impacts on the environment that emanate from disasters or hazards of any kind for human existence. Notably, environmental hazards in the form of oil spills on the built environment are seen to have degraded the culture, and various aspects of human existence in most developing countries, especially Nigeria Niger Delta.

Furthermore, with the frequencies of oil spillages in the NNDR environment, there is no doubt that the incidents have impacted on the region in different dimensions as established by scholars (Julius & Joseph, 1972; Kadafa, 2012b; Nwilo & Badejo, 2006; Ugochukwu et al., 2008). Thus, it is worth detailing how the various incidents of oil spill affect the oil-producing communities and their built environment. According to Kadafa (2012b); Nwilo and Badejo (2005), oil spills had affected all aspect of the dwelling of the Niger delta's just as it destroyed other parts of the world when occurred, even though the extent of the impacts is determinate on the vulnerability and management of the incidents. It is argued that the intersection of the NDC culture and nature, which forms the built environment from the social perspective are hugely affected by different oil spill hazards (Kingston, 2002). More so, Patin (1999); Kingston (2002) further emphasised that there are socio-economic impacts, long term environmental impacts, cultural impacts and health impacts of oil spillages across affect the region. More specifically, the oil spills and the negative impacts of petroleum production in Nigeria have increased poverty due to different impacts that accompany the activities with little attention paid to it. According to Onduku (2001); Glazebrook and Kola-Olusanya (2011), the Niger Delta communities have called for environmental justices, livelihood support and development through agitation, hostage taken and conflict with little or no support across a majority of the community. Furthermore, evidence show that oil and gas activities across the NNC have contributed to discolouration of corrugated iron sheets by mostly gas flaring in the built environment, making roofing materials life span relatively shorter than materials in other parts of Nigeria (Jike, 2010a). Thenceforth, the below sections critically examine the impacts of the oil spillages across related areas in the context of this current study.

2.7.1. Environmental and Ecological Impact of Oil Spillage

The effects of oil spill disaster on the environment and ecology are numerous just as any other natural disasters. These effects cut across contamination of water resources, land, rivers, soil and the ecological aspects of subsistence (Pan, Wild, Drecksler, & Gonçalves Jr, 2019). Likewise, destruction of the biodiversity and other derived effects on flora and fauna resulted from the toxic nature of the chemical compounds released from the oil spills, and petroleum product (Paschal Okiroro Iniaghe, 3, & Iniaghe, 2013). Scientifically, it is believed that petroleum and polycyclic hydrocarbon component of oil have significant long-term effects on the immune system of aquatic organisms and wildlife species (Barron, 2012; Zhang et al., 2019). Although, the effects on the immune system might not be immediate as compared to the deterioration of the physical environment. Aigbedion (2007), argued that oil spills produce a devastating environment and ecological disturbance in an oil-producing region as well as in the areas where natural breakage of oil pipeline's, illegal bunkering, sabotage, and leakages occur. Accordingly, Onifade, Abubakar, and Ekundayo (2007) emphasised on the need for artificial enhancement of the Niger Delta soil for agricultural purpose as different oil spillages have reduced the fertility of the soil thereby causing a devastating reduction on livelihood structures. In a similar vein, Ekundayo, Emede, and Osayande (2001) stress that oil spill pollution has subsequently affected agricultural practice in different communities. For example, there are significant delays in germinations of crop plants, stunted growth and reduction in yield if eventually grown to maturity stage. The reduction in yield, according to Ekundayo et al. (2001) has increased the price food purchase, thereby influencing frustration, agitation and call for remediation, clean-up and resources control.

Furthermore, it is argued that deforestation, loss of agricultural land and economic trees are significant impacts on the environment resulting from oil spillages and oil production activities (Norman, 1997, 2016; Nwilo & Badejo, 2006). According to Norman (2016), since 1958, an estimation of 5.5 million tonnes of oil has been released into different mangroves globally. At least 238 notable incidents of oil have been spilt, oiling around 1.94 million hectares of mangrove habitat and killing at least 126,000 hectares of mangrove vegetation (Norman, 2016).

Nevertheless, scholars have widely pointed that oil hydrocarbon element kills both plants, animals, bottom dwellers and poison algae, reducing the yield of edible crustaceans (Adams, 2015; Barron, 2012; McCoy & Salerno, 2010; Nwilo & Badejo, 2006). It also coats animals and birds impairing their flight, thus making the birds more vulnerable to cold and also endangers fish hatcheries. Similar to the above statement is Kadafa (2012a), tallying that there are harmful environmental impacts and adverse effects on the inhabitants of any affected region. For example, the Nigerian producing environment which happens to be among the ten (10) most significant wetland and marine ecosystem in the world before oil explorations and exploitation (Kadafa, 2012a). The vital wetland ecosystem has now changed to ecological wasteland due in large part to oil spills and lack of government and oil multinationals effort to curb the frequencies of the

incidents and impacts (Kadafa, 2012b; Nwilo & Badejo, 2006). The long-term effects on the wetland have led to characterising the environment as contaminated streams, rivers and biodiversity loss. Also, Nwilo and Badejo (2006), emphasised that oil spills have affected the Nigerian producing environment from the inception and exploitation of the product (crude oil). More so, the growth and development of the country's oil industry, combined with the population increase and lack of environmental regulation enforcement, has led to extensive environmental damage. Kadafa (2012a) further argued that oil spill impacts on the environment and ecosystem services have increased poverty rate and displacement of people physically, mentally and job-wise. The argument by Kadafa (2012a), Nwilo and Badejo (2006), demonstrate significantly how the oil spill has impacted on the environment and the ecology, which has also degenerated to negative impacts on the societal wellbeing. Its further points to the fact that there are increased emotional and psychological problems when circumstances destroy the mainstay of a community, thus, destabilising the social aspects of most vulnerable communities.

2.7.2. Socio-economic Impacts of Oil Spillages

Socioeconomic comprises of both social and economic aspect of the impacts on the affected region. Accordingly, scholars have emphasised that oil exploration and spillages in the Niger Delta has caused extensive social underdevelopment that engrosses the lack of social amenities, including physical infrastructure, piped water, schools, hospitals, and employment opportunities (Ebegbulem et al., 2013; Lindell, 2013; Okeagu, Okeagu, Adegoke, & Onuoha, 2006). In a similar vein, Iniaghe et al., (2013) stressed that the socio-economic impacts of petroleum activities and oil spillages have deteriorated to influencing prostitution, given that more than 90% of the population affected by the incidents depend sole on agricultural practice for livelihood support. Further, the essential action and global exchange report in 2000 reinforced that “many affected residents of the Niger delta usually turned to prostitution as a way of supporting their families and paying for their education”. In a similar vein to Iniaghe et al., (2013), Agbogidi, Okonta, and Dolor (2005) pointed that the impacts on agriculture have also decreased the income earning capacity of the Niger Delta communities appreciably.

Accordingly, Gill, Picou, and Ritchie (2012) in analysing social impacts of oil spillages describe such impacts using different level such as; macro impacts which deal with an infrastructural overload when moving petroleum product from one place to another and disruption to the local economy. While, middle-range impacts deal with impacts on community lifestyles and disruption to subsistence, strained to community relations, prolong uncertainty to the recuperation of community social fabric (Gill et al., 2012). Impact on social fabric, as mentioned by Stephanie, Jeremy, Kyle, and Marina (2014) encompass an unequal distribution of clean-up jobs and a shift in community hierarchies. Gill et al. (2012), further pointed out that the loss of daily community routine, damage to family lifestyle and mental health issues are examples of micro-level impacts. Also, Sobrasuaipiri (2016) mentioned that the majority of households in the Niger Delta region depend solely on the practice of fishing as such oil spills have deteriorated such

practices. Furthermore, Odoemene (2011) study revealed that the NDC of Nigeria is particularly impoverished with presence upsurge in abuse occasioned by the struggle for survival. In a similar vein, Ite et al. (2013) pointed that poor governance and weak environmental regulations are significant factors that have led to the deterioration of the socio-economic of the community, considering that a majority of the affected population's socio-economic activities were robust and sustainable before the oil boom. Odoemene (2011) further stressed that socioeconomic impacts of oil spill cut across the destruction of traditional livelihood means which have influenced abject poverty, deterioration of living conditions and forcing people into different adaptation and survival means. Further, Fentiman and Zabbey (2015) mentioned that oil spillages had destroyed most socio-economic activities, such as; fishing culture, some creeks which were richly endowed with shellfish that include “bloody cockle (*Senilia senillis*), oyster (*Crassostrea gasar*), swimming crab (*Callinectes amnicola*), razor clam (*Tagelus adansonii*), land crab (*Cardisoma amatum*), mangrove purple hairy crab (*Goniopsis Pelli*)” have profoundly disrupted the livelihood system of the affected communities. Fentiman and Zabbey (2015) study further revealed that most socioeconomic and sociocultural activities encompass the use of the creek for food preparation, medical use (e.g. eye infection treatment), post-natal rituals, and local market and trading are all consumed by oil spill disasters, as such have left the communities in quest for alternative survivals. However, some survival means as revealed by Odoemene (2011), are kidnapping, youth militancy and hostage-taking, which are contrarily to the realities across the communities. As such, fostering the importance to explore the realities of the alternative livelihood adapted across the communities affected by the adverse effect of oil spill environmental hazards. Thus, this study takes another dimension to explore the alternative livelihood adapted by the community members. Also, how the alternatives have influenced the rebuild of the damaged socioeconomic and cultural aspect of the community subsistence, a dimension that has received little or no attention within disasters context, community vulnerabilities and livelihood context across Niger Delta Nigeria.

More so, further evidence from Cheong (2011) study in Tean, Korea further emphasised how fishing, tourism and agricultural communities were deeply affected by Hebei-Spirit oil spill. Cheong (2011) mentioned, for example, fishing catch decline from 7798 m/t in 2007 to 789 metric ton (m/t) in January-March 2008, which contributed to community cohesion decline. Though, the Hebei-Spirit oil spill aids the government to swing into action on assessment, clean-up and restructuring of policy to incorporate double-hulled container enforcement, improvement, monitoring, control and equipment refurbishment (Cheong, 2011) since the spills result from the ship with double layers watertight surface. Even though, some scholars have mentioned that some oil spillages have minor social impacts, and community relationship damage when robust support mechanisms such as; support from social groups and appropriate levels of provision of financial aid are in place (Cheong, 2011; Loureiro, Ribas, López, & Ojea, 2006; Surís-Regueiro, Garza-Gil, & Varela-Lafuente, 2007). Moreover, given that some social impact is alleviated in some spill event, for example, the immediate provision of interim aid and payment, Ngo’s and volunteer support from unaffected population during the event of Hebei-Spirit and Prestige oil spills as mentioned by Cheong (2011)

reduces the impacts on the affected population. The contrary situation in the Nigerian context as mentioned by Odoemene (2011) is violence, kidnapping and hostage taken due to the neglect of clean-up, compensation payment and no prompt actions towards the well-being of the affected population. As further mentioned by Fentiman and Zabbey (2015) that damages to the socio-economic conditions of affected populations are the effects on cultural activities. For instance, the Bodo communities of Nigeria where its socioeconomic activities encompass the cultural belief and ways of life/ existence (Pegg & Zabbey, 2013), thus, making a cultural aspect significant to explore the extent as discussed in the below section.

2.7.3. Cultural impacts of oil spillages

Historically, most communities across the Niger Delta centre for interaction is mostly reliant on the cultural practices, beliefs and ways of life (Aghalino, 2011; Alagoa, 1968). Accordingly, the cultural practices such as; ancestral worship, traditional storytelling, for example at river banks, traditional fishing and farming styles are some significant cultural activities that bounds the communities (Fentiman & Zabbey, 2015; Odoemene, 2011; Pegg & Zabbey, 2013). However, the activities of oil production have infringed on many ancestral homelands, thereby, forcefully converting such designated areas for oil and gas activities (Odoemene, 2011). Furthermore, Fentiman and Zabbey (2015) pointed out that oil spillages have contributed to the destruction and extinction of traditional fishing culture. For example, Bodo creeks were an excellent fish breeding and recruitment ground for multi-species of fin and shellfish (Zabbey & Uyi, 2014). However, the breeding ground has become a dead ground for any living organism resulting from two significant incidents of oil spills between 2008 and 2009 (Fentiman & Zabbey, 2015). Evidence revealed that 2008, 2009 oil spills across numerous communities in Bodo oil city disrupted the community's unique creek (Livelihood Creek) which was ranked as one of the leading periwinkle collection bed (Zabbey & Tanee, 2016; Zabbey & Uyi, 2014). Importantly, the points from Fentiman and Zabbey (2015); Zabbey and Tanee (2016); Zabbey and Uyi (2014) contributes to the justification of why the sample for this study includes the periwinkle picking associate within the affected communities.

Another cultural impact is on the traditional institution's breakdown, which reflects the indirect impacts of oil spills, and gas production (Pegg & Zabbey, 2013). Accordingly, most community elders and key leaders are the mouthpiece of the communities and represent the communities at state, federal and national levels during developmental meetings or negotiations for oil production activities (Blench, Longtau, Hassan, & Walsh, 2006). However, the petrol business has influenced most traditional bodies into non-traditional practice and obligations, pointed by Augustine (2005), for the quest for self-enrichment and the bid for contracts from the oil and gas as opposed to royalty/homage and entitlement. However, Oyefusi (2008); Aghalino (2011) and Nweke (2012) pointed out that the act for the bid for contracts has contributed to the perceived division amongst youths, loss of values for the traditional thrones, culture and heritage. Further, Fentiman and Zabbey (2015) mentioned that some parts of the cultural impacts of oil spillages are the loss of parenting and parental values. For example, the Niger Delta communities with the values and cultural

bindings enforce that parents owe the child/children duties of care up until they can fend for themselves. However, due to the damages to sources of livelihood within most communities, youth are left to forceful independent leading from the incapacity of parenting as such, losing the cultural heritage attached therein. Likewise, various evident show that irrespective of the damages to the culture and the nature of the people, decades of inhalation of the toxic petroleum product have significantly contributed to various recorded and unrecorded health issues across communities.

2.7.4. Health Consequences of Oil Spillages

Numerous studies have accentuated the consequences of health effects of oil spills which cut across, mental health issues, acute health problems, toxicological effects in workers, visitors to the site of any spills, psychological effects and immediate impacts on the communities wellbeing (Aguilera, Méndez, Pásaro, & Laffon, 2010; Carrasco et al., 2007; Goldstein, Osofsky, & Lichtveld, 2011; Grattan et al., 2011; Janjua et al., 2006; Lyons, Temple, Evans, Fone, & Palmer, 1999; Palinkas, 2012; Picou & Gill, 1996; Rodríguez-Trigo, Zock, & Montes, 2007). For example, Osofsky, Osofsky, and Hansel (2011) study show a significant effect on mental health-related issues as a result of the Deepwater Horizon spills. Their study further, shows significantly how the spills affected fishermen workers, families and the general livelihood of the affected people with increased symptoms of anxiety, posttraumatic stress, and depression. According to Janjua et al. (2006), on their regression study of 400 people in Pakistan, showed a possible relationship between oil spills and acute health symptoms among affected resident. Similar to Janjua et al. (2006) and Osofsky et al. (2011) are Lyons et al. (1999) alluding that people exposed to oil spills significantly have a higher self-reported illness such as anxiety and depression. Likewise, when people are frequently exposed to the toxic chemicals as oil spills, like the case of Nigerian producing region which evidence shows the people have been living with the toxic agent for many years of the crude oil production. No wonder Jerome Nriagu (2016); Ordinioha and Brisibe (2013), mentioned that most residents of the Niger Delta of Nigeria tend to have several cases of asthma, psychological distress, and emotional distress.

Further, Best and Seiyefa (2013) study shows how oil spills could lead to a 60% reduction in households food security, especially, ascorbic acid (vitamin C) content of vegetables by 36% and 40% reduction of crude protein content in cassava. Their study further shows that the impacts of oil spillages across the consumptions of different contaminated food could result in a 24% increase in the prevalence of childhood malnutrition (Best & Seiyefa, 2013; Zabbey & Olsson, 2017). Also, Ordinioha and Brisibe (2013), expanding on the severe impacts of oil spills on human health stressed in their study how oil spills had caused acute, long-term health effects on the people of the Niger Delta. Agreeing to Ordinioha and Brisibe (2013) perspective is Chang, Stone, Demes, and Piscitelli (2014); Solomon and Janssen (2010) asserting that oil spill impacts on human health could be through direct contact due to ecological processes and indirect through inhalation of vapours or consumption of contaminated aquatic animals. They further revealed that oil spills impact causes deleterious health effect ranging from nausea and dizziness to some

types of cancers and central nervous system problems. Comprehensively, it can be established that oil spills have severe health impacts which could affect people, directly and indirectly, leading to a stark socio-economic outcome (See Section 2.7.2). Thus, drawing attention to proper preparedness and mitigating steps before, during and after an oil spills hazard, to ascertain readiness for any adverse socio-economic outcome in both developing, developed and least developing countries experiencing such disasters. As further mentioned by Best and Seiyefa (2013), drawing an example from an animal study, which indicates that the contact of crude oil in Nigeria could be hemotoxic and hepatotoxic and could cause infertility and cancer. No wonder, Albert, Amaratunga, and Haigh (2018) mentioned in their empirical study that oil spills impact in the Niger Delta communities could lead to deformity of newly born babies as they observed across communities. Notwithstanding, it is evident that most incidents of spill cut across impacts on livelihood structure which mostly is derived from household employment and or job status.

2.7.5. Consequences of oil spillages on employment

Oil spills have various effects on different sectors as mentioned by Cheong (2011), for example, the tourist guide whose job is guiding visitors into the different languages of their choice and interpreting the natural heritage and culture of an area will have lost its job in an oil spill affected area. The farmers, fishermen and women, the business individuals whose sole occupation is getting the resources and produce from the farmers and the fishermen would automatically lose its job for a while before looking for an alternative (Picou, Gill, Dyer, & Curry, 1992). For example, the 2010 oil spill disaster in the Gulf of Mexico which devastated large numbers of fish farmers and businesses. Although, Aldy (2014) study shows that Louisiana coastal district, and other oil spill intensive communities, in particular, experienced a net increase in employment and wages. While, in contrast, Gulf coastal Florida regions, especially those south of the panhandle, experienced a decline in the employment (Aldy, 2014). This scenario is linked to the oil spill clean-up process, just as the case in the Nigerian Niger Delta, where if clean-up process is employed across affected communities will bring about increase employment (Zabbey, Sam, & Onyebuchi, 2017). Agreeing to the above point is Sarder, Miller, and Richard (2011), stating that oil spill disasters increased job opportunities in respect to hiring people predominantly for cleaning. Such types of opportunities are not worth mentioning as the people whose sources of livelihood are devastated need a long and lasting job for survivals (ibid). Similarly, Sarder et al. (2011) mentioned that the 2010 Gulf oil spill had the hardest blow on fishing industries, hotel businesses, and recreational boating, so are the Niger delta periwinkle pickers, fishers, and farmers severely hit by many oil spills which have drastically led to different forms of vices and numerous physiological, physical, political and economic problems.

According to Duru (2014), oil spill disasters have significant and dangerous negative impacts on the jobs across Niger Delta, given that more than 80% people sole depends on the fishing and farming activities which have immensely been degraded by oil spill environmental hazards. The frequencies and negligent of not responding promptly to oil spills have caused an increased rate of joblessness which in recent years

have led to restiveness and agitation of different kinds and forms (Albert et al., 2018). In a similar vein, scholars have greatly emphasised on job loss due to degraded agricultural lands, economic trees, fisheries, wildlife and the general mainstay of livelihood (Ebegbulem et al., 2013; Okonkwo, 2014). It is, however, necessary to employ measures to reduce the oil spills impacts and employ the youths in various sectors to improve their economic lives which will, in turn, improve their social lives. Importantly, Onoja, Usoroh, Adieme, and Deedam (2013) have called for sustainable livelihood through small scale fishing for affected Niger Delta oil spill communities as a means of livelihood building, community development and youth restiveness reduction as mechanisms.

2.7.6. Oil Spillage Influences on Youth Restiveness

Youth restiveness in recent years has been labelled the way forward of the Niger Delta people in getting what they feel is there right. According to Chukwuemeka and Aghara (2010) the dissatisfaction of youth within Niger Delta is highly influenced by the number of damages to the ecology and the neglect in terms of the development of the region. Although the study did not employ any statistical and or content analytical tool for analysis, however, it emphasised the facts that the NDR contributes about 80% to the national revenue of the Nigerian federation (Chukwuemeka & Aghara, 2010). Therefore, there is the tendency of increased youth restiveness if the Nigerian state continues on the neglect without a proper review of the federal revenue sharing formula, to address the issues of abject poverty, neglect and payment of a more significant percentage of their loyalty to the host and affected communities directly. Further, drawing from Chukwuemeka and Aghara (2010) points is Arowosegbe (2009) stressing that the Nigerian state must work towards approving the Niger delta stakeholders and technical committee recommendation on increasing the sharing formula of the Nigerian oil wealth from 13% to 25%. However, Abraham (2011) maintained that the youth restiveness and agitations of the Nigerian Niger Delta Youths (NNDY) could be curtailed permanently if both oil companies and the government employ functional educations of the youths by establishing well-equipped primary and secondary schools to international levels. Also, Abraham (2011), opines that educations of youths are the most effective instrument for youth restiveness be it long or short-term scenarios. Furthermore, Akpan and Akpabio (2003) recommend technique out from youth restiveness by maintaining that good governance, the inclusion of youths in decision-making, youth impacts assessment, as well as capacity building, will impact positively in reducing youth restiveness. Also, Chukwuemeka and Aghara (2010), argued that the youths are fuming due to total marginalisation and neglect, therefore needs their resources to be controlled by the region which is one way to reduce restiveness among and between concern communities of interest. Agreeing to Chukwuemeka and Aghara (2010), points on marginalisation, Arowosegbe (2009) still maintained that marginalisation and injustices of the NDP had increased the rate of violence which could be linked to the centralisation of the oil wealth (revenue) by the federal centre. Dibua (2005) also argue with emphases that the revenue from the NDR should be shared among Local Governments and the communities in proportion to the amount produced/

derived from its different territory. More so, Arowosegbe (2009); Dibia (2005) opines that traditional and collaborative elites must be excluded in revenue sharing at the local and community levels as they constitute to the structures that already exploited the people.

Furthermore, the loss of livelihood of NDP from oil spills and several pollutions of a different kind and high unemployment rates has given rise to anger and youth restiveness (Zakaria, 2006). Thus, this is linked to the fact that the Nigerian state, particularly the oil-producing region have faced and witnessed many years of relentless exploitations of their natural resources with little or no attention paid to due compensation or environmental cleaning. According to Owualah and Obokoh (2008), in their study of 100 participants among the Niger Delta communities on how youths can build careers in an entrepreneur to curtail the restiveness, concludes that the youths are handicap in several dimensions, stating the facts that government, NGO'S and financial institutions could be of solutions if suitable infrastructural facility is provided. Also, Ofem and Ajayi (2008a) study revealed that provision of infrastructure and credit facilities, including youth educational programs, would be a source of conflict resolution and curbing youth restiveness. Owualah and Obokoh (2008) in a similar vein to Ubhenin and Enabunene (2011), emphasised on the alternatives to curtailing youth restiveness and concludes that youth engagement in conflict research, dialogue among youths, youth empowerment, monitoring of youths within employment, workforce and demilitarization will be a fruitful avenue for reducing conflicts and youth restiveness. While Albert et al. (2018) pointed out that soft and hard infrastructure compensation is an avenue to reducing youth restiveness across the Niger Delta spill affected communities. The above argument could be established through the Federal Government and the operating oil multinationals within the shores of Nigeria, the question is whether these sectors are aware of the needs and how has their activities been, in terms of spill management, towards improving the people's wellbeing and livelihood structures. Section 2.8 below explores the existing policy as a tool for managing petroleum activities, oil spill impacts reduction and environmental management within the Nigerian oil and gas production spectrum.

2.8. Multinational Activities and Management System Associated with Oil Production

Accordingly, Ite et al. (2013) pointed out that unmaintainable exploitation from the International oil companies, poor governance and weak environmental regulations are significant factors that led to the deterioration of socio-economic conditions as discussed in section 2.7.2. Accordingly, while the petroleum activities and the production output influenced the Nigerian economy by accounting for over 90% of its foreign exchange earnings, 77% total of government revenues and 40% of Gross Domestic Product (Augustine Ikelegbe, 2005; Malden, 2017; Ugochukwu et al., 2008). Scholars have pointed that, the immediate host and transit communities are muddle with negative activities such as; damages to primary

livelihood, air pollution, water, socioeconomic, environment, well-being and cultural damage (See Section 2.7.3, 2.7.4 (Mogaji et al., 2018; Nwachukwu & Mbachu, 2018). This, however, attests significantly to the outcomes from the activities of oil and gas production within the Niger Delta.

According to Ete (2004) and Ete et al. (2013) studies further mentioned that the oil and gas multinational companies have contributed little or no tangible positive outcomes through their activities other than negative impacts. For example, corporate social responsibilities initiatives which ideally supposed to contribute to livelihood sustenance's, and community developments are forgotten within most of the oil-producing communities (Aniefiok, Udo, Margaret, & Sunday, 2013). Importantly, the oil multinationals through literature context and observatory context, have converged enormous calamities as it relates to the Niger Delta oil-producing environment and communities through the activities of gas flaring, operational noise and vibrations during oil struck and major production activities. Loss of medicinal herbs through gas flaring, ecological impacts, political impacts and risk of cross-crossed pipelines on farmlands and some areas of communities (Pegg & Zabbey, 2013). In addition, Olujobi, Oyewunmi, and Oyewunmi (2018) pointed that despite the different established laws and legal framework for the activities of oil production, several incidents have contributed to different impacts without a severe punishment or management strategies, and law enforcement on the polluters on the environment. Hence, section 2.9 presents some relevant legal laws and frameworks established to manage, monitor the activities of oil and gas production within Nigeria as a means towards disaster risk reduction, and impact reduction.

2.9. Management Styles

There are different management styles in dealing with oil spill hazards, either before the spill, during or after the spill, as such; biological, chemical, policies, remote sensory technologies and manual are some prominent (Julius & Joseph, 1972; Zabbey et al., 2017). However, the management style in the context of this study is through existing policy and how such policy influenced oil spill reduction, impact reduction and positive influence on the vulnerable population to the hazard. Nwilo and Badejo (2006), have pointed to the mismanagement of environmental issues which have impacted negatively on the communities across the region. The section below explores the relevant environmental policies in the Nigerian context concerning oil production and environmental protection.

2.9.1. The Constitution of the Federal Republic of Nigeria, 1999 CAP C20 LFN, 2004

The 1999 constitution remains the ultimate, with the fact that it is the first constitution to make provision for the protection of the environment in the Nigerian history (AbilaKa & Stephen, 2014; Atanda, 2015). The provision for the environment is undoubtedly presented constitutionally, irrespective of the fact that the environment remains on fast degenerating muddle. However, it is informative and deludes to understand that under section 20 of the constitution, it is unmistakably established and provided that "the State shall

protect and improve the environment and safeguard the water, air, land, forest and wildlife of Nigeria”. The section 16(2) explicitly shapes that “the state shall direct its policy towards ensuring the following; “promotion of a planned and balanced economic development.” Similarly, section 17 (2)(d) provides “In furtherance of social order, exploration of human or natural resources in any form whatsoever for reasons, other than the goal of the community shall be prevented.” Importantly, the constitutional provisions stated above are non-justiciable by any Nigerian legal principles or court of law, thereby making the right of community ownership and use of natural resources abridged (Olujobi et al., 2018). This act of non-justiciable is seen as a significant setback to environmental protection as it relates to oil spillages and harmful activities of oil production on the environment and the people living therein (Olujobi et al., 2018). Furthermore, Atanda (2015), stressed by revealing that the above constitutional provisions signpost the ideas of environmental protection and the fact that some other section explicitly mandates and denied the owners of the lands the right to their natural resources renders the biting powers powerless.

2.9.2. Environmental Guidelines and Standard for Petroleum Industry in Nigeria (EGASPIN)

There are substantial bodies of environmental laws or guidelines in Nigeria. Hence, the basis for each law hangs on the Nigerian 1999 constitution section 20, which comprises the provision for the protection of the air, water supply, forest and wildlife of Nigeria. Also, supplemented by the Federal Environmental Protection Act about management of solid and hazardous waste, effluent and pollution abatement (Chris, Joseph, & Inemo, 2014a; FEPA, 1992). However, for the petroleum industry who have directly and indirectly contributed gravely to the devastation of the Nigerian Environment wherewith the provision of environmental guidelines for its operation by the Department of Petroleum Resources (DPR) (Chris et al., 2014a). Thus, “EGASPIN confirms that oil and gas operations are governed by the Nigerian Petroleum Act and subsequent federal legislation.” As revised in 2002 constitution from the 1991 version, EGASPIN mandate’s is to minimise oil pollution to the least minimum (Chris et al., 2014a). EGASPIN with regards to oil spills requires that the oil companies begin clean-up of any spill within twenty-four hours (24 hours) (Atanda, 2015 ; Chris, Joseph, & Inemo, 2014b). Thus, the said target for clean up by EGASPIN sound stringent in practical situations given the fact that the operators, polluters or oil-related agency such as NOSDRA may not get to know that a spill has occurred within the said period of twenty-four hours. Consequently, the United Nations Environmental Program (UNEP) recommended that more emphases be placed on the social and health impacts on the communities affected by oil spills instead of more approaches for the clean-up which eventually takes so many years (Chris et al., 2014a). The communities and zones affected by oil spills should be given full attention regarding social, economy and health matters, fair and adequate compensations are paid (Chris et al., 2014a). Further, since individual state are legally mandated by the 1999 constitution to make provisions and directives of its policies towards promotion of a planned and balanced economic development as part of the environmental law (see section 2.9.1). Olujobi et al.

(2018) stressed that, laws from different agencies and arms of the government as the powerhouse should be implemented.

2.9.3. National Environmental Standard and Regulation Enforcement Agency Act (NESREA) 2011

The National Environmental Standard and Regulation Enforcement Agency remain a significant body charged with the protection of the Nigerian Environment. This body as established in 2007 to replace the obsolete Federal Environmental Protection Agency (FEPA) is without prejudice, however, to the provision of section 2 of the 2007 Act, have “The responsibility for the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria’s natural resources in general and environmental technology. It includes coordination and liaison with relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulations, policies and guidelines (NESREA, 2007).” The section 7 of the National Environmental Protection Act (NESREA) portray the power to (a) Enforce compliance with laws, guidelines, policies and standards on environmental matters; (c) To enforce compliance with the provisions of international agreements, protocols, conventions and treaties on the environment. It includes climate change, biodiversity, conservation, forestry, oil and gas, chemicals, hazardous waste, ozone depletion, marine and wildlife, pollution, and other environmental agreements as may time to time come into force.

Furthermore, the Act also has the mandate to enforce compliance with legislation and guidelines on environmental health, pollution abatement, water quality, sustainable management of the ecosystem. Section (h), is to Enforce through compliance monitoring, the environmental regulations and standards on noise, air, land, seas, oceans and other water bodies other than in the oil and gas sector. While section (I) is to Ensure that the environmental projects funded by donor organisation and external support agencies adhere to regulations in environmental safety and protection, also, section (j) Enforce environmental control measures through registration, licensing and permitting system other than in the oil and gas sector. Likewise, section (k) is to conduct an environmental audit and establishes a data bank on regulatory and enforcement mechanisms of environmental standards other than in the oil and gas sector. Further, section (L) Create public awareness and provide environmental education on sustainable environmental management, promote private sector compliance with environmental regulations other than in the oil and gas sector and publish general scientific or other data resulting from the performance of its functions; (m) Carry out such activities as are necessary or expedient for the performance of its functions.

However, NESREA provisions signpost clear environmental instrument for adoption by any organisation and are commendable. Thenceforth, scholars have argued that enforcement of the laws and regulations is totally outside the scope of the agency given that the environment, waterways and air continuous in contamination and degenerating conditions (Olujobi et al., 2018). As further mentioned by Olujobi et al. (2018), the non-implementation of laws have influenced reductions on capacity deployment couple with

the systemic malaise where parallel agencies are established to perform similar functions, as such leading to resource waste and culture of redundancy.

2.9.4. Petroleum (Drilling and Production) Regulations, 1969

The petroleum (Drilling and Production) Regulations 1969, in section 25 provides that, “The licensee or lessee shall adopt all practicable, provision of up-to-date equipment approved by the Director of Petroleum Resources, to prevent the pollution of inland waters, rivers, the territorial waters by oil, mud or other fluids which might contaminate the water banks, cause harm or destruction to marine life, shall take prompt steps to control and, if possible, end it (PDPR, 1969). Atanda (2015) affirms that the operators in the context of the above section, have no obligation to control nor end pollution. Particularly, with the facts that different agencies have been mandated with similar provisions in their different Act (Olujobi et al., 2018). Also, section 23, provides that if the licensee or lease exercises the right conferred by his license or lease in such a manner as unreasonably with the exercise of any fishing right and economic trees shall pay adequate compensation (PDPR, 1969). In n essence, the law seeks to protect and safeguard the socio-economic and well-being of community members within the oil-producing region which further amplifies the vital debate of oil spillages and compensations structures. (Many interviews stressed that compensation is never paid in most communities, while the ones paid are due to different litigation (see analysis section). Another essential question despite implementation lacunas (Olujobi et al., 2018), is ‘what happens when the oil spilt on the public fishing area that does not belong to one particular fishing community? The tendency of paying compensation whether in kind or cash is very low in this context thereby influencing the quest for alternative livelihoods(PDPR, 1969).

2.9.5. The Oil Pipeline Act Cap 145 LFN, 1990/ 2004

The Oil Pipeline Act section 11(5) provides that the holders of a license shall pay compensation to any person whose land or interest in land is injuriously affected by the exercise of the right conferred by the license. Also, for any injurious affection not otherwise mad good; and any person suffering damage because of any neglect on the part of the holders to protect, maintain or repair any work structure or thing executed under the license. For any such damage not otherwise made good; and any person suffering damages as a consequence of any breakage from the pipeline must pay compensation (OPA, 1990). Hence, damages due to sabotage and malicious acts are exempted and are not liable for any strict fine, jail terms, penalties and compensations (FEPA, 1992). Also, section 11 of the Act further provides that in a situation where the amount of such compensation is not agreed between any such person and the license/ holders, it shall be fixed by a court following relevant sections of the Act.

Further, section 20 reinforced section 11(5), directing that the court may award compensation as it considers just having those relevant issues in section 20, a, b, c, d of the OPA Act (OPA, 1990; Orji, 2012). Notably, the court has the full capacity of enforcing compensations payment as described in the regulation.

Nonetheless, Samson and Okonkwo (2014) further mentioned that the affected people will always be at lost

given the number of times, transportation money and payment of legal personnel for handling the case at the law court and sometimes after all invested for such case, compensation never paid or payment of less amount than what has already been spent. Thus, the argument above is occasionally discouraging for community members and thereby increasing the poverty rate, environmental degeneration impact, socio-economic crises and frustrations (Adekunle, 2008).

2.9.6. Oil in Navigable Waters Act, 1986/ 2004

This regulation contains the provisions for the prevention of pollutions on the waterways/sea related to oil spills and or oil product. Further, the oil in Navigable act is liable to punish any defaulter of the laws as it relates to pollution on waters by oil production. According to Olujobi et al. (2018), the act is relatively behind the times and not mirror modern trends geared at reducing the incidence of oil spillages on the waterways. This point from Olujobi et al. (2018) is prompted by the specific disciplinary measures imposed by the oil in Navigable water act which states in section 6 “That an offence shall not by virtue of this section (section 6) be punishable on summary conviction by a court having jurisdiction inferior to that of a High Court by a fine exceeding N2,000” (ONWA,1968)”. However, the penalties imposed by the law are tremendously insufficient and exceedingly low and do not reflect the widespread and the long-term cost implication associated with oil spillages within the shores of the communities as such, polluters find it cheaper to breach the laws than adherence (Atanda, 2015; Igbokwe, 2001; Orji, 2012). Furthermore, there no compelling measures imposed on the polluters for immediate clean-up of the waterways after oil spillages within the act specifications, which further contradict the implication and integral role of the oil resources to the Nigeria socio-economic development. As such, it further implies that communities are relatively operating in silos given that most laws are not beneficial to communities. As further stressed by Olujobi et al. (2018), “The culpable (guilty) parties should thus be held accountable having been vested with the pledged latitude to explore for oil resources.”

2.9.7. National Oil Spill Detection and Response Agency (NOSDRA)

The most significant and forefront agency regarding oil spillages within the Nigerian context is the National Oil Spills Detection and Response Agency. The agency is mandated with the statutory responsibility for preparedness, detection, response and investigation to all oil spillages in Nigeria under section 1(1) of its law (NOSDRA, 2006). However, scholars have pointed out that most oil spill investigations are led by oil multinationals instead of NOSDRA and or combinations of both community and the oil and gas industry (Larson & Soto, 2008). Accordingly, Atanda (2015), mentioned that such oil spills investigation where all relevant stakeholders such as; the community representatives are not involved hinders the supply of accurate technical data from the oil spill site. In a similar vein, (ref) pointed, such act further contributes to the inaccuracy of information regarding the extent of damage and the number of incidences reported. This gap is seen to have influenced communication and lack of accurate information dissemination between the related sectors. For example, the National Oil Spill Detection and Response Agency certified 327 oil-

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impacted sites in 2006, while in 2007, 253 oil spill incidents were reported, 588 incidents reported and 419 oil spills reported in the first two quarters of 2008 (AbilaKa & Stephen, 2014). Further, between 2012 and 2015, Nigerian experienced 1,527 incidents recorded, with numerous unrecorded incidents (International Amnesty, 2015). Also, the oil multinationals reported 400 incidences with preventive measures to stop the investigation from the responsible agencies and communities, making the joint investigation process reliant on the oil multinational cooperation's (Atanda, 2015).

Furthermore, the minister of NOSDRA in several visit to different oil spill site pointed that, "the progressing trend of the sad incidents of oil spill is indicative of a grave danger ahead as nation, first in terms of polluted environment and its tender poor health index as well as colossal loss of revenue which is aptly required for economic and physical development". The scenario of oil spills poses a host of challenges, especially in terms of clean-up, remediation and rehabilitation (quoted in AbilaKa and Stephen (2014). Accordingly, the Minister further added, "the agency was engaged in monitoring of recent oil spill clean-up, and incidents that are often recurring, given the spate of the crisis between communities and oil companies". Also, the agency has commenced an action on the development of a National Oil Spill Compensation Rate (NOSCR) which will serve as a guide for oil industry arriving at adequate and appropriate compensation to host and transit oil communities." These are credible words that seem practical. Hence, there remains little or no physical/ practical evidence and intermediary measures about oil spill impact and environmental devastation reductions mechanisms and or adequate compensations for the affected communities. Thus, this could be linked to the structure of the agency who have pushed for the amendment of the current laws that guides its activities. Accordingly, the bill is set out to achieve a change of name from National Oil Spill Detection and Response Agency (NOSDRA) to National Oil Pollution Management Agency (NOPAM). As such, the bill seeks for more legal empowerment to enforce and increase fines, enforce penalties and fines, monitor decommissioning of oil facilities and improve funding, which would give more power to protect the environment, respond to pollution and impacted communities.

However, since the agency serves as an intermediary between the communities and the oil and gas industry as regards to livelihood support, compensation for damages and assessment of oil spill incidents, notably, the agency remains paramount in oil spill investigation, and community relation research as such would be used as a reference point and a unit for the study. Notably, there is a lack of enforcement of the available legal framework as it relates to environmental degradation, communities, and how degradation through companies affects them and the aftermaths of these impacts. As pointed by Albert et al. (2018), the oil pipeline act remains the only act that made provision for compensation and fishing right (See Section 2.9.5). Thus, there are needs for the empowerment of the affected oil spill communities amidst the impacts.

2.10. Empowerment, Environment and livelihood

The use of an integrated and multidisciplinary approach to explore environmental problems ensued by oil spillages is vital in the context of this study, given the nature that the study seeks to understand how an improvised alternative livelihood are perceived to contribute to livelihood sustainability. Ghai (1994) argues that the fundamental idea of the three concepts is to capture the physical, ecological, social, economic and political process as it relates to people and the environment. Accordingly, scholars have emphasised on how social factors play significant roles in the interaction between human existence and the environment (Ghai, 1994). Thus, employment, essential resources such as, land, gender relation which frequently restrain women access to capital, essential resources like food, credit facilities, water, empowerment and decision-making process which affects the management of natural resources are vital. Scholars opined that the environment remains the first point of livelihood contact which encompasses empowerment therein, as such plays vital roles in the discussion of external factors that impacts on the environment, the livelihood of the people and empowerment structures.

2.10.1. What is empowerment

The term empowerment is a multifaceted concept, meaning different things to different people, which encompasses rhetoric, academic and radical association. According to Adams, (2008), empowerment may be used rhetorically, to make a case for people to achieve power and assert it. While, academical use of empowerment is to theorise people's relationship with powers and the powerlessness in the society, and the radical aspects are concerned with the attainment of power through radical act amongst groups or organisation. Thus, empowerment is an old word and concept which has been in use for decades both in practice and philosophical with a different misconception which reinforces the need for its clarification and the applicability in the current study context. According to the Oxford Dictionary, the word empowerment is termed as given authorities or power to do something. Generally, empowerment encompasses people and authorities within which are enthroned with responsibilities. Rowlands (1995) describes empowerment as the process of bringing people who are outside the decision-making process into the decision-making process. While, Robert (2008) defines empowerment as "the capacity of individuals, group an or communities to take control of their circumstances, exercise power and achieve their own goals, and the process by which, individually and collectively, they can help themselves, and other maximise the quality of their lives." Importantly, the concepts of employment serve as an avenue that brings people into the formal decision-making process which cut across the economic and natural resources sphere that enables participation of individuals or groups in the decision-making process. Furthermore, the concepts broadly encompass the creation of skills, opportunities, authority and motivation for employees, individuals or group and making such individuals being accountable, responsible and ownership for any outcomes ensued from its capacities. According to Ofem and Ajayi (2008b), empowerment is a channel to reducing conflicts

and restiveness at community levels, as such, improving communication and collaboration between individuals and organisation. Empowerment influences self-esteem, while creating an avenue for the inclusion of people within the decision-making spectrum, primarily, when it revolves around natural resources, economic sphere, community and organisations.

2.10.2. The need for empowerment

In addressing the objectives of this study, empowerment is taken as a key concept as it relates with adverse impacts of organisation and how their activities have increased joblessness as opposed to job creation and employment across the Nigerian Niger Delta communities. Thus, there is a need for creating channels for empowerment as a means of reducing the impacts of such harmful activities on communities. As argued by, Ofem and Ajayi (2008b) empowerment can be done through capacity building, training of community members, the formation of youth organisations for its development, provision of micro-credit facilities and providing power and authority through the government interventions. According to different scholars, the Niger Delta Nigeria communities have had devastating obstructions and impacts on their livelihood sources across decades of existence, as such, a concrete and or practical and physical need are called for the empowerment across communities (Pegg & Zabbey, 2013; Zabbey, 2009).

Further, the communities across the region lack every necessary amenity which has increased the poverty levels coupled with limited alternatives channels for livelihood support (Ebegbulem et al., 2013). In the same vein, Oviasuyi and Uwadiae (2010) argued that the poverty across the Niger Delta Region is multidimensional which goes beyond the economic to social, cultural and political. According to Burton (1997) cited in Oviasuyi and Uwadiae (2010) further agrees that the high level of poverty could increase the reaction that could result in restiveness, conflict and violent at community levels. Therefore, there is a need for empirical action into ‘how’ communities can be empowered to reduce the impacts of such toxic elements not just on human wellbeing, livelihood structures, but, on the built environment.

2.11. *Identified Gaps in literature*

Through a detailed literature reviewed as discussed in the preceding chapter above (See Chapter two), gaps are identified which provide the justification for this current study. Existing literature focused primarily on socioeconomic impacts, conflict in oil politics, environmental degradation, degradation of cultural and traditional lifestyle, health impacts of oil spills, violent conflicts and oil revenue sharing (Adams, 2015; Akpan & Akpabio, 2003; Anugwom, 2005; Arowosegbe, 2009; Ebegbulem et al., 2013; Fentiman & Zabbey, 2015; Ojo, 2010; Pegg & Zabbey, 2013). Furthermore, a different emphasis has been placed on the incidents of oil spillages with little attention paid to the current alternative livelihood of the affected communities. Subsequently, literature has shown that different incidents of oil spillages result from sabotage of oil facilities given that more than 60% volume of oil is spilt through a third-party interference.

Thus, most of the studies have not been successful to search for the root influencing factors of the high increase of third-party interference, and the existing livelihood support mechanism across communities with devastating livelihood disruption resulting from crude oil production. Subsequent studies have failed to explore, if, the damaged livelihood structures are the root causes of third parties interference in oil facilities destruction. More significantly, little attention is paid academically to the revitalisation of the damaged culture and sources of livelihood of communities across the Niger Delta region, which reinforces the need for this current study. Thus, this study takes a different dimension to explore the alternative livelihood strategies improvised by the communities and how such strategies contribute to livelihood rebuild as a means to reduce impacts of oil spillages and negative petroleum activities on the livelihood structures of the people, while empowering the communities.

2.12. Summary and Links

This chapter explained the state of the art of the phenomenon under investigation. Firstly, the chapter explained the concepts that underpinned the area of study by explaining disasters and their effects in global perspectives, and then link the concept of global disasters to disasters in Nigeria being the case study and its various effects. Thenceforth, the chapter described detail impacts from the specific disaster (oil spillage) linking with the vulnerability and livelihood concept of communities. The chapter further describes the role of the oil multinationals about livelihood rebuild and empowerment strategies through relevant existing policy. Finally, the chapter explains the gaps in the state of the art which justifies this current research. The next chapter describes the research methodological framework underpinning this research.

CHAPTER 3: METHODOLOGY

3.1. Introduction

Chapter 2 presented state of the art in the literature. This chapter establishes and justifies the selection of the methods used in this research. The chapter first explains the methodological framework that guides the whole structure of the thesis. The chapter further presents the philosophies underpinning social and business research, the approaches towards research, the methodological choices, research strategies, and time horizon within the research spectrum. Importantly, case study design as the main design used for this study was detailed, the methods for data collection and data analysis were discussed, followed by the validation procedures for the study. The chapter begins with the methodological framework and the justifications to the chosen methodology and methods.

3.2. Methodological Framework

A framework is a logical representation of idea (s) as discussed in section 4.2 (Miles, Huberman, & Huberman, 1994), while methodology encompasses a systematic ‘design process’ adopted by the researcher in solving the problems identified through the broad literature reviewed (Rajasekar, Philominathan, & Chinnathambi, 2006). According to Gray (2013), methodology is a tool that support theories and principles of the research, which are the values to be inculcated to achieving a standard research output. Carter and Little (2007), mentioned that a methodology is a tool that shapes and is shaped by the researcher's questions, objectives, and studies design. Though, Holden and Lynch (2004) argue that research should not only be led methodologically but rather a methodological choice should be substantial to the researcher's philosophical position and the phenomenon under investigation. Hence, Haigh and Ingirige (2015) also mentioned that methodology is an umbrella where methods are parts. Comprehensively, research methodology is essentially not the methods the researcher employed in conducting the research but the process. Hence, the presentation of the planned, value-neutral and scientific steps of the procedures engaged are the methods used (Pathirage, Amaratunga, & Haigh, 2005; Singh & Nath, 2005). As such, the determination of the most appropriate method is a critical part of achieving the research objectives. As added by Carter and Little (2007), understanding research methodology helps the researcher to prescribe choice of methods within a particular discipline in the academic spectrum. However, it necessary to understand the pertinent of research terminologies and the theory of knowledge as long as we deem knowledge valuable (Kasim, Alexander, & Hudson, 2010; Moser, 2002). As further mentioned by Pathirage et al. (2005), “that it is unwise to conduct a study without an awareness of the philosophical, methodological and political issues that form the background of any research”. This further stress the importance to understand research methods and methodologies guiding research in an academic field.

However, scholars have proposed different research models that guide researchers in the selection procedures towards a systematic inquiry. Accordingly, the two most frequently used models in the built environment, social science and business research are the nested model by Kagioglou, Cooper, Aouad, and Sexton (2000) and the research onion by Saunders et al. (2016). Further, Kagioglou et al. (2000) nested model proposed three layers, namely, research philosophy, research approaches and research techniques. While, Saunders et al. (2016) expanded the model by adding three more layers making it six-layers namely, research philosophy, research approach, methodological choice, research strategies, time horizon, and research techniques. Also, scholars have suggested that the two models be combined in research, given that both models are connected in three different ways and encompass additional ‘terms’ for example, time horizon which is inherently in any research conduct (Allali & Kulatunga, 2015).

Accordingly, Kagioglou et al. (2000) models provide a holistic insight into the logical direction and conduct of the research. As such, the philosophy within the nested model guides and energise the inner layers while explaining the underlying assumptions of the research (Thurairajah, Haigh, & Amaratunga, 2006). The research approach describes the form of reasoning, while the research techniques are the methods used for the study data collection and analysis. This three Kagioglou et al. (2000) nested approach upheld the same connotation as Saunders et al. (2016) in three contexts. The Saunders et al. (2016), three additional layers namely, methodological choice, which involves the researchers choice of selecting among qualitative, quantitative or mixed-method research. The research strategies involve the actual procedures of actions taken to achieve the aim and objectives of the research, and the time horizon involves the specific during for the conduct of the research. Further, Saunders et al. (2016) ‘research onion’ beliefs on the philosophy that the onion has to unfold itself as the researcher proceed systematically while demonstrating the importance of each element within the layers. Hence, the Saunders et al. (2016) research model is applied in this study because it proffers a more detailed demonstration of the steps and stages to understand the research process and conduct than the nested model. Figure 7 below presents the research onion with the identification of the research positioning, given the context of this study.

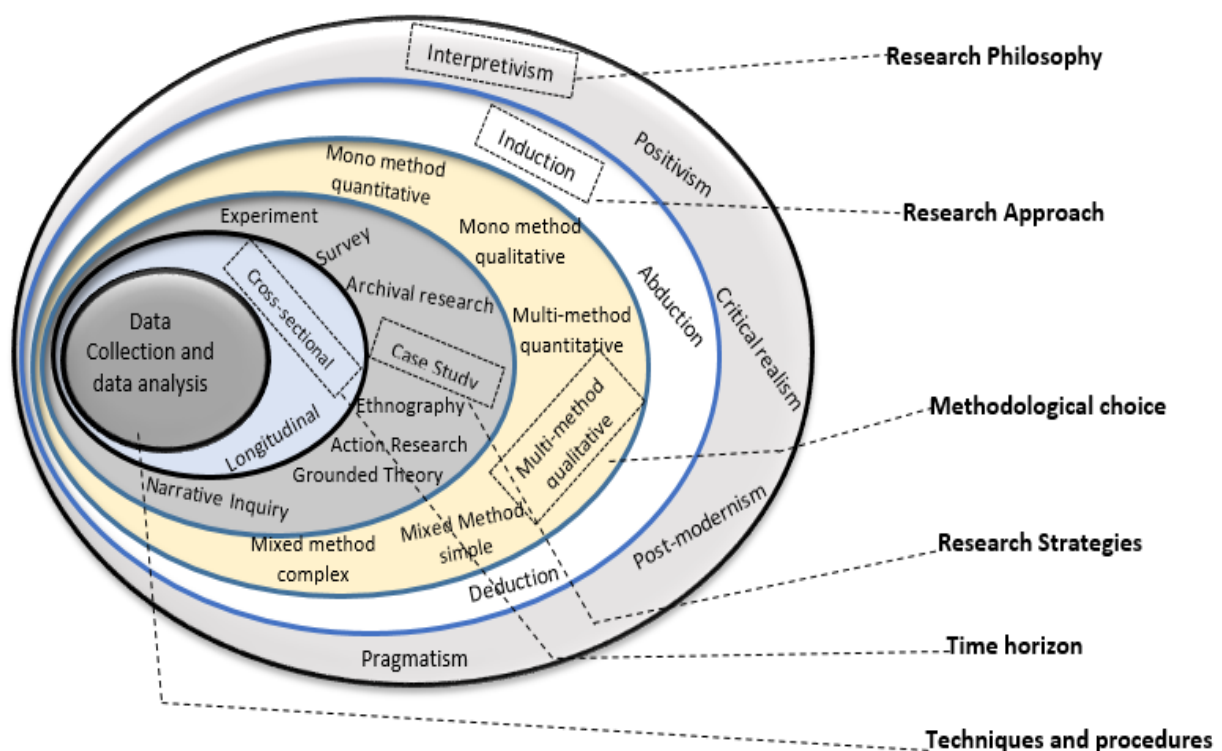


Figure 7: Research Onion (Positioning)

Source: (Saunders et al., 2016)

3.3. Research philosophy

The research philosophy is the first layer of the research onion, as presented in Figure 5 above. Research philosophy is systematic assumptions and beliefs around the ways researcher looks at reality which influences how knowledge is acquired, upheld and interpreted (Saunders et al., 2016). The philosophical assumptions serve as tools for the researcher, as such; guides and underpins the nature of the research questions and the design throughout the conduct of the research (Kasim et al., 2010; Saunders et al., 2016). Further, the traditional assumptions that shapes the research inquiry either explicitly or implicitly is epistemological (knowing), ontological (being) and axiological (acting) undertaken (Pathirage et al., 2005; Saunders et al., 2016; Senaratne & Sexton, 2004). However, professionals, writers and scholars have established different philosophical stance within the academic world with different terminologies. Accordingly, Saunders et al. (2016) established six philosophical stances, namely, pragmatism, interpretivism, objectivism, subjectivism, positivism, and realism.

Accordingly, pragmatism beliefs that a researcher can adopt any philosophical position if the research does not suggest a particular philosophy (Johnson & Onwuegbuzie, 2004). Importantly, “Pragmatist recognise that there are many different ways of interpreting the world and undertaking research, that no single point of view can ever give the entire picture and that there may be multiple realities (Saunders et al. 2016, p.

130)”. Positivism believes that research should be theory-based as such, the researcher should use existing theory to develop a hypothesis for a further test (a value freeway), and researchers around this belief may take natural scientist philosophical position (Saunders et al. 2016, p. 134)”. While, realism believes that there is the reality which is quite independent of the mind as opposed to idealism theory that beliefs only the mind (mentally constructed) and its contents exist (Saunders et al. 2016, p. 136). Further, interpretivism advocates and emphasises that research should be conducted among humans rather than objects. This philosophical position intellectually originated from the tradition that believes that human makes sense of the world around them (phenomenology) rather than making sense from an objective perspective (Saunders et al. 2016, p. 137). While, subjectivism and objectivism are the two contrasting philosophies that are widely referred to, as such, subjectivism “assert that social phenomena are created from the perception and consequent action of the social actors, while objectivism belief making sense from an objective point of views (Saunders et al. 2016, p. 132)”. Subjectivisms stress the importance that reality is socially constructed as opposed to objectivism which believes that “social entities exist in reality external to and independent of social actors (Saunders et al. 2016, p. 131).” Accordingly, these beliefs and their incorporation within any research is determined on the philosophical position of the researcher. However, the next section present detail views about the three widely assumptions that shapes the entire research conduct, namely, epistemology, ontology and axiology.

3.3.1. Epistemology

Epistemology is concerned with what constitutes acceptable knowledge or inductive inference in any field of study (Faubion, 1994; Saunders et al., 2016). In other words, epistemology is concerned with what people consider valid and legitimate knowledge, and how is gained, developed and transferred to others (Holden & Lynch, 2004; Saunders et al., 2016). Thus, scholars have described knowledge in different views, depending on each research and how such field of study interprets such knowledge whether subjective or objective. This study aims to develop a framework to enhance the empowerment of communities affected by oil spill environmental hazards which would be achieved by developing local community capacities by introducing constructive platforms for the government from the community perspectives. Therefore, this research is guided by the philosophy that believes in subjective truth, which means that reality is socially constructed. The ways the disaster-affected people perceive the impact becomes their reality. In other words, there is no objective truth “that reality exists as such apart from the operation of consciousness (Saunders et al., 2016)”. Further, Crotty (1998), stressed that “there is no meaning without the mind and truth or the meaning comes into existence in and out of our engagement with the realities in our world”. However, researchers under this subjective reality are also known as social constructionism which means that their perception of what constitutes the reality of any kind are socially constructed by the people therein, thereby amplifying that people can construct meaning to the same phenomena in different ways depending on their perception. Importantly, drawing the fact that social constructionism believes in the reality of the

participants of the research rather than an instrument or objective truth. This research thereby adopts such a stance (social constructionism) to underpin the current study.

3.3.2. Ontology

Ontology is the study of 'being' or the researcher's philosophical assumption about the nature of reality (Crotty, 1998; Saunders et al., 2016). This philosophical assumption is concerned with 'what is', with the nature of existence, and with the structure of reality. Ontological assumptions work in line with other philosophical assumptions to inform theoretical perception embodied in the certain ways of understanding 'what is' and 'what it means to know' (Crotty, 1998; Saunders et al., 2016). This researchers assumption about the nature of reality is of two extreme subjective / constructive view, and objective (realist view) which are likely to be accepted as producing valid knowledge (Saunders et al., 2016). Further, the constructivist view assumes that individuals view and describe their reality in different ways and as it affects them. While, the realist held the view that reality exists in the external world and has a pre-determined nature existing independently outside human consciousness and cognition (Saunders et al., 2016). Thus, this research explores the various impacts of the phenomena under investigation alongside the alternative livelihood and adaptive mechanisms amidst of the impact with no pre-determined nature and structure of the affected population truth. As such, the reality or truth of the situation under investigation is significantly reliant on the affected individuals, which further positioned this study more towards subjective stance. Thereby, while concluding from the 'constructivist' extreme which believes that researchers should search for knowledge using the role of humans as social actors, and the 'realist' extreme of epistemology which held that research should be conducted among observable realities through some rules. The research is undoubtedly subject to subjective truth and realities based on the objectives and aim of what the researcher tends to explore in the study context. Furthermore, there is another philosophical assumption which believes in the values placed in the conduct of research, the philosophy encompasses the role of epistemology and ontological assumption, which is referred to as axiological assumption.

3.3.3. Axiology

Axiology is a branch of philosophy concern about the study of nature value system, and foundation of value judgement in research conduct (Kulatunga, Amaratunga, & Haigh, 2007; Saunders, Lewis, Thornhill, & Bristow, 2015). Thus, this brings to play the level of the value of the researchers owns values, such as; personal values, the researchers' beliefs/norms and perceptions, which then plays roles throughout the research conduct and the philosophical process. In other words, axiology deals with how the researcher places his/her self within the research spectrum to either the reality are 'value-free' or 'value-laden'. The value-free/ neutral at the extreme of the continuum is where the researcher seeks to be independent of the raw data, transcription and or the interpretation without judgment on the research (Kulatunga et al., 2007). While, the value-laden/biased on the other extreme is where the researcher becomes part of the data and having a judgement on the research (Kulatunga et al., 2007; Saunders et al., 2015). Thus, this research is

considered as value-laden given that the researcher is part of the research from the designing of the research questions, methodological choice, data collection techniques and design, enforcement of the data collected and the choice of the analytical techniques and interpretation of the data. Further, since this research aims to develop a framework to enhance the empowerment of oil spill affected population in livelihood context makes it a complex issue that cannot be explored through physical science other than engaging with the affected communities. As such, the theoretical perspective underpinning this research is interpretive philosophical stance as the researcher makes meaning from the raw data as socially collected.

In summary, given that this research is socially constructed and a value-laden through the understanding of the epistemological, ontological and axiological assumptions guiding the conduct of research. Figure 6 below presents the philosophical positioning of this research, drawing from the two main extremes within the ontological, epistemological and axiological assumptions in the continuum of research. Besides these philosophical stances in the diagram above in Figure 7, other philosophical paradigms exist which are widely used in a different field. Thus, the below Figure 8 presents the research philosophical believes and positioning in the context of this study.

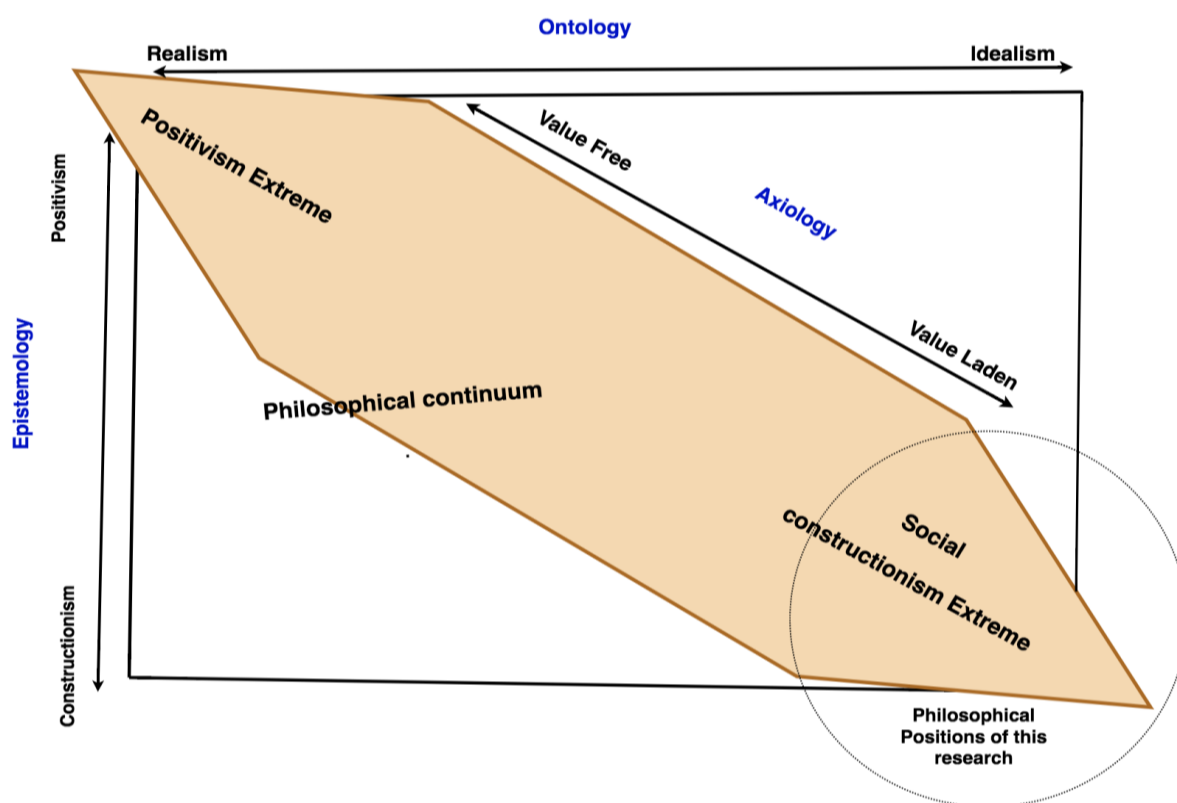


Figure 8: Continuum of philosophical assumptions

Source; Thurairajah et al. (2006)

3.4. Research Approach

Research approach deals with the form of reasoning during the conduct of research. Saunders et al. (2016) describe this form of reasoning in three forms, such as; deductive, inductive and abductive as placed in the second outer layer of the research onion (Figure 5). Importantly, these three approaches are used for either building theory or testing of theory (s) for conformity (Mayer, 2015). Accordingly, deductive approach owes much to scientific research, and it takes the approach whereby theory and hypothesis are developed, and then the research strategy is designed to test the hypothesis (Nicholas, 2006). In other words, a deductive approach is used to falsify or confirm theory drawn from actual evidence (Nicholas, 2006). On the other hand, the inductive approach is associated with theory building, where a theory is built from the analysis of data collected in logical evidence (Saunders et al., 2016). While abductive takes the approach of re-testing emergent themes and theory through additional data collections (Saunders et al., 2016). Importantly, the abductive approach stems between deductive and inductive, which historically means ‘to bring together’ or ‘to assemble’ (Kovács & Spens, 2005).

These approaches are usually attached to philosophies, though; it is sometimes deceptive for a researcher who does not have a clear understanding to which approach “inductive, deductive or abductive” stance to adopt. Nonetheless, the inductive approach is more associated with interpretivism, while deductive is usually associated with positivism and abductive is associated with both inductive and deductive (Saunders et al., 2016). Further, Saunders et al., (2016) strongly suggested that researching a phenomenon inductively produces a more valuable result when there is little and debatable literature within the area of the research. Also, when the research aims towards exploratory of the existing art to proffer solutions. This current research adopts an inductive approach because the key concepts to be explored are gotten from the extensive literature and not on any specific theory.

Further, the assumptions regarding the key concepts deal with how oil spillages affect livelihoods and how alternative mechanisms are adapted for subsistence, aiming towards the development of enhancement tools to empower or rebuild the damaged and unique livelihood structures. These concepts were further explored by primary/raw data collection to validate the concepts, build themes through the interpretation made from the raw data to emerge theory after data analysis. The vital part of the inductive approach within this research context is the part that it permits the research findings, emerge important themes and recurrent themes inherent from the qualitative raw data without imposed by structural methodologies. Figure 9 depicts the deductive, inductive and abductive reasoning process encompassed in research conduct.

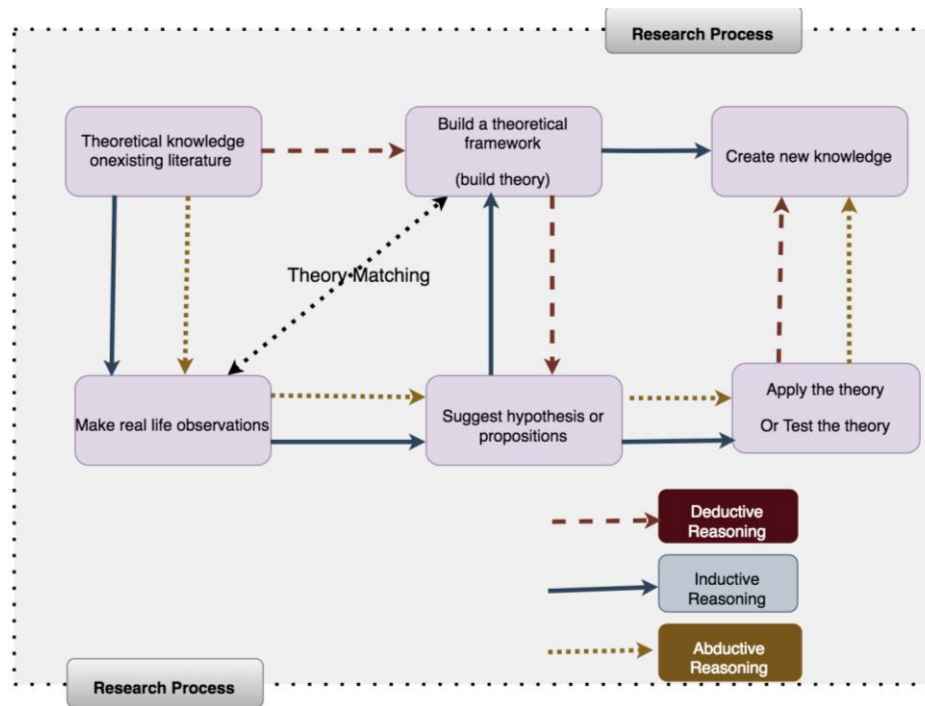


Figure 9: Research Reasoning

3.5. Methodological Choice

There are two widely used choices in conducting research, namely, qualitative and quantitative methodological choice (Saunders et al., 2016; Creswell, 2013). As shown in Figure 5 above, the methodological choice is located at the third outer layer of the research onion. Each of these methodologies depicted in the section above includes sets of strategies and data collection methods depending on what the researcher deems appropriate for the study. Accordingly, a quantitative research method fundamentally scrutinises a situation using statistical data (Silverman, 2015). Further, Bryman and Bell (2015), and Saunders et al., (2016) pointed out that quantitative research concentrates on quantification in data collection and analysis, which is a positivist philosophical stance. While in contrast, a qualitative research method scrutinises textual data and analyse the ways that emerge from the process of the scrutiny (Ketokivi & Choi, 2014). Furthermore, some scholars have opined that using both qualitative and quantitative research methods are also vital to gain a comprehensive and confirmation of results, which further helps to discover new perspectives and or develop a new method (Dunning, Williams, Abonyi, & Crooks, 2008; Johnson & Onwuegbuzie, 2004). Hence, the combination of both qualitative and quantitative methods as called ‘mixed methods or multiple methods’ (Saunders et al., 2016), are still not the best methods in the conduct of research, as such, it’s an attempt to fit together the insight provided by the quantitative and the qualitative methods for generalisation purpose (Dunning et al., 2008). For example, the qualitative researcher can use different data collection techniques for triangulation just as with the combination of both methods as suggested by scholars (Bryman, 2016; Dunning et al., 2008).

According to Saunders et al. (2016) research onion shown in the third outer layer (see Figure 5), further expatiate methodological choice by presenting mono-method, which encompass the qualitative and quantitative study, and multiple methods which encompass multimethod and mixed methods. Further, this expatiation views ‘multimethod research’ as the method which uses more than one data collection techniques within the qualitative and quantitative study (Saunders et al., 2016; Saunders et al., 2015). This further implies that; multimethod research could be applied in qualitative or quantitative with two or more data collection and analytical procedures. On the other hand, a mixed method combines both qualitative and quantitative research design at all stages, contrary to the multimethod which considers the integration of both methods at the data collection and analysis stage (Saunders et al., 2016). Comprehensively, both mixed-methods and multimethod are inherently the same as opposed to being explained in isolation (ibid). Thenceforth, considering the philosophical stance of this research, the research questions and approach adopted, this study adopts a qualitative approach as it enables the researcher to get an in-depth textual data. Further, a qualitative researcher makes sense of the textual and the subjective socially constructed connotation of the expressed context of the phenomenon (Saunders et al., 2016). Also, referred to as a ‘naturalist’ since the researcher operates within the natural setting of the situation. It is also more appropriate with the set questions to fulfil the purpose of the study, given that the study aims to develop a framework that would enhance a better livelihood of some given Niger delta society. As mentioned by Creswell (2003), “qualitative studies give a strong stimulus to pursue topics related to marginalised people and an interest in creating a better society”. Importantly, this research is deeply aimed at understanding the effects of the phenomenon under investigation and how to develop an enhancement strategy to empower the affected, not aiming at generalising the outcomes as the quantitative or mixed method research would adopt (Creswell, 2003). A further important part of the credibility of the research is the fact that, the researcher physically went to the affected communities to engage in interactions to get the affected communities experiences and how better the situation can be improved. Further justification for adopting a qualitative choice is the fact that it allows the researcher to involve a small group of participants, and allow probing questions asked during discussions. Lastly, the philosophical position as an interpretivist also calls for a qualitative study. Thus, the below section discusses the strategies employed for the current research.

3.6. Research Strategies

The research strategy is a vital part of an investigation of any phenomenon as it aids the plan for selections of the participant's site and data collection arrangement (Cohen, Manion, & Morrison, 2000). Researcher adopting a particular strategy depend on the objectives and the questions to be explored, resource availability, time availability, the extent of the information/knowledge on the field and the philosophical position of the work. Accordingly, Saunders et al., (2016) presented eight strategies, namely, action

research strategy, ethnography, Grounded theory, case study, survey, experiment, narrative inquiry and archival research (See Section 5) towards achieving goals and objective of research work. These strategies are depicted in the fourth layer of the research onion in Figure 5. While, Creswell (2003) presented seven strategies with an additional strategy called ‘phenomenology’ and emphasised that, case study, experiment, survey, grounded theory and ethnography are the most and frequently used strategies in social science research. Importantly, all these strategies are relatively relevant in achieving a particular goal by any researcher, the choice of a particular strategy all depends on the researchers’ direction which still leads to one or two of the threefold explanatory exploratory or descriptive outcomes.

Accordingly, Creswell (2003) and Saunders et al., (2016) strategies are briefly described as follows;

Experiment: “Experiment seeks to determine if a specific treatment influence an outcome”. It involves primarily on laboratory-based research and owes much to natural science. Experimental research aims more on testing probabilities of change in an independent variable which further outcomes lead to dependent variables. Hence, this strategy is opposed to the qualitative philosophies which beliefs more on subjective realities, thereby useful within the quantitative method of research conduct.

Survey: “Survey provides a quantitative description of attitudes, trend or opinion of a population by studying the sample of such population. A survey is usually a deductive approach that frequently deals with ‘what’ ‘who’ ‘where’ ‘how many and ‘how much’ kind of questions. Thus, it uses both cross-sectional and longitudinal through the use of questionnaires and or structured interviews for data collection, with the intent of generalisation”.

Grounded theory: Is a strategy where the “researcher derives a general, abstract theory of a process, action, or interaction grounded in participant views”. It involves multiple stages of data collection, refinement and constant comparison of the data as they emerge for theory development.

Ethnography: Is the study which the “researchers studies an intact cultural group in a natural setting over a prolonged period by collecting primarily, observational and interview data”. This strategy deals predominantly with the evaluation of live realities encountered and most useful in the qualitative method of research conduct. According to Saunders et al., (2016) “ethnography with its origin from the ‘colonial anthropology’ is a strategy developed to study cultures in so-called ‘primitive’ societies under colonial powers”. Further, ethnography has evolved, which researchers now apply to study social and urban problems in cultural groups and societies (Boyle, 1994; Roberts, 2009). Importantly, the researcher becomes part of the research given that the strategy involves prolonged time close to the situation (Goulding, 2005; Roberts, 2009). Saunders et al., (2016), further mentioned three types of ethnography such as; a realist, which beliefs in an objective, factual reporting and identifying true meaning. In contrast, interpretative ethnography believes in subjective meaning rather than objective reality, and critical ethnography takes a radical approach design to explore and explain the impact of power imposed on the less privileged or marginalised groups or society.

Narrative inquiry: Is a “strategy of inquiry in which the researcher studies the lives of individuals and ask one or more individuals to provide stories about their lives”. The stories are then ‘retold or restored’ into narrative chronology which at the end encompass the researcher’s life story, making into a collaborative narrative.

Archival research: Is a strategy that depends primarily on administrative records and documents for either explanatory, exploratory or descriptive analysis. This strategy uses historical and recent documents for analysis, given that there are no conflictions in the archival document with other secondary data.

Action research: Is involved with the learning process that produces practical outcomes through the identification of issues, planning action, taking action and evaluating action (Saunders et al., 2016). This type of strategy is designed to develop a solution to real organisational problems through a participatory approach. In other words, action research is more suitable with practice-based (research in action rather than research action) or theoretical based that placed more emphasis on philosophies, experience and perceptions of individual or societal realities. Thus, with the existing evidence as discussed above, this current study is the opposite of action research, experiment, narrative research, survey, grounded theory, and ethnography. Notably, interpretive ethnography seems to have some element of subjective truth which case study believes. However, the complex issues around case study makes it different and more suitable for this study considering the complex nature of the Niger-delta issues.

This study aims to explore and understand the impacts of oil spill environmental hazards on livelihoods structure of a given society, the alternative mechanisms adopted amidst of the impacts and available intervention mechanisms provided to create a more sustainable avenue for livelihood rebuild. As such, phenomenology and case study strategies are deemed appropriate for this investigation, given that phenomenology is a strategy where the “researcher identifies the essence of human experiences about a phenomenon as described by participants of the inquiry to discover the underlying meaning” (Baker, Wuest, & Stern, 1992). The understanding of human experience in the context of phenomenological belief makes phenomenology a philosophy and technique (method)(Goulding, 2005). Phenomenology, as both a philosophy and methodology, involves the study of a small number of subjects through an extensive and prolonged engagement to understand a complex issue that may not be immediately implicit in the surface response, to develop patterns and relationship (Goulding, 2005). Importantly, the researcher set aside he/her experience in order to understand the participants of the study. While, a case study is a strategy of inquiry which the researcher explores an in-depth event, activities and process on one or more complex individuals issue (Creswell, 2003; Yin, 2016). According to Yin, (2014, p.11), case studies are valid when the research needs to address research question starting with ‘how’ and ‘why’, which further focus on contemporary events that the researcher has no control over.

The ‘oil spillages’ within the context of this study is established as the ‘event’, and the oil and gas activities whose facilities brought about the environmental hazards in the form of the oil spills are regarded as the ‘activities’ referred to in the ‘case study definition’. Yin, (2014, p.16 & 17); Saunders et al., (2016), pointed

that “a case study is a useful strategy, particularly when conducting an empirical inquiry that investigates the in-depth contemporary phenomenon in its real-world and context, drawing data from multiple sources”. Further, Yin, (2016), mentioned that a case study research arises out of the desire to understand a complex social phenomenon. The Niger Delta oil spill issues and the livelihood sustenance of the affected communities are complex issues that need and in-depth attention to first explore the oil spills incidents on livelihoods support system, how impacted, alternatives livelihood amidst the impacts to better improve the societal wellbeing of the people. Therefore, this study seeks to understand the extent of the impacts of oil spill environmental hazards, alternative livelihoods, how the alternatives contribute to livelihood rebuild and available intervention mechanisms. The understanding of the affected people's experience and plights couple with the set objectives makes case study strategy and phenomenology more suitable for the study, thereby making other strategies less suitable for this current research.

3.6.1. Case Study research design

Con conversationally, the research design is a logical plan employed in the conduct of research. Yin, (2014, p.51,52 & 53; 2016, p.48), identifies the research questions, its propositions (if any), the units of analysis, logic in linking the data to the proposition and the criteria for the interpretation of the findings as five most essential components in case study design. As such, the components amplify ‘research question’ as the beginning of the conduct of a case study research which frequently emerges from the detail literature synthesis. Hence, the foremost question that emerged from the literature review is “How frequent oil spillages affects livelihood structures of the people of Nigeria, Niger-Delta communities?” More so, in the course of the exploratory of the literature, available documents, and the whole empirical procedures, arose further questions: “what are the alternative livelihood and ‘how’ the alternatives are contributing to the rebuild of the damaged socio-economic and socio-cultural conditions of the communities?” Also, “how are the oil spill-related agency and oil and gas industry tackling the oil spill impacts through available intervention mechanisms?” Notably, the identified issues are addressed in the analysis chapters below.

Thenceforth, the next component in the case design after identifying the questions with the element of what constitutes case question is the unit of analysis. According to Yin, (2014, p. 31), before establishing the unit of analysis, there are needs to define the case and the boundaries for the case study. Yin, (2016, p.28) further mentioned that the study of an individual or group of individuals were specifically and traditionally termed case study previously with no request for units of analysis. Hence, in contemporary studies, the researcher is frequently required to identify the cases when the research involves, communities, schools, organisations, social movements, decision programs and non-profit organisations. Thus, this amplifies the important to establish the Niger Delta as a ‘case’, and this research revolves around some selected communities which aims not to generalised but proffer a theoretical contribution to enhancing the empowerment of communities. In this context, defining the case and the unit of analysis of this study becomes essential. Furthermore, Yin, (2016, p.47,48) proposes four case design depending on the number

of cases and the unit of analysis using 2*2 matrix, namely, single-case (holistic) design, single-case (embedded) design, multiple-case (holistic) designs, and multiple-case (embedded) designs.

Accordingly, the distinctions between the different types of case studies are the unit of analysis. Firstly, the single holistic case study deals with a single case or unit of analysis in a phenomenon which can be studied for more than one time or longitudinal research. According to Yin, (2014), single case study design is appropriate under critical, unusual, common, revelatory and longitudinal circumstances, for example, the single-holistic case design can be compared with a single experiment where the researcher aims to confirm the theory or extend theory. Single-holistic design case further contributes rigorously to a study with an 'extreme or an unusual' case which to some extent deviates from theoretical norms of everyday circumstances. Also, the 'revelatory' aspect where the researcher is opportune to observe and analyse phenomenon, which was previously inaccessible to a social inquiry (Yin, 2016). Another essential justification of single-holistic case design is with the aspect of the 'common case' where the objective of such design strategy is to capture circumstances and the conditions of everyday situations (Yin, 2014) while, embedded case design involves multiple units of analysis within the case (Yin, 2014).

Furthermore, within the holistic design might involve different unit of analysis, for example, the study of a single organisation with analysis of different structure or sections of the organisation, which often result in quantitative analysis. While, multiple case study design intends to replicate and compare data across cases for generalisation purpose, which is not what this particular study intends to achieve. This study plans to gain a more extensive understanding of the phenomenon under investigation, not for generalisation, but, for an improvement of the situation. Therefore, this current study is an 'embedded single-case design' which establish the Niger Delta as case, that encompasses, the existing alternative livelihood and interventions from the different organisation as the unit of analysis towards achieving the objectives of the research. Likewise, the quantitative measurement of the contribution of alternatives livelihood to the rebuild of the socioeconomic and sociocultural conditions of the affected communities. Yin, (2016) further mentioned that the holistic case design is advantageous when there is no logical subunit and or has a critical test of an existing theory. However, this current study encompasses different subunit and therefore deem appropriate with the embedded case design strategy within a single case. Figure 10 below presents an adapted basic type of case studies design as described by Yin, (2016). The below presents adapted basic types of case study design.

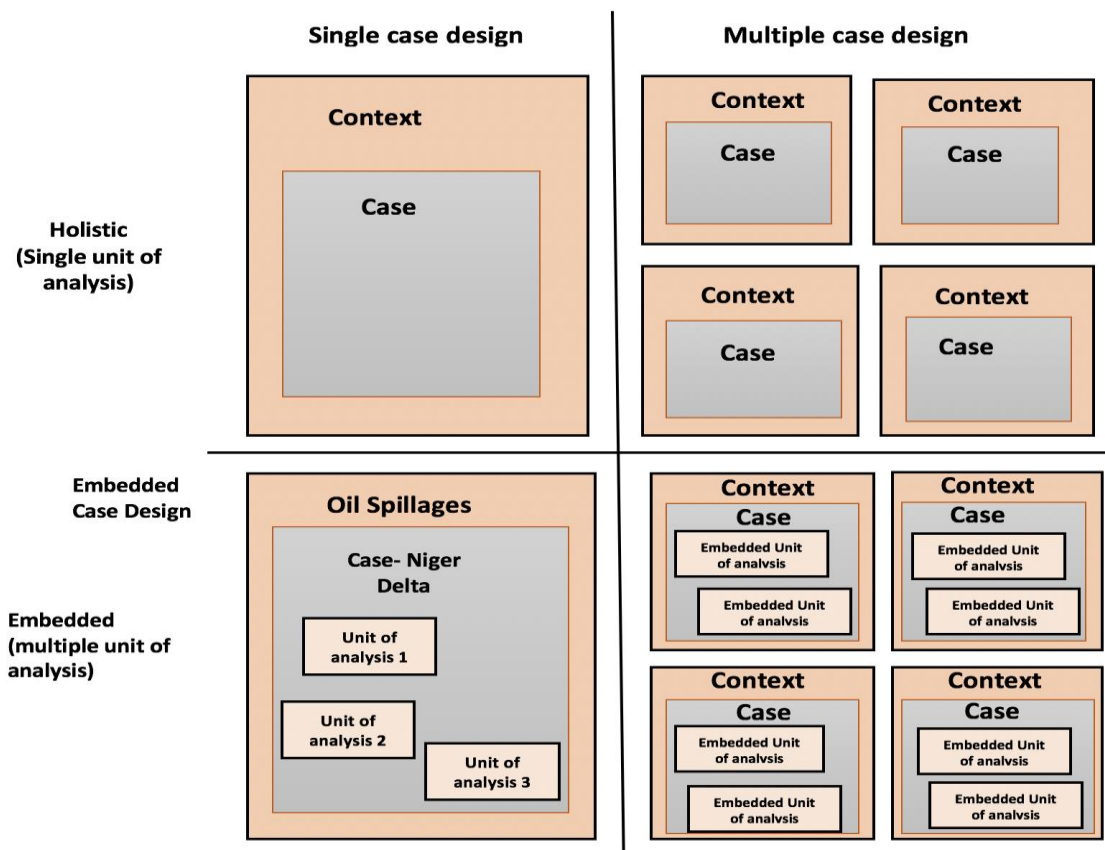


Figure 10: Basic Types of Case Study Design: Adapted from (Yin, 2016, p.48)

According to Yin, (2016), selection of case for empirical study are highly crucial and needs substantial justification and establishment of the study boundaries. Thus, Niger Delta, Nigeria, was significantly suitable to conduct this empirical study as justified in section 2.4. The oil spill affected communities across the Niger Delta, specifically, rivers state and Bayelsa state communities selected for this study where, and are, intensely impacted. The communities such as; Bodo oil city which consists of 35 communities, Abua/Odual local communities, Edagberi/better land communities, Gbarain clan and Oloibiri communities which were the core communities for this study have been deucedly suffered from different incidents of oil spills and oil and gas negative consequences. Literature evidence shows that most communities suffer daily oil spillages from sabotage and pipeline rupture without an outstanding record as such; impact on their daily livelihood structures (Amnesty, 2015). Further, considering the topography of the region which consists of small landed area, while covered with large water lodge and swampy terrain have pushed most households to migrate to source for other alternative livelihoods (Amnesty, 2015). However, with the case defined, it is necessary to describe and identify the units of analysis to address the case questions. Hence, the units of analysis for this research comprise community alternative livelihood, oil and gas interventions and oil spill-related agency intervention for livelihood rebuild, while the logic linking the data to the questions are illustrated in the conceptual framework.

3.6.2. Unit of Analysis

As discussed above, a case study is the research strategy which focuses on the understanding of dynamics present within a single setting (Eisenhardt, 1989). Such a setting could encompass different units within the case as confirms by Yin, (2016). Thus, a unit of analysis of a study is a “phenomenon of some sort occurring in a boundary context (Miles et al., 1994)”. This, however, restricts the researcher’s effort in drawing wider and or general conclusion. For example, the researcher can only draw a conclusion on the given unit of analysis with limited power to generalise, unless, in the situation where cross-case analysis has been conducted, pulling all the similarities and contrasting findings to a conclusion. Furthermore, a unit of analysis could be an individual, organisation, communities, or group of persons depending on researchers’ objectives and the information the researcher set to gather and the context of the study. However, since this current study sets to understand how an organisation intervene in the livelihood support structure of communities and how community improvise alternatives livelihood for their subsistence, the study establishes the two-organisations used in this study as individual units of analysis; likewise, the community as a unit of analysis. Figure 11 below presents the study units of analysis.

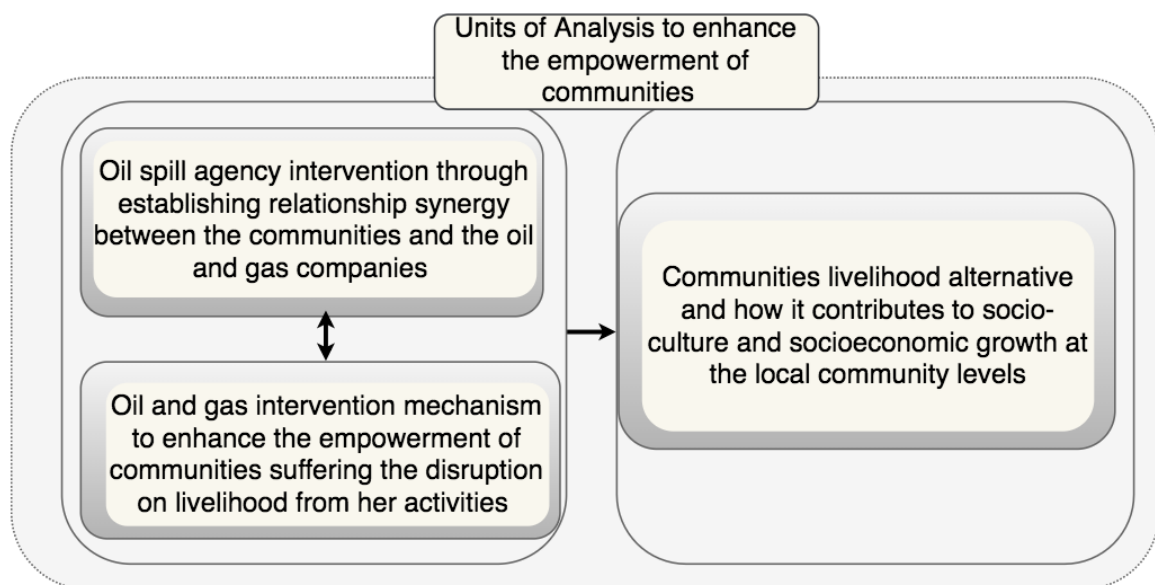


Figure 11: The Study Units of Analysis

3.7. Time Horizon

The time horizon is also an important element when planning any research project (Saunders et al., 2016). This amplifies the importance of planning and following protocols during the conduct of research, which is why Yin, (2016) stressed on defining the case (s), establishing the case boundaries and unit of analysis before data collection in consideration of the time availability and resources availability. Time horizon is the fifth layer (See Figure 5) of the research onion underpinning this current research (Saunders et al.,

2016). The time horizon of research is categorised on to two perspectives: cross-sectional and longitudinal (Saunders, et al., 2012). The cross-sectional study is where the researcher investigates a particular phenomenon at a snapshot of a particular time, while longitudinal study consists of series of snapshot over a long period (Saunders et al., 2016). However, this research could be conducted in both ways when considering livelihood development. Hence, due to the present nature of this research as it considers the existing livelihood of affected oil spill communities and existing interventions for livelihood building, the cross-sectional study favours this study. Further, the time constraints of academic research also compelled the study to adopt a cross-sectional time horizon.

3.8. Research Techniques and procedures

The section above discusses the philosophical research positions, the methodological approaches, choice and time horizon. This section discusses the data collection and analytical procedure employed for the study. Though, various tools and techniques for data collection exist in both qualitative and quantitative study with no boundaries for application of any techniques for achieving a set goal in research (Saunders et al., 2016; Bryman & Cramer, 2012; & Yin, 2014). The technique and the analytical procedure are located at the innermost layer of the research onion (See Figure 5). Accordingly, documents, interviews, participant observations, focused group discussions, archival records and physical artefacts are described as some most useful data collection tools for qualitative research, while questionnaires, laboratory experiment, simulation and survey are some useful techniques in a quantitative study (Yin, 2016). However, as reinforced by scholars, for credibility and validity, case study research requires multiple sources of evidence (Saunders et al., 2012; Yin, 2014). Thus, two among the listed techniques, namely interview and focus group discussions, being the most feasible and suitable, are applied in this study. Interview and focus group were deemed appropriate since the study aims to explore the social phenomenon which desires an in-depth exploration.

Further, since the study attempts to explore the incidences of oil spills and how the affected communities improvised alternative mechanisms for livelihood, face to face discussions becomes very paramount. Besides, participatory and direct observations (Yin, 2014) were also made during the fieldwork. However, other techniques as discussed earlier, for example, physical artefacts which involve the use of technological devices, physical instruments and works of art are deemed not favourable for this research. Likewise, the data collection in qualitative research is usually targeted to a small number of respondents to achieve in-depth knowledge of the phenomenon. Although, each technique has their advantages and disadvantages which is why many authors suggest for multiple sources for evidence rather than relying on one particular technique (Saunders et al., 2016; Yin, 2016). Thus, interview, focus group discussions and document were identified as suitable techniques for this current study. Furthermore, participatory and direct observation were employed during the data collection process. These techniques were feasible and more appropriate for

this research given its nature, even though, it requires making schedules, and availabilities of the interviewees which to some extent was predetermined on the interviewees time (Yin, 2016). As such, the sections below discuss the different techniques employed for the conduct of this study.

3.8.1. Interview

Different scholars demonstrate the interviews as a meaningful tradition towards gathering reliable and valid evidence as it relates to the research phenomenon (Kvale, 2008; Opdenakker, 2006; Saunders et al., 2016). According to Brinkmann (2014); Yin, (2016) interview technique is one most widespread of knowledge-producing practice across social, psychology and human science. Accordingly, interviews allow the researchers to directly target the case topic to provide insightful information on the research spectrum (Yin, 2016). This process of examining and getting insightful data and understanding of the people's opinions and perceptions contributes incredibly to the general and or outside perception of the study context. Importantly, given that the interview is one technique that enables probing during conversation also contribute to the achievement of the objectives of this research. Interviews can be structured, unstructured or semi-structured (Saunders et al., 2016; Bryman, 2012). Accordingly, structured interviews often involve the use of a questionnaire which is based on a predetermined set of questions for quantifiable data purposes (Bryman, 2012). While, unstructured and semi-structured interviews could be a formal or informal discussion with no predetermined sets of questions, where the researcher aims to explore thoroughly the phenomenon under investigation (Brinkmann, 2014). The semi-structured and unstructured interviews tend to contribute more favourably to social constructionism or interpretive research which targets on exploratory of the phenomenon than the structured interview which is more common on the positivist extreme of research (Saunders et al., 2016). Thus, based on objectives that this research put forward to explore alternative livelihoods of affected oil spill communities and to acquire in-depth perception and opinion of the phenomenon, the unstructured and semi-structured interviews are applied. Importantly, the unstructured interviews were applied during the pilot studies to test the content validity and the reliability of the instrument. The unstructured interviews helped the researcher partly develop and refine the instrument before the fieldwork instrument.

Further, Yin, (2016) stressed that a semi-structured interview is often influenced by the participants (determine to change) given that the researchers allow for more insightful exploration. The interviews were recorded with the aid of digital audio voice recorder and were transcribed into MS word for analysis. Figure 12 below presents the selected and adopted interviewing techniques for this current study.

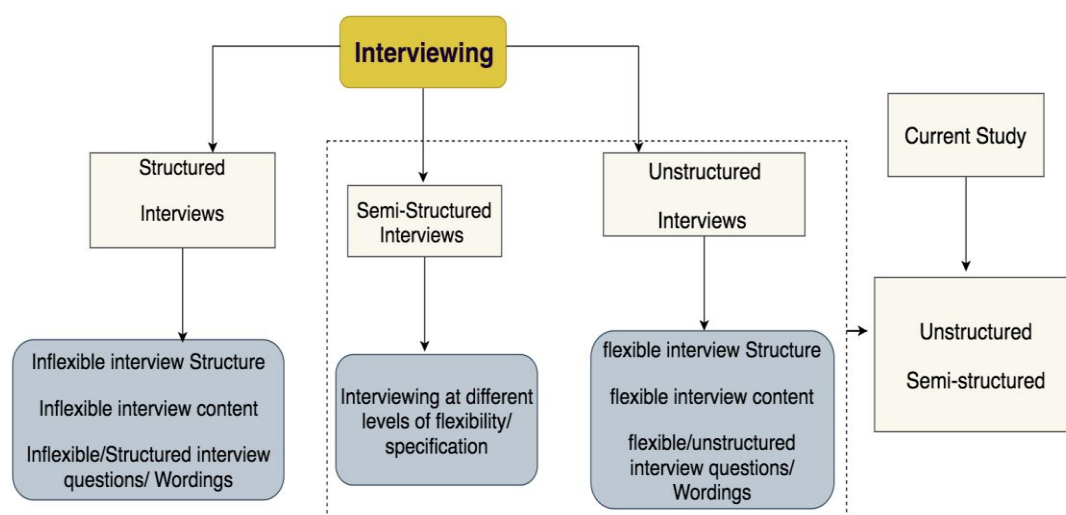


Figure 12: Types of Interview techniques; Adapted from Kumar (2011)

More so, participants were purposively selected across the communities of the study. Thus, considering the aim of the study, which seeks to understand the impacts of oil spills on livelihood and the livelihood alternatives mechanisms improvised by the communities for livelihood support. The study specifically considered the content from the participants irrespective of age and religious background. While placing emphasises on the longevity of occupation and the place of dwelling. In this context, the interviews were conducted amongst farmers, community businessmen and women, community security personnel, environmental expertise, environmental engineers, social activist, environmental activists, fishers and community liaison officers, who represent the communities in different levels, from youth to elders and scholars. Table 5 below present the profile of participants for the unstructured and semi-structured interviews conducted across diverse communities

Table 5: Community participants profile (Key Community Member Participants/ KCMP)

Communities	Participants Profile KCMP, A-V	Age	Qualification/ Occupation	Number of years at workplace/ community	Others
No 1: KCMP-A	Chief, Elite,	70-80	Farmer retired Civil servant	Over 50 years in the community	Bayelsa State
No 2: KCMP-B	Community Leader/Representative	30-40	B.Sc. Farmer, Business man	Over 20 years in the community	Rivers State
No 3: KCMP-C	Chief, Elder council member	70-80	B.Sc. Farmer, Fisherman, Security Personnel	Over 50 years in the community	Bayelsa State
No 4: KCMP-D	Youth Representative	30-40	B.Sc. Fisherman	Over 20 years in the community	River State
No 5: KCMP-E	Community Elite, environmental activists	40-50	Environmental expertise/ Associate prof. Senior lecture	Over 20 years of lecturing	Rivers State
No 6: KCMP-F	Community Representative	30-40	B.Ed., Welder	Over 20 years in the community	Rivers State
No 7: KCMP-G	Community Representative	40-50	B.Sc., environmental activist, liaison officer	Over 20 years in the community	Rivers State
No 8: KCMP-H	Community Representative	40-50	Farmer, community Security personnel	Over 20 years	Rivers State
No 9: KCMP-I	Youth leader	20-30	Fisherman, part-time student	Over 10 years	Rivers State,
No 10: KCMP-J	Elders Council President and Community activist	70-80	Agricultural specialist	Over 50 years in the community	Bayelsa State
No 11: KCMP-K	Social and environmental activist	30-40	B.Sc. Farmer	Over 20 years in the community	Rivers State
No 12: KCMP-L	Environmental activist	50-60	Fisherman, local business personnel	Over 30 years in the community	River State
No 13: KCMP-M	Elders council member	50-60	Fisherman, lecturer and liaison officer	Over 50 years in the community	Rivers state
No 14: KCMP-N	Religious leader	50-60	Fisherman	Over 50 years in the community	Rivers state
No 15: KCMP-O	Community representative	40-50	Civil servant	Over 30 years in the community	River State
No 16: KCMP-P	Community CDC, Representative	30-40	Fisherman, agricultural scientist	Over 30 years in the community	Rivers State
No 17: KCMP-Q	CDC chairman (human right and social activist)	30-40	B.Sc. Fisherman, Farmer	Over 30 years in the community	Bayelsa State
No 18: KCMP-R	CDC chairman	30-40	B.Sc. Youth/ Farmer	Over 30 years	River state
No 19: KCMP-S	CDC chairman	40-50	B.Sc./Farmer	Over 40 years	Rivers state
No 20: KCMP-T	Farmer	30-40	None/farmer	Over 30 years	River State
No 21: KCMP-U	Student	30-40	Student	Over 30 years	Bayelsa State
No 22: KCMP-V	Retiree	70-80	farmer	Over 60 years	Bayelsa State

Furthermore, within the case, the study explores the intervention mechanisms adopted by the oil and gas industries whose facilities and activities are seen as the contributing factors to the decades' environmental damages that have ensured livelihood impairments. This angles which are established as one unit of the study analysis is where the researcher explores the intervention mechanisms and factors that obstruct the possible intervention as an essential aspect of this thesis. The participants were purposively selected amongst the oil and gas company to answer the question that was put forward. Thus, the study aims to get an in-depth perception of the questions while disregarding the age of the participants and placing more emphasis on the number of years spent in the organisation. Therefore, Table 6 presents the profile of the participants across the oil and gas unit.

Table 6: Key oil and gas member participants

<i>Oil and gas</i>	<i>Participants Profile KOGP; A-H</i>	<i>Age</i>	<i>Qualification/ Occupation</i>	<i>Number of years at workplace/ community</i>
KOGMP-A	Oil and gas industry representative	40-50	Electrical Engineer/ Environment Coordinator	Over 5 years in the company
KOGMP-B	Public affairs officer	40-50	Environment Scientist	Over 10 years in the company
KOGMP-C	Community Relation Officer	40-50	Social Scientist	Over 7 years in the company
KOGMP-D	Environmental Coordinator	40-50	PhD, Environmental Engineering	Over 12 years in the company
KOGMP-E	Public affairs officer	50-60	Environmental Scientist	Over 15 years in the company
KOGMP-F	Community Relation Officer	40-50	Agricultural Scientist	Over 8 years in the company
KOGMP-G	Community Relation Officer	30-40	Environmental scientist	Over 10 years in the company
KOGMP-H	Community Relation Officer	50-60	Social scientist	Over 10 years in the company

Having presented the communities participants in Table 5 and the oil and gas participants in Table 6 based on the interviews, the next section presents the oil spill-related agency participants. This category as classified as one unit of the analysis were aimed to explore the agency intervention about post-oil spill impacts and relationship between the communities and the oil and gas industry as it relates to livelihood rebuild. Figure 6 below presents the profile of the participants within the oil spill-related agency.

Table 7: Oil spill related agency participants (OSAP)

<i>Oil-spill agency</i>	<i>Participants profile OSAP; A-F</i>	<i>Age</i>	<i>Qualification/ Occupation</i>	<i>Number of years at workplace/ community</i>
OSAP- A	Public Relation Officer,	30-40	BSc. Environmental science	Over 9 years in the Agency
OSAP-B	Public Relation Officer,	30-40	PhD, environmental Engineering	Over 10 years in the company
OSAP-C	Public Relation Officer,	40-50	PhD, Disaster management & climate change adaptation	Over 20 years in the Agency
OSAP-D	Principal Environmental scientist	40-50	PhD, Disaster risk reduction and climate change	Over 12 years in the Agency
OSAP-E	Public Relation Officer,	30-40	BSc. Social science/ liaison officer	Over 6 years in the Agency
OSAP-F	Public Relation Officer,	40-50	Agriculture/ liaison officer	Over 12 years in the Agency

3.8.2. Focus Group Discussion

Morse (1994) describes focus group discussion as a means of getting an enriched perception and opinion about a phenomenon through interaction. Most authors agree with the fact that focus group main advantage is the purposeful use of interaction, which is why the techniques have been in use for over 80 years (McLafferty, 2004; Onwuegbuzie, Dickinson, Leech, & Zoran, 2009; Powell & Single, 1996). According to Wilkinson and Silverman (2004), a focus group technique can be used as a stand-alone qualitative method considering the richness encompassed during the conduct. Krueger (2014), a focus group is not about gathering people for conversation, but to better understand people's feelings and how they think about an issue. According to Morse (1994), focus group discussions gives more formative insight than other methods when conducting research which deals with the participants feeling, perceptions and opinion towards the phenomenon. Krueger (2014), stressed that focus group techniques for data collection are a useful tool given the procedures involve before the conduct of the discussion, for example, the carefully planned arrangement in a permissive, non-threatening environment.

Further, the careful selection of participants and size in each group discussions considering the study goals, which is to acquire a diversity of information (Onwuegbuzie et al., 2009). According to Onwuegbuzie et al. (2009), focus a group discussion is a useful tool for social scientist researcher considering the economical, fast, and efficient benefit which allows for multiple data from comprehensive participants. This cost-effective technique potentially increases the overall number of participants given that it allows the researcher to engage a large number of people at a particular time. Also, focus group discussions are a socially oriented method which gives a sense of belonging to participants, thereby, increasing cohesiveness, yielding relevant data and creating possibilities for more spontaneous responses (Butler, 1996; Peters, 1993; Vaughn, Schumm, & Sinagub, 1996). Besides, scholars frequently emphasised the number of

participants in each group when conducting a focus group discussion. Even though, there seems not to be fixed number considering the capacity, moderating capacity and planning and arrangement therein.

Accordingly, different scholars describe an acceptable level or size of the participant to range from two to twelve (2-12) participants in a group irrespective of the researcher's capabilities and abilities (Krueger, 2014; Powell & Single, 1996). Thus, this establishes the fact that a focus group discussion should not accommodate too many participants to allow participants expression of their views. According to Onwuegbuzie et al. (2009), participants often share individual problems alongside experience in group discussions where the participants are not overcrowded, while moderated by skilled interviewer or moderator. Thus, this current study involves a number of 4-11 participants in each focus group discussions. This numbers in a particular group enable the researcher to have control over the discussion, given the time constraint within a particular group. Further, given that the researcher before the focus group discussion sent a consent form to all participants with the time frame of between 30 minutes to (1;30 minutes), helped with the given number of participants at each focus group discussion. The number of participants in each group within the context of this research is in line with different scholars' views and options. Table 8 below presents some recommendations for focus group participation as regards the number of participants in each group.

Table 8: Depicts the recommended number of participants in each focus group discussion

AUTHORS AND YEAR OF PUBLICATION	RECOMMENDED NUMBER OF PARTICIPANTS IN EACH FGD	MAXIMUM NUMBER OF PARTICIPANTS IN MORE THAN ONE FOCUS GROUP
1 Morgan & Spanish (1985)	4-5	9 in all groups
2 Schlesinger, Dobash, Dobash, & Weaver (1992)	5-9	14
3 Kitzinger (1993)	3-9	52
4 Kitzinger (1994)	3-9	52
5 Macnaghten & Jacobs (1997)	6-10	16
6 Lupton (1996)	3-5	12
7 Fenton, Bryman & Deacon (1998)	4-6	14
8 Livingstone & Bober (2003)	5-10	14
9 Warr (2005)	4-9	8
10 Silva & Wright (2005)	2-8	25
	2-8	25
11 Bennett et al (2009)	5-10	
11 Krueger (2014)	6-10	
12 Powell & Single, (1996)	2-12	
13 Wilkinson & Silverman, (2004)		

Adapted from Wali and Wright (2016)

Furthermore, given the importance of the numbers in a particular group of discussion as presented in Table 7 above, Table 8 below depicts the focus group participants profile and the numbers within each group.

Importantly, the study group discussions are in line with other author's suggestions and recommendation as discussed in section 4.7.3 and Table 8 above, the Table 9 below presents the profile of participants and the numbers in each focused group discussion for this current study.

Table 9: Profile of participants in focus group discussion

	<i>FGD 1</i>	<i>Age</i>	<i>Qualification/ Occupation</i>	<i>Number of years at workplace/ community</i>	<i>Others</i>
1	Community representative	30-40	Bricklayer	Over 20 years in the community	Bayelsa State,
2	Community representative	30-40	Bricklayer/ Farmer	Over 20 years in the community	Bayelsa State,
3	Community Youth Leader	30-40	Student / Farmer/ Part-Time security personnel	Over 10 years in the community	Bayelsa State,
4	Community Leader	30-40	Part-time Student/ Farmer	Over 20 years	Bayelsa State,
5	CDC chairman	40-50	Farmer/ environmental Activist/ small trade-trader	Over 30 years in the community	Bayelsa State,
6	CDC Chairman	20-30	Student/ Farmer	Over 10 years in the community	Bayelsa State,
	FGD 2				
1	Youth Representative	30-40	Student/ Farmer/ Bricklayer	Over 30 years in the community	Bayelsa State,
2	Community Leader	20-30	Bricklayer	Over 30 years in the community	Bayelsa State,
3	CDC Chairman	40-50	Surveyor	Over 30 years in the community	Bayelsa State,
4	Youth Leader	30-40	Environmental scientist/ ecologist	Over 10 years in the community	Bayelsa State,
	FGD 3				
1	Member of Community farmers club associate	30-40	Farmer/ Fisherwoman	Over 30 years in the community	Rivers State
2	Community Representative	30-40	Raffia Palm Harvester	Over 30 years in the community	Rivers State
3	Community Representative	40-50	Farmer/ Fisherwoman	Over 40 years in the community	Rivers State
4	Community Women leader	40-50	Farmer/ Fisherwoman	Over 30 years in the community	Rivers State
5	Community Youth Leader	20-30	Farmer	Over 20 years in the community	Rivers State
6	CDC chairman	40-50	Farmer	Over 40 years in the community	Rivers State
	FGD 4				
1	Leader of Periwinkle pickers associate	60-70	Farmer/ Fisherwoman	Over 50 years in the community	Rivers State
2	Member of periwinkle pickers associate	60-70	Farmer/ Fisherwoman	Over 40 years in the community	Rivers State
3	Member of periwinkle pickers associate	50-60	Farmer/ Fisherwoman	Over 50 years in the community	Rivers State
4	Member of periwinkle pickers associate/ Woman leader	50-60	Farmer/ Fisherwoman (teacher)	Over 50 years in the community	Rivers State
5	Member of periwinkle pickers associate	60-70	Farmer/ Fisherwoman	Over 50 years in the community	Rivers State
6	Member of periwinkle pickers associate	70-80	Farmer/ Fisherwoman	Over 50 years in the community	Rivers State
7	Member of periwinkle pickers associate	60-70	Farmer/ Fisherwoman	Over 50 years in the community	Rivers State
8	Member of periwinkle pickers associate	60-70	Farmer/ Fisherwoman	Over 50 years in the community	Rivers State
	FGD 5				
1	Community Leader and negotiator representative	30-40	Causal Jobs/ pipeline security personnel	Over 20 years in the community	Rivers State

2	Youth representative	40-50	Daily Casual Jobs	Over 40 years in the community	Rivers State
3	Community Representative	20-30	Student/ Fisherman	Over 20 years in the community	Rivers State
4	Social and environmental activist	40-50	Farmer	Over 30 years in the community	Rivers State
5	Community Youth Leader	50-60	Farmer/ Fisherman	Over 40 years in the community	Rivers State
FGD 6					
1	Community Representative	30-40	Farmer/ Site contractor	Over 30 years in the community	Rivers State
2	Elder/ Youth representatives/ environmental activist	40-50	Farmer/ Fisherman/ Bricklayer/ daily casual jobs	Over 40 years in the community	Rivers State
3	Community Representative	30-40	Civil Servant/ Farmer/ Fisherman	Over 30 years in the community	Rivers State
4	Community Representative	50-60	Fisherman/ Civil Servant/ Farmer	Over 50 years in the community	Rivers State
5	Youth Adviser/ Representative	40-50	Civil Servant/ Farmer	Over 30 years in the community	Rivers State
6	CDC chairman/ liaison officer	50-60	Farmer/ Civil Engineer	Over 50 years in the community	Rivers State
FGD 7					
1	Community Representative	30-40	Farmer/ Site contractor	Over 30 years in the community	Rivers State
2	Elder/ Youth representatives/ environmental activist	40-50	Farmer/ Fisherman/ Bricklayer/ daily casual jobs	Over 40 years in the community	Rivers State
3	Community Representative	30-40	Civil Servant/ Farmer/ Fisherman	Over 30 years in the community	Rivers State
4	Community Representative	50-60	Fisherman/ Civil Servant/ Farmer	Over 50 years in the community	Rivers State
5	Youth Adviser/ Representative	40-50	Civil Servant/ Farmer	Over 30 years in the community	Rivers State
6	CDC chairman/ liaison officer	50-60	Farmer/ Civil Engineer	Over 50 years in the community	Rivers State
FGD 8					
1	Community Representative	30-40	Farmer/ Site contractor	Over 30 years in the community	Rivers State
2	Elder/ Youth representatives/ environmental activist	40-50	Farmer/ Fisherman/ Bricklayer/ daily casual jobs	Over 40 years in the community	Rivers State
3	Community Representative	30-40	Civil Servant/ Farmer/ Fisherman	Over 30 years in the community	Rivers State
4	Community Representative	50-60	Fisherman/ Civil Servant/ Farmer	Over 50 years in the community	Rivers State
5	Youth Adviser/ Representative	40-50	Civil Servant/ Farmer	Over 30 years in the community	Rivers State
6	CDC chairman/ liaison officer	50-60	Farmer/ Civil Engineer	Over 50 years in the community	Rivers State

3.8.3. Observation

Scholars have described observation as an essential tool for data collections, either for anonymous information or physical information and or during interviewing process (Briggs, Morrison, & Coleman, 2012; Jamshed, 2014; Moyles, 2002). According to Kumar (2011), Observations are a systematic, purposeful and selective way of watching and listening to and interaction between the researcher and the respondents, which could be either participant observation or non-participants. Naturalistic observation (participatory observation) and formal (non-participatory observation) are often used across disciplines. Thus, Naturalistic observation is the process where the researcher gathers information while getting

involved in the process, specific event and context covertly or overtly (Briggs et al., 2012). Importantly, participant observation involves in the process where the research watches closely on the interviewees and the relationship with the situation under investigation. Participant observation occurs knowingly or unknowingly to the interviewees when the researcher is directly involved in the process or activities that relate to the phenomenon. However, Spradley (2016) argued that participants observation as ‘powerful’ tools for data gathering could invade other people’s lives, thus, revealing information’s that can be used to affirm the rights, sensitivities and interest to violate them. Thus, Spradley (2016) argument can be solved through the use of consent forms and the study brief assuring the anonymity of the information’s revealed through the study process. More so, non-participant observation is the formal approach where the researcher oftentimes records an observatory incident systematically, which could be quantified on how many people were observed (Briggs et al., 2012).

In this study, the researcher was involved in both participatory and non-participatory forms of observations. The researcher was involved with the interviewees in getting to oil spill sites, and farmlands where photographs were taken. The researcher also observed amongst a large number of participants body language when relating the conversation to how the oil spill incidents have rendered them handicapped, pushing individuals to indulge in a different manner of sources for livelihood and household support. Likewise, the researcher observed a large number of participants, mostly women, in a deep ‘pitiable’ state when describing their alternative sources of living as their primary livelihood support got destroyed by different negative activities from oil and gas productions. Thus, the next section discusses how the data gathered from the interviews, and the focus discussions are analysed to make sense from the respondents’ perceptions of the phenomenon.

3.9. Data Analysis

Newcomer, Hatry, and Wholey (2015) describe data analysis as an interplay between raw data, procedures applied for the interpretation and organising the data set, and the emerging findings. Qualitative research data analysis often begins with transcribed text from the interviews, focus group discussions and document evidence, since there are little mandatory ways of analysing text, unlike statistical analysis where there is a fixed formula as a guide (Yin, 2016). Notably, the case study analysis where very little information is given regarding how to analyse a case study (often focus group) data (Onwuegbuzie et al., 2009; Yin, 2017). According to Yin, (2016); Miles et al. (1994) analysis of qualitative data is enormously reliant on the researcher rigorous empirical thinking and careful consideration of alternative interpretations. Thus, this current research analysis begins with the text recorded in the diary during the fieldwork, pictures and then the audio records before transcribing into Ms Word. Studies show thematic and content analysis as some incredibly diverse approach for qualitative analysis (Onwuegbuzie et al., 2009; Wilkinson & Silverman, 2004).

Thematic analysis is a systematic indication and recording pattern within data set, while content analysis entails the inspection of data for the recurrent instance of some kind irrespective of the types, for example, words, phrase, themes or discourses (Carley, 1990; Marks & Yardley, 2004; Wilkinson & Silverman, 2004). The thematic analysis offers systematic elements characteristic of content analysis while permitting the researcher to combine analysis of frequencies of codes with meanings in the context (Braun & Clarke, 2006; Marks & Yardley, 2004). This combination of elements adds advantages to the finesse and complexity of qualitative analysis. Further, the thematic analysis demonstrates many principles and measures of content analysis, for example, the use of 'code and theme' in thematic analysis and or theme of coding categories which are used interchangeably can refer to the manifest content of the data (Marks & Yardley, 2004). The manifest construct in the content analysis, which implies the frequencies of such word, phrase or image is described as the themes in a thematic analysis. As such, Wilkinson and Silverman (2004) argue that, whether the occurrences of such phrase are subsequently grouped into categories or units and are counted or not can be described as content analysis. Hence, Wilkinson and Silverman (2004) further stressed that such occurrences as systematically scrutinise within the data text are essentially content analysis. Therefore, the text within the focus group discussion and the interviews for this study are analysed using a content analysis technique and further categorised as themes for interpretation.

However, this study employs template thematic and both 'relation' and 'conceptual content' analytical styles of analysis. Accordingly, scholars have established template analysis as a way of thematically presenting themes identified from data sets (Baxter, 1991; Carley, 1990). While, the conceptual content analysis technique determines the existence and frequencies of concepts or words in a text, and relation content analysis deals with the relationship of concept in a set of data or text (Carley, 1990). This study in both ways has the element of the conceptual content, relation content and template thematic analytical styles. Therefore, these techniques are used interchangeably in this study, as such adding validity and credibility to the research findings. Furthermore, the use of Nvivo software and draw.io software was employed to organise the data set. Accordingly, preliminary coding was organised using the Nvivo software and structured into a template using draw.io to facilitate the analysis and interpretation. Thus, the next section discusses the validity and credibility of the data and the analytical process.

3.10. Validity and reliability

Validity and reliability in research are two common factors used to ensure the quality of the research instrument and the analysis. The words validity and reliability are widely used and interpreted differently in both qualitative and quantitative context of research. Thus, validity means the process of checking the quality of the data collection instrument and the data analysis process, while, reliability involves the scrutinising process of the data collecting stages and reliable materials used for the analysis, to ensure that the conclusion of a research study is valid (Mentzer & Flint, 1997). Thus, both constructs cannot be used

in isolation if the researcher aims to get a reliable and valid result and outcome from the study. However, according to Yin, (2016), four common tests are widely used to establish the quality of empirical research being conducted, such forms of measuring the quality of the research are; construct validity, external validity, internal validity, and reliability. Table 10 below presents the ‘used’ and ‘places’ when the forms of validity are applicable in the conduct of academic research.

Table 10: Validity and Reliability forms

<i>Test</i>	<i>Case Study Approach</i>	<i>Phase Used in research</i>
<i>Construct validity</i>	This is concerned with exposing and reducing subjectivity, by linking data collection questions and measures to research questions and propositions via multiple sources. It establishing correct operational measures for the concepts being studied.	Data Collection
<i>Internal validity</i>	This deals with the explanatory aspects of the findings through which cases are cross-analysed and interpreted through different comparison methods. Internal validity establishes the relationship whereby some certain conditions are shown to lead other conditions.	Data Analysis
<i>External validity</i>	Deals with generalisability of the findings. It establishes the domain to which a study’s findings can be generalised based on replication logic	Research design
<i>Reliability</i>	Deals with the structured of the data collection protocol. That is the case study should follow existing protocols as Yin, (2016) describes. For example, the researcher should be able to demonstrate that the data collection method produced can be repeatedly use with the same results. Thus, this can be achieved through thorough documentation of procedures and appropriate recording keeping.	Data collection

3.10.1. Semi-structured interviews for framework validation

All the data collected from the oil and gas respondents, the oil spill agency and the community’s respondents were analysed following the process discussed above. The data after critically analysed was further cross-analysed and compared with the literature findings to arrive at the framework to enhance the empowerment of communities affected with negative oil and gas production activities and oil spill impacts on livelihood strategies. The framework after imputing the literature findings with the findings from the three units of the analysis was further presented to previous respondents for validation. Thus, the framework was presented to two oil spill-related agency, two oil and gas agency and two community respondents. It should be noted that all validation participants were the same respondent from the pilot to the primary fieldwork. Thus, the researcher employed the respondent’s validity techniques to validate the framework aiming towards the enhancement of empowerment of the communities with disrupted livelihood as resulted from oil spillages in the Nigerian context. A respondent validation encompasses a process whereby the researcher (s) engages the same study participants in responding either to forms of initial data, for example, observation of activities during fieldwork or interview transcripts to check for accuracy while increasing the credibility of outcomes (Bloor, 1978; Torrance, 2012). Thenceforth, the framework was further redefined based on the feedback received during the validation interviews. The next section presents the relationship between the data collection instrument and the objectives.

3.11. Data collection tools and their relationships with research objectives

The study begins with literature reviews, as discussed in chapters two above. The aim was to get a clear understanding of the state of the act in the field, as such objectives were stated and refined as the study keeps developing. The study after well-defined objectives critically examines the tools that could be used to gather useful and in-depth information related to the set objectives. As such, Figure 13 below presents the methods of strategy and techniques that were rigorously identified as more suitable and appropriate to achieving the set objectives. The various data collection tools and the relationship to objectives are presented in Figure 13 below.

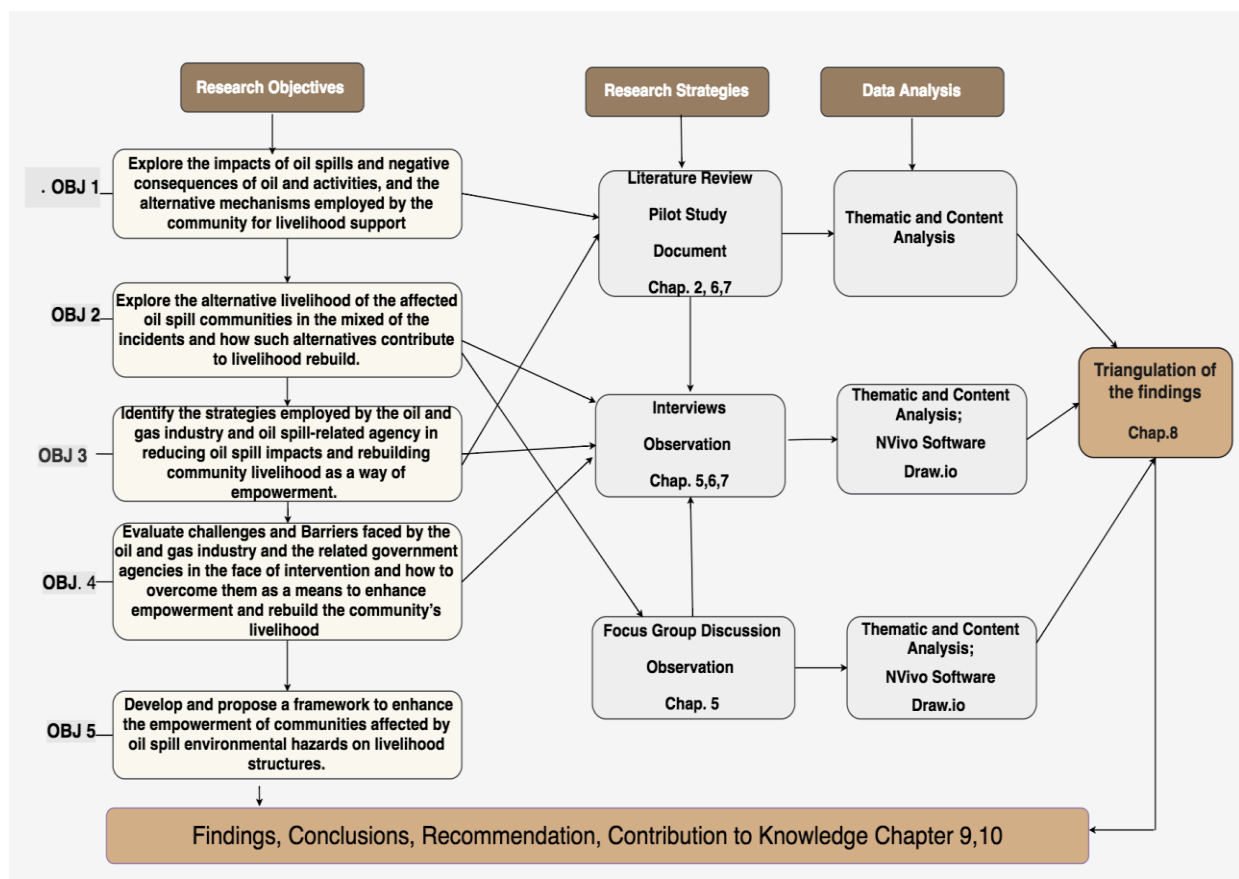


Figure 13: Relationship between the objectives, Data collection and Analysis

3.12. Outcomes of the research

The framework to enhance the empowerment of communities with devastating impacts on livelihood system is the intended outcome of this research. The final framework is developed based on the findings from the oil and gas respondents, oil spill agency respondents and the community's respondents. The framework highlights the impacts of oil spillages and indicates how the impacts can be reduced on the

environment and the livelihood of the communities while empowering the community members. Thenceforth, the framework is further validated through respondent's validity techniques for authenticity and credibility. Key officers from the oil and gas, oil spill agency and the community members who initially took part in the initial field interviews were engaged for the validation process. As such, all feedback was incorporated into the framework to enhance the empowerment process of the communities affected by different negative oil and production impacts on livelihood systems. As such, the next section presents the summary and links to this chapter.

3.13. Summary and Links

As confirmed by scholars, writers and philosophers that research is a systemic avenue to search for knowledge. This chapter discussed the methods engaged in the conduct of this empirical study. Accordingly, the chapter discusses the philosophical stance and the justification for the adoption of the methods as detailed in sections 3.3 and then describes the research approaches with further justifications to why any approach is suitable for the current research. The chapter further presented the methodological choice, the research strategies, time horizons and the research techniques followed for the conduct of the research. The chapter explains the data collection techniques, analytical steps, validation and reliability as vital aspects of research and outcomes. The chapter that follows presents the conceptual framework that underpinned this thesis.

CHAPTER 4: CONCEPTUAL FRAMEWORK

4.1. Introduction

Chapter three explores and presents the methods and methodologies adopted for this study. This chapter presents the conceptual framework that underpins the whole thesis as such; the section explains the importance of conceptual framework in qualitative research, the key issues discovered in the literature that needs further explorations and the process adopted to developing the conceptual framework are chronologically presented in the sections below.

4.2. Importance of conceptual framework

A Conceptual framework is a visual or theoretical representation of key concepts, constructs or variables that aid understanding of the relationships of a phenomenon being investigated (Jabareen, 2009; Miles et al., 1994). A conceptual framework aids the researcher to articulate the concepts and establish a framework-specific philosophy within the research spectrum. Importantly, a conceptual framework holds both ontological, epistemological and methodological assumptions in any research, which amplifies the importance of achieving a great research outcome (Jabareen, 2009). More so, all concepts within a conceptual framework plays different ontological and epistemological roles, for example, the knowledge of the “way things are” “nature of reality” “real existence” and “real actions” (ontological assumptions) on the phenomenon under investigation are in some ways encompassed in the framework. In another hand, “how things are” “how things work” in an assumed reality (epistemological assumptions) are in different ways also encompassed in the phenomenon that is being investigated. For example, scholars have frequently mentioned that most communities within the Niger Delta resort to hostage taken as livelihood means due to oil spill destruction on existing livelihood structures and in the call for livelihood support (Odoemene, 2011). Thus, the reality of the livelihood support situation from the literature context is different from the raw data, as discussed in the analysis chapter. Further, Miles et al. (1994) stressed that a conceptual framework is a tool that guides research as such, forms a vital part of the research design. Miles et al. (1994) point are in line with Adom, Hussein, and Agyem (2018) who mentioned that a conceptual framework assist the researcher in identifying and constructing a worldview on the situation being investigated.

More so, Akintoye (2017) established that a conceptual framework is a vital tool used by a researcher whose primary aim is to develop a theory from the research and or whose research field lacks sufficient theories in creating a strong structure for their current research. This research being a new area with little literature and theories aim to develop theory through the data set, as such; the use of concepts and beliefs are vital to achieving a grounded outcome. Importantly, this research aims to develop a framework that will enhance

the empowerment of communities affected by oil spill environmental hazards on livelihood. In attaining that, the study intends to develop theories applicable for the local communities through the inputs and intervention from other stakeholders to enhance empowerment as means of reducing incidents of oil spillages and impacts in the Nigerian context. Notably, literature has established that more than 60% volume of oil spillages within the Niger Delta region of Nigeria are caused by sabotage, due to the perceived neglect of damages to primary sources of livelihood ensued from oil and gas activities, poverty and incapacities of the use of its natural resources (Aroh et al., 2010). In the main, the study adopts an inductive approach (and uses case study and phenomenology as the strategies) since its primary aim is to develop theories emerging from the data set.

However, due to the nature of this research and the emphasis on why a conceptual framework forms a great part towards achieving a good qualitative research process and outcome. This study, therefore, developed a conceptual framework that guides the process of this research. Importantly, the conceptual framework is developed based on the synthesis of the existing literature and further refined based on interviews, documents and focus group discussions from affected communities, oil and gas experts and oil spill-related agency. The key issues discovered through the bulk of literature in chapter 2 are discussed below.

4.3. Issues identified that need further exploring

Through an in-depth literature review conducted and synthesised in chapter 2. The researcher was able to identify key issues and areas that underpinned this current research which was further advanced through interviews, documents and focus group discussions. Importantly, the key issues encompassed in the conceptual framework as revealed through literature (See Sections 2.4 2.7) are; high increased of oil spillages and impacts; issues revolving around lack of livelihood support; livelihood sustainability and insufficient stakeholder's intervention. Accordingly, the debate of oil spillages and its impacts are alarming with little attention paid to available livelihood amidst the incidents and the various impacts (See Section 2.4). For example, from 1970 to 2000, a number of 6,212 incidents of oil spills were recorded. While, from 2001 to 2013, a total number of 8,020 incidents of oil spilt were recorded. This increase is comprehensively alarming, given that over 60% of the volume spilt are due to sabotage, draws the attention to look into the influencing factors through livelihood sustainability of the community. .

4.4. Issues with existing livelihood

The concept of 'livelihood' is formed within the economy, political and social integration within which families are engaging to form a living. The concept imbibes institutions, policies and process such as the social norms and land ownership policies which indirectly and directly affect the abilities of individuals to access and use their asset for favourable outcomes (Parker, Thapa, & Jacob, 2015). These concepts that

comprise the concepts subsequently changes and creates obstacles and or opportunities for the affected populace. Also, to a better understanding of the concept of livelihood and how local people of the Niger Delta communities reshaped their livelihood adaptation, having had various devastations due to oil spill environmental hazards. The study adopts Chambers and Conway (1992) definition to explore further. “A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Chambers & Conway, 1992)”. Further, literature shows that livelihood of the Niger Delta communities is hugely affected through the oil and gas activities such as; gas flaring, operational noise and vibrations and different oil spill pollutions (Pegg & Zabbey, 2013), as such communities are in quest for alternative support as they become less resilience and more vulnerable (Adekola & Mitchell, 2011; Davies, 2016). According to Akpabio, Okon, and Inyang (2007), communities engaged in different agricultural practice and everything humanly possible for sustenance while awaiting external support. The literature further revealed that some livelihood measures employed by communities are practically not livelihood but an act of frustration to which some groups portray as a means of drawing attention to the plight as it relates to the issues of marginalisation, neglect and resources injustices (Dibua, 2005). As such, most communities are forced to quest for real and sustainable improvised alternatives for livelihood support.

4.5. Why there is a need for an alternative livelihood?

As revealed in the literature sections 2.3, and 2.7, different incidents have affected the primary sources of livelihood of most communities within the Nigeria Niger oil-producing context. As such, the quest for livelihood has increased with less resilience and more vulnerability to oil spill hazards. The vulnerabilities have further pushed most communities into different sources in the name of an alternative search for livelihood to which are not (Odoemene, 2011). Accordingly, what most communities discovered as sources of livelihood (example, kidnapping and arm robbery/theft) are practically not, given that such a construct contributes to the detriment of others. Further, different scholars agree to establish alternative and sustainable livelihood especially to communities whose primary sources of livelihood are destroyed by either oil spillages and or general crude oil production activities (Aluko, 2004; Morand et al., 2012). Thus, this is because an alternative livelihood would serve as a sustainable means for communities as such, reducing the infiltrating act of sabotage while empowering members affected. Importantly, to achieve a sustainable livelihood, scholars have called on different stakeholders to engage in the act of establishing mediums targeted towards the Niger Delta communities whose natural resources are used for the entire nation at large (Jike, 2010b; Obi, 2001). Though, the study is set to explore further on how an improvised

livelihood alternative could contribute to socio-economic and sociocultural conditions across communities with the interventions from other concerned agencies.

4.6. Stakeholders intervention in rebuilding livelihoods

Scholars have emphasised that special attention be given among humans affected by different disasters due to various short term, long term, psychological and livelihood devastations that accompany any disaster (Katz, Pellegrino, Pandya, Ng, & DeLisi, 2002). Accordingly, intervention/ interference could be diverse in different situation and context depending on the immediate and or long term need of the affected. Importantly, many scholars opined that the intervention of stakeholders in the Nigerian context with regards to oil spillages and negative oil exploration impacts are the related agency and oil and gas multinationals as such should be held responsible (Nwanyanwu, Fred-Nwagwu, & Yousuo, 2015; Olujobi et al., 2018). Furthermore, stakeholders at different levels through management systems have failed in various angles such as; the no thorough implementations of existing legal instruments as revealed in section 2.8 and 2.9. Accordingly, the stakeholders within the oil and gas and oil spill-related agency spectrum are seen as significant interveners when issues of environmental pollution are mentioned in Nigeria's Niger Delta. Hence, the extent of the intervention as it relates to livelihood rebuild is still not clear due to the repeated incidents and several reports of practical impacts on affected communities. As such, amplifies the need to explore the available practical intervention strategies adopted by the related stakeholders as a means towards empowerment and community livelihood rebuild.

4.7. Need for empowering communities affected by oil spillages

As evidenced from the literature, the communities are dwelling in different impacts with less resilience and more vulnerability to oil spill hazards ensured by human activities. These impacts are presumed to be more likely to increase due to the no availability of livelihood support, thus, amplifying the need for sustainable livelihood through enhancing empowerment strategies. Also, the sustainable livelihood as a means to reduce the increased incidents of the oil spillages are practical mechanisms to recreating the original/primary means for affected communities of oil spill hazards. Accordingly, the conceptual framework is developed, incorporating the concepts and their relationship, aiming to enhance the empowerment of communities affected by oil spill environmental hazards.

4.8. Development of the conceptual framework

The visual representation of the conceptual framework is illustrated in Figure 13 below. The framework demonstrates the process to which the transit and host oil-spill affected communities can be empowered as

a means towards oil spill disaster risk reduction and impact reduction. The conceptual framework further displays the unit of analysis for the study linking to how the communities can be empowered amidst devastated primary livelihood structures. Figure 14 below presents the conceptual framework for this study.

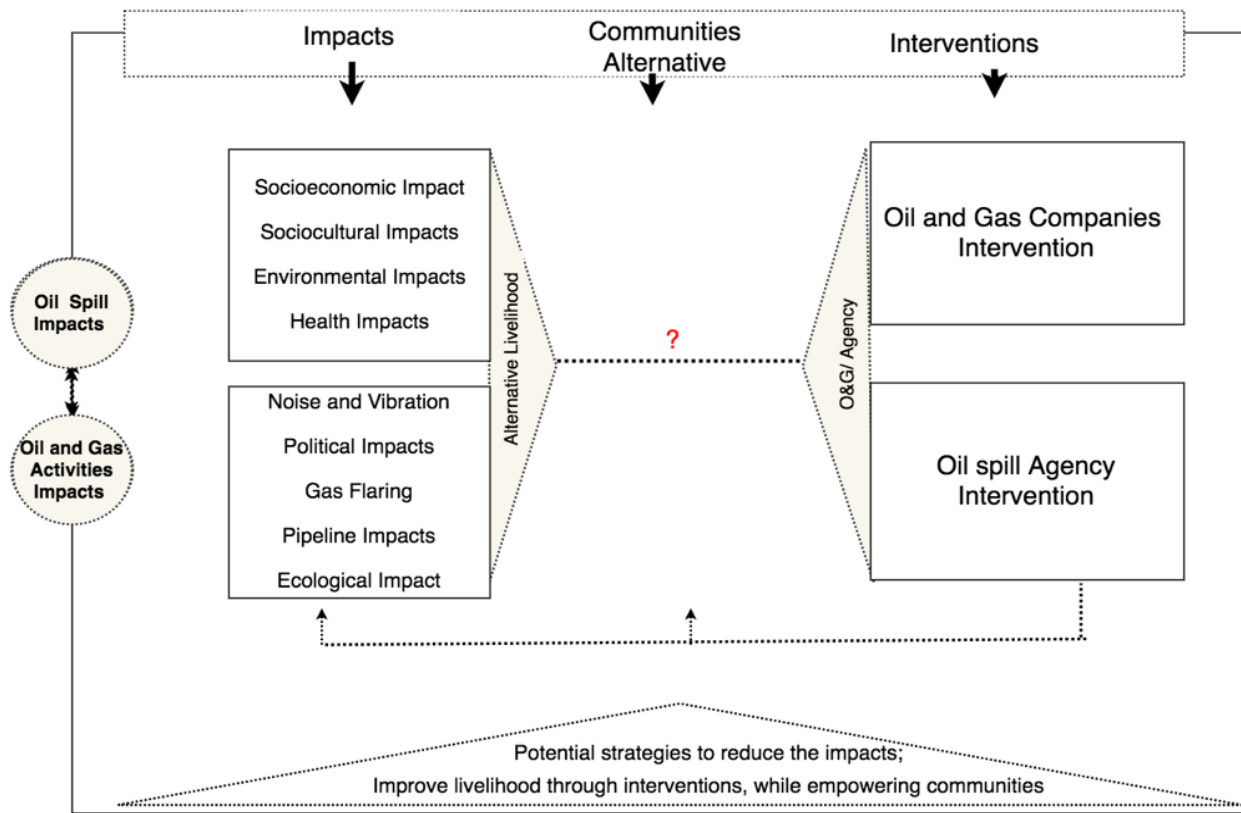


Figure 14: Conceptual Framework of the study

4.9. Summary and Link

This chapter elaborates the process of developing the conceptual framework that underpinned the study. As such, identification of key concepts as they emerged from the literature (See CHAPTER 2:) and their relationship with boundaries of the research were discussed. Further, the conceptual framework was developed from the synthesis and review of the existing and available literature in the field and is further refined based on the final findings from the community's perspectives, focus group discussions, oil spill-related agency and oil and gas industry interviews. The conceptual framework shows the process to enhance the empowerment of affected oil spill communities as a means to reduce oil spill incidents and rebuild of destructed sociocultural, socioeconomic and livelihood structures. Having developed the conceptual framework that guides this research, the next chapter presents the analysis of the study.

CHAPTER 5: DATA ANALYSIS

5.1. Introduction

Chapter four explores and presents the conceptual framework that underpins this study. This chapter presents the analysis of communities from the interviews and focuses groups discussions combined. Importantly, the community participants are described using “Key Community Member Participants (KCMP)” due to the anonymity assured before the interviews and focus group discussions. The chapter presents a brief theoretical background of the participants; the procedure adopted for analysing the interviews and the focus group discussions. Thenceforth, discusses the existing alternative livelihood adaptation by community amidst of oil spill hazards; factors obstructing the alternative livelihoods and ways to overcome the challenging factors as means toward community empowerment, followed by the chapter summary and links.

5.2. Background information of the Key community member interviews

The interviews and the focused group are conducted with the view to gain in-depth knowledge in the field of study and to capture; the alternative livelihood adaptation structures developed by the community members amidst of the decades of oil pollutions. Also, the obstructing factors impeding the alternative livelihood as a means for community subsistence were rigorously extracted through community members who have lived within the oil spill affected communities for over ten years. As such, twenty (22) Semi-structured and unstructured interviews along with eight (8) focused group discussion were conducted across different oil spill affected communities. The study participants were community representatives, social activists’ group, chiefs and elders of communities, youth representatives, farmers, teachers, religious leaders, lecturers and environmental expertise in the field of oil spills, remediation and environment (See Table 4). Importantly, the purposively selected participants for this study have experienced difference incidents of oil spillages and had different experiences and knowledge on how the incidents have affected their livelihood structures.

Further, a majority of the selected participants under the community category were nominated based on the extensive involvement in fishing, farming of different kinds and engagement in periwinkle picking activities carried out as daily livelihood sources across most communities before and after the advent of oil spillages. The participants mentioned above with the longevity within the communities and their encounter with oil spill environmental hazards deemed appropriate for this current study. Further, the communities selected signifies the sample across oil spill affected areas within the region, given that the lifestyle, livelihood sources, culture and traditions are related. Importantly, given that all most all the oil and gas

industries operate under a unified law justify why the outcomes can be generalised across similar communities in the Nigerian contents with regards to oil spillages and livelihood sources and rebuild.

5.3. Procedure adopted for analysing the interviews and the focus group discussions

The study begins with an interview guideline before the data collection (See Annex 1-4). Thus, the interviews were to extract negative experiential impacts of oil spillages, livelihood and adaptation system adopted for subsistence. The interview guideline and consent form encompassing the study aim, and summary brief were sent to all participants preceding to the interviews. The process was to gain initial consent and commitment concerning the intended aim of the study, and its benefit to the entire society. Also, to ascertain the number of participants willing to take part in the conversation, while sharing their experience and wealth of knowledge on the subject matter.

According to Kvale (2008) interviews are vital tools for meaningful and factual discussion. More so, predefined interview guideline was piloted with five experiential community elites to examine its face and content validity. Thenceforth, all the interviews and group discussions were then audiotaped with a digital voice recorder with the consent of the interviewees. Thereafter, the audios were all manually transcribed into MS word along with the field notes texts as the first step for analysing qualitative data (Dillaway, Lysack, & Luborsky, 2017). This process allows the researcher to use the quotations and pictures taken from the participants in the presentation of the data while adding to the reliability and the validity of the research findings (See Annex 4 for a sample of transcribed interviews)

Furthermore, the key concepts that emerged through the transcribed word documents were thematically categorised for interpretation. Importantly, the study systematically considered all relevant and meaning concepts regardless of the phrase or word count, considering the meaning and the opinion of the participants in its natural situations. Thenceforth, the content of the word documents was described as the findings of this study. According to Hsieh and Shannon (2005); Anderson (2007) content analysis is a technique widely used by the qualitative researcher via its three approaches for the interpretation, description of meaning from the content of text data in the real paradigm. The three different types, namely, summative, direct and conventional approaches of analysis are acceptably used depending on the researcher's choice and the intent of the study (Hsieh & Shannon, 2005). This study adopts the thematic and content analytical techniques in the form of qualitative content to interpret the text, opinions, experiences and knowledge expressed by the interviewee in its original condition. This approach helped the researcher to understand the actual meaning of the text having read through the data multiple times before coding using an Nvivo software package (Version 11) and draw. Oi software program. The section below presents the data analysis of the Key Members of Community perspective (KMCP's) and Focused Group Discussions (FGD) in content and

thematic compartments. After that, the key oil and Gas perspectives (KOGP) analysis is presented, followed by Oil Spill Agency perspectives (OSAP). The analysis is sequential and crossed analysed after the data is interpreted and presented in verbatim at the final section of this chapter. Thus, below starts with the community perspectives of the analysis. The abbreviations KMCPs, A-V are used across discussions that relate to communities, while, FGD 1-8 is used to describe the focus group participants. KOGS A-H is used for the oil and gas participants, while, OSAP, A- F is used to describe the oil spill-related agency in the context of this study.

5.4. Analysis of Communities Interviews

5.4.1. Adaptation and alternative community livelihood strategies

As evidenced in section 2.4 and 2.7 the communities are suffering chronic negative impacts of oil production on the entire livelihood structures. Upon the analyses of the data gathered from the unstructured and semi-structured interviews, various alternative livelihood measures were identified. Interviewees established that the identified alternative strategies contribute to ‘short’ term livelihood, even though some activities are practised for decades. Accordingly, all community interviewees acknowledged and described what constitutes livelihood means for their subsistence as *“food, income, basic economic and structure for daily living”*. Thus, the total of twenty (20) strategies emerged from the data as to what contributes to the community’s local economy, food and daily income. The initial identification was further scrutinized through different intense reading and categorised into seven, owing to similarities. Afterwards, the study quantifies the frequencies of occurrence of the alternatives adopted livelihood to the socioeconomic and sociocultural development of the communities. Thus, the next section discusses the seven identified major alternative livelihoods adaptation strategies across the communities of the study. The strategies are; local refining of oil petroleum product, long-distance fishing/deep sea fishing, distance timber production engagement, daily bricklaying/ casual jobs, farming/share system of farming, internship farming system, farming on leased lands.

5.4.1.1 Local Refining of Petroleum Product (oil Bunkering)

It is imperative to elucidate that oil bunkering activities in the Nigerian context are classified as an illegal business. Even though other developed countries such as the United States carry out the activities in a more structured, organised and legalised means through the department of their ecology (Boniface & Samuel, 2016). The activities of oil bunkering which takes place at different levels are ingeniously the most lucrative private business in the Niger Delta as divulged by the interviewees. The interviewees disclosed that the oil bunkering activities are carried out in small-scale operations at the local community levels, where the petroleum product is condensate for local use, and further tapped off for distributions at the local useable

form. KCMP-A stated, “...*Thank goodness for oil bunkering, at least we do not sleep in the dark most of the time. You know we use the local lantern as sources of light/ electricity, now the lamps (lantern) are always filled with kerosene gotten from the people that engage in oil bunkering*”. In supporting that KCMP-N stated, the major livelihood sustainable means for many households in some of this communities are through the oil bunkering business due to a shortage of landed areas for agricultural practices and damages to waterways for fish production. KCMP-I added, “*Although we do not have huge equipment to carry out the bunkering in a proper and large manner, we are getting our daily living from the activity which is the most important to us in the communities irrespective of our conditions*”. Arguing further is KCMP-L, an elder who stated with so much pain as observed during the face to face conversation,

“...Honestly, oil bunkering is killing the youth’s day in day out; the children got burnt at every slightest mistake during bunkering activities. How can the problem of poverty be solved to remove this youth from bunkering activities? Even though some may argue that it contributes to their daily survivals. I sometimes do not blame them but the government and the oil and gas industries which have failed the whole region and have left us in the quest for answers to our predicaments”.

KCMP-K added, even though the oil bunkering kills and contributes to the already environmental degradation, the people without alternative and sustainable means prefer to engage in the oil bunkering. Agreeing to KCMP-K, participants in focus group 1 and 6 mentioned that “*oil bunkering is an activity that would not end until the government and the oil and gas industry restructure their approach towards communities, even though people are killed due to the lack of technology, facilities and well-designed refineries*”. Accordingly, KCMP-J and KCMP-V describe the oil bunkering activities as a business not just for the local community members but other NGO’s and sectors who engage in the act for commercial purposes. Supporting that, is KCMP-A who stated, even at the commercial levels, which involves NGO’s still face challenges of unavailability of trade union and the none availability of market structures. KMCP-G and KCMP-J stressed that different sectors engage in the petroleum bunkering; they deliver this product to barges and ocean travelling tankers for further foreign distributions and destinations. KCMP-M and KCMP-V also mentioned that oil bunkering activities are beyond stoppage, given that the oil operators and or delivery companies sometimes exceed their legitimate allocations. Furthermore, KOGM-P and KOGMP-F revealed that oil bunkering is not just a community activity, but commercial. Agreeing to that, KOGMP-P stated, oil bunkering is carried out in large scales which involves country to country with top personalities. As further mentioned by KOGMP-B, “*Why it seems about community is because of the environmental aspect of it, and often, community engage in such an act to call for attention*”.

Contrarily, KOGMP-T and KOGMP-A stated, that communities are not content with any support carried out by the oil and gas industry and as such will engage in any form of sabotage to destroy the oil company’s

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activities irrespective of bunkering. Agreeing to KOGMP-F is KOGMP-B who stated, *“The oil bunkering to some extent contribute to livelihood sustenance of communities irrespective of the environmental damages, personally advocate for sustainable livelihood structures for the community members not bunkering, given the risk involved and the frequent fire incidents”*. The majority of the participant believes that oil bunkering contributes to their livelihood structures irrespective of the high risk involved in the activities. The interviewees opined that if alternative livelihood structures are spread across pollution affected communities, the frequencies and zeal placed towards oil bunkering will reduce. Likewise, restructuring the practice of bunkering across the region will also save the environment therein. However, some other interviewees state that the oil bunkering is not practised all over the Niger Delta communities and revealed other alternative supporting livelihood structures embraced by many communities. The section below discusses other alternative livelihood supporting structures employed by communities irrespective of oil bunkering.

5.4.1.2 Long Distance/ Deep Sea Fishing

Long-distance fishing is yet another alternative strategy employed by communities whose immediate waters ways were affected by decades of oil spills without clean-up. The Interviewees whose significant occupations were fishing divulged that the contamination of the waterways rendered their economic sustenance disdain. According to KCMP-L, fishing activities is one major sociocultural, and socioeconomic occupation of the people and that is why the people can relocate or travel miles away for fishing business. Some elders such as, KCMP-S, KCMP-O and KCMP-V from the eastern Niger Delta communities revealed that the rivers which were a significant source for fishing activity are dead due to contamination. What this implies, according to KCMP-S, KCMP-J, and KCMP-O is that naturally, the waterways were white/plan before the residues of petroleum product and oil spills damages. Presently, the waterways have remained green for decades with no living organisms and without any use of it. The people no longer use the river for anything like livelihood support other than travelling to nearby communities, and that is why we refer to it as a ‘dead river’. Similar to this disclosure is KCMP-K and KCMP-E, who revealed that the Ogoni River (particular Bodo River) has remained dormant without any living organism for years now due to various oil spillages with no remediation, clean-up or restoration. Accordingly, KCMP-O and KCMP-Q further mentioned thus, particularly, the river is valued more than any other thing when livelihood discussions are concerned because the rivers contribute to nearly 90% of our livelihood support. In agreeing to that, KCMP-L, KCMP-J, KCMP-S and KCMP-A stated, *“We now travel kilometres away to other communities for fishing activities due to the dead river surrounding us”*. Likewise, some other interviewees revealed that they travelled hundreds of kilometres away into the Atlantic Ocean for fishing activities (FGD, 6 & 7). More so, KCMP-R added,

“...Fishermen and women are now going extra miles toward the Atlantic Ocean for fishing, which has increased energy use, increased time for fishing and selling the fishes. Moreover, sometimes before they get to the communities from that hundred’s miles fishing journey, the fishes are already getting spoilt. Most of the elderly do not have speed boats, which means they use local canoe that takes hours to paddle to the miles for the fishing for survivals, livelihood and family support”.

According to KCMP- F and KCMP-V, the energy required for the long-distance fishing in search for livelihood compare to the catch in the usual short distance is not commensurable because it requires that one uses hardbound engine boat which majority of the people cannot afford. KCMP-N sadly sad, *“Due to the difficulties and the much energy and resources (input) during the current fishing system, the cost of daily living has gone high and has influenced living standards which have contributed largely to households incapacitation to afford daily meal”*. KCMP-R further added, given the distance for the search of livelihood some members of the communities relocate to a nearby country like Cameron for fishing activities while others relocate to communities not affected by oil spills and oil and gas pollution. The relocation of community members as KCMP-I and some interviewees in one of the focus group (FGD 4) described is ‘forceful migration’ given that it was not at their will, but somewhat circumstances that challenged the normal and every day livelihood structures caused their migrations. KCMP-N and KCMP-O added the migrations in this context are not for greener pasture but daily livelihood sustenance, for example, engaging in timber production and internship farming systems.

5.4.1.3 Distant Timber Production Engagement

KCMP-I highlighted that a majority of the people that travel to upper land communities went because of the engagement in timber productions. As argued by different interviewees, some community members have travelled for timber production engagement but never returns which to some extent is detrimental to the community’s development. Accordingly, KCMP-K and KCMP-V stated, the development of the community is much reliance on the output from the community members. As such, if the community members continually migrate for timber production engagement, some for fishing and farming activities outside the communities, the socio-cultural activities and development of the communities will continually degrade. KCMP-G stated, *“We found timber production engagement better and substantial even though people migrate for its purpose. The fact remains that people will look for an alternative when there are no sources of support and have different persons who embarked on timber business and are now doing well even though it damages their physical body build.”*

More so, KCMP-Q stated, timber engagement is one livelihood way for people who engage in such activity as a source of income and households livelihood mechanism. Timber business is just one way of survivals for some individuals who sees such activity lucrative in the absence of other means. KCMP-Q further stated categorically, *“What the people are asking for, is a supportive, sustainable and physical livelihood structures since the environment cannot be fixed at the shortest possible time for the affected communities. For example, Ogoni land has been without remediation of the damaged areas for over ten years.”* Agreeing to KCMP-Q is KCMP-K who stated, even the timber engagement is not certain, not sustainable and reliable, given that most communities have limited timbers to exploit. KCMP-M added, *“I strongly advocate for reliable empowerment structures and not unstructured timber production”*. Furthermore, in the search for

other livelihood alternative supporting structures, interviewees frequently emphasise on daily casual employment system which they perceived as livelihood alternative, discussed below.

5.4.1.4 Daily Bricklaying/ Casual Jobs

This sub-theme is referred to as the process that involves someone (craftsman) that lays bricks to construct brickwork. Participants revealed that majority of the youths and the elderly engage in this kind of works where they become labourer/ helper in constructions site (masonry or blockwork). According to KCMP-N, Community members cannot act in isolation when specific jobs are concerned in situations where there are limited alternatives. Interviewee revealed that daily bricklaying jobs formed a considerable part of their current alternative livelihood sources. The majority of the participants in most of the focus group discussions stated, *“Daily bricklaying jobs are what most youths engaged instead of stealing and engaging in arm robbery activities (FGD 3&4)”*. Agreeing to KCMP-S is a community chief who stated, *“At my age, I still go out looking for where constructions are taking places, I move from one bush to another and from one community to another just to get a daily living”*.

KCMP-S stated, *“At the end of each day, I go home with one thousand five hundred-naira (1,500 Naira, less than \$5).”* Similar to KCMP-S is KCMP-K, who stated, the struggle for survivals has left us with nothing other than to engage in everything humanly possible. *“I have people who because they are unskilled damaged their neck in the cause of working as a helper who carries bricks on the bear head in a construction site”*. The majority of the Interviewees revealed sympathetically and pitifully as observed during the interviews that the daily casual jobs are not sustainable in that; the jobs are not always regular while family responsibilities are regular. Further, KCMP-U and KCMP-D stated, *“Most times we toiled in the bush for several hours and ended up going home with empty hands”*. KCMP-D stated, *“I do not go home sometimes when there is nothing to present by the end of the day. I have children to take care of; just their daily meal is what I struggle every day since my farmland got taken by oil spills and production activities with one-off payment”*. In the same direction, KCMP-N and KCMP-K stated, sometimes we thank God for construction activities because at least one can go home with five hundred or one thousand Naira per day, even though it does not come frequently. KCMP-R stated, *“I have seen people who in the activities of carrying bricks went blind because there were no health and safety precautions and equipment is in most of the site”*. KCMP-R further added, this, however, are short term livelihood supports even with the lack of safety equipment and measures in place for the activities. Thus, if the government could look into proper empowerment programs for the Niger Delta communities, different issues of conflict, violent and restive situation would reduce. More so, a majority of the participants, especially the women, revealed that even though they partake in the bricklaying jobs as casual helpers, they are more economically productive in farming and fishing. Some participants opined that farming has been the culture and lifestyle and therefore would engage in any available form of farming for livelihood building. To this end, the section below

detailed a system of farming described by the interviewees as farm and share farming system alternative for livelihood support.

5.4.1.5 Farming /Share system of Farming

Evidence from the community's interviewees shows farming as a 'theme' that cannot be ignored since it forms part of the culture, norms and local economic contributor. The majority of the participants opined that with the different local farming systems and alternatives, the livelihoods structures of the community are revitalised through farming. According to a majority of the women who dwell solely on periwinkle picking activities for livelihood support stated, *"This farming strategy which involves sharing what is cultivated on a borrowed land equally with the owner of the land is a strategy that has kept us going. Otherwise, most women would have left their husbands and children for other unhealthy livelihood searches for livelihood support (FGD 4)"*. Some further added, *"Even though the 'farm and share' system favours the owner of the land entirely, we still have to engage in it (FGD 4)"*. KCMP-K for added, farm and share system of farming as people may call it contributes mostly to the household economy. Thus, this is because most of the alternative livelihood strategies adopted by the men, boys or youths are termed not suitable for women in the community setting, considering the culture, norms and the traditional attachments to women.

Furthermore, KCMP-N stated that even with the human resources availabilities of these women, different issues concerning the land unavailability hinders majority from getting engage properly. KCMP-N mentioned that *"Unavailability's of a landed area for the farm and share practice of farming is a big challenge for the women"*. In supporting that KCMP-G KCMP-V stated, *"Most landowners by the end of the farming seasons or during harvest will go further to harvest the crops before your notice"*. That is why some interviewees opined that internship or farming on a leased farm is more economical and healthier for all stakeholders involved (i.e. both the farmer and landowners).

According to KCMP-D, this farm and share have caused different conflicts among individuals even as it seems economically benefitting or livelihood supporting. The process even as smooth as it seems, people tend to outdo others because of poverty and greedy mind-sets. This kind of problems can be solved when the gaps between the community members and the government are drawn closer. Likewise, a majority of participants opined that the government and the oil and gas industry need to show their presence to close the poverty mentality by creating a different avenue for livelihood support (FGD 1-3). Even as a majority of the respondents argue that 'farm and share' strategy contributes to livelihood support. Others mentioned that such activities are irrespective of the contributions to the livelihood needs more appropriateness and legal backing. In supporting that, KCMP-S stated, *"Most of the available lands for farm and share farming system are practically within neighbouring communities which is distant from immediate communities as such transportation, for example, use of canoe and its availabilities tend to obstruct such practice"*. That

is why KCMP-M started, *“I advocate for a sustainable means of livelihood support even as the community members engaged in farm and share, farming on leased and or internship farming systems for survivals”*.

5.4.1.6 Internship Farming system

Internship farming system is one strategy employed by community members whose farmlands, and significant occupations are damaged by oil spills and oil production activities across the region. The Interviewees revealed that an internship farming system is a voluntary activity where community members relocate to a given area for some years solely for farming activities. According to KCMP-T and KCMP-V, most people came back to the communities with new farming skills learnt from other regions. This act of farming for livelihood support is engaged by a good number of farmers not necessarily for migration purpose but with a great intention of livelihood support. According to a participant in a focus group discussion, *“...I stayed in another village for two years immediately 2008, 2009 massive oil spill took place because my canoe was lost, farmland across the river was damaged, I left out of frustration though. So, I embarked on two years farming journey at another community to enable me to survive with my family (FGD, 4)”*. KCMP-I stated that type of farming strategy had helped most women in the community, considering that most women died using the contaminated waterways without precautions. KCMP-G, most women who forcefully maintained their livelihood sources through the contaminated water, who refused to source for an alternative such as; the internship farming, distance fishing or farming tend to suffer an unimaginable sickness. In supporting that KCMP-K, stated, *“That is why most women ended up given birth to deformed children also. We have numerous practical examples of women who bluntly refused to stay away from the contaminated site, who suffers from different skin disease resulted from the contact with the oil spills”*.

More so, a majority of the Interviewees opined that the internship farming strategy is an avenue to reduce the risk of getting in contact with the contaminated water. For example, KCMP-E stated, *“Staying away at an upland or community without oil pollution was a great avenue to reduce death risk within the community”*. Agreeing to the above statements, KCMP-N added, *“I became a hired labourer in the community I moved to...My children and I engaged in massive hired ‘labourer’ most of the time when we finished our private farming in the community we were leaving”*. Likewise, KCMP-A, *“Internship farming strategy helped my family to stay away from the air pollution, water contamination and the massive odour that comes into the community all the time”*. In support of KCMP-A, explanations are some interviewee from a focus group discussion who mentioned, *“... In as much as people divulge different perspective of how pollution affects them. What brings us together remains the fact that more than 80% of these oil spill affected communities rely solely on the two major subjects the use of ‘Land and waterways’ (FGD 6-7)”*. So, alternative farming or fishing will remain what most of the Niger Delta communities will strive for livelihood sustenance, and that is why people mostly engaged on a leased farming system as an alternative and adaptive livelihood as mentioned by all the interviewees. KCMP-I stated, despite the distance to where

the land is rented, the inadequacy of the road network and the limited landed areas are hindering factors. However, farming remains socio-cultural and socio-economical adventure, and thereby an alternative and sustainable alternative agriculture practice would play a significant empowerment role within the Niger Delta communities.

5.4.1.7 Farming on Leased Lands

A Leased farming system is yet another strategy adopted by farmers whose land were forcefully damaged by oil spills or used for oil production activities. All interviewees greatly emphasised on this sub-theme 'leased farming' as a livelihood strategy that has influenced the socio-economic and sociocultural setting of the community. Leased farming according to some members of the periwinkle associate is a sustainable strategy when the land is available (FGD 1-4). According to KCMP-F, *"Even though, people leased this farmland from the neighbouring community, there is an assurance that your crops are safe as they are planted, except criminal act from hungry citizens"*. Unlike the 'farm and share' strategy that the owner of lands sometimes harvests the crops behind your back as mentioned by KMCP-G. Agreeing to KCMP-F is KCMP-Q who stated,

"...The special and economic benefit of leased farming is the aspect and willingness of some community members given out their lands for a little amount. For example, I borrow a piece of land for nearly five years now and still paying one thousand five hundred Naira each year. Personally, it is a good thing, given that I have no land of my own".

KCMP-M stated, *"Leased farming is reliable and sustainable for farming activities because the land and the crops are guaranteed till harvest or number of years leased"*. In supporting that KCMP-G stated, *"That is why most people tend to pursue leased farming system instead of 'farm and share' or 'internship farming'"*. Importantly, a leased farming system is practised, even when there are no pollutions in some communities (FGD 7). For example, KCMP-P stated, *"Even though Ogoni people engaged in a leased farming system due to oil spills, other communities might have engaged due to lack of land ownership given, the terrain and topography of the Niger Delta area."* KCMP-K, KCMP-U, KCMP-V and KCMP-Q stated, the unavailability of land and infrastructural development are factors that will continually contribute to unsustainable livelihood structures across the communities.

More so, the majority of the interviewees having acknowledge that different farming systems and other strategies contribute to their short-term livelihood structures. Participants still believe that the identified strategies have not entirely reshaped their livelihood structures given that different obstructing factors continue to hinder the procedures. As added by some participants in a focus group discussion, the alternative livelihood strategies are not entirely reshaping livelihood systems, they sustain for short term, not long term and that is why there is a sense of frustrations all around. The oil bunkering due to no availability of

sophisticated equipment increased death rate due to fire accidents (FGD 1). However, from the detailed insights above, one can extract different factors that hinder the adaptive livelihood alternatives. As revealed by a majority of the interviewees that different factors affect local refining of the petroleum product, given that, it serves as a significant community livelihood alternative. Thus, deep-sea fishing obstructing factors, farm and share impediments and issues with internship farming. The majority of the participants believe that even with different alternative strategies, a more sustainable measure should be introduced for key communities affected with oil pollutions. Thenceforth, the next section describes how the identified alternatives contribute to the socio-economic and socio-cultural development of the communities.

Name	Files	Referen...
▼ Alternatives and Contributions	0	0
▶ Daily Bricklaying Casual jobs	13	16
▶ Distant Timber Production Engagement	14	17
▶ Farm and Share Farming System	26	32
▶ Farming on Leased Lands	26	32
▶ Internship Farming System	25	31
▶ Long Distant Fishing	26	40
▶ Oil Bunkering	24	45

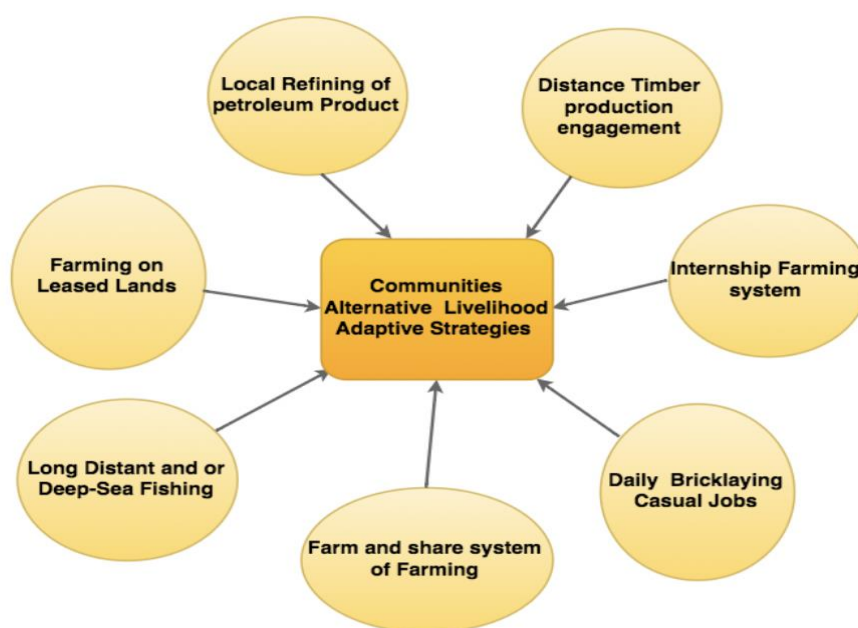


Figure 15: Thematic diagram- Alternative livelihood adaptive strategies

5.4.2. Contribution of the alternatives to socioeconomic and socio-cultural development

As discussed in the preceding sections, communities have improvised different alternative means for livelihood support. As such, this section describes the frequencies of occurrence of respondents' perception of the identified livelihood strategies to the contribution to socioeconomic and sociocultural development. Importantly, the use of Nvivo software and excel spreadsheet were used to measure and organise the frequencies of each construct for quantification of the result. Thus, the below section presents the graphical representation of the result of how the identified livelihood alternatives contribute to socioeconomic and sociocultural improvement across communities affected by oil spill environmental hazards. Figure 16 depicts the diagrammatic representation of how the identified community's livelihood mechanisms contribute to socioeconomic and sociocultural conditions across the affected oil spill communities.

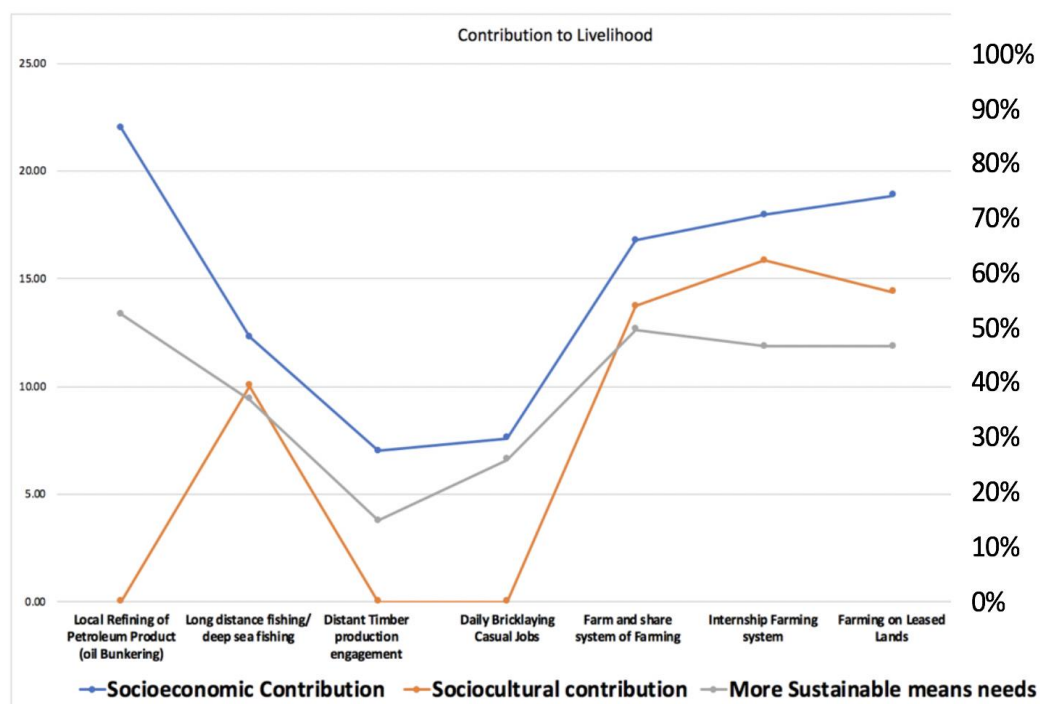


Figure 16: Alternative Livelihood Contributions

The empirical evidence shows local refining of petroleum product as one main contributor to household socioeconomic livelihood irrespective of the unstructured system of the practice across communities, followed by farm and share system, internship farming and farming on leased land. Accordingly, a majority of the participants frequently revealed that all different types of farming improvised by the communities serve as important livelihood supports irrespective of the challenges that often associates with the alternatives. Evidence show about 90% contribution of local refining of petroleum product to socioeconomic sustenance across communities, while, 69% from farm and share, 70% from internship farming and 78% from farming on leased land. While distance timber engagement and daily bricklaying jobs have the lowest percentage of 29% and 30% contributions to the socioeconomic sustenance of the

communities. More so, the empirical evidence further shows about 58% contribution of farm and share, 62% internship farming, and about 59% of leased farming to the sociocultural conditions. While, there was 0% contribution of the local refining of petroleum product, distant timber production and daily bricklaying alternatives to the sociocultural conditions of the communities. Likewise, it was evident that long distant fishing contributes 50% to socioeconomic growth while contributing 40% to sociocultural development. However, while showing enormous contributions of the alternatives to the socioeconomic, it was evident that the local refining of the petroleum product needs a more refined, well-structured and sustainable avenue for the practice. As such, about 55 % of respondents attest to the more structured practice of local oil refining of petroleum product to reduce environmental degradation while empowering community members. Likewise, evidence gathered that about 50%, respondents to farm and share systems, 49% to internship farming, and about 49% to farming on leased land respondents attest to more support in the aspect of free land provision for agricultural practice. Also, evidence revealed that long-distance fishing further needs external support in the provision of necessary fishing tools. As such, the evidence shows 39% of the respondents attesting to the provision of simple necessary fishing tools and security across the fishing areas. While daily bricklaying also shows a less emphasis on the more sustainable means of about 25% and distant timber production about 15%. While maintaining that such activities have increased the socioeconomic conditions of the communities within. More so, a majority of the interviewees stressed that all the alternatives have their disadvantages and advantages and can only be restructured to more suitable practice. According to KCMP-K, KCMP-G, *“that is why there are different calamities within the communities as ensued by most of the survival activities”* and therefore calls for more sustainable livelihood structures for communities with oil spillages and or negative oil and gas productions.

5.5. Challenging factors that obstruct alternative livelihoods

As evidenced in section 5.4.1, communities are faced with enamours forceful and conscious adaptive alternatives livelihood support. Upon analysing the data gathered from the community interviewee and focus group discussions, various challenging factors that hinder the alternative adaptive strategies were identified. The next section discusses the identified obstructing factors to the alternative livelihood of the communities. All factors challenging the alternative livelihood as identified are represented in Figure 17 below. Importantly, the section discusses the challenging factors in two perspectives, such as the internal and external factors hindering the community alternative livelihood source. Internal factors are discussed therein.

5.5.1. Internal Factors challenge alternative adaptive livelihood systems

Five challenging factors were categorised under the theme ‘internal factors’. The identified challenges under this theme affecting the livelihood alternatives are greed, insufficient landed areas, Lack of modern

fishing Lack of appropriate facilities/technology for local oil refining, capacity and capabilities to purchase modern farming equipment, lack of modern fishing facilities. While the second section discussed ‘external factors’ that obstruct the alternative livelihood, such external factors as described by the interviewees are; clashes between individuals of different communities on river borders, Use of Military Force, transparency in authority's actions and Lack of health and safety awareness in construction sites. Accordingly, the chapter discusses the internal factors obstructing the community alternative livelihood amidst of oil spillages, oil production consequences and the improvised alternative livelihoods mechanisms. Further, it detailed how communities perceive these challenging factors and how they can be reshaped for the empowerment of communities affected by oil spill environmental hazards on livelihood structures.

5.5.1.1 Facility Challenges for Oil Bunkering

The majority of the community respondent revealed that oil bunkering contributes to household's subsistence irrespective of the lack of technologies and a well-structured market for the product. According to KCMP-K, KCMP-H, KCMP-G, KCMP-I and KCMP-S, more than 80% of the population within Niger Delta uses the petroleum product produced locally for domestic and local marketing purposes. Accordingly, the majority of the participants revealed that even with the evidenced of the positive contribution of oil bunkering to households, different challenges are faced by individuals who engage in the activity for livelihood support. Such challenging factors are; lack of organised structure for oil refining at the local community, despite the indigenous skill and knowledge. KCMP-K stated, *“People face security challenges from the government (external factors) and challenges of ruptured local boat and drums”*. According to KCMP-K, *“Facilities such as big tanks, drums and ships are huge challenges and factors that hinder effective oil bunkering within the community setting, these facilities will improve the practice of oil bunkering even at the local level, irrespective of the misconception of the operation”*. That is why we call on the government to establish modular refineries, and restructure the practise, that way; modern technologies would be made available for oil bunkering, KCMP-K added.

Furthermore, KCMP-H pointed, lack of facilities is contributing factors challenging the oil bunkering activities, while, the communities are extensively knowledgeable with technical know-how even though more training and re-training of the local operators are vital in achieving effective incorporation and use of advanced technology. Interviewees suggested various recommendations to overcome the challenges related to oil bunkering in the Niger Delta, considering the depth of oil bunkering contribution to households. According to KCMP-U, KCMP -K, KMCP-Q, KCMP-D and KCMP-R, the need to establish a structural market, for oil bunkering and more organised operations with advanced facilities for the activities would not only contribute to households' survivals but would also reduce environmental degradation, while empowering the communities.

Furthermore, a majority establishes that mini-refineries be established within a strategic oil-producing community that would operate in conjunctions with the local engagers of oil bunkers. In doing so, as argued

by KCMP-I and KCMP-Q, it is essential to clearly define the roles of community participation within the refineries when established. This, however, is to curtail misunderstanding in engagement activities within the established mini-refineries, stated by KCMP-A. Also, KCMP-O, KCMP-K and KCMP-A further pointed out that a law that incorporates all the activities that accompany oil bunkering should be established and well defined and made known all bunkers. KCMP-O noted, *“Making law is another thing while implementations are the biggest challenge in the Nigerian system, but one would not ignore by pointing that, it is a great need to establish mini-refineries and enforced laws to contribute to the local and national economy”*. In supporting that KCMP-P, further mentioned that the only means to which environmental pollution through oil spills can be managed is by establishing the mini-refineries and making use of the local engages in the activities. That is a great strategy towards the reduction of environmental pollution and contribution to the local and national economy despite the proposed mega refinery built by Aliko Dangote, which is centred at the heart of Lagos, Nigeria. KCMP-V stated, *“The Niger Delta communities need a mini-refinery to reshape the activity of oil bunkering; otherwise, the locals would continue with what they know best, considering the unavailability of land for agricultural practice”*.

5.5.1.2 Insufficient land areas

This sub-theme was identified as all interviewees practically emphasised on the use of land for daily activities given the topography of the areas and the zeal of going into farming for livelihood support. As argued by many interviewees, landed areas within the region is practically insufficient for daily livelihood activities. The limited landed areas have practically pushed a large number of households into distant timber production business and internship farming, discussed in section 5.4.1.3 and 5.4.1.6 for livelihood support. Agreeing to that, KCMP-P stated, *“Topographically, the Niger Delta has minimal landed areas with a majority of the area filled with swamps, creeks and rivers and couple with the pollution incidents now, landed areas are big factors challenging livelihood”*. Notably, during the interviews, a majority of the interviewees placed emphasise to why issues of land is a challenging factor by highlighting thus; *“Not that there are no lands, but the fact that every piece of land is either filled with pipelines (pipe leakages) or with water have pushed us to complain and call for support for livelihood (FGD 5)”*. According to KCMP-P and KCMP-Q, most people engage in different distant activities because the landed areas have remained dormant because of several impacts from either gas flaring or oil spills. KCMP-Q further stated, most of the oil spills are not huge, and people tend to ignore them that is why many of the remaining lands are not viable and thus pushed people to other viable places for livelihood sources.

More so, all interviewees agreed that insufficient landed areas within the oil spill affected communities are factors that hinder alternative livelihood sources. Such challenging factors as further highlighted by KCMP-K, KCMP-T, KCMP-R, KCMP-L and KCMP-M have made different households engaged in mixed cropping systems, where different crops are cultivated in one small piece of land, thereby having a small yield of produce. KCMP-M added, *“For instance, there are stunted growth and poor yields in most of the*

areas because of the different crops mixed planted on a small piece of land (insufficient space problems)”. However, some other interviewees mentioned that often there are low yield productions due to the no availabilities of supplements like improved varieties and fertilisers, given that the atmosphere remains entangled with gas fumes yearly (FGD 7). Further, KCMP-M argues, “Given that there are limited landed areas and farmers are engaging in different multiple and mixed cropping, the supporting strategy should be the provision of supplement for those who engage in such activities for livelihood supports”. KCMP-S and elder who painstakingly stated as observed during the interview, “There are no such things as fertiliser or improved crops variety provision for the farmers, although, it has always been on records that most communities affected by oil pollutions are given fertilisers. The truth that remains is that; they are all deceptions; the government should provide free temporary lands for farmers and incentives for agricultural purpose across the communities in the Niger Delta irrespective of big incidents of pollution”.

5.5.1.3 Lack of Capacities and Capabilities to Purchase Modern Farming Equipment

As discussed in the literature sections, the Niger Delta communities solely dwell in the local farming system, which includes the use of hoe, cutlass and other local facilities. Most interviewees in the region practice subsistence farming, due to the no availabilities of modern facilities as revealed by participants. According to KCMP-K, *“We practice subsistence farming because we lack the capacities to purchase higher (modern facilities for large scale farming) farming equipment/ facilities even when we engaged in internship farming in a larger landed area”*. The respondents emphasised on the need to have facilities for farming given that most communities can practically migrate because of farming activities. Arguing further, KCMP-J, KCMP-M, KCMP-E and KCMP-H, who in their different interviews highlights that most community members joined cooperative societies purposely to get farming loans while some others practice cooperative distance farming to get a remnant of what is left from other farmers. KCMP-K further added,

“...A large number of the skilled and unskilled farmers will practically do very well when little assistance such as the provision of improved varieties of crops, fertilisers and menial farming tools and or mechanised equipment is provided for, those who want to go into farming as a business”.

Likewise, a majority of interviewees revealed that the lack and ability to purchase modern equipment's for farm and share practice and internship farming systems are factors challenging the alternative livelihoods. In a similar vein, the lack of facilities for local oil refining of petroleum product challenges the activities at the community level. Thus, the provision of farming facilities for alternative agriculture is significant issues that would vitally improve the livelihood of households, reduce social vices, agitations and conflict violence and deliberate act in the call for social and economic justices.

5.5.1.4 Damaged Trucks and Containers

The use of damaged truck and drums are also factors identified by respondents to be a challenging alternative livelihood. The majority of participants reinforced that different fire incidents have claimed lives and properties in the practice of oil bunkering for livelihood support due to the use of improper equipment. KCMP-G stated, *“Many people use already damaged trucks and drums because sometimes they are unable to purchase new ones at the very beginning of their involvements and as such risk their lives even though it supports their livelihood”*. Though, some interviewees mentioned that the people perceived oil bunkering as a fast means for income. KCMP-K pointed, *“People may argue that oil bunkering is for fast income, the fact is no, people are engaging in this activity for livelihood alternatives even with the different risk involved”*. The majority of the interviewees revealed that the use of damaged trucks contributes eminently to high risk during activities and such deprive others who want to engage in the activities without capitals. According to some participants in one of the focus group discussion (FGD 5) stated, *“That is why we advocate for restructuring and reshaping oil bunkering activities in the Niger Delta (FGD-5)”*. In supporting the statement in the focus group, discussion KCMP-D stated, *“Proper policy should be introduced for all facilities that are used for oil bunkering activities, check, and monitoring of facilities should be a priority”*. With the policy and regular check of oil bunkering activities and facilities, empowerment, capacity building and sustainable livelihood will be established for many households (FGD-1). KCMP-R stated, *“People engage even with little drums just for daily livelihood support, so how much more when there is a standard practice of oil bunkering”*. Agreeing to that KCMP-S, KCMP-N and KCMP-M stated categorically in their different interviews, *“Oil bunkering would not stop if the government continues with an attempt for that. The truth is, the activities support many Niger Delta households, and the only means is restructuring the practice. Notably, a majority of the respondents argued for a restructuring of oil bunkering activities, while, some advocates for modular refineries that can incorporate the local bunkers into a one-unit system of operation as a way of empowerment. KCMP-S added, “The use of damaged trucks and drums even as it appears as factor challenging the livelihood that comes from oil bunkering are constructs that should be made known as emphasised by an interviewee. Trucks and drums policy (facility policy) should be introduced as part of health and safety cautions and procedures within the oil bunkering sector”*.

5.5.1.5 Lack of Modern fishing facilities

Majority of the interviewee revealed that the lack of modern fishing facilities is an excellent challenge to fishing activities. As strengthened by KCMP-K, *“The communities which know no other jobs other than fishing and farming with local equipment needs the local systems of operations. Now that they are left to adapt with other fishing alternatives (deep sea fishing) will need the equipment suitable for deep sea fishing”*. In supporting that KCMP-K and KCMP-S stated that a majority of the fishing activities are carried out in hundreds of miles away from communities of residence for those who are still left in the communities.

Hence, fishing tools like a fishing net, fishing hook, fishing boat are challenging for those whose primary livelihood sources depend on it. Accordingly, KCMP-L and KCMP-J stated, the unavailability of fishing equipment that suits the current fishing culture has contributed to the high perception of neglect given that incidents of oil spills destroyed most local boats. Agreeing to KCMP-L and KCMP-J is KCMP-K who pointed, *“The same scenarios in most communities such as Bodo, where major oil spills had happened with different destructions without acknowledgement of replacement of the people's speed boats and canoe”*. KCMP-K further added, *“If not of the recent legal fight that brought about some inadequate monetary recognition, nothing would have happened as the other communities”*. Likewise, KCMP-I, the most local boat was lost during different oil spill incidents and still have not received a replacement for them. KCMP-I further, stipulates, *“really disheartening that people with little or no sustainable livelihood structures are left without any physical empowerment project (FGD 1)”*.

Furthermore, KCMP-I stated *“I think most people will indulge in different antisocial activities because they have the zeal to continue their fishing activities but no capacities to do so. No reasonable person will fold aims to die in hungry instead of when suitable alternatives are not suitable, then one would look for what best suits them”*. Thus, KCMP-F and KCMP-O agreeing with KCMP-I highlighted that most vibrant youths who are desperately used as a political thug would not participate in thuggery act if modern fishing equipment is provided. KCMP-I further added, *“Believe me when these community youths are skilfully engaged with what they like best which is the fishing activities, the socioeconomic and socio-cultural activities of the communities will bounce back”* More so, a majority of the interviewees opined that the no availability of modern fishing tools for community members would influence the degrading fishing cultures in the communities. According to some members in the focus group discussions (FGD, 6), the lack of modern fishing facilities (as a hindering factor) for the community livelihood alternative is a huge angle that needs urgent attention specifically for those who currently engage in the long distant fishing activities. Long distant fishing without suitable equipment with less energy considering the economic conditions of the communities is challenging and impede the sustainability of such practice (FGD, 6 and 7). Thenceforth, the majority of the respondents establishes that, apart from internal factors that hinder the identified alternatives. Different other external factors also hinder the alternative livelihood structures which have contributed to the instability in the community livelihood systems. Section 5.5.2 below gives a detailed analysis of the significant external factors identified from the respondent interviews.

5.5.2. External Factors that Challenge Livelihood Strategies

It is important to note that different external factors obstruct the alternative livelihood support adapted by the vulnerable communities of oil pollutions region. Accordingly, these established factors, as revealed by the interviewees, are crucial impeding factors that need reshaping to improve socioeconomic and sociocultural conditions of affected oil-polluted communities better. As KCMP-V stated, *“These external factors which cut across government authorities are hugely impeding to community's subsistence, which*

communities sometimes resort to conflicts and agitations". The external factors and how it has obstructed the livelihood alternatives mentioned (See Section 5.4.1) are discussed below.

5.5.2.1 Clash between individuals of different communities on river borders

Accordingly, KCMP-K stated, *"Most neighbouring community intentionally sabotage oil-producing community members, when they discovered that they engage in long distant fishing, with the intention to pay back for the perceived neglect of their communities during some compensation"*. According to KMCP-P and KCMP-K, the clashes that often take place are commonly unavoidable as people would naturally engage in what they know how to do best, which is fishing. KMCP-P further stated, sometimes when people are sabotage to other counterparts without the knowledge of the 'old fisherman' and 'women' it becomes difficult to avoid such situations. In supporting the situations of sabotage in the river borders, FGD 1, emphasised that most people have lost their lives in conflict within the river borders all in the search for daily livelihood support. Further, KCMP-K stated, *"How can someone who has not seen the food to feed his family be asked to pay homage to some set of people they claimed to have watched the ocean?"*.

According to FGD 5, sabotage along the river borders are further influenced when people sometimes sent treat letters to other communities in a request for trespass payment when fishing activities are carried out by some other neighbouring communities not affected by oil spills. Thus, the apparent truth to why most community members are silently killed during fishing is that the communities or individuals cannot afford any such payment given that the daily fishing might not even yield what they are asking for (FGD 7). As KCMP-S mentioned, *"We have had situations where parent and children are killed without any trace during fishing activities. Sometimes, their equipment, such as fishing net and speed boat, are ceased and are never returned."* KCMP-P, KCMP-N, KCMP-R, KCMP-Q, KCMP-T, KCMP-S and KCMP-I in their different interviews said that the secret killing of 'fishermen and children' from different communities along the river borders could stop if the government secure the river borders mostly, the Atlantic Ocean the way they secure and prevent international bunkers and oil and gas operators. KCMP-S further added, *"Not just concentrating on the people that engaged in oil bunkering but the poor fishermen who have sole disagree with stopping the fishing activities"*. KCMP-C stated, *"I travel near the Atlantic Ocean almost every time for fishing because I have no other job I could think of at my age, even though, I fear for my life. However, I still can't stop fishing because I have done it all my life, and I am in my 70s"*. Likewise, some Community Development Chairmen (CDC's) pointed, *"Often, people pay homage by sharing the fish they caught because they have no other choice, just to save conflict or death situations."* Subsequently, all community interviewees agree that long distant fishing activities are faced with death incidents, clashes, loss of speed boat, a forceful collection of the fish caught during fishing activities even as it serves for livelihood support as such, needs the government security to protect the lives around the river borders.

More so, another factor related to the security of the community lives as identified by interview respondents is the use of military force. The section below describes the perceptions of how the use of the military has obstructed alternative livelihood strategies across communities.

5.5.2.1 Use of Military Force

Oil bunkering serves as an alternative livelihood for those who engaged in such activities (FGD, 1 & 4), even with the different factors like, fire incident and the environmental impacts that emanate from such activities. The oil bunkering contributes lucratively to household's subsistence irrespective of lack of right facilities and market structures. The interviewees revealed that the 'one major' obstructing factor impeding the activities of oil bunkering is the use of military force by the government. Accordingly, participants describe the use of military against armless citizens as 'Resources Slavery' (FGD, 1-6). The Interviewees who opined that the deployment of the military officers to oil-producing communities against oil bunkering business is deforming, given, that most military personnel have further entangled themselves with secret harassment and sexually abusing women daily (FGD 7). According to KCMP-J, the use of the military to obstruct oil bunkering activities has contributed to community militarisation, given that the activities are contributing independently to household livelihood. KCMP-J further added, *"Most communities are now fully ready for conflict at all times given the presence of the government military personnel"*. In supporting KCMP-J, KCMP-S stated, *"The more military staff they deploy, the more conflict and violent drawn to the communities, especially when the youths are not usefully engaged"*.

Furthermore, interviewee revealed that the military presence had increased fear in terms of carrying out daily activities given the unprecedented actions perceived by the military staff and women across communities. According to KCMP-J, *"The military force would not contribute to positive economic growth rather it influences violence and disaster of different kinds"* KCMP-L stated, *"People now intentionally destroys pipelines in the call for conflict, instigated by the presence of the military"*. According to some persons in a focus group discussion *"We are already ready for the worst since we see food and do not eat them, we see resources and cannot use them. What else if not challenging the government with agitations and or violence (FGD 7)."* Another point from KCMP-S, KCMP-J, and KCMP-L stated, *"Even though the people are sourcing for alternative livelihoods means that in turn contributes to environmental damage. We expect the concern bodies to look critically into those alternatives, find a way to restructure such activities to better the communities"*. However, KOGS-B added, that the Niger Delta has always been known with military activities despite government deployment. KCMP-J and KCMP-O, the focus should be how to provide a sustainable means which would draw from the government, oil and gas and the communities themselves. While some few oil and gas industry participants blame communities for contributing to environmental damage and their predicament through the activities of oil bunkering. *"It is argued that the lack of environmental awareness is influencing factors that contribute to community*

attitudes and thereby recommend for frequent environmental awareness programs at community levels (FGD 7)."

5.5.2.3 Transparency in Authority's Actions

Interviewee revealed that the actions executed at all arms of authorities from the top government, local government, and local community heads are linked to the factors that challenge alternative livelihood. According to a majority of the community interviewees, the Federal government if transparent, should make laws well established at community levels through awareness programs instead of contradictory statements. Community participants believed that the relevant laws as it affects communities are not made known and clear to community members and most actions are radical being that community members are armless. KCMP-D stated, *"We have found that the actions sometimes taken by the oil and gas industries as it relates to community welfare are predominantly unfair"*. KCMP-D further added, especially during oil spill incidents, relocations of affected members and or provision of emergency relief materials always takes place after a long wait for assistance. KCMP-K added, *"The government is the oil and gas industry, and the oil and gas industry are the government; therefore, any action exhibited by one party is believed to be in conjunction with both"*. In supporting that, KCMP-R stated, the oil and gas industry often engaged in double standard games which contribute to the impediment of community livelihood (See Section 6.4.4.10). KCMP-R further added, *"I cannot explain most of the detailed issues involved in the double standard games in this interview except it is not recorded, due to security reasons and your workplace safety."*

Another argument revealed by the interviewees is the concerns to the states and local government authorities. Accordingly, KCMP-K mentioned, states and local government authorities are the nearest points to call for assistance when communities encountered external factors that impede their livelihood such as the cases with different killings along the river borders. KCMP-K further added, *"Believe me, none has attracted emergency actions, and these contribute to the perceived marginalisation and neglect"*. KCMP-K further added, *"Even as they secure pipelines and other oil and gas facilities"*. Likewise, KCMP-O stated, *"The actions of these bodies have made us quest for transparency to why things that happened to most of the oil-producing and or pollution affected communities are not treated as emergency except when it relates to vandalism issues"*. The actions from the states and the local authorities have left us to quest for solutions to livelihoods, and that is why the boys would deliberately destroy facilities if that is the only way to call for attention.

The interviewees opined that different community leaders' actions have contributed to impeding factors to alternative livelihood in relations to corrupt practices engaged during negotiations. Accordingly, interviewees revealed that most community elders are biased in settling a dispute between communities even as it relates to them. For example, often when there are conflicts, the leaders who are somewhat related to the political faction of other communities may necessarily not point out the fact and as such affect

livelihood of such community. KCMP-G reinforced, “Community leaders are not transparent at that largely caused by the oil and gas companies, who have at different point divided communities”.

However, contrary to community opinions, KOGS-A stated, “The community behavioural acts are sometimes overwhelming that you conclude that they are practically ready not to understand, rather, they believed in what they believed which is anything they want should be accorded to them”. Thus, KCMP-O and KCMP-K pointed that, in as much as the policies guiding the production are not well established at the community level, there is every reason for the oil and gas companies to create that avenue for the community. As such, it would increase the knowledge across communities and reduce the issues of transparency that is lacking. The diagram below depicts the challenging factors hindering community alternative livelihoods sources.

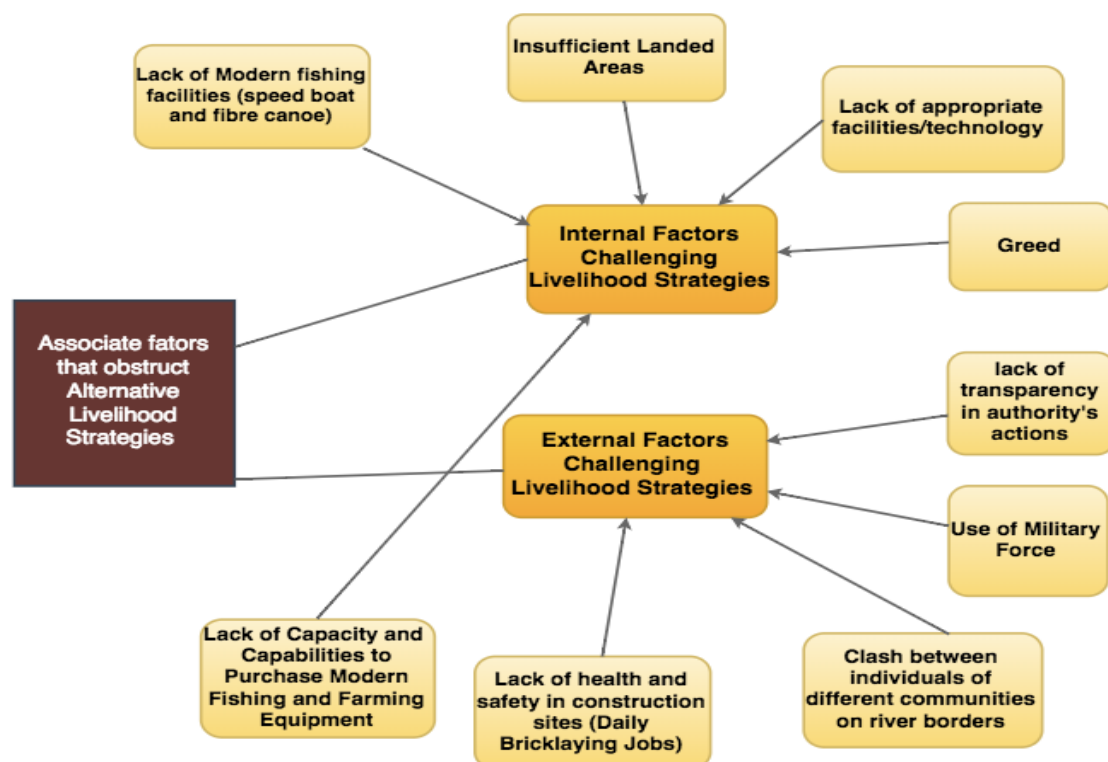


Figure 17: Challenging factors hindering alternative livelihoods

5.6. Overcoming the challenges for livelihood strategies and empowering communities

Having identified different alternative livelihoods and the obstructing factors challenging the livelihood alternatives. Numerous constructs are identified to reduce and or overcome the challenges as a means to empower communities affected by oil spill environmental hazards. The cognitive map below presents a detailed paradigm on constructs to overcome the challenging factors for alternative livelihood as a means

to empower the communities affected by oil spill environmental hazards. These factors encompass constructs to overcome both external and internal challenges across the communities affected by environmental hazards on livelihood. The factors cut across the provision of small scale industries for communities, alternative/sustainable agriculture establishment for communities, infrastructural compensation (soft and hard infrastructure), and adequate monetary compensation. Also, environmental education and awareness programs, provision of yearly farming equipment, protection of river borders, provision of fishing materials for communities, and clarity in authorities actions when dealing with communities..

5.6.1. Infrastructure Compensation

Infrastructure compensation across all community and a majority of the oil spill agency respondents were just as frequently mentioned, countlessly. According to KCMP-H and KCMP-K, massive physical infrastructure is highly achievable within a small space of time if the government would want to venture into it for the sake that the region serves as a backbone for the entire nation. KCMP-O, the region whose resources are used to develop the Federal Capital territory with different physical infrastructure are with no doubt marginalised in both physical, social, political and resources wisely. Further, KCMP-A, KCMP-F, KCMP-G, KCMP-M, KCMP-Q and KCMP-S, in the same line mentioned, that, schools, hospitals, roads and electricity form a significant path of human existence; thus, the wealth of the nation can provide these basic things across the region. In agreeing to that, KCMP-J mentioned, the lack of these are fundamental causes of calamities across the region. For example, KCMP-S, a chief of a community who bitterly mentioned, “the communities can establish small businesses when there is constant light; they can establish themselves through alternative agriculture in a small scale when there are roads, irrigation methods through the available water sources if it was established. Agreeing with KCMP-S is KCMP-K who stated, *“The Niger Delta is not so big that basic facilities cannot be established for them while other parts of the country enjoy the output from the single petroleum product”*.

Further, OSAP-D mentioned in the agreement with the majority of the community respondents that infrastructure is cos-investment and a vital aspect of countries development and affluence when established. Thus, it is not the issues that affect only the Niger Delta communities, but, a general issue across the nation. Although, the communities are concerns with the perceived issues of neglect and marginalisation and can stress for infrastructure as a sign for compensation and inclusion in that context. Otherwise, infrastructure issues cut across the board in a developing nation like Nigeria, considering that everything is on developing process, OSAP-D, OSAP-A and OSAP-C added. Likewise, given that issues of infrastructural compensation would serve as a substantial developmental strategy for the communities, respondents attest that infrastructure would indirectly facilitate another farming system.

5.6.2. Alternative Agriculture

Alternative agriculture is the practice of agriculture from a wide range of the spectrum, from an organic system that attempts to use the natural cultivation system without the addition of chemical inputs, to those involving the prudent use of a chemical such as; pesticides to control pest or diseases, and fertilisers to boost plants. This type of farming encompasses the biological systems, organic, low input and sustainable agriculture with different practice like, crop rotation to reduce pest damages/control to improve crop yield, integrated pest management which encompasses a broad-based approach that integrates different farming practice for economic control of pests. Thus, a majority of the community participants have revealed and emphasised on the need for an alternative farming system across oil and gas producing communities with external support from the government. Accordingly, a majority of the community respondents appealed for incentives for the practice of alternative farming. According to KCMP-G, KCMP-H and KCMP-A, alternative agriculture would be more sustainable across communities provided the farmers who want to go into the practice are given free governmental land for such practice considering the topography of the region. The establishment of Subsidiary Avenue for the production of feed, improved varieties of crops and animal hybrids are put in place at strategic places within and outside the region.

Further, a majority of the respondents stipulates that the establishment of a viable market for the sales of products are a vital aspect when incentives are provided to help the practice. Thus, this is why some participants, for example, KCMP-A, KCMP-F, KCMP-J and KCMP-K, reinforced that loans should be awarded to farmers yearly to support farming activities. Further, participants opined that, when incentives are made available, the issues which revolve around conflicts, neglect, marginalisation from the use of petroleum product, political marginalisation, and the frustration that manifest itself through sabotage would automatically reduce. Further, KCMP-S who pathetically pointed, *“A farmer who practices alternative farming needs information, trained labour and management skills per unit of production than conventional farming, as such, it is more rigorous and time-consuming, therefore, needs external support”*. This argument is supported in a study conducted by the United State National research council (1989), which revealed that farmers who adopt alternative farming systems generally derived significant sustainable and economic benefit from such activities. The study further recommends that wider adoption of an alternative farming system would result in even more significant economic benefit to farmers. Thus, the above argument supports the Niger Delta community respondents who call for external alternative support for farming systems as oil spills, and petroleum production activities devastate their primary sources of livelihood. The empirical evidence still supports the literature of George and Ekemini (2018) who recommends and calls for a collaboration between the oil and gas industry, academia and research institutes to promote agricultural and environmental research due to the damages caused on the original livelihood systems of the people. Also, a majority of the respondents opine for viable market for the produce alongside SME for the local oil refining process across the communities.

5.6.3. Small Scale Businesses

According to OSAP-D, OSAP-C, OSAP-H, the small business that revolves around the petroleum products would continue to grow and evolve if the communities are not supported with alternatives for their livelihood. The issues of oil bunkering have increased, and it continues to increase as the communities use it as means for household support and subsistence. The small-scale business across the region would not only reduce environmental damages but, would increase household independently, create jobs for people and would improve the livelihood standards of the people. According to OSAP-D, OSAP-C, OSAP-H, the small business that revolves around the petroleum products would continue to grow and evolve if the communities are not supported with alternatives for their livelihood. The issues of oil bunkering have increased, and it continues to increase as the communities use it as means for household support and subsistence. The small-scale business across the region would not only reduce environmental damages but, would increase household independently, create jobs for people and would improve the livelihood standards of the people. As further mentioned by OSAP-H, this is because the people are already too skilled with the local refining process that cutting them off, might not solve any significant issues, instead, such would push them into another dangerous way in search for the use of the petroleum product for livelihood support.. The views above are in line with KCMP-F, KCMP-A and KCMP-D, and a majority of the community respondents who frequently highlights ‘small scale businesses as the means towards overcoming challenges as it relates to livelihood alternatives. The majority of the community participants revealed with emphasis that a small refinery is established within strategic places within the Niger Delta region irrespective of the federal government refineries. This, however, is because the community members have practised this activity for several years which have become part of them and as such, to improve the standard of the activities, the government should establish mini-refineries (modular refineries) for the communities.

More so, a majority of the respondents have mentioned that not all household engaged in the practice, further clarifies that more than 80% of households use the product for their domestic and commercial use. As such, the practice should be restructured to a more refined practice as the current practice lacks coordination and facilities, which has often obstructed the activities. According to KCMP-S and KCMP-K, the review of the oil bunkering practice and law is needed in such that can involve the establishment of modular refineries at the local levels and restructuring of the marketing systems. Likewise, more training and re-training of the people already in the oil bunkering business to in co-operating them into the mini-refineries, that way, the obstruction for livelihood mechanism would reduce, environmental impacts would also reduce.

However, a specific concern was raised when KOGMP-A, KOGMP-J, KOGMP-H and KOGMP-D mentioned that, the provision of modular refineries would drastically reduce the national production. As such, it is a significant concern on how the federal government would provide modular refiners because of communities’ plight. This argument was further reformed by OSAP-H, who mentions that with or without

the modular refineries the oil production within the local communities continues, with the deliberate act of pipeline destruction not just for production, but, just for the call that the communities are marginalised since they lack every basic amenity. Likewise, OSAP-H, OSAP-F, who mentioned that modular refineries would give the communities a considerable sense of belongings and would reduce environmental damages if established. As such, the management of the modular refineries can remit percentages to the federal purse while the national refineries continue with their process alongside the region's refineries with clear mandates from both directions.

5.6.4. Clear mandates and information dissemination

Respondents have called for the authorities and agencies clarifications on their responsibilities as it relates to the community's livelihood, impacts and the event of oil spills. Accordingly, a majority of the respondents revealed that often, the oil spill agency has complained when called by the communities about the insufficient funds of the agency and thereby questions the situations on the phone instead of visiting the site of the incident. Most communities' respondents have argued that the response to oil spills and response to livelihood support should be channelled through different support spare as it seems, as though, the communities called different agency whose mandates are significantly not correlating with their laws. According to KCMP-S, KCMP-K and KCMP-G, dissemination of information from the right agency is vital in reducing conflicting information across communities. Agreeing to that, KCMP-S added, as a way to reducing challenges such as the influence of the military on the people means of livelihood. The information given to the security agency has to be concrete and from the related agency, to reduce assumed event, which consequently followed by irrational actions. According to a majority of the respondents, a proper channel for information dissemination would help the communities in different ways, for example, information on who course of oil spills, river border issues, clashes between communities, as mentioned by a majority of the community participants.

5.6.5. Provision of fishing and farming tools

Accordingly, all community respondents pointed to the fact that they engaged in distant fishing and different types of local farming without external support from the government and or oil and gas operating companies. According to a majority of the respondents, fishing and farming remain two fundamental livelihood support mechanisms for household's subsistence, as such people could risk all it takes to indulge in such activities within or outside the shores of the region. According to KCMP-S, KCMP-K and KCMP-J, people travel hundreds of miles away for fishing; some migrate to a neighbouring country, all for fishing and farming activities for livelihood support. Thus, if the government and or the oil and gas companies could provide support mechanism in the form of a speed boat, standard cannons, fishing nets and other fishing tools would revive most communities who have been affected negatively by petroleum activities. KCMP-M said, *"I have been given fishing net and fibre Cano before, luckily, I was a beneficial some years ago when government supplied them after a major oil spill. The truth is, such activities should not be*

neglected given that fishing is what sustained the people". KCMP-S and KCMP-O also made similar statements. The majority of the participants revealed that most times, the members of communities who engaged in long-distance fishing borrows speed boats from others with monetary payment in return on a daily or hourly basis. According to KCMP-A, a farmer who emphatically stipulates that *"with the provision of fishing tools for communities whose interest are on fishing would make much difference in people's lives across the communities"*. KCMP-A further added, *"how can you pay for a fishing net or speed boat when you do not know whether or not you would have a catch? It is pathetic, to be honest"*. Agreeing to that, KCMP-J stated, *"It does not take anything to provide fishing materials and temporary land for farming and fishing activities across the oil and gas communities"*.

KCMP-J further stated, most of this common avenue can solve a percentage of problems, because, it is the accumulation of issues that have brought the region to the degenerating level as it is now. Also, all participants maintained that a little support with the provision of yearly fishing tools would reduce greed amongst community members and would improve their livelihood. Likewise, the provision of temporary farmlands for community members who want to venture into agriculture as the federal government of Nigeria calls for agricultural practices as a way of diversification in the nation. All respondents knee to the facts that fishing contributes to their everyday life and are ready and willing to go into long-distance and alternative activities when land is provided and supporting fishing tools. Thus, the following section explains the means towards the protection of the river borders for fishing activities as it affects the communities across the Niger Delta region.

5.6.6. Protection of River Borders

Accordingly, a majority of the respondents revealed that in the quest for livelihood, they engaged in long-distance fishing which often claims their lives due to clashes between communities at river borders. According to KCMP-J, *"I am still very much alive and a living witness of how my brother was murdered close to the Atlantic Ocean during fishing"*. KCMP-S also made a similar statement where he mentioned, thus, *"I had encountered shooting near the Atlantic Ocean when I was with my boy fishing, we later discovered, it was government military operatives"*. Agree to that, KCMP-J pointed, such actions should be put forward in protecting the lives of the river users not intimidating them for the sake of their livelihood support. According to KCMP-J, and KCMP-K further mentioned that most people build tents along the river line for fishing purposes and as such should be protected by the security operatives who patrol along the sea.

KCMP-D and KCMP-A further said, *"people have always used the rivers and the creeks irrespective of the casualties that often arise between communities. That is why the government should be aware that such calamities due take place when most Niger Delta communities engage in the search for livelihood support through fishing"*. As further pointed by KCMP-G, *"The government should protect the fishermen and women who operate near the Atlantic oceans as they guide and monitor crude oil transportation and*

facilities. The lives of the common man should also be considered in their operation". KCMP-K mentioned, *"We have reported different incidents of killing along the river borders to different governmental bodies, but, believe me, none had been taken seriously"*. As put forward by KCMP-H, KCMP-J, KCMP-A, KCMP-B and KCMP-F, the assumptions that everyone found near the Atlantic Ocean is either transporting crude oil or an agent is practically false. Most people are fishermen and women looking household daily livelihood support, and as such, the government should look into it and caution and or instruct the military operatives correctly. Realistically, all the participants reinforced and stressed that the protection of the river borders, protection of the fisherwomen and men are government responsibilities that should not be ignored as common men are concerned and are looking for survival means.

5.6.7. Education and Academic Research

Education was identified as one great means to overcome not just the challenges but increase empowerment across communities. The majority of the community participants stress that when people are educated, there would be less conflict, more understanding, more strength and skill to perform in different other alternative livelihood structures that is improvised or established by the government. According to KCMP-J, KCMP-A and KCMP-S in a similar vein, pointed, imagine how people engage in construction sites without health and safety training which frequently has damage and caused different accidents? KCMP-J said, *"Most construction accidents across the communities are not recorded even though, it happens in a big construction site, no record"*. Likewise, most people who damage pipelines not just for economic gain, but, to draw the government attention to the lacks in environmental education and awareness. Thus, these are significant areas that need government attention. As further stated by KCMP-K, KCMP-J, KCMP-A and KCMP-O, the people need severe environmental awareness programs, policies enlightenment and any environmental-related courses that could contribute to their environmental knowledge, given them some expertise in the field. Thus, this would not only improve the community's mentality skills but would aid cautions when the issues of environmental damages are concerned. Importantly, KCMP-K, KCMP-A, KCMP-J and KCMP-K, KCMP-O, KCMP-P, KCMP-G and KCMP-N, KCMP-B, KCMP-C, KCMP-F and KCMP-E have all mentioned, that free education is the key to the achievement of environmental education in Nigeria. As KCMP-H further emphasised, *"Free education for less than 20 million population is a giveaway, considering what the nation produces from the region yearly"*. KCMP-K and KCMP-S further took the argument to more detailed, by emphasising on the need for academic research. According to KCMP-S, *"Academic research is not encouraged in the Nigerian school systems, let alone across communities. The operational schools need vital zeal to impose and or urge academic research across schools to draw relevance and making it sink into the system"*. This empirical evidence supports the study George and Ekemini (2018) who emphasised on the decades impacts of crude oil production and the impacts on farmers and fishers by recommending that the oil and gas industry and the government should intensify its commitment to academic research and collaboration between research institutes.

5.6.8. Adequate Monetary Compensation

Scholars and writers have established different types of compensation, namely, workers compensation, incentive compensation, reactive compensation and monetary compensation across a diverse field of study (John & Weitz, 1989; O'Connor & Djordjevic, 2005). Thus, a majority of the community's respondent has established that soft and hard infrastructural compensation and monetary compensation are all vital aspects that lead to overcoming transparency issues, the insufficient landed areas issues, greed among community members and influence capacities to purchase fishing and farming tools. Accordingly, KCMP-N, KCMP-B and KCMP-O have pointed during the interviews that a few years ago, the oil and gas companies paid some little monetary compensation through litigation which in turn created different conflict between the actual spill community and transit communities. This, however, was inadequate, immeasurable and exclusion of many across the communities of effects. Thus, the venture of monetary compensation was a good development, but when it becomes inadequate, then that brings confusion and other conflicts. As such, KCMP-N, KCMP-J, KCMP-M, KCMP-Q, KCMP-K, KCMP-D, KCMP-A and KCMP-C have put forward that, adequate compensation should cover monetary allowance for Niger Delta retirees (See Section 6.5.1.4), soft and hard infrastructure, sustainable means for the living during spills period, or gas flaring near communities through to the remediation, restoration and stoppage of gas flaring. KCMP-N further mentions, "I live 5 kilometres away from the gas plant, and when the gas is flared, you cannot do anything outside, your clothes become black, water outside becomes black and anything outside". KCMP-N added, *"That is how we have lived under a boiling temperature with nothing to show fore. Thus, if there is a monthly allowance, we will know that it is part of the punishment we have to bear"*. Furthermore, when asked on how adequate compensation should be, a majority of the respondent's points to the magnitude of the spill, the areas affected and the daily impact that it caused across communities in different years. According to KCMP-K, adequate compensation should encompass a payment from the beginning of the spill to the last days of remediation. That way the companies would hesitate with clean-up, remediation and restorations when oil spilt. This point is in line with OSAP-A and OSAP-E who argued that oil spill response and detection agencies need more power to prosecute spillers, more fines and more protection mechanism for the environment and the people. Also, this is supported in the literature of the stakeholder's democracy network report, who have reviewed and recommend on how oil spill-related agency should be empowered to enable them to have full potentials for persecution and environmental protection and monitoring. The diagram below presents the cognitive map to overcome challenges facing community livelihood and adaptive structures.

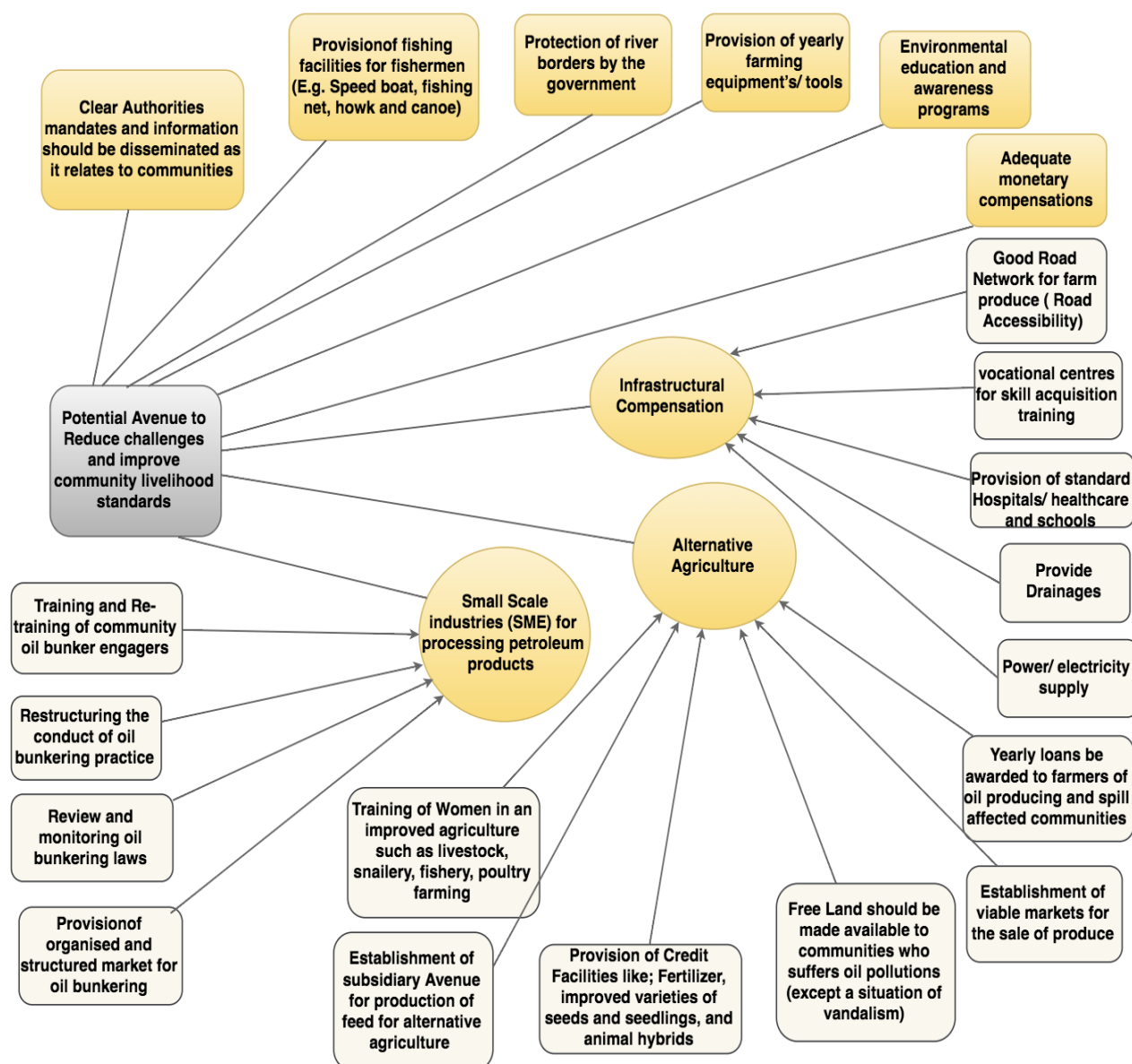


Figure 18: Cognitive map to overcome challenges facing community livelihood and adaptive structures

5.7. Summary and Links

This chapter presented and summarised the key findings from the communities on how communities sources for livelihood as ways for subsistence considering the decade impact of oil spillages, gas flaring and negative other impacts that is ensued from the petroleum production. The chapter first, established the alternative livelihood adaptation mechanism as ways of empowerment and how the improvised mechanisms have influenced the community socioeconomic and socio-cultural development and sustainability. More so, the chapter presents key obstructing factors that have so far impeded the community alternative and ways to overcome those challenges as a means of empowerment. Thus, this chapter finds out that irrespective of the damages to the livelihood systems of the communities, different alternative mechanisms

exist to adapt to for a living. Accordingly, a majority of the participants highlighted seven primary alternative mechanisms to support the community livelihood structure, to which some, in turn, contributes to environmental damages while others contribute, but, with little availabilities of positions of space to practise such livelihood strategies and other challenges. More so, the chapter finds out that irrespective of the contributions and the challenges, different mechanisms can be used to overcome such challenges while enhancing the empowerment of the communities affected by oil spill environmental hazards. The next chapter presents the analysis of the oil and gas respondents on how their intervention has increased living standards and or empowered communities affected with livelihood disruptions as resulted from the oil and gas production across the region of Niger Delta.

CHAPTER 6: ANALYSIS OF OIL AND GAS PARTICIPANTS

6.1. Introduction

Chapter five presented the analysis of community interviews and focus group discussions, where KCMP-AV is used to describe all the respondents. This chapter contains the analysis of the oil and gas industry and participants are anonymously described using KOGMP-AJ (Key Oil and Gas Member Participants). Firstly, the chapter presents the background information and procedures for analysing the interviews. The next section explains the responsibilities of the oil and gas concerning intervention for communities affected by oil spills and or oil pollutions on livelihood structures. The chapter further explores barriers and challenges that impede the oil and gas intervention as a means for empowerment and community rebuild. Finally, the chapter presents key strategies to overcome the challenges as a means to further empower communities affected by oil spills and or oil production consequences. Thenceforth presents the summary and link of the chapter.

6.2. Background information of the oil and gas interviewees

As explained in the methodology chapter, the study was conducted in three categories to draw three different perspectives towards livelihood rebuild as a means of empowering the communities suffering oil spill hazards. Such categories were the community perspective, the oil and gas and the oil spill-related agency. Within the three categories, focus group discussion, semi-structured, Newspaper and document reviews have been conducted to gather valid and reliable data that are relevant to the study. Thus, this section interviews were designed to capture the intervention strategies employed by the oil and gas industry about oil spill impacts and policy aspect on the communities. The factors that impede the interventions measures and how to overcome the challenging factors to empower communities affected by oil spills. As such, the data were gathered through semi-structured interviews with key staff members from the oil and gas industry and other pensioners from the oil and gas sector. The data gathered from the oil and gas community relations officers, public relations officers, community's affairs officers, environmental coordinator officers, environmental assessment and management officers, who have worked in the emergency and intervention process during oil spill incidents. The total number of eight oil and gas member staff were engaged for the interviews to achieve the set objective as it relates to their intervention for livelihood rebuild and empowerment of affected oil spill communities. These participants were selected due to the longevity and experience acquired in the oil and gas industries, with the fact that they have worked with these companies for more than ten years minimum (See table 5). The related environmental experience and the community relation involvement of all the participants within the oil and gas industries give credible reliance on why these participants deem fit for the study. Given that the aim was to capture

the policy aspect that relates to the environmental impacts of the oil spill hazards on the people. All the interviewees possess the relevance potentials for the question asked. Thus, the section below presents the procedures adopted for the analysis of this chapter.

6.3. Procedure associated with the analysis of oil and gas perspectives

As discussed in chapter three, an interview guideline (See Annex 1-4) was prepared with the aim of capturing the roles of the oil and gas industry about oil spill incidents and impacts interventions. As such, the factors that prevent the intervention on reducing oil spills and oil production impact on the affected communities, and the ways to overcome such impeding factors as a means to enhance the empowerment of affected communities. Hence, prior to the interview, an interview guideline and study brief were sent to all interviewees before the actual field. Majority of the interviews were audio-recorded with the consent of the interviewees. All interviews were then transcribed manually using MS Word and the process of transcribing the raw data allows the researcher to use the direct quotations reinforced and emphasised by the interviewees. The use of the direct quotations in presenting the data increased the reliability and validity of the research findings (see Annex 4 for a sample of the transcribed interview). However, two respondents from the oil and gas participants did not give their consent to an audio record of the interviews. As such, all points from the interviewees were noted down by hand during the interview, and the transcripts were prepared hours after the interview to avoid any possible loss of data. The data gathered for the study were analysed step by step as detailed in the preceding chapter 3. Also, the study employs conceptual content analysis which helps the researcher to identify the themes relating to the study. Hence, the researcher considered all relevant and vital concepts irrespective of phrases or word count. The system of analysis adopted for this study was taken in the form of qualitative content analysis where the text and meaning from the transcripts are described meaningfully. This approach was aided with the use of Nvivo (11) and Draw.io software packages for the development of the linkages and maps. As such, the detailed analysis is shown in sections 6.4 below.

6.4. Analysis of the Key “Oil and Gas” Participants

6.4.1. Roles of the oil and gas industry in community livelihood building

As discussed in the literature section (See chapter 2), the oil and gas industries contribute eminently to the Nigeria national revenue. The positive contributions are argued to be portrayed at the national level with little or no contributions to community livelihood buildings and developments as revealed by all community interviewees. Accordingly, most community interviewees revealed that the oil and gas industries presence are not shown in the communities of their operations (FGD, 3-7). As most of the community members such as KCMP-D, KCMP-P, KMCP-O, KMCP-D and KMCP-V detailed *“The oil and gas industry have*

sincerely forgotten to cooperate social responsibilities, as there are different uncompleted projects without penalties to any executors of those projects which tells a lot". Some community Interviewees revealed that community livelihood building is largely dependent on the community revenue and the resource's output. Hence, different challenging factors impede the contributions to the community livelihood building due to different oil spill hazards and as such livelihood building and human development are dependants on the survival of the fittest strategies (KMCP-A & KMCP-G). While, KOGMP-D, KOGMP-A, KOGMP-J, KOGMP- C and KOGMP-D argued that the communities need the presence of the government in as much as they need the oil and gas presence. KOGMP-A, added, *"The government is so far from the community, the oil companies cannot fulfil all the requirements of the communities. The companies can only try but cannot operate the community-based business"*. In supporting KOGMP-A, KOGMP-F stated, *"The companies have tried and are still trying in many communities concerning community development and livelihood supports"*. Furthermore, KOGMP-J stated, *"Companies have engaged in skill acquisition programs, fertiliser distributions to farmers at a different point in time and scholarships for various communities"*. In supporting that KOGMP-E and KOGMP-A, added, *"Communities are never satisfied"*. Another interviewee reinforced to the none-satisfactions of the communities by stipulating, *"...I do not blame the community members because there is no way the few scholarships or the few fertilisers administered would go around the majority of the community members who need them"*. The communities desperately need the government hands, and that is why I do not blame them in some of their actions in calling for attention (KOGMP-C). According to KOGMP-E, the government should investigate the root causes of community violence and agitations to solve the root problems and not the shallow. KOGMP-E, *"I strongly believe that it is the distance of the government that would and has always pose a great threat and none-satisfactions of communities, and as such hinders livelihood building and developments"*. However, most key oil and gas member participants revealed that community livelihood rebuild is the joint business of the oil and gas industries, the government and the communities. According to KOGMP-B, *"The three parties are involved in community livelihood rebuild (capacity building) as such different developmental projects have been carried out by the companies without the presence of the government, that is why the companies often glamour for government presence"*. KOGMP-A added, the fact that development and Livelihood building is a sustainable foundation for socioeconomic growth, the government should show their presence as the oil and gas does in engaging with community memorandum of understanding.

6.4.2. Intervention measures towards community livelihood rebuild

From the detailed analysis of the data, different strategies were identified due to the reinforcement of the construct by the respondents. The respondents revealed that the oil and gas sector have engaged in different skill acquisition training, engagement with a memorandum of understanding of each community, compensations and provision of necessities of life. Accordingly, interviewees opined that the oil and gas

industries operate in line with the established policies as it relates to communities, environment and the resources. Most of the interviewees revealed that human, capacity and community building are a task that involves all stakeholders and as such, should not expect the oil and gas for full community responsibility. As KOGMP-E, KOGMP-H and KOGMP-G added, *“given that most pollutions and oil spills are a deliberate act from third parties which is against the policies and the oil and gas guidelines, communities and the government also have a huge part to play with regards to capacity building”*. Importantly, it was evident that numerous measures exist as interventions for livelihoods by the operating oil and gas companies across the communities as revealed by respondents. Participants opined that there are existing long and short term interventions for community livelihood rebuild across the region. The below sections discuss the existing intervention mechanism adopted by the operating companies across the communities of the study.

6.4.2.1 Corporate Social Responsibilities (Long term livelihood support)

Based on the detailed analysis of the key community perspectives and the oil and gas, it was drawn that cooperate social responsibilities plays a significant role in livelihood building of communities. Accordingly, interviewees reinforced that corporate social responsibility of the oil and gas industry would contribute largely to the development of the communities affected with oil spill hazards if implemented. This perception is in line with Idemudia and Ite (2006), who argues that cooperate social responsibility and community relations strategies have failed to reduce violent conflict between communities and the oil and gas companies due to the failure of incorporation of community perception into the decision-making process by the companies. Thus, the concept of corporate social responsibilities and the need for cooperation, integration and development of the communities is a determinate factor to reducing violent and enhancing the empowerment of community members. Accordingly, KOGMP-H, KOGMP-G and KOGMP-C stated,

“...The Company should engage and contributes to community livelihood building and development, and as such, it does not matter if the community fulfil their part. We build schools, hospitals, supply drugs, borehole waters, and constructions of internal roads. We also have green river project, which is an agricultural kind of project where we supply improved varieties of crops to the farmers; it serves as our social cooperate responsibilities”.

More so, most community participants, for example, KMCP-P, KMCP-O, KMCP-A, and KMCP-D emphasised by stating that the issues of corporate social responsibilities should not be discussed as the communities have remained the way it has been for decades now. KMCP-P added, even though, written documents from the concern bodies may show completion and executions of projects, the reality remains that there are hugely no such things. In agreeing to that, KMCP-A stated, *“The practical reality is that there*

are huge incomplete and abandon projects within the communities and there is no one to be questioned for that". According to KMCP-P and KMCP-C, cooperate social responsibilities should cut across all aspect in rebuilding vulnerable communities to oil spill hazards. Contrary to community perception is the oil and gas participants who reinforced that corporate social responsibilities which are part of the MOU are practically carried out in several communities.

Accordingly, KOGMP-A stated, *"Corporate social responsibilities are part of what is signed in a community memorandum of understanding, and as a company, we have always followed the content of the memorandum of understanding of any community"*. KOGMP-G added, although, the content of community memorandum of understanding differs from community to community. *"But, to the best of my knowledge, the companies have engaged with the content of the memorandum of understanding"*. In agreeing to that, KOGMP-J stated, the only time memorandum of understanding of a community is not followed (or delayed) is when the company discovered oil spill that is proven as caused by the third party. That case, the corporate social responsibility of such community is delayed. KOGMP-H added, *"The community's memorandum of understanding is always implemented as agreed by the communities. For examples, some communities agreed for a different project at different years depending on the need of the communities"*. Even though there is indecisiveness during selections of projects that benefit the communities as added by KOGMP-A. According to KOGMP-D, communities tend to have conflicting opinions during the engagement with CSR in line with the MOU and as, such contribute to delays.

Further, KOGMP-A, KOGMP-C and KOGMP-F mentioned that when communities violate an agreed vandalism policy, such community MOU is practically delayed unapologetically. This point gives empirical clarity to the literature section (See Chapter 2), which shows various oil spills that are caused by third parties. Hence, supporting the community perception to the no implementation of a memorandum of understanding, as discussed earlier. Thus, the majority of the key oil and gas member participants agreed that corporate social responsibilities are not entirely carried out in a situation where the companies discover oil spills that are caused by a deliberate act. Most of the Interviewee reinforced that community livelihood building strategies would be sustainable when communities abolish the deliberate act of sabotage and vandalism of the oil company's facilities. According to KOGMP-I and KOGMP-A, *"The companies are carrying out their responsibilities, the communities should comply when needed, even though, the companies sometimes still carry on with their responsibilities despite the spills caused by communities"*.

Furthermore, KOGMP-A, KOGMP-D, KOGMP-B and KOGMP-J also mentioned that as part of CRS, most of the community projects are contracted to the community members as a means of capacity building and livelihood building. In agreeing to that KOGMP-B added, importantly, communities most times do not appreciate the contracts and the menial jobs offered. As added by KOGMP-B *"The contradicting and painful part is when the community members who are supposed to take up a position tells you that such positions are not befitting for them"*. According to KOGMP-A, there are situations where community members turn down job opportunities because he/she feels that such positions are not meant for an indigene.

Such an attitude oftentimes influence threat on the oil and gas personnel given that such individual will in subsequent times come back to accuse the companies of not given out jobs to the natives. As added by KOGMP-G, *“The jobs they reject are still the same jobs they fight oil and gas personnel (workers) for.”* KOGMP-A, KOGMP-C, KOGMP-G and KOGMP-J mentioned that majority of the community members collected the jobs meant for them and sold to foreigners (other community members) and the same set of people still clamour for not the inclusion of community members in oil and gas working environment. KOGMP-H stated, for example, *“The Company cannot have employed a community unskilled or inexperienced technician for a crucial position to please the community. Not, that is impossible, and that is why sometimes communities’ clamour for such (more prominent) positions with no qualifications and they turned out clamouring of neglect”*. In supporting that KOGMP-H stated, such technical or crucial positions can only be awarded to an expert in the area and not to an unskilled or inexperienced candidate to jeopardise the company’s decades’ efforts.

Besides, KOGMP-H and KOGMP-D pointed out that, most of the community projects are contracted to community members because the companies believed that indigenes have more knowledge about the community, communication skills within and engagement process. KOGMP-A and KOGMP-H added, *“All the projects in the community’s memorandum of understanding are contracted and executed by community contractors except in rear cases”*. Importantly, KMCP-P contrarily points that, *“The communities have remained with no fully completed projects despite the yearly concerns and flag-off of the different project”*. KMCP-P and KMCP-K further reinforced that if contracting projects to communities are with sincerity of purpose, without given to company’s loyalist, such a person with an incomplete project should account for it or face the consequences. In supporting that KMCP-P suggested, to achieve accountability, evaluations and justices, companies can visit around the communities of their operations or community of exploit and confirm finished projects for progress and development.

Thus, while most community interviewee believes that in situations where monitoring and evaluation of projects cannot be enforced, then every other statement from the oil and gas industry are not recognised by the community members about contracting projects to community members. As mentioned by KMCP-P, *“contractors of projects should be able to be accountable or face public consequences.”* The oil and gas participants believed that community members need mind-set training and awareness of policies guiding the environment and oil and gas industry within the Niger Delta. KOGMP-A stated, *“The community members need to understand that companies are out for business and can accommodate what and who cannot contribute to the development of the company”*. So, some crucial positions are difficult to be awarded to unskilled and inexperienced members.

Furthermore, the majority of the oil and gas interviewee detailed that acquisition programs have been established in different communities at different times. Accordingly, KOGMP-A, KOGMP-B, KOGMP-C, KOGMP-F, KOGMP-H and KOGMP-J stated, *“Companies have skill acquisition centres across the states that include; sawing, welding, tailoring, mechanic and hairdressing schemes which aim at livelihood*

rebuilding and human capacity buildings". In response to the majority of the oil and gas interviewee as relates to skill acquisition centres and training KMCP-K, KMCP-P and KMCP-O further stated, "...Yes, we have more than 30 centres across rivers state and Bayelsa state for the supposed skill acquisition training. The fact that remains is; first, the training cannot bring a sustainable community livelihood building and development. Second, most learning materials are outdated and rusted under an uncompleted building or dilapidated primary schools. Third, there are no structures for the modules and are not organised and as such, is not contributing to capacity building/ livelihood building". KMCP-O further added, "The communities advocate for employable skill training or empowerment after the inadequate pieces of training have been established".

6.4.2.2 Short term interventions measures (livelihood Building)

The data also revealed some short and midterm intervention strategies adopted by the oil and gas industry before, during and after oil spill incidents. Accordingly, interviewee revealed that in building and rebuilding livelihood and development, host oil communities are awarded scholarships at different times. Provision of fertilisers to farmers and provision of occasional foodstuff when needed. According to KOGMP-F and KOGMP-H, "Communities are provided with NNDC scholarships yearly across the Niger Delta region even though, it is the government parastatal". In agreeing to KOGMP-F and KOGMP-H, KOGMP-A stated, "The oil and gas on yearly basis conduct scholarship interviews for different communities from primary scholarships to higher education". KOGMP-A further added, "The issues with communities is that they want scholarships for everyone at the same times. They do not want to engage in exams for scholarships. They practically want everything without test or screening". Notably, KOGMP-F and KOGMP-J stated, "The oil and gas companies cannot award scholarships to all member of a given community at the same time. What company does is spread scholarships across communities at different times". KOGMP-F reinforced, that is when communities complain about having few scholarships for a huge population. For example, the company can provide 100 scholarships to 10 thousand populations for primary, secondary and higher education to compete for yearly. KOGMP-F further added that is what is applicable everywhere, people compete for scholarships and not given at a freewill.

Contrary to KOGMP-F, KOGMP-J, KOGMP-A and KOGMP-H, participants from the community focus group emphasised that host oil communities in the Niger Delta should be provided with full scholarships for those who want to attend schools and bond students to come back and work for the nation after acquiring the knowledge anywhere in the world. Full and adequate jobs should be provided for any Niger Delta students who have acquired degrees of any kind (FGD 3-7). Agreeing to some suggestions from the community focus group discussion is KCMP-K and KCMP-O who added, "The Niger Delta communities most and should not compete for 10 scholarships among 1000 candidates. The resources extorted is huge enough to give free education to all". Furthermore, most of the interviewee such as KOGMP-B, KOGMP-D, KOGMP-E, KOGMP-F, KOGMP-J and KOGMP-A revealed that apart from the scholarships awarded

to communities. Farmers are awarded fertilizers periodically and that has been the culture of the oil and gas industry. KOGMP-G stated, *“The farmers within the communities are our priority because we believe in agriculture. It helps to engage them properly in the farming business or subsistence”*. According to KOGMP-I, most farmers receive their fertilizers before the start of the farming seasons. Even though communities are never satisfied with what is offered as they always want more. In supporting that KOGMP-A, added, *“Communities will always feel unsatisfied because there is no way the oil and gas companies would satisfy 100% of the community’s need”*. KOGMP-A further added that is why the government presence is essential in the lives of the communities; otherwise, the communities would always feel marginalised.

According to the majority of the oil and gas interviewee in regard to short and midterm livelihood intervention, building and development. The companies have made pipeline security jobs as community monthly paid responsibilities. Accordingly, the interviewee believes that some jobs as such as the pipeline securities, are engaging jobs for community members. KOGMP-A stated, *“The companies have made such jobs part of the community paid jobs aiming to reduce the act of sabotage and vandalism of the facilities and to build their livelihood structure”*. In supporting that KOGMP-G added, *“Even though some community members still bluntly refused such opportunities, others testified how such jobs helped them rebuild their livelihoods”*.

A Majority of the interviewee from the oil and gas industry reinforced that provision of scholarships, provision of fertilisers to farmers on a seasonal basis and engaging youths on pipeline security jobs and other kinds of activities are inclusions of community members in the oil and gas activities. Interviewee strongly opines that communities need to change their mind-set on the aspect of control of resources to accommodate any reasonable jobs offered by the companies. Given that most people are uneducated and want positions for the educated is a problem of mind-set. Furthermore, KOGMP-A said, contrary to the perceptions that oil and gas companies are not rising to their responsibilities. Occasional food materials are given to community members during adverse damage to their livelihood and festive periods. The companies made food supply mandatory during festive periods as most communities can testify (KOGMP-A). Agreeing to KOGMP-A is KOGMP-J, who stated, *“...The companies are trying in regard to community livelihood building and development when compared to the government and its agencies. In fact, the provision of foodstuff, fertilisers for farmers, jobs mostly in the security of the pipelines and scholarships are unaccountably distributed on different occasions. However, you see, the communities would always be at a loss, unsatisfied and in poverty, because what companies provide would not go around”*. Furthermore, KOGMP-I added, *“...That is why the community continues to have some sense of frustrations”*. KOGMP-I and KOGMP-H further added, *“My candid suggestion is that the companies and the government should have a 50-50% mandatory yearly contributions to livelihood building and development within the communities, not cities. Also, believe me, when such continuous for five, ten years, communities are empowered already with the available infrastructures and development that would be established by then”*.

Also, the interviewee opined that in the spirit of livelihood building and rebuilding, the oil and gas industry have engaged in different compensations when environmental hazards in the form of oil spilt on livelihood sources of communities. Interviewee revealed that one primary livelihood intervention strategy is compensation for the community when there is operation failure, corrosion and accidents caused during petroleum activities. Majority of interviewee agreed that the companies have engaged with such act when accidentally, pipe corruptions, equipment failure and other pollutions destroy livelihoods sources. The section below explains compensations as it relates to damaged and rebuilding of livelihood of affected community members.

6.4.2.3 Compensation

From the data set, it was evident that compensation for damages was one major intervention strategy adopted by the oil and gas industry even as argued by KOGMP-A, KOGMP-C, KOGMP-J and KOGMP-G of the inconsistency, challenges and the factors that accompanied such intervention. Accordingly, interviewee revealed that monetary compensations are paid to communities outside infrastructural development in the form of buildings hospitals, town halls, markets and boreholes which are part of community memorandum of understanding (MOU) KOGMP-H and KOGMP-J. Agreeing to that, KOGMP-C and KOGMP-A stated, *“When economic trees are destroyed in the process of petroleum productions or oil spills, it attracts some payments for the people”*. According to KOGMP-E and KOGMP-A *“Yes, company’s pays compensation following the laws of the land, the laws state that compensation should not be paid when the oil spills are as a result of sabotage, vandalism or thief”*. KOGMP-E and KOGMP-C further stated, *“The company pays compensations when it is equipment failure, corrosion or causes from the oil operator”*. Likewise, the interviewee revealed that compensations are paid after different causal assessments, evaluation and valuations of the damages. KOGMP-F and KOGMP-H stated that the company carry out damage assessment within the impacted areas, by doing damage assessment, we are looking at the crops, economic trees, land, and aquatic organism, and after that, the company followed the standard payment rate for the destruction. KOGMP-F further added,

“...Payment is made per hectares of the impacted land, and there is also the standard amount that is paid for each economic tree destroyed due to the oil spill, we also tried to look at the environment if it is a water environment. We look at the nautical miles and compensation is paid based on the extent of the impact, and communities, government and everybody are comfortable with the compensation.”

Thus, interviewees such as; KOGMP-J, KOGMP-A, KOGMP-B, KOGMP-J, KOGMP-C, and KOGMP-G reinforced, *“When the spillages result from third-party interference, we only try to clean-up the environment. That is what is called duty of care, so, we apply the duty of care to the environment by cleaning*

up the environment and making it safe for the people". Agreeing to that, KOGMP-D stated, the company try as much as possible to clean the environment when there is corrosion caused by the oil companies' facilities. KOGMP-D and KOGMP-F further added that is why companies carry out routine checks on pipelines and facilities using Ultrasonic Measurement Test (UMT) on the pipeline to check the tendency of pipe impairment for partial replacement when found weak. Agreeing to that, KOGMP-G added, the company works in collaboration with the regulatory bodies to assess and evaluate affected areas, and companies are willing and would pay for any damages caused by their operations and not third-party interference.

However, while some community interviewee such as KCMP-S and KCMP-V argue that compensations are not adequately paid for damaged livelihood sources. KOGMP-C added, *"There is nothing that can bring back nature, it is just what can elevate there suffering. The compensation will never bring back nature. Just for the people to have the sense of belongings, the compensation cannot be equated with the destructions from oil spillage"*. In a similar vein, KCMP-M reinforced that compensation paid to some selected communities out of litigations are just an indication for long time justices. KCMP-M further added that the inadequate compensation gave some communities a sense of belonging while other communities suffering the same impacts dwells with environmental and pollution impact. *"I advocate for fair treatment for oil-producing communities and an established structure for their livelihood support"*. Some other interviewee such as; KOGMP-C and KOGMP-J added the compensation when paid is good because it helps the community in a short while. It is essential to acknowledge that there is nothing that could bring back the natural environment when massively damaged by the toxic element like the petroleum product. KOGMP-J stated, *"The environment will never come back to its natural means no matter the remediation process, and that is why the community will always be at the losing end. Except, there is the replacement with other strategies that are equitable in giving them what the environment used to provide for them"*. Agreeing to that KOGMP-M added, for example, the Ogoni areas, there is no amount of cleaning that the environment, water and the affected places will come back to normal. Thus, the majority of the oil and gas interview opined that community must deviate from oil sabotage and vandalism in looking for compensation because, in the end, the community suffers the impact and always at losing end. KOGMP-D stated, *"I can categorically tell you that 90% of the oil spillage in Nigeria are caused by third-party interference"*. This point is supported in the literature (see literature review section on oil spill analysis).

However, there is usually a crisis when compensation is not paid for damage resulted from oil spills. As reinforced by KOGMP-A, communities are usually funny that they expect compensation even when the oil spills result from the third party with evident, which always leads to different controversies as seen by the public. Also, KOGMP- stated, that is why the process for compensations tend to be ridiculous as communities sometimes refuse to sign the Joint Investigation Visit (JIV), lacks environmental expertise to provide detailed information to who and what causes the oil spills, and as such results to the security threat to the oil and gas staff. The figure below presents the identified intervention measures adopted by the oil

and gas industries for communities affected by oil and gas activities. Figure 19 depicts the interventions strategies and further discusses the implications of these constructs towards community livelihood building and development.

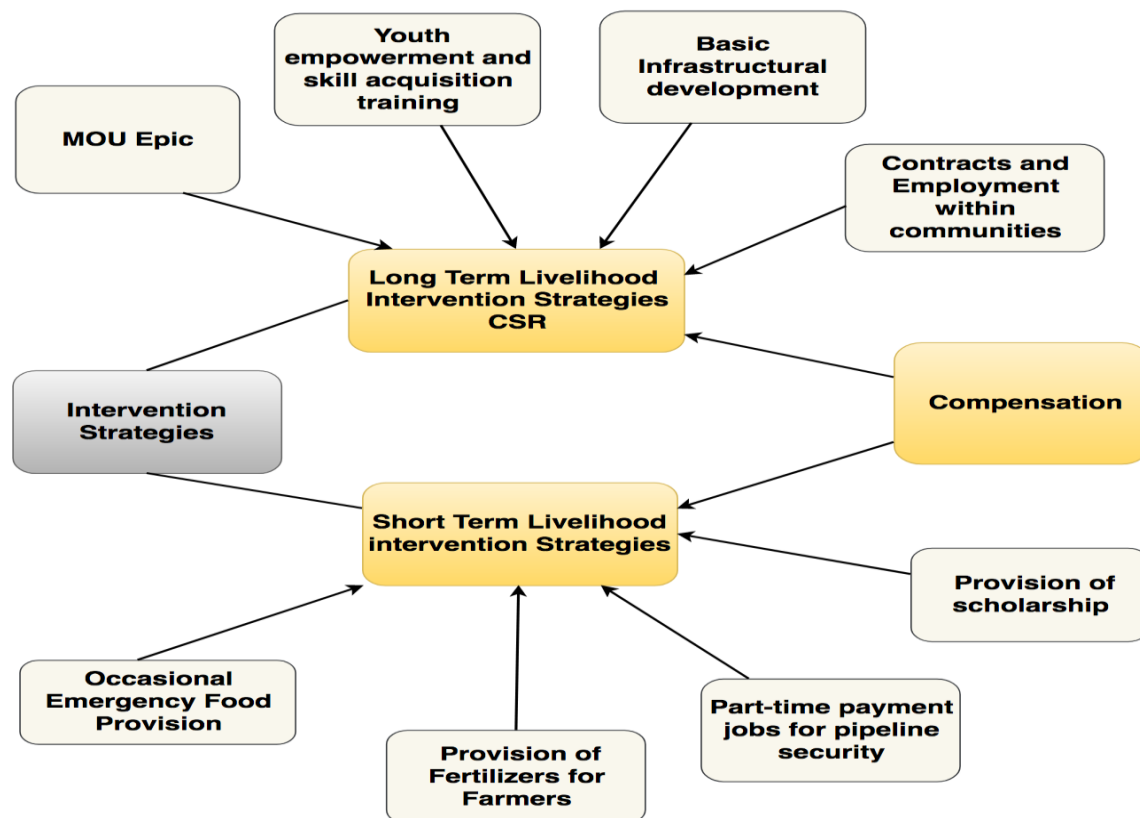


Figure 19: Interventions by oil and gas industry

6.4.3. Factors that impede the interventions of the oil and gas industry

As evident in the previous chapters, the oil and gas industries are facing different challenging factors during intervention for oil spill damages and livelihood rebuilding within the Niger Delta communities. Upon analysing the data gathered from the oil and gas industry, community interviewees and the focus group discussion, various challenges were identified. The challenges which emanate from the communities and the oil and gas industry are hugely disadvantageous factors that reduce household livelihood subsistence, community development and empowerments. While the majority of the community interviewees revealed different factors that impede the interventions from the oil and gas industries, several other interviewees from the oil and gas industry also revealed and reinforced various impeding factors that emanate from the communities, for which disrupts the interventions actions from the companies. The challenges from both community and oil and gas industries are illustrated in Figure 20 below.

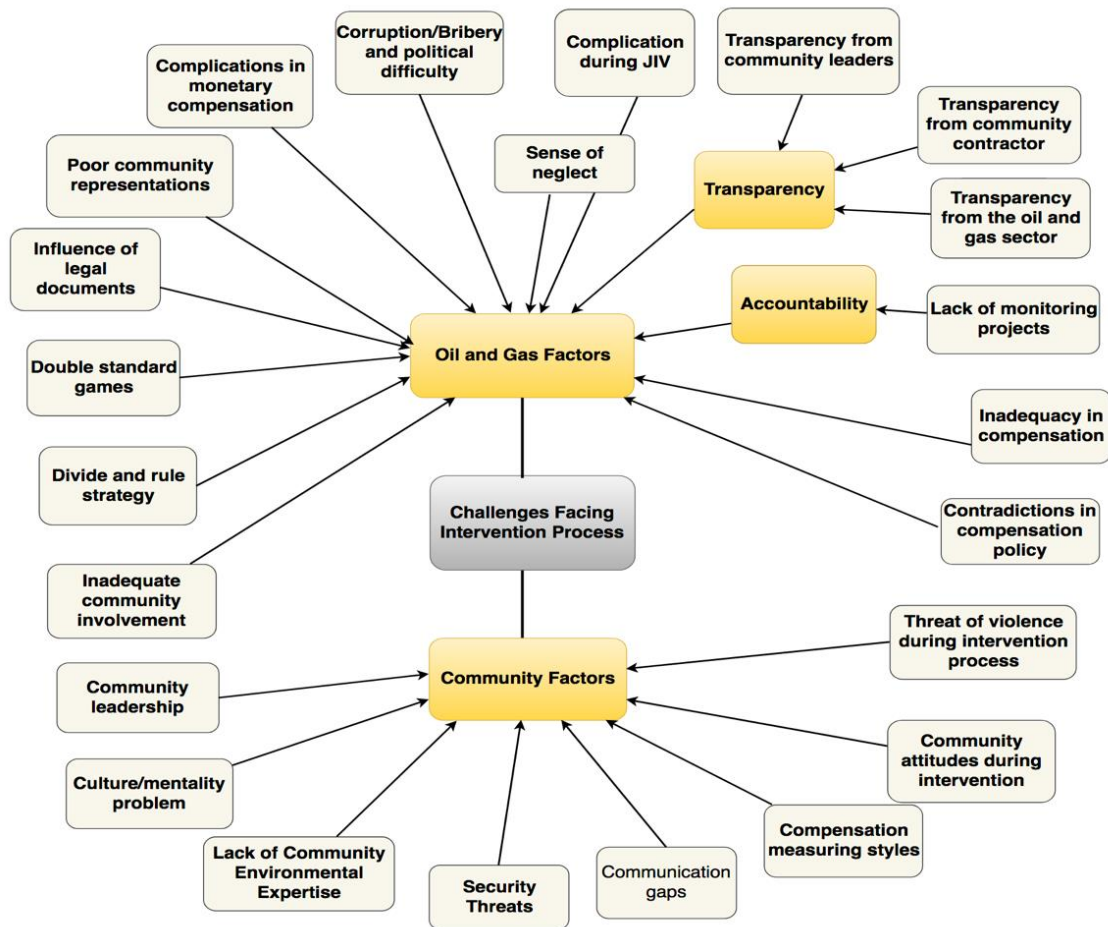


Figure 20: Thematic diagram- challenging factors for oil and gas industry during intervention

Accordingly, Figure 19 above shows the challenging factors as perceived by the oil and gas industries and the community's perception of the constructs that obstruct intervention. The community perception of the obstructing factors is; accountability, transparency, sense of neglect by the oil and gas industry, the complication in JIV reports, corruption, bribery and political difficulty, the complication in monetary compensation, poor community representatives, an influence of legal documents, double standard issues, divide and rule strategies, inadequate community involvement in oil and gas business. Furthermore, the oil and gas perceptions of what constitutes obstructions as ensued from the communities are discussed after that. As such, the construct as perceived by the oil and gas industry that ensued by the communities are; community leadership systems, mental and cultural problems, lack of community environmental expertise, security and violent threats from communities during intervention, communication gaps, lack of compensation understanding, community attitudes, mental and cultural issues during intervention were further presented. Thus, the section begins with the perceptions from the communities on how 'factors' ensued by the oil and gas industry affect intervention for livelihood rebuild and relationship synergy.

6.4.4. Community Perception on the factors that impede intervention

6.4.4.1 Transparency Issues

It is essential to establish the vitality of transparency when dealing with the communities in Nigeria, given that community members react and act the way they feel is best for them during the intervention, negotiations and relationships between them, the oil and gas industry and the oil spill-related agency. Accordingly, the data set established transparency in different construct/ form such as; lack of transparency within community contractors and or executors of community projects. Second, the lack of transparency among community leaders. Thirdly, lack of transparency from the oil and gas industry when dealing with communities in terms of joint investigations visit processes, assessment of impacted sites and compensation procedure.

Transparency among community contractors is considered malicious from community perspectives. According to KCMP-A, KCMP-A and KCMP-A, community contractors are perceived to be contributing factors impeding livelihood rebuild and development. Agreeing to that KCMP-G and KCMP-H stated, *“We are largely disappointed seeing different uncompleted and abandoned projects all over different communities without any drastic actions on the executors. Also, without knowing what transpires that contributed to the abandonment”*? Accordingly, KCMP-A, KCMP-B, KCMP-B, KCMP-Q, KCMP-G and KCMP-S, from the communities revealed with emphasis as they mentioned, *“That majority of the contractors are the oil and gas cohort, and that is one major reason why projects are left abandoned”*. Agreeing to that, KCMP-O stated, *“The lack of transparency during the execution of community projects has contributed to the loss of trust between communities and the oil and gas industry”*. As argued by KCMP-P, *“...The companies and or the contractors owe the community ‘duty of care’ by establishing state of the art in any project awarded by either the government or the oil and gas industry as community benefits from the extorted community natural resources”*.

Furthermore, the lack of transparency among community leadership further contributes to the impediment of development and livelihood building according to most community interviewee. KCMP-N stated that the leadership of the communities has contributed to the enormous social and cultural crisis, given that the leadership are custodians. The communities are psychologically dependent on the leadership of the community for cultural and most social activities. Interviewee opine that such trust and dependency are lost due to the lack of transparency during negotiations for development, contracts for communities and compensations. In agreeing to that, KCMP-P suggested, *“The way out is an open negotiation”*. Drawing from KCMP-K and KCMP-A, the lack of transparency across community leaders, contractors and even the oil and gas industry would prevent future development and livelihood building. It is supported by all the focus group discussions (FGD, 1, 2, 3, 4, 5, 6, and 7). In agreeing to the majority of the community perspectives, the oil and gas interviewees revealed that the issues with community leaders are bonded by culture and therefore the companies have little or no contributing factors to the restructuring of community lifestyle, culture and heritage. Also, while, most community members agitate for the lack of transparency

from the oil and gas industry during joint investigations visit processes, assessment of impacted sites, reporting of the actual spill, extent, volume, areas of coverage and compensation procedure. Some interviewee such as; KOGMP-J, KOGMP-F and KOGMP-A argued that, “... *Communities often believe in what they know without evidence*”. Most of the oil and gas interviewees revealed that communities never believe in technical reports, and that is why there seem to be problems at different degrees.

6.4.4.2 Accountability

KCMP-M highlighted the soreness that is perceived by the oil and gas about monitoring contracts awarded to community members. Accordingly, interviewee revealed that the lack of accountability mind-set ensured by the oil and gas industry in relations to executions of community projects are hindering factors for development and livelihood rebuilding. According to KCMP-P, the concept of accountability which deals with virtue and mechanism, is highly an empowerment factor if applied to existing and or future projects. Furthermore, KCMP-A reinforced by stating, “*The oil and gas companies and or the government bodies who award contracts to individuals, indigenous contractors should make mandatory a platform or checking skills for accountability sake*”. Most community Interviewees argued on the lack of accountability from both the executors of community projects and contractors of the contracts or the projects by reinforcing that it takes synergy of all parties. According to KCMP-A, KCMP-G and KCMP-K, the contractors of contracts for both community development and livelihood rebuild are contributing factors to the impediment of successful interventions within the communities. Agreeing to that, KCMP-N stated, there should be a written policy on defaulting of any awarded projects aimed at development or community livelihood building. KCMP-O and KCMP-K in supporting KCMP-N stated that the communities could be developed if contractors are accountable and are held with sanctions. As added by some focus group participants, “...*The impeding factors that obstruct interventions of the oil and gas during and after a disaster within the communities are perceived by most community members to be a deliberate act (FGD, 1-2-7)*”. In a similar vein, participants in FGD 4 mentioned, that this same deliberate development effort applied to the National Capital (Abuja) can also be used in the development of Niger Delta communities when there is a sincerity of purpose during an intervention.

According to the oil and gas industry, accountability is perceived as a secondary obstacle during community interventions. As mentioned by KOGMP-D, KOGMP-A, KOGMP-J and KOGMP-F, “...*Issues of accountabilities do not overshadow physical threat from community members during interventions*”. KOGMP-D further added, “*Even though there is a lack of accountability within sectors, the interventions processes is largely threatened by different community actions*”. Furthermore, in relating accountability as a factor that obstructs interventions. KOGMP-G stated, “*Accountability as a factor, is highly relevant in terms of project and development that is why most of us advocate for the presence of the government in the communities and if not present, transparency to what is attainable for communities.*” In agreeing to that,

KOGMP-G added, the issues of accountability would take care of itself when there is the presence of the government and transparency as it relates to the communities.

6.4.4.3 Corruption, Bribery and Political Difficulty

Majority of the interviewee that participated in this research believes that corruption, bribery and political difficulties have contributed to the impediment of interventions for the oil and gas industries. First, the majority of the community interviewees revealed that corruption cut across every sector and thereby affecting the grassroots due to the limited access to facilities, limited access to information, awareness and deprivation of access to the use of its natural resources by the national laws. As reinforced by KCMP-K, the customary and non-customary statutory laws in Nigeria limit the indigenous right to the use of natural resources, and that is a foundation for corruption which still affects communities (see land use Act 1978). Agreeing to that, KCMP-O stated, *“The concept of corruption and bribery as it relates to impeding intervention for livelihood rebuilding and development of affected oil spill community are constructs that relate to accountability”*. KCMP-D, KCMP-O, KCMP-K and KCMP-P in a similar vein, put forward that accountability is an avenue to ending corruption and bribery. KCMP-O further added, ending corrupt practices and stopping bribery practice is a key means of achieving livelihood rebuilding and thereby empowering the communities whose primary sources of livelihoods are damaged due to preventable disasters.

Furthermore, both the oil and gas, and the community interviewees revealed with emphasis that political difficulties contribute significantly to the impediment of interventions during and after any oil spills within a large number of communities. Accordingly, KOGMP-A, KOGMP-F, KOGMP-G, and KOGMP-I, KOGMP-J, KOGMP-E and KOGMP-B put forward in their various interviews that the political patron frequently hijacks a majority of interventions for community projects. KOGMP-J further added, *“Given that most projects need the consensus and or involvement of community elites within the community levels”*. Agreeing to the majority of the interviewees KOGMP-I and KOGMP-H who strongly advocates for the sincerity of interest during intervention for affected oil spill communities added, the nonchalant attitude towards the communities are not to be blamed by the oil and gas industries but also the government. KOGMP-H further stress that the communities would continue to suffer if available means are not set up for them irrespective of who causes oil spills. As emphasised by KOGMP-G, *“The communities would automatically decrease from anti-social events when they are empowered, and the government has more role to play through a sincere political clarity”*. Thus, the interviewees believe that political difficulties contribute largely to community obstructions during livelihood intervention in the face of disasters. KOGMP-A further mentioned, *“Most political obstructions often threaten the securities of the oil and gas industry indirectly and directly, given that most youths engage in political thuggery are the same sets of people participating in the community negotiations and community intervention projects”*.

6.4.4.4 Inadequacy in Compensation

Detailing the community perceptions on what adequate compensations means, interviewees such as; KCMP-D, KCMP-A, KCMP-G, KCMP-K and KCMP-L revealed, that inadequacy in compensations within affected oil spills community is one major factor that hinders other intervention of any kind. Accordingly, KCMP-A stated, *“Any community that has received compensation for damage caused by oil and gas activities received such through litigations”*. As further stated by KCMP-K, such payment has never been adequate as the measurement, and the criteria for payment remains unclear to community members. Agreeing to that, KCMP-D stated, *“In fact, communities have recorded numerous casualties during compensations and after compensation due to the inadequacy in compensations and the process”*. Furthermore, KCMP-J, KCMP-L and KCMP-P added that *“The whole process of compensation is fraudulent, given that often the people that benefitted are practically not affected while the affected are left behind”*. Most interviewees reinforced that the processes for compensation, the compensation itself and after the compensation’s structures lack sustainability measures. KCMP-O further added, such structures, however, are not effective and will negatively impact the recipient or the community’s members. As added by KCMP-K and KCMP-K, the unclear structures of compensation contribute to frustrations that often hinders other intervention measures by the oil and gas industry, which we believed and have conceived to be a deliberate action. According to KCMP-F, *“When the community constantly feels cheated, there is the possibility of protest, agitations and violence conflicts”*. Agreeing to that, most interviewees from focus group four (4) reinforced and described the inadequacy in compensation as a means to enslave the communities to their resources and environment, as such, contributing to different obstruction for the community’s development and empowerment.

Furthermore, participants in FGD 4 pointed out that when the communities are enslaved with their resources, the outcomes of such an act could eventually result in violence and conflicts. Notably, all community interviewees strongly suggest for standard structures for compensations that would empower communities affected by oil spills and negative destructions ensured by oil and gas activities. Most importantly, interviewees pointed out that compensation should not be through the act of damage but the act of contribution for the community development and empowerment as the reward for the community’s contributions to the national revenue. In that case, the complications, inadequacy and negative impacts that are ensued from the process would be reduced. As mentioned in FGD 1, 2 and 7, when the focus of the compensation is widely on the damage caused, the tendency of satisfaction is high, as such, the compensation should be directly directed as means of contribution to livelihood and development

6.4.4.5 Complications and negative aspect of monetary compensation

From the raw data scrutiny, it was evident that monetary compensations come with different challenges, complications and implications contrary to the aim which is contributing to livelihood rebuild of oil spill affected community. Even though, KOGMP-D, KOGMP-C, and KOGMP-H stated that the companies have

always paid compensations without complications, contradictions when it mechanical, technical or any operational failure. KOGMP-C stated, compensations from any operating company is an act of pacification and to show some sense of responsibilities. KOGMP-C further stated, *“Note, the current monetary compensation structure can never, never rebuild household livelihoods, reduce violence, restiveness or agitations within the communities and that is why it generates different negative implications”*. Further, KOGMP-H pointed, I strongly advocate for government presence in the communities and not just the oil and gas industry in whichever way, either compensations, policy, or relationship with communities.

Furthermore, while, the majority of the key oil and gas interviewees stressed that community monetary compensations serve as a short-term intervention for affected people, given that most community’s members engage in SME with compensation money when paid. KCMP-K, KCMP-H, KCMP-P, KCMP-L, KCMP-I and KCMP-J revealed that monetary compensations contribute to different conflicts, restiveness and livelihood destruction has ensued during the process. Majority of the community interviewees opined that numerous disastrous issues have ensued during compensation that is if paid due to the complication and unclear policies guiding compensation structures. According to KCMP-K, *“Why should you through litigation process agree to pay someone whose farmlands, fish farms and riverbanks where damage a fee, for example, less than 1,500 USD. How on earth can such amount serve for the number of years and effort put in for the cultivation of such land in one year and beyond”*? In agreeing to that, KCMP-H added, that is where different issues of dissatisfaction emanate. As further added by KCMP-A, imagine when that is the only livelihood sources of such individual and payment of less than 1,500 USD is paid. Such payment which would only add to psychological trauma are some issues alien with compensation policy.

Nonetheless, both oil and gas interviewees and the communities agree with the indication that compensation within affected communities encompasses different issues, clarity and proper structural disseminative measures for a concise delivery when needed. Even though some oil and gas member interviewees stipulate that compensations are paid without complications, some others acknowledge that different complications exist which often are ensued by the communities. Another important aspect was further drawn from the oil and gas interviewees, which revealed issues associated with the Joint Investigation Visit (JIV) process, representative abilities to establish a useful point as it concerns the community members and the lack of community environmental expertise to convey regular feedback to the community after investigations of oil spills.

6.4.4.6 Joint Investigation Visit (JIV)

KOGMP-C and KOGMP-A stated, before any spill is investigated the company, community members (or representatives), government agency and security agencies are always within for the process that is why it is called joint investigation visit to verify the actual cause of the spill. Then if its sabotage, the government will then inform the community that compensation will not be paid because it was a third-party interference. However, communities have engaged in different crisis during this visit due to the lack of environmental

knowledge, awareness and technical know-how. Interviewee such as KOGMP-A, KOGMP-G, KOGMP-F, KOGMP-E and KOGMP-J revealed with great emphasis as observed during the interview that communities usually creates enormous anxiety for the investigator (delegates) which comprises of the expertise from the oil and gas unit and the government-related agency. Accordingly, KOGMP-B stated, *“Sometimes the community never signed the JIV because they never agree that the incidents were sabotage after expert’s observations”*. In agreeing to that KOGMP- stated, *“Importantly, the participants in the JIV procedures on different occasions threatens to beat up the investigation bodies, which in many cases has led to disagreement and conflicts”*.

Furthermore, community and family disputes sometimes contribute to disagreement during JIV procedures. According to KOGMP-D, KOGMP-F and KOGMP-G, Communities often are divided in the sense that in a particular family different person or members tend to claim ownership of the particular area that has been polluted with oil spills. So, the company what they do is carry out investigations on the rightful owners of the lands because of every member of the family would not be involved, just the leaders of the families. KOGMP-G further added such procedures of engaging just the leaders of families and community representative which are considered the right channel for the investigations most times bounces back with conflict. However, what companies does is wait until the crisis between families or communities settled before investigations. In agreeing to that, KOGMP-D stated, *“That is what contributes to delays in investigations and perhaps delay in compensations”*. Also, KOGMP-H stressed, *“That delay that is caused as a result of the community division is what community often complain and campaign as neglect of oil spills from the oil and gas industry or the oil spill-related agency.”*

6.4.4.7 Poor Community Representations

Interviewee revealed that community representations are huge challenging factors to a successful JIV in the case of oil spills. Accordingly, KOGMP-A stated, *“First, communities should send a responsible, reasonable and educated member to represent them, and not the unruly ones or the deadly ones that look scary even before investigations”*. Agreeing to that, KOGMP-G stated categorically, *“...Having attended different investigations, I can confidently describe the community representations as ‘sizzled’. I have attended JIV with representatives who came drunk, and you would ask yourself, how can a drunk understand what technical measures have been applied to checking the causes of a spill?”* According to KOGMP-B, the communities have deliberately used different representatives during JIV with the intention to intimidate the investigators and compel the decisions in favour of community even with technical evidence. As such, creating difficulties in the JIV process many times, resulting to inconclusive. Furthermore, interviewees such as; KOGMP-A, KOGMP-G, KOGMP-J, KOGMP-C and KOGMP-B reinforced that community representative should be selected based on concrete factors such as; education background, communication skills, reasonability personality and individual with responsibility personality, rather than selecting someone with huge physical/ muscle build, thug and or militant as representatives. In

agreeing to that KOGMP-D stated, *“The community representative’s selections of both the elders and youths should pass through a thorough screening to certify their abilities and capabilities in dealing with magnitude issues as it relates to interventions and investigations of environmental hazards or disasters resulted from petroleum product”*. Thus, a majority of the oil and gas interviewees agreed that community representations had influenced inconsistencies and inconclusiveness during JIV process as the first step towards interventions for the environment, the livelihood of the people and the general public. Interviewees stressed on the need for environmental awareness programs, training of community members in environmental subjects as it relates to pipelines beneath and above ground level, and its implications, forestry, soil etc. In the same vein, the majority of the community interviewees also agreed that community representatives are hugely and clearly not selected by the communities and thereby influencing inconsistency and inclusiveness during JIV and other matters as it relates to the community. Therefore, reinforcing on the restructuring and establishing criteria’s for selecting community representatives. According to KCMP-M, *“...Community representatives should not be limited to ‘family by family’ as traditionally adopted; instead, a highly qualified individual should be voted/ selected for representation”*. KCMP-P stated, *“Communities should select their representatives without the interference of any sector. Communities can nominate individuals along/ with the established criteria for selection”*. KCMP-P further added, *“I advocate for some learned and well-exposed individuals as representatives to reduce the issues associated with neglect of plight or environmental and social calls. Such aspect of plight should come from track records representatives”*.

6.4.4.8 Sense of Neglect

Another point which came out from the community perspective in response to impeding factors that challenge interventions is ‘neglect’. Accordingly, the majority of the community interviewees revealed that neglect remains a huge factor that contributes to environmental unfriendliness to both oil spill-related agency, NGO’s, Governmental bodies and the oil and gas industry. As specified by KCMP-S, KCMP-A, KCMP-T, KCMP-H and KCMP-O, *“... We have felt neglected for decades, and it has continued with no clear posterity as such will influence frustrations during some incomplete (proposed) interventions”*. According to one of the focus group, participants stated, *“... You cannot point out a complete facility owned by the oil and gas companies within the shores of these communities (Bodo communities) for more than 40 years and worst case, there are issues of negligent on the part of the company because sometimes spill incidences take two months before they could intervene to stop it (FGD 4)”*.

In agreement to focus group four (4) perception, KCMP-S, KCMP-O and KCMP-N stated, the communities are just neglected and that is the main reason why blame games always come to play at the peak of the oil spill. KCMP-M and KCMP-I stated, the neglect and delays in curbing oil spill significantly show communities how non-importance we are. Notably, KCMP-V, KCMP-U, KCMP-L and KCMP-K in similar vein stated, the ways the oil spill-related agency delay intervention in responding to the oil spill is

the same approach the oil and gas industry indulged with humans. KCMP-N added, *“We have hard situations where oil spills for days, months before curtailment. Not that there was no report of the incidents but were neglected”*. As revealed by KCMP-C, KCMP-K, KCMP-D, KCMP-O and KCMP-R, *“...For example, we reported two oil spills at the same times to the related agency, but the community representatives that engaged in the journey from these remote areas to the city were the oil spill-related agency offices are, did that for seven consecutive times before the spill was curbed”*. KCMP-P further added; worst-case scenarios are the situations where elders from the remote community are treated like inhuman within the office premises of the oil spill response agency.

Majority of the interviewee agrees that the neglect portrayed by the operating oil and gas industry towards livelihood building and development are contributing factors to intervention obstructions. KCMP-S further reinforced that the delays from the oil spill-related agency in terms of response to spills are contributing factors that influence other plans as proposed by the oil and gas industry. Community interviewees classify such act of delay in response to oil spillage (curtailment), delays in compensation, investigations and delays in the provision of emergency relief materials as the case ‘presents’ and physical, psychological and economic delays as neglect. As such contributes to curiosity within the community member given that decades, have passed without a concrete and or physical infrastructural interventions.

6.4.4.9 Divide and Rule Strategy

All the community participants revealed that ‘divide and rule’ contributed controversially to community instability and unrest. Accordingly, community interviewees reinforced that the idea of divide and rule employed by the oil and gas industry before operations and or during operations are contributing factors to why some agreed MOU content of communities are never fulfilled. The majority perception of ‘divide and rule’ is supported in the study of Acemoglu, Verdier, and Robinson (2004), who argued that often, countries operates and implements Kleptocratic economic policy to confiscate the wealth of its citizens and use the procedures for their glorification. Thus, such act and policy are achieved through a divide and rule approach, especially when there is a different institutional weakness. According to KCMP-O community stakeholder who revealed with pains as observed during the face to face Interview stated, *“Divide and rule strategy is a policy that is deliberately enforced by the oil and gas industry to prevent the community minorities from unity”*. KCMP-O further categorically reads *“It is a policy of maintaining control over one’s subordinates or opponents by encouraging dissent between them, thereby preventing them from uniting”*. Most communities are divided, filled with crisis and restiveness due to the divide and rule policy applied against the community (FGD, 2-4). According to KCMP-A, KCMP-C, KCMP-K KCMP-V and KCMP-J, *“...The policy can only contribute to restiveness as opposed to contributing to community building due to the lack of transparency and structure of the policy”*. Interviewees such as KCMP-U and KCMP-L added, *“If payment for explorations is made to communities, it is expected that such payment is for development or contributions for public development”*. KCMP-L further added, the situation where such payment is not

made for the masses benefit then definitely crisis is an appeal. As strongly suggested by all the community interviewees, such payment instead should be channelled towards infrastructures instead of the monetary payment that will, in turn, creates a crisis among community members.

Furthermore, interviewees such as; KOGMP-D, KOGMP-A, KOGMP-J, KOGMP-F and KOGMP-G stated, Divide and rule have been in existence, either directly or indirectly as far back in colonial periods. The communities need to be paid a certain amount before explorations of petroleum products within the shores and boundaries of such communities. KOGMP-G further added, *“That is what we call ‘Royalty’ ‘Acknowledgement’ homage or right for the people”*. KOGMP-H stated, importantly, any royalty made to a given community is not meant to benefit individuals of the community. Agreeing to that KOGMP-E and KOGMP-I Stated, the individuals such as the elites, royals and the elders who receive such finance should utilise/ direct/ channel such fund towards developmental project that would benefit the mass otherwise, it is not the responsibility of the oil and gas industry to make royalty payment that benefits all community members. Agreeing to that KOGMP-I stated, *“Practically, such funds are given not to satisfying a whole community but an acknowledgement, respect and homage payment for the communities”*. As reinforced by KOGMP-G, KOGMP-J and KOGMP-A, the community is usually funny as such creates violence from all angles. Likewise, respondents attest to how the construct ‘double standard’ strategies contribute to obstructing issues in the relationship between the communities and the oil and gas industries. Below discusses double standard and how it influences the Niger Delta communities.

6.4.4.10 Contradicting Standard

As evident from the data set ‘contradictory standard (double standard)’ as named by the community, interviewees is significantly a contributing factor to the unsuccessful practical infrastructural and livelihood rebuild within the communities. Accordingly, KCMP-S stated, *“Double standard game as applied by most of the oil and gas industry, even as it remained silence is an unfair strategy for the masses.”* KCMP-D further added, practically double standard game is applied in different ways within the community context, and because of the level of ignorance, poverty mind and mentality, community members hardly observe other than resorting to the crisis. Agreeing to that KCMP-O stated, *“Double standard games are psychologically and physically an unfair treatment for the masses as such contribute to antisocial calamity”*. Majority of the community interviewees opined for transparency when dealing with interventions for livelihood, community building and general development as it relates to the communities with petroleum product and oil spill affected. In this same vein KCMP-A, KCMP-H, KCMP-V, KCMP-G, KCMP-K, KCMP-M, KCMP-J, KCMP-I and KCMP-F added, *“The intellect has so long played with the communities, and that has always resorted to further damage and encouraging communities for destructions of facilities when feeling cheated and or not transparent enough with community livelihood building”*. As such, double standard game is a construct that has thus contributed to obstructions and created limited access to community involvement in the oil and gas business and how it affected them.

6.4.4.11 inadequate community involvement

Another impeding factor challenging the intervention process is the inadequate involvement of community members within the oil and gas business. Accordingly, KCMP-K, KCMP-P and KCMP-T stated, the community members are not usefully engaged within the oil and gas business as such the youths are handicapped and are ready to prevent any development that is imposed on them. According to KCMP-G, the community needs adequate involvement/ engagement not necessarily within the oil and gas sector but with useful skill acquisition and establishment. Agreeing to that KCMP-A and KCMP-C stated, most community members are well educated without jobs. KCMP-O further added; *will such individual accommodate few fertilisers for masses where the distributions also influence enmity due to its insufficiency?* KCMP-F strongly suggest that government in synergy with NGO's and the oil and gas companies establish a platform that empowers every individual of oil-producing communities within the Niger Delta region. According to most interviewees, the petroleum products within the region is voluminous enough to taken care of all the community members and the nation at large. Hence, the neglect, marginalising, not involvement and using double standards games on the communities would only influence undeveloped communities and humans. These are future calamities nurturing for the next generations, as added by KCMP-D. However, the section below explains the factors that obstruct the intervention for livelihood, perceived by the oil and gas industry respondents. It should be noted that the section 6.3.4 above discusses the insight from the community respondents, while section 6.3.5 presents the oil and gas insight on what challenges their intervention for community livelihood.

6.4.5. Oil and gas perception on the factors that impede intervention

The perception on the factors that obstruct the intervention and relationship between the communities and the oil and gas industries are; security and violent threats, communication gaps, mental/ cultural and attitude issues, community leadership system, lack of compensation understanding (compensation style), lack of environmental expertise, host and transit communities' challenges. The sections below describe the constructs that obstruct the intervention for community's livelihood as perceived by the oil and gas respondents.

6.4.5.1 Security and violent Threats

Both the oil and gas and the community interviewees believe that security threat poses a profound challenge to the communities as many interviewees described the security threats in two forms from the community perspectives and the oil and gas perspectives. Accordingly, the community interviewees revealed that government army forces deployed to the Niger communities has influences insecurity as opposed to safe securing of the communities. According to KCMP-K and KCMP-G, *"The community members now suffer insecurity threat in different dimensions. For example, the threat of rape (molestations) from the military personals sent for security reasons, wrongful accusations and humiliations"*. Agreeing to that KCMP-H

stated, *“Most of the security personals are threats to the security of the communities”*. As argued by many of the interviewees, a large number of underage pregnancy act have resulted from the military personnel within communities. Furthermore, KCMP-K, KCMP-N, KCMP-L and KCMP-S reinforced on the issues of pregnancy within the communities by stating, *“...evidence show that government military personnel across oil and gas communities owns three out of every five underage pregnancies sent for security reasons”*.

Furthermore, the oil and gas interviewees also agreed to the security threat in a different dimension. According to KOGMP-D, KOGMP-E, KOGMP-J, KOGMP-I KOGMP-C and KOGMP-I, the threats that emanate from the oil producing communities cut across kidnapping, violence, agitations and conflicts. These constructs contribute significantly to the impediment of interventions as added by KOGMP-A. Agreeing to that, KOGMP-F stated, *“We have hard situations where community members threaten to kill oil and gas staff at oil production sites”*. KOGMP-F further added, *“Conflicts during interventions on the issues of JIV’s and who and who did not cause oil spills”*. According to KOGMP-D, the threat of ‘political thugs’ who often demand different tress-pass payments as ensured by the many community members are all factors that challenge the oil and gas intervention for development and livelihood building. As mentioned by KOGMP-D, *“Communities are usually funny and ready to threaten the oil and gas officials at every point in time, and that has been a huge challenge to address”*. Also, when the community demands are not met or fulfilled by the oil and gas industry, which most of the time, they demand what the government should have provided, that becomes a challenge. As further reinforced by KOGMP-C and KOGMP-J, *“The oil and gas companies are partly the contributors to community livelihood building, development and capacity building following the laws of the Federation of Nigerian”*. KOGMP-C further added, the companies work under the guidelines of the provided laws and policies and as such would not violate the laws due to the threat from the communal violence, infused conflicts and threats to the oil and gas industry.

6.4.5.2 Communication Gaps

Majority of the oil and gas interviewees revealed communication gap as one major factor hindering the intervention process before, during, and after oil spills. Accordingly, KOGMP-J, KOGMP-A, KOGMP-C and KOGM-P stated, *“Communities understands what they feel is right for them in every situation, undermining the available laws that guide the activities of the oil and gas”*. KOGMP-P further added, importantly, the community needs some commitment to understanding the laws and the people that explain the laws to them. Agreeing to that KOGMP stated, Communications and lack of acceptance of knowledge has immensely contributed to the impediment of intervention and as such affect’s livelihood rebuilding of the affected community members. Also, KOGMP-I and KOGMP-B stated, the oil and gas industry has engaged the community members in different community meetings to understand the different scenarios that lead to deliberate vandalism, sabotage and violence as a major obstruction that takes place within. Also, the oil and gas industries have at different point engaged most relevant community elites, drawing the

community behavioural actions and attitudes towards oil and gas personnel. Agreeing to that, KOGMP-I stated, *“If the communities communicate with the language that everyone understands without showing grievances by sabotage and vandalism, to some extent the livelihood of the communities would be rebuilt.”* Furthermore, KOGMP-I, KOGMP-F, KOGMP-H, KOGMP-E and KOGMP-G in arguing to poor representations of community members in dialogue, negotiations and or meetings that relate to livelihood rebuild stated, that is why most people within the oil and gas sectors are genuinely concern about the community representatives. KOGMP-I further suggested that representations and expert knowledge ensue to the understanding of the immediate and post effect of any disasters that affect communities. KOGMP-J added, *“That is why I advocate that community members change their mind-set to accommodate the relevant bodies for proper synergy to empower community members”*.

6.4.5.3 Culture, mentality and attitude issues

According to KOGMP-A, KOGMP-B, KOGMP-G, KOGMP-H, and KOGMP-J, the mentality of communities towards the operating oil and gas companies are often overwhelming, given that most of the companies are international oil companies (IOC) with little knowledge of the culture and heritage of given communities. All the oil and gas Interviewee revealed significantly how the mentality of the most community affects their intervention by highlighting as follows; it is essential to mention that community members demand payment even before the assessment of the contaminated land/site. Secondly, community members sometimes ambush the oil and gas personnel just for selfish reasons. KOGMP-G and KOGMP-A, added, for example, in 2003, there was a man cut during the act and surprisingly confessed that when such action is successful the community or groups that carried out such act acquire rewards. KOGMP-G further added, *“Such ambush act often gives hope to the groups in the absence of compensation”*. Majority of the oil and gas interviewees revealed that such culture of ambush pose threats to the oil and gas personnel and thereby contributes to delays and obstructions for the intended intervention plans for communities suffering the impacts of oil spills and or negative oil production impacts. As reinforced by KOGMP-J, the rebuilding of livelihood, development and reshaping of the mentality of most communities are mainly dependent on the willingness to accommodate an understanding of existing legal frameworks as it relates to communities and the oil and gas industries. As such, the leadership and representations of communities as channels to incorporate useful ideas are relevant means to overcome obstruction challenges.

6.4.5.4 Community leadership style

According to KOGMP-I KOGMP-J and KOGMP-A, one of the barriers that contribute to intervention obstruction is the leadership structures and the process of selecting the community leaders just as similar to the representation selection procedures. Even though most of the interviewees revealed by stating that the companies have little or no influences on the selection and or leadership of the community. As pointed by KOGMP-D, *“Community leadership and procedures are internal issues that are dealt with directly within communities with less influence from the companies”*. Agreeing to that KOGMP-J stated, *“To some*

extent, the leadership of the communities affects intervention, often communities are divided due to leadership selection and or the procedures which the companies cannot venture into any intervention during such periods". KOGMP-G stated, during the procedures of community leadership, the oil and gas companies in most occasions stop any intervention plans up until communities are settled. Accordingly, KOGMP-J, KOGMP-A, KOGMP-C, KOGMP-D and KOGMP stated, *"We have different hard situations where the communities accuse the oil and gas companies of influencing or imposing community leadership, and the outcomes are usually disastrous"*. KOGMP-D further added, the companies take precautions when dealing with communities during their internal leadership crisis, even when communities engaged formally in soliciting for support during leadership selections in most communities. Importantly, all the oil and gas interviewees reinforced that the leadership of most oil spill and or oil-producing communities when not stable affects the intervention of such communities, as such, influencing further division amongst the youths. As added by KOGMP-D, *"Community leadership plays a huge role in impeding interventions. For example, the situations where communities are divided into four factions and two factions allow for livelihood intervention and development while the two factions go against, then resulting in a crisis"*. Thus, such divisions are issues that obstructs compensation of any kind when necessary.

6.4.5.5 Compensation Structures and Community understanding

Some interviewee such as KOGMP-D, KOGMP-C, KOGMP-F, KOGMP-J and KOGMP-A agreed that compensation structures are not known to most community members. In discussions, KOGMP-D stated, *"The communities lack the legal awareness of the compensations structures, and that is one major reason for the contradictions during JIV and compensations"*. Accordingly, KOGMP-A stated, the measurement for damages, impacted areas, economic and noneconomic trees are well defined to communities as such contributes to the perceived frustrations of affected populations. The important aspect with community understanding of the compensation structure is due to the fact that communities lack understanding, and as such describes their perception the way they understand. In response to the understanding of compensation policy, KCMP-A, KCMP-G, KCMP-N, KCMP-M, KCMP-S, KCMP-K and KCMP-O stated, *"Currently, the communities do not know how air pollutants are measured, because we inhale pollutions daily"*. KCMP-O added, how are damaged creeks compensated for damaged? *"We do not know how the cultural and social damages ensured by oil explorations and its waves are measured"*. KCMP-O further stated, *"All these are major constructs that accompany frustrations as such contributing to violent conflicts that further obstruct some plan interventions for livelihood rebuild"*. Notably, interviewees from both the oil and gas industry and community participants strongly suggest a more legal awareness of compensation structures as it relates to the communities. As categorically stressed by KCMP-C, KCMP-E, KCMP-F and KCMP-N, the plan structures of compensations should be made available at all levels, even with the inadequacy nature in terms of implementations. Thus, KOGMP-F, KOGMP-A, and a majority of the oil and gas respondents

emphasised that the community lack of understanding and acceptance of existing compensation policy are factors that contribute to obstructions coupled with the lack of environmental expertise across the region.

6.4.5.6 Lack of community environmental Expertise

Based on the raw data from the oil and gas interviewees, it was revealed that lack of community environmental expertise is a factor contributing to delays, contradictions and conflicts during JIV and compensations for damages and livelihood rebuild. Accordingly, KOGMP-A, KOGMP-J, KOGMP-G and KOGMP-C stated, environmental expertise's are highly needed from the communities in conjunctions with the oil and gas environmental expertise to sustainably achieve substantial conclusions during JIV and compensations as it relates to the community. As stated by KOGMP-A and KOGMP-B,

“...NGO's and the government should sponsor community members for all environmental related areas and technical areas. Communities should have some environmental experts who observe and understand what is there when oil spills. So that in any case of oil spills these oil producing communities already have environmental experts, who will observe for them during investigations and after that advice its members of the reality of what had happened. In that way, their community expert's opinion can be accepted by them since they hardly accept the oil company and other regulatory body's observations”.

KOGMP-A further added, for example, there was a community who suffered oil spills, and before the oil company and the regulatory bodies could get there, the community already had an expert who had checked and advised them before the company carried out their investigation. In that case, it was easy to agree. So, the government can train the community members to be an environmental expert to assist in most of these issues, by so doing conflict, restiveness and crisis will be reduced. There will not be issues of no payment of compensations, and that will reduce sabotage as well.

Importantly, KOGMP-D, KOGMP-G and KOGMP-I added, communities often disregard observation outcomes because they see things differently from their perspectives which is contrary to the technical expert. Moreover, that is why the oil and gas industry highly advocate training and having community experts in the environmental aspect and technical assessment of the oil spill incident. Agreeing to that KOGMP-E stated, *“By having environmental experts from the communities, the majority of problems associated with JIV, compensation, conflict and threat from the communities are reduced to substantial levels”*. Also, the knowledge of the communities on the technical and environmental aspect as it relates to damages of their livelihood and awareness of the associated laws would bring a cordial relationship between the communities and the oil and gas industries as revealed by interviewees. Furthermore, the majority of the interviewees suggest for a cordial investigations process from the community of effects. KOGMP-J stressed for a robust practical synergy between the companies and the government about community

livelihood building and development. Most interviewees opined that the state and the federal government should establish an active community and developmental based framework specifically for sustainable livelihood building across host and transit oil communities.

6.4.5.7 Host and transit communities

Another challenge for oil and gas companies are the problems of the transit communities. Accordingly, the majority of the oil and gas interviewees revealed that most transit oil community's influences violence and agitations during interventions for host communities. According to KOGMP-A, KOGMP-D, KOGMP-G and KOGMP-J, *"...The transit communities want this same treatment as host oil communities as such hindering interventions at different occasions"*. Agreeing to that KCMP-A, KCMP-T and KCMP-N stated, *"The transit communities must not be given equal opportunities as host and or affected oil spills communities"*. KOGMP-F further added, *"The companies cannot provide to the maximum satisfaction of the host oil communities not to mention transit communities that is a big challenge that needs the government intervention in solving the issues with Niger Delta communities"*. Agreeing to that KOGMP-A stated, *"Often transit communities engage in ambush activities towards the oil and gas intervention teams as such influence threat on security"*. That is why KCMP-D stated, *"I advocate for sustainable empowering projects across vulnerable communities within the Niger Delta, with or without oil spill pollution"*. KCMP-H further added, empowering community members across the region would minimise the risk of vandalism, intervention sabotage, pipeline sabotage and armed violence. Also, according to KCMP-O, there should be a sustainable livelihood platform for communities affected by oil spills and negative consequences of oil production. Communities should be prioritised according to impacts on the surroundings and livelihoods; for example, most oil-producing communities and spill-affected can be given higher budgets than the transit communities, but not total neglect of transit affected community. As added by KCMP-J and KCMP-V, ignoring transits communities pose a potential risk for host communities as such would always contribute to inter-community conflicts/disharmony and enmity between communities. As such, interviewee reinforced the need for infrastructural development that would, in turn, empower members across different communities.

Further, Figure 21 below distinguished the obstructing factors from the communities and the oil and gas industries for more clarity and understanding, considering that evident presents that all disrupting factors to the delays of community development, livelihood support and rebuild, environmental and pollution speed remediation delays are contributed from both the communities and the oil and gas sectors.

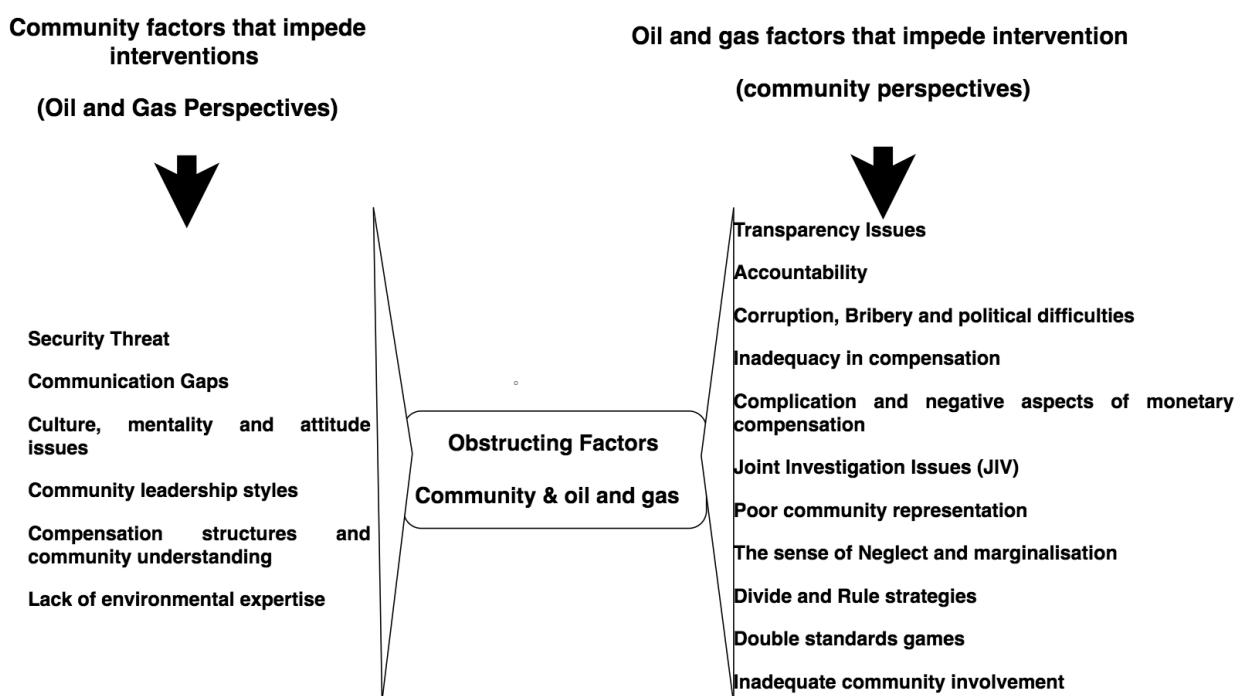


Figure 21: summary of impeding factors from the community and oil and gas industry perceptions

6.5. Overcoming challenges that impede oil and gas industry interventions

Having identified the challenging factors that impede community livelihood interventions of the oil and gas industry in section 6.3.3. This section analyses the instrument for overcoming the identified challenges as scrutinise from the raw data. Accordingly, the section presents detailed discussions on ways to overcome challenges impeding the interventions for community livelihood support, empowerment and development. Thus, for clarity purpose, the section is further divided into two sections; namely, overcoming the community challenges, perceived by the oil and gas respondents. Thenceforth, the below section 6.5.1 first discusses how to overcome the challenges as originated from communities during an intervention, while section 6.3.8 discusses ways to overcome the challenges that emanate from the oil and gas sector, perceived by community respondents. The discussion is presented therein.

6.5.1. Overcoming challenges from community

The suggestions put forward by the community participants and the oil and gas participants are categorised into six headings such as; Community Leadership and Representation Selection (CLRS), Practical Physical Intervention (PPI), Restructuring Compensation Methods (RCM), Community Involvement (CI), training and re-training of community representatives, Monthly Allowance (MA) and adequate community involvement (ACI). The six categorise, as shown figure 22 are some constructs that were emphasised as a

means to overcoming the identified challenging factors discussed in section 6.4.3. As such, interviewees revealed that these constructs could reduce obstructions during intervention when applied at the appropriate places. Below starts with community representation issues with respect to negotiations when the need arises, collaborations with the operating companies and relationships building between the concern stakeholders and relevant organisations.

6.5.1.1 Community Representation Selection

Interviewees suggested various recommendations to overcome the challenging factors obstructing livelihood building. During the interview, KOGMP-A, KOGMP-H, KOGMP-D and KOGMP-G, reinforced and detailed why numerous challenges are obstructing the activities of the oil and gas as it relates different interventions strategies. Accordingly, the interviewees revealed that community representations have contributed to different disastrous act between the companies and the communities and sometimes within the communities. As stated by KOGMP-H, the oil production activities within the Niger Delta as perceived by the outside world are sincerely not the truth considering the community inflated actions. Most of the community representatives are not critically selected by the communities as such contributes to a lack of understanding which is the part that is publicised. KOGMP-G and KOGMP-B stated, the community representatives play a significant role during the intervention of any kind and as such needs an individual with sound/ good records, well-educated and to some extent the level of exposure. Agreeing to that KOGMP-F stated, *“Most communities select their representatives based on physical built, ruggedly and being an arrogant personality, with the view to engage the companies with fear and anxiety”*. KOGMP-F further added, the reality is that those set of individuals potentially add to most inconclusive interventions such as engagement/ negotiations for development, either, economic or infrastructural development. According to KOGMP-E and KOGMP-D, the foundation for the selection of the community representatives is wrong. Even though some communities select through households, the point that educational levels, individual records and exposure are not factors of selection, there would always be a reasonable level of misunderstanding because of the level and personal qualities of the representatives.

Furthermore, KCMP-K, KCMP-N, KCMP-S and KCMP-P agrees to the leadership and representation selections, reinforcing that communities often are divided and as such contributes to the selection challenges most times. KCMP-P Further added, most times community leadership and representation are done rotationally, i.e. ‘family by family’ and in that situation, most families without educated individuals are still selected to represent as the constitution of such community demands. According to KCMP-A, KCMP-J and KCMP-V, some ways to overcome community representation problems is when the community decides to look into the qualities of individuals within the communities without sentiment, self-gain and mentality of land ownership. However, KCMP-P took another dimension and mentioned that most times, the external bodies impose leaders and representatives on the communities, which further contributes to community problems. Thus, the community selection of their representatives should be handled by

individual communities and not handpicked of candidacy for communities which has always been the origin of most youth problems. Notably, KCMP-K and KCMP-N suggest that unless the community calls for external help in situations of conflicts amidst of community leadership selection, the external bodies should avoid handpicking or influencing selections of community representatives against the community wish. Also, KCMP-N pointed, that the external bodies can monitor the process, organise and see through to the smooth procedures as engaged by communities be it by voting, town hall selection without their influence.

6.5.1.2 Physical Intervention

Physical intervention in this context is physical infrastructure that can engage the community members and prevent them from sourcing damaging alternatives for livelihood. This construct, as identified by mostly community interviewees is an aspect that frequently was established as a channel that would influence community development, empower community members and reduce violence conflicts. According to KCMP-A, KCMP-O and KCMP-T, physical infrastructure is one significant way to overcome various obstructing factors coming from the community. KCMP-P stated, there are different obstructions because of the lack of everything, coupled with the lack of transparency in any processes of intervention. According to KCMP-P, KCMP-C, and KCMP-K, physical infrastructure which encompasses electricity, buildings and modern functioning tools are desperately needed among communities to rebuild livelihood. Inline to that, KCMP-L stipulates that even soft infrastructure, which encompasses the means of maintaining cultural, health and social standards of communities are profoundly desired even when the construct above is void within the communities. Remarkably, all the community interviewees stressed that both soft and hard or physical infrastructural development are tools that can enhance development, reduce security threats and improve mind-set of the vulnerable community as they engage in useful and productive activities.

6.5.1.3 Restructuring Compensation Methods

As discussed in chapters above about complications in the compensation process, the inadequacy, contradictions and the calamities that are ensued by compensation. The majority of the interviewees stress and emphasised on the need for restructuring compensation instrument, as a significant tool to overcome obstructing factors faced during livelihood intervention. Accordingly, KCMP-O, KCMP-P, KCMP-T and KCMP-A started, the root causes of obstructions during oil spill assessment, post-impact assessment, oil spill causal factors and or other related incidences as emanates from petroleum production revolves around, what is paid to the host communities. Agreeing to that, KCMP-K pointed, *“We are not controlling our resources as such, we need adequate payment for the decades of impacts across various communities; thus, there is a great need for compensation clarity to suit the damages on the community’s sources of income and wellbeing”*. Further, KCMP-S, KCMP-J, KCMP-L, KCMP-V and KCMP-M, in the same manner, pointed, ‘compensation adequacy’ means backdating payment or inclusions of what has been left out decades ago’.

KCMP-S added, compensation methods should be restructured to incorporate long term impact, which is why we advocate a monthly allowance for retirees as a symbol of the more negative impacts from petroleum activities than the positive edge. Further, KCMP-L stated, the companies and the Nigerian government should make mandatory for job availability for every Niger Delta graduate, make available free schools across communities, and make an available monthly payment for elderly Niger Delta populations. However, KCMP-K added, these are not commensurable but should be as part of the compensation for the wiliness, forcefulness, and voluntary act of giving out the resources of the region for the masses, otherwise the resources need to be controlled by the indigenes of the Niger Delta Communities.

Other interviewees such as KCMP-A, KCMP-H and KCMP-J further stated, in restructuring the compensation methods, the oil and gas industry, policymakers and the implementers should make provision for the inclusion of the following; first, there should be a replacement for any damage to the river that is not owned by one particular community. KCMP-H added, such replaced package should come with what the river often contributes to the community/ communities. For example, most community uses their river and creeks for cassava fermentations, fishing, travelling and recreational centre. KCMP-K further stated, as part of the compensation package, the concern bodies can build artificial recreational centres across strategic communities that would be beneficial for the masses within the region impacted by any form of negative petroleum activities (gas flaring, shallowing pipeline communities, noise and vibration from production plant *etc.*). The economic trees that provide yearly livelihood support should be replaced by concrete or physical measures that can enable livelihood for households and not the payment of less than 1,500 USD one of for damages across impacted communities. Further, KCMP-K, KCMP-A, KCMP-J, and KCMP-H, and the majority of the community respondents emphatically reinforced on monthly monetary compensation payment for retirees across the region.

6.5.1.4 Monthly Allowance

Most interviewees revealed 'monthly allowance' for retirees as one major root to overcoming some challenges, as wages serve as empowerment structure for community members. KCMP-O stressed, *"Monthly allowance is one major construct to be considered"*. According to KCMP-O and KCMP-N, the allowance should be paid to all Niger Delta retirees, aged and disabled population. Agreeing to that, KCMP-K, KCMP-D and KCMP-Q and other members of focus group discussion (6 &7) stated, *"Given that the communities have the massive resources for the nation, should be a pleasure to contribute by given stipends to aged/Retirees and disability populations"*. KCMP-K, further stated, including disabled Niger Delta indigenes, can in future be extended to the masses across the Nation. However, KCMP-N stipulates that the challenging factors that emanate during any intervention are the result of accumulative issues, thus, if issues of wages are integrated into policy and implemented as means of empowerment would reduce the different challenging factors obstructing intervention. In agreeing to that, KCMP-N added, *"All most all the issues challenging any interventions are interconnected as such one major overcoming technique can be used for*

various issues". KCMP-N further added, the communities, oil and gas industry and the intermediary concern agencies have to work in synergy to accomplish a sustainable livelihood action for the communities that have suffered from either oil spills or oil production negative consequent. For example, noise, vibration, damage to the road with massive company equipment. Agreeing to that, KCMP-P, KCMP-A and KCMP-D further added, one of such measure or action is the monthly allowance for the retirees, disabled and aged population within and across communities of effects. Thus, such action of inclusion of monthly monetary compensation for across communities would represent a depth involvement of the community from one aspect.

6.5.1.5 Adequate Community Involvement

KCMP-N, KCMP-A, KCMP-O, and KCMP-P emphatically mentioned that often community members obstruct intervention when the community members are not fully and adequately involved in the process for either social intervention, economic intervention or infrastructural interventions. Accordingly, KCMP-N stated, most of the projects within the communities are primarily supervised and managed by foreign bodies which the majority never gets to completion even as it is theoretically documented to be completed. Also, the same scenarios applied within a minor contract are awarded to community contractor. KCMP-N further added, *"The reasons why most community contractors never get their projects complete is because, before the project gets to the contractor's half of the finance is divided with the contract awarders"*. Hence, this, however, contributes to the unfinished problems and crisis. Concretely, the communities need sincere inclusion and not exclusion in the business of oil and gas production within the region. As mentioned by KCMP-N, when communities are truthfully, chronologically and logically involved, the contracts for community development and any empowerment programs would be accomplished, given that the executions are literarily in the hands of the sincere community members and contractors. That is, why the issues of community leadership selection are vital to facilitate soft, hard infrastructure and livelihood rebuild. This finding supports the view of Nwosu, Nwachukwu, Ogaji, and Probert (2006), who argues and recommends that significant contracts should be awarded to local contractors as a means for proper involvement. Furthermore, KCMP-H, KCMP-N, KCMP-K and KCMP-P, mentioned that community's involvement in production, technical and marketing of the product is essential to avoid the sense of neglect, marginalisation and the agitations for resources control within the region. KCMP-N further added as such free education, training and re-training of every sons and daughter of the soil (Niger Delta communities) are compulsorily vital to integrate as part of involvement.

6.5.1.6 Training and re-training of community representatives

According to KCMP-N and KCMP-N, training and re-training of the communities across the Niger Delta area are one vital aspect that would enhance development, overcome threats of every kind, reduce conflicts and empower the people. As mentioned by KCMP-N, the training of the community members within the Niger Delta should cut across environmental-related courses, policies that guide oil production, exploration

and marketing, awareness campaigns and communication skills. Notably, the majority of the community interviewees placed emphases on the need for training by stipulating that when the communities are aware of how the existing policies work, they would be able to address issues accordingly. According to KCMP-N, the lack of training stance a chance for ignorance on the right of the people and environmental impacts. Furthermore, most of the oil and gas industry participants agree to the training and retraining of community members. According to KOGMP-A KOGMP-D, *“Mostly, the representatives of communities which lacks the knowledge of the policy need urgent and in-depth training and awareness programs”*. As mentioned by KOGMP-B, although, the oil and gas companies sometimes create channels for awareness programs, those are not enough, and that is why the government have the major aspect to contribute into the lives of the community members, especially those communities producing the oil and gas for the masses. In agreeing to that, KOGMP-A added, it is important for the government and other NGO’s to get involved in this human development and capacity building. KOGMP-A further adds, *“as far as I am concerned the oil and gas companies cannot satisfy the communities, and that is the origin of dissatisfactions which furthers escalates to different complicated issues”*. Human or capacity building and development should not be an agenda for a particular sector; otherwise, the grassroots would continue to suffer as added by KOGMP-C. KOGMP-C further stated, *“Everybody at every level should work towards self-development, oil companies with their resources if they can improve they should, Government should close their gaps and Ngo’s should contribute to the livelihood strategies of these communities also”*. Further, KOGMP-G stressed, *“The oil and gas industry cannot close all the gaps in the communities suffering different impacts as the government have much to play”*. Furthermore, KCMP-A, KCMP-D, KCMP-H and KCMP-L pointed that, due to the lack of training across communities, the level of literacy is low which affects and limits the ability of host community indigenes to contribute more value beyond manual labour force within the operations of the oil majors in the sector. As such, participants argue that lack of training of the community members are influencing factors for such a low mastery of some professional position, and the achievement of such scheme would serve as livelihood rebuild, capacity building, oil spill impact reduction and would enhance empowerment. This, however, can be achieved through organised seminars and workshops across the region.

6.5.1.7 Summary and links

In the track to overcome challenges from communities as revealed by the oil and gas and the community participants, the section summarises the important key constructs that will enhance the effort to overcome the challenges as identified in section 6.4.3. The section above revealed that restructuring of the existing compensation framework to incorporate long term, socio-economic and cultural damage; monthly allowance; concrete involvement and physical and soft infrastructural development would practically improve the communities, as such, empowering the members of the communities suffering the negative consequence of oil pollution. The chapter finds out that the oil and gas companies mostly intervene for

community livelihoods through an agreed memorandum of understanding of communities, provision of some scholarships and fertilisers. While admitting that most of the intervention strategies are not enough for the communities to restructure and or adequately support their livelihood system, some challenges were identified as obstructing factors for the existing livelihood support mechanisms for the communities. Also, the chapter finds out that irrespective of the challenges, the ineffective system of the intervention, different channels could be used to reduce and or overcome the challenging factors while empowering the communities. Given that empowerment serves as a channel towards the reduction of numerous other human-induced problems such as; the deliberate antisocial act of the communities towards the oil and gas companies. Thus, recommending strategies for further implementation to reduce the impacts of harmful activities of petroleum production on the community's livelihood while reducing the incidents of oil spillages. Figure 22 presents the summary of the identified constructs to overcome the identified challenges impeding the intervention process from community perspectives.

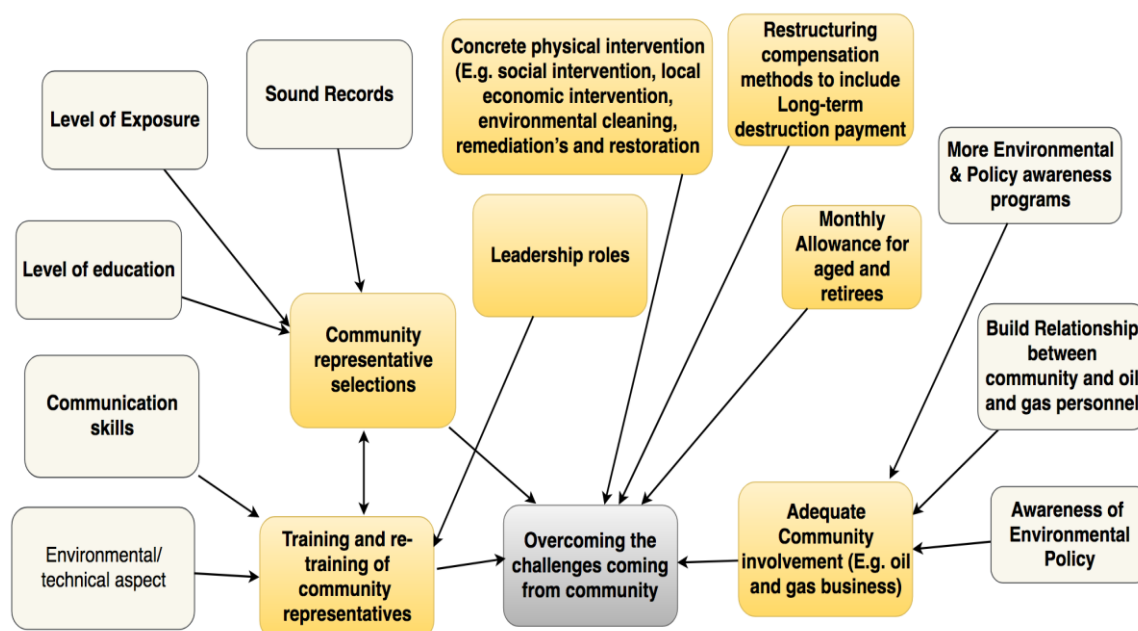


Figure 22: Overcoming challenges from communities

6.5.2. Overcoming challenges from oil and gas Industry

Having discussed the means to overcome the challenges that emanate from communities during interventions as perceived by the oil and gas industry. This second section discusses five significant categories to overcome/ reduce the challenges that emanate from the oil and gas industry during intervention for environmental impacts, pollution and building of community livelihood as revealed and suggested by the community and oil and gas industry participants. Thus, five categories of the constructs where identified in (See Figure 23) to overcome the challenges that impede intervention of oil and gas as discussed in section 6.5.2.1 are; strong institutional structures and contributions, standard stakeholder's

collaborative meetings, proper environmental and impact assessment, monitoring and evaluation, transparency, adequacy in JIV and compensation process. The section below discusses the suggestions put forward by the participants with regards to overcome challenges that emanate from the oil and gas industry as identified by the community interviewees and to some extent the oil and gas interviewees.

6.5.2.1 Strong Institutional structures and contribution

Interviewee suggested various recommendations to reduce the challenges that emanate during intervention for either social, economic, infrastructure or cultural rebuild. During the interviews, KOGMP-O, KOGMP-P, KOGMP-H and KOGMP-A, highlighted the need for recognising the roles of other sectors in rebuilding the Niger Delta communities affected by different oil pollution. Accordingly, KOGMP-D and KOGMP-E pointed out that only the oil and gas industries cannot contribute satisfactorily to the communities across the Niger Delta. KOGMP-O added different sectors exist with the mandate for environmental management, oil spill impacts assessment, and remediation, management of oil spills and youth development. These sectors have significant roles and duties to contribute meaningfully to human development and capacity building within the region whose resources is used for the masses. Agreeing to that KOGMP-A and KOGMP-F stated, *“The Niger Delta Development Commission (NDDC) and Ministry of Niger (MND) are two major organisations that should contribute to human and capacity building across communities in the Niger Delta. Hence, are their presence felt at the community levels? A question that I am sure you as a researcher already knows”*. KOGMP-F further stated these bodies are channels for development for the people ‘specifically’ Niger Delta communities. Agreeing to that KOGMP-H mentioned that NGO’s and any existing and or related establishment benefitting from the region have the mandate to contribute as such empowering the community members.

According to KOGMP-A, KOGMP-D, KOGMP-P and KOGMP-P, the communities often suffer because the development and the community capacity building are left for the oil and gas industries which are practically not psychical to accomplish. Agreeing to that, KOGMP-H added, that is why there is the great need for collaboration from different sectors or detailed negotiation to agree on a standard and or sustainable platform for oil-producing community livelihood in Nigeria. KOGMP-F further added, *“Practically most communities within the Niger Delta are deeply suffering from ‘environmental slavery’ due to oil explorations, transportation and strive for survivals through extorting of oil product from pipelines.”* KOGMP-F further added, *“I have worked in different parts of the Niger Delta as a staff of one of the Oil and gas companies, I’m practically telling you the truth which is always untold, those people are suffering, and one way to solve many challenging faced by the communities and or any intervention is through an enforced established structure”*. Agreeing to KOGMP-F, KOGMP-D added, an established body should be set up to oversees the affairs of the communities and checks every other related body, every related body should contribute directly to one single body for the development, empowerment and livelihood rebuild of the communities. KOGMP-H further stated that other sectors should give priorities to communities who

own deposit of petroleum products at workforce, development, scholarships and participation within the sector. Another means to overcome challenges facing intervention as emanates from the oil and gas industry concerning communities' perspectives is strong stakeholders' meetings across the communities of effects.

6.5.2.2 Stakeholders collaboration meetings

Accordingly, most community interviewees revealed that collaborative meetings across concerns bodies are necessary given that often, communities receive what is determined 'needful' by the oil and gas industries without an agreed plan between the companies and the communities. According to the majority of the community interviewees, stakeholders' collaborative meetings are vital tools to overcome intervention obstructions, given that when there are plan structures towards intervention could lead to useful outcomes and results. Further, KCMP-E, KCMP-K and KCMP-P stipulate that the oil and gas companies with other related bodies have vital roles to play in the lives of the communities whose resources are used for the development of other parts of the country, and as well for foreign exchange, yearly budgetary and contribution to its domestic growth. In agreeing to that KCMP-O, KCMP-D and KCMP-K added, *"There should be representatives selected by the communities without the influence from any bodies during selections process for community stakeholders"*. For example, as said by KCMP-K, subsequent times, there has been a different influence for the selection process for community representatives that have ended up contributing to difficulties in agreement on different occasions. Hence, it is vital to have strong personalities as community stakeholders for each community they represent and therefore need someone with sound records and not someone influenced by the oil and gas companies for meetings. Another point was drawn from KCMP-A who mentioned that a community stakeholder should own track records from both top-down and bottom-up to achieve a successful outcome with regards to the rebuilding of communities as well as empowering members of such communities. As further reinforced and recommends by KCMP-C, KCMP-G, and KCMP-A, meetings that concern the communities should be held within the communities to convey transparency as such reducing the perceived influences on decision making by the oil and gas companies.

More so, KOGMP-H KOGMP-A and KOGMP-D also agree to the stakeholder's collaborative meetings as a means to overcome challenges and stressed for annual or quarterly meetings between the communities and the relevant stakeholders to retrieve their concerns and adopt a community recommendation as it affects them. Likewise, in relating adopting a community approach to what concerns them and how it affects them is KOGMP-D and KOGMP-I who emphatically points to the attitude portrayed by communities towards the operating companies. According to KOGMP-D, *"stakeholders' meetings are vital channel but are the communities willing and ready to accept such ideas"*? KOGMP-D further show concerns by specifying that the oil and gas companies are changing their manners of operations and are ready to adopt a community-based approach to what concerns them. However, KOGMP-H further added, communities are sometimes not accommodating in the sense that they believe in their perception while ignoring the realities

and the existing policies and laws on the ground which to some extent worries people in adopting a community-based approach to solving their problems. Thus, both the oil and gas and the community's interviewees believe that stakeholder's collaborative meetings are channels to reducing the challenges ensued during intervention for livelihood rebuild, relationship synergy and reducing negative impacts of petroleum production on livelihood structures of the people. Also, as a way to reduce challenges that face obstruction, inclusion of communities in the process of pre and post environmental impact assessment is essential. The majority of respondents opined that the involvement of communities in the techniques for an environmental assessment for either pre or post disasters impact measures for inclusion while educating and creating awareness for environmental-related issues.

6.5.2.3 Environmental Impact Assessment

Some oil and gas participants recalled the need for environmental impact assessment and mentioned that the companies have continuously carried out their social, health and environmental impact assessment before the start of any projects. According to KOGMP-H, such activity aims to reduce any social and environmental impacts that may emanate from the company's activities to enhance possible benefit for communities instead of damages to livelihood. Further, KOGMP-D, KOGMP-K, pointed in relating proper assessment to, as a means to overcome challenges and said, in as much as there is a negative impact from any industry, the ability to sustain a routine check is paramount, and that is what the companies have done for the past years and continue to dwell in that part. In response to that, KCMP-A pointed, if there is a proper assessment before, during and after operations, there will not be lack of monitoring community projects, transparency issues and livelihood threat. Majority of the community interviewees agree that environmental assessments are carried out, but the actions towards the reducing of the potential harms on livelihood remain questionable, given that less attention is paid to communities on how oil and gas activities affect them.

Furthermore, KCMP-L, KCMP-A, KCMP-D, KCMP-A, challenged the process of environmental impact assessment as it relates to oil spills hazards and stressed that the assessment within impacted areas of many communities is neglected. Accordingly, KCMP-A stated, *"assessment is the process of checking for consequences of damage before actions or decisions, the process engaged during a joint investigation for oil spills to check for the cause of oil spills are sometime derogated"*. Categorically, KCMP-A, KCMP-L, KCMP-S pointed, thus, *"What type of assessment are they conducting within the communities affected by oil spills and different oil production consequences as it relates with livelihood damages for the people, if not publishing false stories online for their benefits"*? KCMP-L, *"Are they conducting the assessment on the quality of the air that the communities inhale daily and how has their outcome helped the conditions of the communities"*? KCMP-S, *"Are they conducting an assessment to check the impact of negative and positive compensation for health, social, economic and the environmental damages on the overall communities or household's livelihood"*? Notably, KCMP-A and KCMP-A, mentioned that the extent of

mangrove destructions are not adequately assessed using the case of 'Bodo' as an example. KCMP-A further stated, given that mangrove within the communities was a viable socioeconomic influencer. The mangrove should have been put to consideration when paying the inadequate compensation for damages, which were all not included. According to KCMP-A, KCMP- and KCMP-A the impact assessment and the stakeholders' involvement in this process should involve acceptable community representatives in the process to get an acceptable result of the realities on the ground.

As pointed by KCMP-I and KCMP-J, these are some factors that influence unrest as such preventing future actions or intervention for communities. According to KCMP-A, often when the communities feel that the accurate measures for reducing environmental problems are not enforced from the beginning during an investigation, then they conclude by stipulating that further interventions actions would still not take place. In agreeing to that KCMP-A, KCMP-K, KCMP-F and KCMP-M added, this perception has forced the communities to challenge the oil and gas staff to involve in the process as such influencing threat on the security of the workers and other stakeholders. Therefore, the majority of the interviewee campaign for mangrove and air quality integration in the post-assessment impacts of any such negative activities on communities as a channel to reducing challenges that ensued during livelihood intervention. KCMP-A and KCMP-D further mentioned that when impact assessments are discussed often, the JIV and the compensation process are neglected without acknowledging the process which has always contributed to different social vices. Therefore, in the verge to overcoming challenges as associated with intervention for livelihood, there must be an acknowledgement of the constructs such as; compensation and JIV adequacy in processes to reduce obstructions, as such, making monitoring and evaluation a significant part in the pursuit of the construct to overcome challenges.

6.5.2.4 Monitoring and Evaluation of Projects

Accordingly, the majority of the interviewees revealed that projects awarded to community contractors are not adequately monitored given that most contracts are given to the oil and gas loyalist. KCMP-V, KCMP-E further point forward that, monitoring and evaluation would reduce the challenges associated with transparency, accountability etc. KCMP-A, KCMP-V, KCMP-E and KCMP-F revealed passionately as observed during their different interviews and stated that 90% of the projects awarded to community contractors are all abandoned within the shores of the communities. Agreeing to that, KCMP-A further added, *"Evaluation of projects is a concrete aspect of contributing to community's development as such empowering the community indirectly and directly while reducing the challenges associated with intervention processes"*. Furthermore, KCMP-D, KCMP-H, KCMP-K and KCMP-I mentioned that the lack of monitoring of community projects, development, livelihood structures and evaluation of the progress are factors that contribute to human underdevelopment, societal underdevelopment and the perceived neglect of the communities. This, however, is constructs that the community perceived that obstruct different interventions from the oil and gas sector. As further mentioned by KCMP-A, this process and the procedure

are carried out by the oil and gas stakeholders and few government officials as such the community expect positive contributions, but there has never been positive without devastating negativity due to transparency and accountability issues.

Furthermore, when the issues of linking monitoring to reducing and or overcoming the associate's challenges were discussed in the focus group discussions, participants emphasised that most projects are awarded to companies' loyalist and as such the communities are unable to challenge the process (FGD, 1, 4, 7). In a similar vein, KCMP-H mentioned that there are gaps in the structures of the monitoring and evaluation from both the oil and gas industry, oil spill-related agency with regards to community projects and are vague procedures given that most of the projects never get to completion. Contrary to the debate of contracts been awarded to companies loyalist are some key participants namely; KOGMP-A KOGMP-G and KOGMP-H who mentioned that often, the communities due to the constant conflict amongst them suggest for an external contractor. Therefore, the blame games should not be placed on the companies as the companies are willing to conduct their operation peacefully. Agreeing to that, KCMP-H mentioned, *"the issues are sometimes complicated, and I cannot deeply explain to you as things like this go online, and the companies might perceive it the wrong way"*. KCMP-H further stated, *"Proper monitoring and evaluation of projects in the concern communities are issues that have fundamental problems within the sectors and not the community contractors"*. Figure 23 presents a summary of potential ways to overcome challenges obstructing the intervention of the oil and gas industry with regards to community livelihood rebuild and relationship synergy as revealed by the community interviewees.

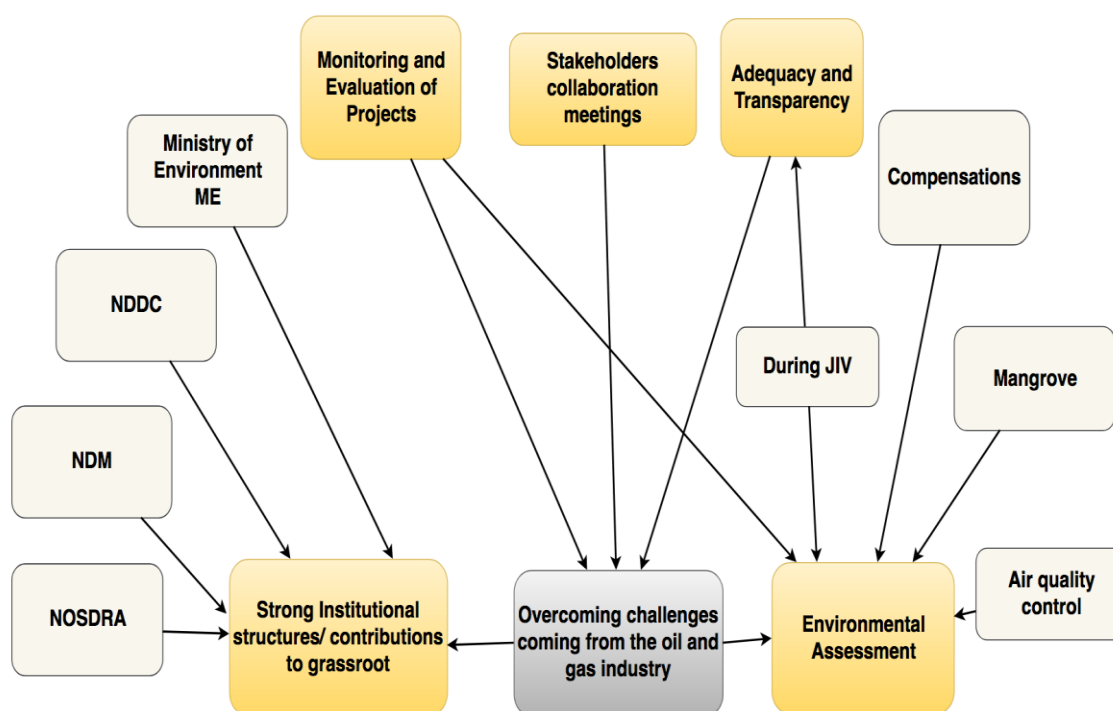


Figure 23: Overcoming Challenges from oil and gas industry

6.6. Summary and Links

This chapter explains the intervention mechanisms enforced by the oil and gas companies in responding to community livelihood rebuild and development as a means to empower communities while reducing the negative impact of the petroleum and oil spillages on the livelihood and the entire communities across Niger Delta. First, the chapter discussed the intervention constructs as revealed by the oil and gas and the community respondents. The chapter finds out that although different intervention measures exist for the development and support for livelihood, different challenges are associated with the intervention mechanisms, which contributes to delays in the successful implementation of the constructs. Further, the chapter finds out that, while most of the challenging factors are ensured from the communities, different others are certified from the oil and gas companies through their engaging activities. The chapter concludes by discussing different possible solutions on how to overcome the identified challenges that have often impede the intervention strategies for the communities. Thus, the next chapter presents the findings of the oil spill-related agency intervention for communities through a relationship synergy concept.

CHAPTER 7: OIL SPILL RELATED AGENCY PERSPECTIVES

7.1. Introduction

This chapter explores the oil spill-related agency intervention strategies about the relationship between the communities and the oil gas industries as it relates to the rebuilding of impacted the community's livelihood structures. Objectively, the section explores the role of oil-spill related agency in the intervention for communities affected by oil spills, the agency's perception of the intervention's mechanisms of the oil and gas industry and relationship with communities. The chapter further explores the challenges that obstruct the agency interventions about oil spills impact and the community's livelihood disruptions.

7.2. Background and procedure for oil spill agency interviews

The participants for this section of the analysis cut across, public relations officers, liaison officers, community relations officers, principal environmental officers, an environmental scientist. Importantly, these selected participants had at least nine years' experience in the relevant field of investigation as it relates to oil spill response, remediation, and community relations with the three ties (communities, oil and gas and the agency) involvement. Further, the purpose for the inclusion of the oil spill-related agency was to explore professional knowledge about intervention procedures engaged by the agency during, before and after oil spills. Importantly, the agency being an intermediary agency between the communities and the oil and gas with the fact that most participants have spent more than ten years in the different offices within the agency add to the credibility of purposively selecting the sample as mentioned above (See Table 7). Furthermore, the semi-structured interviews were conducted in the Niger Delta area between the period of September-October 2016, which are aimed to triangulate with the perceptions of the communities and that of the oil and gas industry. As mentioned by Bogner and Menz (2009), multiple data collections of evidence are validation methods that contribute to the creditability of the study findings. Thenceforth, the result from the oil spill-related agency is triangulated with the community and the oil and gas findings to improve the credibility of the overall finding of the study. Importantly, to also explore the similarities and difference of intervention mechanisms and how an acceptable structure can be proposed to enhance the empowerment of the affected communities of oil spills or oil production activities. However, a pilot interview was first conducted with some member of the oil spill-related agency to examine the face and content validity of the interview instrument/guidelines before the actual fieldwork. After that, the experts within the oil spill agency were selected. As mentioned by different scholars, the definition of the expert interview depends on the research design, interaction situation, and the interviewing process (Bogner & Menz, 2009; Kerr & Dell, 1976; Pfadenhauer, 2009). Thus, the below sections discuss the intervention process and perceptions

of the oil spill-related agency, and respondents' opinions are presented using Oil Spill Agency Participants (OSAP).

7.3. Intervention as a synergy for a positive relationship

Accordingly, the participants under this section described a successful intervention as a 'synergy'. The participants established that intervention for a cordial relationship between the communities and the oil and gas industries would manifest itself when there are; integration and mainstream active community engagement into disaster risk; an active communities' engagement into oil and gas business; active attention to communities' plights and active usage of community approach. According to OSAP-A, the agency about community livelihood rebuild would emanate from the cooperation between the oil and gas and the communities during, before and after any negative exposure to petroleum activities. OSAP-A further stressed, "Realistically and or wisely, the communities with the petroleum products would not engage in oil bunkering if proper standards are in place for empowerment and livelihood support". Hence, the lack of everything on the community's aspect are challenges that contribute to the mental damages of community members as added by OSAP-F. In agreeing to OSAP-F, OSAP-D pointed, "That is one major reason why community plights should be accommodated and engaged in the decision-making process". OSAP-D further added that is where NOSDRA plays a significant part in making sure that community and the oil and gas industry work in synergy to rebuild the livelihood of communities within the region.

Thenceforth, all the interviewees revealed that the agency's means of interventions was through the facilitation of compensation when the oil and gas activities damaged livelihood sources. According to OSAP-A, the agency facilitates for clean-up, remediation and restoration of the environment, farms of affected and waterways of communities that may be affected. In agreeing to that, OSAP-D stated, the agency is also aware of cooperate social responsibilities as a duty owed by the oil and gas companies, which is why the agency calls for empowerment through legal framework and provision of working facilities to enable the accomplishment of the agency goals and responsibilities. OSAP-D further added, that way, the synergy between the communities, oil and gas companies and the agency are cordial and formal without having to contradict issues while responding to oil spills incidents and investigations.

Furthermore, most interviewees established that the agency incapacity with the available laws that enacted the Act that governor NOSDRA is a challenge that limits their abilities to rescue communities from adverse impacts of petroleum production successfully. Accordingly, OSAP-A and OSAP-E revealed that the agency would vitally need the community's cooperation in as much as they discourse the relationship between communities and the oil and gas companies as it relates to empowerment enhancement. OSAP-E further added, given the loopholes between communities and oil and gas relationship, which is why there is a lack of compliance from the oil and gas operators. Likewise, OSAP-D, OSAP-C, OSAP-F and OSAP-A described compliance of the oil and gas operations with the *"existing laws as 'lawless epic' given that most*

scenarios of oil spill incidents never been reported by the oil and gas when seen, and the perceived attitude 'has been the top personnel's'. Thus, degenerating to widespread impacts on the community's livelihood sources and their local economic structures. That is why OSAP-A, OSAP-F, OSAP-D and OSAP-B pointed to the fact that the communities would engage in any means possible for livelihood substance. According to a majority of the respondents, the communities in recent times have increased in the business of local refining of petroleum product. Most people migrate for greener pastures, some for farming activities, etc. Thus, the alternative has so far influenced the reduction in conflicts in recent times. Participants argued that irrespective of the alternative, for example, oil bunkering for community livelihood, at least, there is a reduction in conflict violent in recent years.

Furthermore, other Important arguments were drawn from OSAP-A, OSAP-E, OSAP-B and OSAP-E which stated in their different interviews that the oil spill agency remains a branch that aid intervention in terms of investigations of oil spills, intervention for compensation for damages and process for remediation, cleaning up the impacted areas and restoration processes. OSAP-A further pointed, that the agency has limited power to contribute towards livelihood independently but influence the process. Also, the agency lacks fund and power to persecute oil spillers. In agreeing to that OSAP-E stated, the agency should be given more power to deeply intervene for community rebuilding in any post-disaster impacts process even though the agency is faced with different challenges as to intervene in the process and not really on the executions. For example, OSAP-E mentioned, *"We always sent our oil spill reports to the right places for further actions, and if those actions are not taken then, the agency should not be blamed for the communities suffering. Some laws mandate fine for polluters, we have those reports and have sent to the right places for actions"*. OSAP-G further mentioned, for example, 'NOSDRA' as a body irrespective of the challenges, have always responded to oil spills when reported, intervene in remediating the spills and making sure that the environment is cleaned, compensation paid to affected and making sure the communities receives what is due for them. Notably, all the interviewees from the oil spill-related agency stressed that the agency with its staff is always at the peak in responding to oil spills and making sure that communities are paid what is due for the impacted areas as means to improve livelihood structures. OSAP-H, however, pointed out that the numerous challenges associated with the NOSDRA activities are huge factors that have obstructed intervention process for the communities, as such, making relationship rebuild and livelihood support difficult. As mentioned by OSAP-G OSAP-A, OSAP-B, OSAP-F, OSAP-C and OSAP-H, policy challenges, lack of response equipment, intervention facilities and lack of capacity building are setbacks for the Agency.

Contrarily, KCMP-A, KCMP-O, KCMP-J, KCMP-H, KCMP-B and KCMP-C, mentioned in their different interviews, that often there has been delays in the response from the oil spill-related agency due to a different reason. For example, KCMP-A pointed, we have witnessed situations where the agency reported on the lack of vehicles to the spill site, no equipment's or the appropriate unite to handle the situation are not on seat etc. Agreeing to that KCMP-S added, *"most times the offices of the oil spill agencies are locked*

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when community members rushed to report for oil spill incident as such spills end up impacting a verse area". KCMP-O further added categorically, that the oil spill agency is not capable of rescuing the communities in terms of spill response, influencing the livelihood rebuild and even facilitating of compensations for communities. In a similar vein with KCMP-O is KCMP-K who mentioned that the fact remains that, the agency has no capacity and capabilities to fully deliver or assist in fighting oil and gas industry to take up responsibilities as it relates to environmental pollution and livelihood destruction from oil activities unless the laws are strengthened. However, most of the oil spill-related agency participants namely; OSAP-G, OSAP-A, OSAP-C and OSAP-B agrees with community respondents on the issues of capacities and equipment's and reinforced that the agency lacks almost everything up to technical know-how. Further, OSAP-B pointed that the lack of fund, technical know-how, unavailability of oil spill monitoring equipment's and the power to persecute oil spillers are challenges and hug problems that should be dealt with to achieve zero oil spills and empowerment of communities.

In agreeing to OSAP-B and the communities' perspectives, OSAP-A sadly stipulates as observed during the interview, and the agency uses the speed boats, helicopter and cars provided by the oil and gas companies for oil spill site visits sometimes. Now, tell me how you fight, build a relationship or make them pay adequate compensation for communities when spills have resulted from rupture? OSAP-A further recommends a solution that would facilitate the chance for a cordial relationship between communities and oil and gas as a channel for empowerment as; there should be robust legal framework after the provision of equipment's for the responsibilities ensured. OSAP-A further added, *"You cannot fight someone with his/her property"*. The section below explains detailed challenges faced by the oil spill-related agency in the process of intervention for oil spill incident, compensation, cleaning and remediation of the environment damaged for the livelihood of the communities.

7.4. Challenges obstructing oil spill agency intervention

All participants reinforced that a number of factors hinder their activities about interventions for communities. Accordingly, interviewees revealed that the lack of equipment's, weak legal frameworks etc. are some factors obstructing their intervention strategies making it difficult to establish a cordial relationship between the communities and the oil and gas companies as one way towards livelihood rebuild. Furthermore, participants pointed out that the relationship between the communities and the oil and gas industries are strongly reliance on the oil and gas industry due to the enormous power controlled by the industry. OSAP-A and OSAP-D depict that the oil spills agency should be strengthened just like the oil and gas industry and their counterparts in other parts of the world to meet up with their responsibilities in other to salvage communities whose primary livelihood sources are disrupted without concrete external supports. OSAP-A further recommends and placed emphasised on more power for the agency to enable a realistic check of the oil and gas operators' activities and should be able to find the companies when violating the

laws. However, Figure 24 depicts the identified challenging factors faced by the oil spill agency amidst intervention during, before and after disruptions of livelihood of communities within the Niger Delta region. The influencing factors are revealed as the hindrance in facilitating the synergy between the communities and the oil and gas industry through the oil spill-related agency and are discussed below.

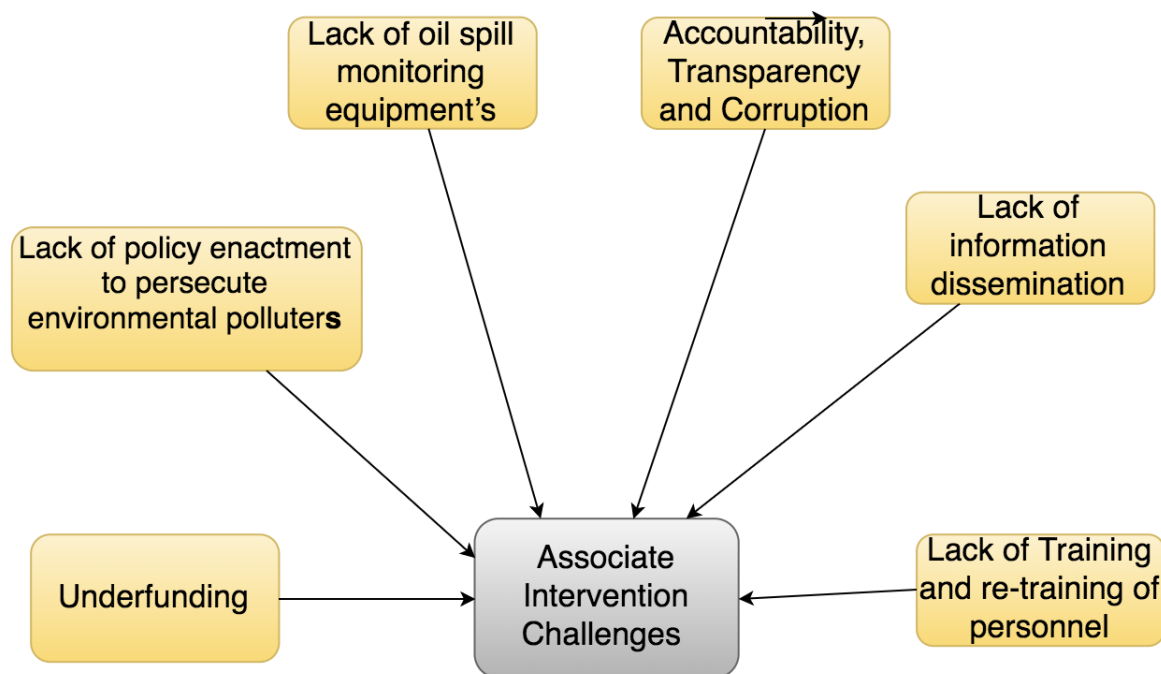


Figure 24: Factors hindering oil spill agency intervention

7.4.1. Lack of policy enactment to persecute environmental polluters

A majority of the agency interviewees such as; OSAP-A, OSAP-B, OSAP-D, OSAP-C and OSAP-F stressed that the government have so far tried and are still trying in the establishment of environmental laws comparing with the effort from the oil and gas companies. According to OSAP-A, OSAP-B, OSAP-D, NOSDRA is one primary agency responsible for oil spill response, the mediator between community and oil and gas companies in the cleaning up issues, remediation and compensation for damages within the region. Hence, the Bill that enacted NOSDRA denied the agency the power to persecute polluters which appears to be huge setbacks for the agency and as such hinders their interventions. OSAP-D stated, “...*the law is powerful that even when the agencies have spiller who have polluted the environment because of their oil activities or operation, the agency doesn’t have the power to prosecute the company (like a dog who can bark but cannot bite), so that’s why the agency has passed a bill for amendment to further empower the agency in aspect of prosecuting the spillers*”. In agreeing to that, OSAP-A, added, to achieve a zero spillage, the agency needs strong empowerment through the policy as such will decrease different impacts on the livelihood of oil-producing communities.

Further, OSAP-F, OSAP-G and OSAP-C strengthened on the issues of policy to prosecute polluters by stating that for example, the operators are ‘(big shots)’ so they have money and powers over the agency and even the communities. That is why OSAP-G mentioned that often the agency succumbs to using equipment provided by the oil and gas companies for operations which is why the laws are more powerful and favour the oil companies. According to OSAP-G, what the entire nation needs to attend vitally to making provision for all necessary equipment’s and strengthening the laws to be more environmental and livelihood friendly, that way the issues of the oil spills would reduce. As mentioned by OSAP-C, situations where the agency is not backed with a strong law, it becomes difficult to put the oil company into that check. Further, OSAP-G categorically emphasised on this theme by stating, *“how can the agency persecute such persons whose equipment are used by, and if the agency cannot, how can we get zero spills or talk more of paying fair and adequate compensation to the affected or even intermediating for good relationship between communities and the oil and gas industries?”*

Accordingly, OSAP-G and OSAP-A called the existing laws guiding the agency in relation to the oil and companies as a ‘common currency law’ which subject a polluter to a fine of less than \$1,500 for oil spillage that sometimes affects and devastates hectares of land for communities. OSAP-A further added, such amount is what at least person from the oil and gas sector can provide in any situation, so why should such company be mindful of the communities, livelihood dependents or the environment? According to OSAP-G, *“if there is a huge penalty of so much amount for the spillers, and it is enforced, automatically, that will put the operators into check and consciousness and that will actually make them carry out routine checks on their pipelines which will reduce these unnecessary spillages from both them and the vandals”*. Agreeing to that, OSAP-F pointed, when there are strong and enforced laws backing the agency, the companies would compile which will, in turn, reduce the negativity on the communities that oftentimes shoved them into sabotages for calling for their plights. All interviewees agree with the fact that the existing laws as it relates to oil operators’ prosecutions are neglected in the oil and environmental business within the region, as such, calls for an urgent amendment to encompass drastic penalties for oil spill polluters as a means of empowerment of the agency to actively execute their responsibilities. Thus, reducing the challenges faced during intervention for communities and enhancing community relationship with the oil and gas which will, in turn, enhance empowerment when the synergy is well established, and necessary facilities for monitoring and responding to oil spill incidents are provided.

7.4.2. Lack of oil spill monitoring equipment

The lack of oil spill monitoring facilities was also identified as one major problem that influences the impacts of oil spill on the community’s livelihood structures. According to OSAP-A, OSAP-B and OSAP-C, monitoring facilities are a vital aspect that would not only reduce the spill incidents and impacts but, would facilitate proper check on the operations activities. In agreeing to that, OSAP-F stated, the government should facilitate measures through policy as requested by NOSDRA in the amendment of the

bill. Accordingly, OSAP-A, OSAP-C, OSAP-E and OSAP-F further stated, there is measure within the proposed bill to achieving a real-time monitor, building a strong team for oil spill routine check and inspections of facilities and operations. OSAP-E further added, *“Without the real-time oil spill monitor, achieving a Zero tolerance towards oil spills in the industry is hard to achieve”*. Therefore, we plead for the sake of the community’s livelihood for the government to equip the agency with all necessary equipment’s that way, the communities would be at less risk of oil spill impacts.

Furthermore, OSAP-D added, *“the agency has a department for oil spill assessment, which is always on the field for inspection on the oil tanks and pipelines to see if there are anyone near corrosion or default”*.

Agreeing to that, OSAP-F pointed out that the agency cannot do much without the bill that encompasses all the necessary necessities for the agency operations, that which should include oil spill real-time monitoring equipment. OSAP-A further added, *“not just the oil spill monitoring device (drone), but, vehicles (high vans) considering the swampy nature of the Niger Delta area and personal protective equipment’s (PPE).”* Interviewees, having described their obstructing factors as relates to oil spill monitoring equipment’s stressed that the provision of such equipment is one potential to reduce the occurrence of oil spills. As further supported by OSAP-A, *“the 24 hours standby monitoring device would not only reduce oil spillage but would give communities some sense of environmental safety within the space of their livelihood sources”*. Participants having listed different equipment’s to aid monitoring of oil spills, impacts and intervention mechanisms, further pointed that the equipment cannot be useful when the agency is underfunded, undertrained and lacks proper information dissemination channels. Thereby emphasising the need for Nigeria Government to make available necessary equipment and sufficient fund for the agency’s operations.

7.4.3. Underfunding

According to OSAP-A, OSAP-B, OSAP-F, OSAP-C, OSAP-F and OSAP-D in their separate interviews opined in the same view that underfunding of the oil spill response agency is one major challenge that obstructs mediation between the oil and gas companies and the communities. According to OSAP-B, the agency capabilities and abilities strongly depend on the availability of funding to aid full responsibilities. For example, OSAP-C stated, *“You do not expect someone without legs to go running without alternative running device”*. In agreeing to that OSAP-C added, funding of the agency is one key aspect that can aid intervention and mediations for oil spill affected communities. OSAP-A further mentioned, *“we have hard situations where communities are calling for help but either vehicle (high Vans) to reach the spill site are not available, or the available vehicle cannot access the site”*. In that case, what do you expect the agency to respond with? That is why often the agency accepts the equipment from the oil and gas companies when offered to secure the damaging situation. OSAP-A, further pointed, *“how do you persecute or ask such organisation for adequate damage payment when their equipment was used for a site visit?”* Also, *“that is why the credibility of the most reports are often questionable”*. The agency needs Drones, helicopter,

modern equipment's, surveillance equipment and security as added by OSAP-C. The points from OSAP-A links and confirms with some community participants opinions which profoundly revealed with different instances, where the communities have called for intervention without a response from the agency. Hence, underfunding and lack of equipment are contributing factors to the delays in response to oil spills.

Furthermore, participants such as; OSAP-A, OSAP-D and OSAP-F, stated that corruption within the sectors are also crucial in that, most 'fund' for equipment documented that has been delivered to different offices within different states are not delivered in physical. Agreeing to that, OSAP-A stated, for example, *"In my office, we have different documents that state various equipment's sent from the federal government. However, as I speak to you now, there is nothing of such in physical."* Hence, OSAP-A further mentioned, *"Unfortunately, I cannot display those documents to you, but they are there"*. Corruption is profound in the structures and the system added by OSAP-A. The majority of the participants stressed that NOSDRA being a paramount agency for oil spill response, community relations with regards to compensation, clean-up, remediation and restoration are supposed to be fully funded, monitored and checkmates for an adequate response. Hence, due to the inadequate funding and lack of trained staff, you found out that there are lapses and the grassroots continues to suffer. Practically, all participants revealed and agree that funding of the agency and making available what is required to fulfil the agency mandate as relating to oil spills, and community intervention are a vital aspect of achieving zero oil spills and community resilience. Further, OSAP-A, OSAP-A and OSAP-A in their final remarks emphasised the importance of fund by stating; fund should be apportioned for the right things when due and should be check when any agency of organisations misappropriate fund, that way, the befalling calamities would be reduced, as such accountability and transparency are practice.

7.4.4. Corruption and the need for accountability and transparency

Further reviewee of the raw data meticulously highlights corruption, transparency and accountability as three major aspects that contribute to the incapability's of the oil spill agency as it relates to intervention and mediation between communities and the oil and gas industry. Accordingly, OSAP-A, OSAP-B and OSAP-C stressed that the agency had passed a bill which encompasses the lapses in other to improve her responsibilities. Hence, there have been delays in passing the bill which has incapacitated the agency for numerous years. As further mentioned by OSAP-B, *"We have written to the political leaders with regards to our plight for many years, and to incorporate our recommendation into laws without confirmations"*. In agreeing to that, OSAP-D added, *"the major problems are the political leaders I must say"*. Likewise, OSAP-A, OSAP-B, OSAP-C, OSAP-A, OSAP-F and OSAP-E highlights in their different interviews that accountability from the oil and gas industry, transparency and corruption from the government are competing for constructs that will always affect the grassroots (communities). OSAP-B added that the communities are an entity on their own without independent foundation as it relates to the use of its natural resources and therefore, the government and the operating oil and gas industry are in a better position to

‘build back better’ the affected oil spill communities. Agreeing to that, OSAP-C further suggested with questions by stating, “...*My own opinion is that the way Abuja (capital of Nigeria) is, which is one of the fastest-growing cities in the world, the same deliberate effort should be put in the development of the Niger Delta. The resources used for the development of Abuja is from the Niger Delta so why can’t the effort put into developing Abuja be used as well to develop the Niger Delta oil-producing communities without going through mediums?*”

OSAP-C and OSAP-E emphasised, there is some level of corruption, and that is why there is no proper accountability. The oil multinationals should be accountable to the government agencies which monitor their activities, but when the government agencies are not adequately funded and also have overlaps of mandates between the agency and other agencies, it becomes difficult to monitor the company’s activities. As earlier mention in section 7.3, the oil companies are seen as the ‘big shot’ that cannot be dealt with without a strong policy backing the agency. As drawn from OSAP-C, OSAP-A, OSAP-D and OSAP-B, accountability, transparency and corruption are problems in all level of the institution in Nigeria. Hence, when issues of life-threatening (E.g. oil pollution, which is dangerous to health and subsistence) are concerns, attention needs to be paid to, especially the livelihood of the people. All the interviewees perceive transparency, corruption and accountability as huge problems that contribute/ obstructs the agencies activities as it relates to intervention for communities affected by oil spills. Majority of the interviewees strongly suggested that a means to reduce/overcome the hindrance is through a deliberate development of the Niger Delta communities. That way, the communities are already empowered, and such will contribute to lesser impacts in any oil spill/ pollution from the oil and gas activities. Interviewees further opined that due to the lapses/gaps between agencies clarity, strengthening and making clear mandates for agencies that relate to disasters as a vital tool towards achieving community livelihood and resilience.

7.4.5. Lack of Training and re-training of personnel

Accordingly, all interviewees revealed that there is a lack of training and re-training of agency personnel. According to all the interviewees, NOSDRA as a body is with the mandate to making sure that available strategies are implemented as it relates to communities with oil and gas activities. As such, the training and re-training of staff especially the ‘compliance officers’ public relation, principal environmental officers and the community relations officers are vital to making sure that the activities are deeply carried out. According to OSAP-A, OSAP-D and OSAP-F, training (updates) of staff should be quarterly in any organisation to evaluate the mental capabilities which would, in turn, increase production capabilities and knowledge. Describing training is OSAP-C who mentioned, “*How do you train your staff when there are no funds, no facilities such as; uniform, cars, drone for modern surveillance work?*” As observed during the interviewee, OSAP-C further reinforced that the agency lacks well-trained personnel which gives emphases to why training and re-training of staff members are a vital part for intervention and mediation during the post-oil spill era. Agreeing to that, OSAP-B mentioned, “*That is why the agency is incapacitated due to lack of*

funds”. Furthermore, OSAP-A, OSAP-C, OSAP-B, OSAP-F, OSAP-E and OSAP-D all mentioned that if communities stipulate about delays in cleaning up or responding to oil spills, in some cases, they are genuinely considering the terrain of the region with the none availabilities of suitable equipment and trained staff. OSAP-C further added, there are some delays in some cases not all, and that is why the agency keeps requesting the Federal government to make necessary working tools available for staff which include training and re-training for response and intervention processes. Further, as described by OSAP-D and OSAP-C, technical Know-how for all staff is necessary for the growth and reputations of the agency. OSAP-C added, due to some delays in response, compensations and joint investigations visits during oil spill incidents, most communities have lost value and dignity for the agency as we practically see on different occasions. OSAP-C further added, “...*The federal government should make available oil spill response facilities, monitoring equipment’s and power to persecute spillers as such will empower the agency in reducing the risk of an oil spill on vulnerable communities*”. In the meantime, even as without the necessary modern facilities, agency personnel genuinely need some level of training and proper channel for oil spill signal equipment before impact on the livelihood, OSAP-C added.

7.4.6. Lack of Information Dissemination

Information dissemination is yet another challenge faced by the agency. Accordingly, OSAP-E and OSAP-F describe their plight with deep emotions as observed, pointing to the lack of accurate information from the communities and most times from the oil and gas companies. OSAP-F added, “*when there are oil spills, it is expected to be reported to the agency within 24 hours of the spill, but you hardly come across any report within the expected times even when its discovered by the oil and gas personnel, the accurate situation are often questionable*”. OSAP-D further added; the lack of such accurate information is a channel toward a high risk of impact for the immediate communities. According to OSAP-D, for example, “...*We heard reports of oil that spilt in some communities and the oil and gas personnel left without any report and when was confronted they mentioned that they left because of their security and safety is that the particular community have no good relationship with the oil and gas companies*”. In agreeing to that, OSAP-A, OSAP-C and OSAP-F cited similar scenarios which contribute to broader impacts on the communities when appropriate information are not given.

Thereafter, OSAP-F stipulates that lack of ‘manual’ information dissemination is the more reasons to make available the modern technology for monitoring the risk of an oil spill for immediate response when it strikes. However, OSAP-C Further added, as a compliance officer and someone who has worked over ten years with the agency, there is a need for proper information dissemination even though, the companies might not report because they would not want to own up for cleaning or compensations. There should be some ‘sincerity of purpose’ as these issues involves livelihood of a group of persons as further mentioned by OSAP-C. Likewise, OSAP-C categorically detailed that often the information delivered by the community’s members are somewhat different from the information gotten from the oil and gas companies,

and as such, contributes to contradictions, accusations and counter-accusations during joint investigation visit. OSAP-C further added, for example, if there are automatic monitoring device for detection, such problems would be minimised. While a majority of participants in the oil spill agency reinforced the need for proper information dissemination as it relates to oil spills and community livelihood structures, some others such as OSAP-C and OSAP-A further fortified on the need for real-time monitoring device and stated,

“...Without the real-time monitoring, there is a problem in the sense that sometimes the spillers do not report, and the community members sometime will not discover the spill on time, and that is why it spread to a verse area and increase the impacts as well creating different damages before its curbed. That is why all most everybody you interview is likely to mention that lack of facilities and funds are major challenges obstructing intervention of any sort for communities.”

7.5. Summary and Links

This chapter contained the perceptions of the oil spill-related agency as regards interventions in the relationship between oil-producing communities and or oil spill affected communities with the oil operating companies. First, the chapter explores the perception of the oil spill-related agency on the oil and gas interventions on the communities to evaluate the effectiveness of the available mechanisms and how that contributes to community livelihood rebuild. After that, the chapter discussed the challenging factors that obstruct the oil spill-related agency intervention in mediating the process of responding to oil spill incident, investigations, remediation and compensations when necessary in cooperation with the oil and gas companies. Thus, the chapter finds out different contradicting opinions to why the communities' interventions of both the oil and gas and the oil spill agency lack the sustainable positive impact on communities. Thenceforth, the chapter discusses the possible solution to overcome challenging factors in order to increase empowerment structures and livelihood support across communities. The chapter finds out that the agency strategies for intervention for oil spills, community response, and livelihood support are to somewhat challenge by different factors, which cut across the lack of funding of the agency. Also, the chapter finds out that due to the incapacitation of the agency due mainly to the lack of power, funding and facilities, the communities tend to suffer more as a result. Thus, suggesting recommendation not only to empower the agency but, also as a way to empower the communities through the intervention of the agency. The chapter that follows presents the cross-analysis of the three units of the study. The chapter explores the similarities and differences in interventions strategies for communities, highlighting suggestions for the empowerment and livelihood support and rebuild across communities.

CHAPTER 8: CROSS UNIT ANALYSIS

8.1. Introduction

The preceding sections 5.4.1, 6.4 and 7.3 presents the analysis of the communities, oil and gas, and oil spill agency perspectives, where all alternatives for livelihood and interventions were discussed with associated challenges impeding, and how to overcome such challenges while empowering the communities. This chapter extends the scope of the previous chapters to analyse the data across the three units, with regards to the livelihood structure, interventions and what constitutes acceptable intervention and synergy between communities and the oil and gas industry. Importantly, this section explores the possible theoretical generalisation (output), differences and common variables across the unity of analysis. It discusses the similarities with regards to what its term acceptable and sustainable livelihood structures, as a means to reduce the impacts of oil spills while enhancing empowerment across communities. More so, the cross-unit analysis focused on the suggestions from the three unit's perception of 'acceptable and sustainable alternative livelihood' sustainable and acceptable intervention measures and the relationship measures for communities rebuild. As explained by Yin, (2016), a cross-case/unit analysis helps to explore whether the cases/units replicate or contrast with each other. This chapter sets to explore the common variables across the units to draw a substantial and concrete conclusion on how communities can be empowered through an improvised livelihood while reducing the negative consequences of oil production on community's livelihood structures.

8.2. Acceptable and sustainable livelihood

Studies have shown that livelihood is a critical component of household economic, especially, for developing countries and communities whose every existence depends on their environment and the resources therein (Cai & Gong, 2014; Heubach, Wittig, Nuppenau, & Hahn, 2011). Accordingly, Krantz (2001) described sustainable livelihood as a way of linking the socioeconomic and ecological consideration in a cohesive policy-relevant structure. As further mentioned by Krantz (2001), the achievement of sustainable livelihood could serve as an integrating factor that allows policies to address development and sustainable resources management, and poverty eradication in simultaneous means. However, the concept of sustainability and the livelihood with regards to the context of this study have not been fully benefitting across communities suffering the negative consequences of petroleum production. The communities, however, describes that livelihood as a means for survival and the sustainability of such mechanisms is when the avenue provides daily and lasting support. According to KCMP-S, the improvised means of subsistence (See Section 5.4.1) across communities within the Niger Delta region are to some extent contributing, but not sustainable, as such, a sustainable means for livelihood are significantly needed.

Furthermore, in defining what acceptable livelihood means, a majority of community interviewees revealed that the listed alternative (See Section 5.4.1) and numerous others not highlighted in this study, were seen as supportive measures regardless of the nature? According to KCMP-A and KCMP-K, “*humans have to survive regardless of the situation therein*”. Thus, Table 11 below presents rating from the communities, oil and gas industry and oil spill-related industry to what constitute acceptable livelihood sources as established by communities affected by oil spill environmental hazards. The similarities and contrast opinions are extorted from the data for recommendation, theory generation and conclusions. It should be noted that the analysis is based on the community’s foundation of what constitute livelihood measures for their subsistence given the decades and continues negative impacts from either oil production activities, oil spillage or oil facility failure that impact on livelihood structure.

Table 11: Acceptable and Unacceptable livelihood across cases

Alternative livelihood	√ Acceptable livelihood	X Unacceptable livelihood	
	KCMP	KOGMP	OSAP
Local Refining of Petroleum Product (oil Bunkering)	√	X	X
Long distance fishing/ deep sea fishing	√	√	√
Distant Timber production engagement	√	√	√
Daily Bricklaying Casual Jobs	√	√	√
Farm and share system of Farming	√	√	√
Internship Farming system	√	√	√
Farming on Leased Lands	√	√	√

The result irrespective of the nature of the improvised livelihood structure, interviewees, mostly the community participants stress that the alternative livelihood even though not sustainably contributes to everyday living. The communities prioritise local refining of petroleum product for livelihood support, given that such alternative helps households in diverse areas such as; the use for electricity (lanterns and electric generators) and local and commercial sales. Accordingly, the absence of adequate power supply for household’s further influence the value for the local refining of the petroleum product for household use and thereby contributing to more effort into the production of petroleum product at the local community levels. The participant’s further stress that, even though not all communities and households across the region engage in such alternative for livelihood support, more than 80% households use the product as produced by local community members for everyday domestic use. According to a majority of the community participants, the adequate provision of facilities, restructuring of the local refining process at establishing a strategic refining station would be an avenue to empowering the skilled community members, as such, reducing environmental damages that may ensue by the activities.

However, a majority of the participants from the oil and gas industry contrast the opinions of the communities in defining what constitutes alternative livelihood as it relates to local refining of petroleum

product. Further findings from the interviews of the oil and gas revealed that the communities often engage in the local production of the petroleum product to enrich themselves and not basically because of their current poverty or incapable financial situation. More so, while the average number of participants from the oil spill agency revealed that the local refining of the petroleum product contributes to most household subsistence, some participants maintained that the environmental pollution that accompanies the activities are overwhelming as such should be restructured. Adding further, a majority of the oil spill-related agency participants identified the establishment of local refineries across the Niger Delta region as a means to eradicate the current structures as such empowering them. Thus, the oil spill-related agency opinions contrast with the opinions of communities in establishing local refining of petroleum product as livelihood sources; they agree that establishing mini-refineries at strategic places within the region could reduce challenges encountered by the companies as well the related agency.

Furthermore, distance fishing, farming on shared land and the other types of livelihood alternatives (see section 5.4.1) as revealed by the community participants were also supported by the oil and gas industry and the oil spill-related agency, given that they all contribute to everyday living. According to the interviews, a majority of the oil spill-related agency revealed that the communities would engage in whatever means possible for subsistence. Thus, if they engage in long-distance fishing and farming without antisocial activities, that would reduce the tension that often arises from the communities. Such tension which often arises because of the lack of support, essential amenities and the poverty level would reduce across the community's alternatives when supported, given that it is the opinions of what constitutes and or contribute to their livelihood subsistence. Further, in support to the view above, Ucha (2010) argues that poverty is a denial of opportunities, violation of human right, exclusion of households and communities rights, contribution to humans insecurities and contributing to ineffective participation in the society. Thus, if the communities through their alternative livelihood means are restructured to suit best practices would be an avenue, not just to empower but reduce the poverty level across communities.

Notably, a majority of the alternative livelihood discussed above are common across the three units, which revealed that such construct contributes to everyday living irrespective of the associated challenges that accompany the method. There were concerns and contrast opinion on a particular livelihood strategy 'local oil refinery' from the oil and gas industry participants and to some extent the oil spill-related agency, due to the post-impact nature from the process involved in such alternative livelihood. As such, the two units/case supports the restructuring of the process of such activity. Table 11 below further presents the characteristic of why some alternative livelihood is acceptable and others not acceptable according to the data.

Table 12: Context for acceptance of livelihood nature

Alternative livelihood	√ Acceptable livelihood	X Unacceptable livelihood
	KCMP	KOGMP OSAP

Local Refining of Petroleum Product (oil Bunkering)	<p>√</p> <ul style="list-style-type: none"> -It provides daily support for households -it contributes to community economy growth -It contributes to domestic use (kerosene and household electric generator use) -It influences youth engagement rather than venture into ant-social activities for survivals 	<p>X</p> <ul style="list-style-type: none"> -It contributes to environmental damages -Contributes to a reduction in national production -Atmospheric impact during local processing of petroleum product -Inadequacy in the content of the produce -Health risk in the process -Affects national revenue 	<p>X</p> <ul style="list-style-type: none"> -It contributes to environmental damages -contribution to health problems -Affects the National revenue -inaccuracy in the content locally refined and
Long distance fishing/deep sea fishing	<p>√</p> <ul style="list-style-type: none"> -Contributes to everyday household subsistence -Contributes to household living -Engages the aged and community members whose interest are fully on the fishing activities as ways of life despite associate challenges -Engages most youth whose occupations are deeply rooted in fishing activities -Serves as a means of income for households 	<p>√</p> <ul style="list-style-type: none"> -Fishing activities help household whose primary occupations are rooted in such. -Most communities are surrounded with water and thereby, it encourages such activities as a means of supporting living. 	<p>√</p> <ul style="list-style-type: none"> -Fishing activities help household whose primary occupations are rooted in such. -Most communities are surrounded by water, and thereby, it encourages such activities as a means of supporting living. -Fishing has always been the mainstay of the people, and whichever style would be accommodated by community members
Distant Timber production engagement	<ul style="list-style-type: none"> -Timber business despite not within most communities still contributes to the livelihood -Most people shipped the timber product through seers to their community for house construction. So, the product does not only contribute to livelihood but also, as the household's infrastructure, building and construction 	<ul style="list-style-type: none"> -It engages community members if venture into it rather than going for vandalisation of pipeline -It is an excellent avenue to sustain daily living if found such opportunity -Different companies indulged in such activities and are suitable if community members found such engagement 	<ul style="list-style-type: none"> -It rightly contributes to household despite the scarcity within some communities -Timber engagement serves as part of agriculture which the nation is advocating for, so if communities found such opportunities. The other sectors are gladly in support if it could help their sustenance despite the sense of neglect and marginalization issues perceived by them.
Daily Bricklaying Casual Jobs	<ul style="list-style-type: none"> -Most community members enjoy practical work as such bricklaying occupy that space in the absence of fishing within for those who cannot afford long-distance fishing facilities 	<ul style="list-style-type: none"> -It is an engaging activity and handy which could contribute to any households not just at local levels but developing further as a speciality on it and as such, it is a support mechanism for family. 	<ul style="list-style-type: none"> -It is a handy job which is a lucrative speciality that people study at university levels also. Just that communities always localize and communize some occupations and that's why it sounds like a dirty job. -The act of laying bricks to construct brickworks for people for livelihood sustenance for individuals who are not educated and or not opportune with other opportunities are not bad.
Farm and share system of farming	<ul style="list-style-type: none"> -Most community members are inherently farmers as such would make do with any farming opportunities without considering the associated challenges. 	<ul style="list-style-type: none"> -Farming has always been what is associated with the Niger Delta communities as a way of life. -Division of farmlands for farming activities considering the nature of the region, given 	<ul style="list-style-type: none"> Farming and sharing of either the cultivated crops or the land for cultivation within the region are good means to contribute to households.

		that it filled mostly with swampy areas are a good alternative for livelihood	
Internship Farming system	-Most community members are inherently farmers as such would make do with any farming opportunities without considering the associated challenges.	-Most people migrate for farming activities which are welcoming venture considering the nature of the region	Farming of any structure is an avenue for communities as the nation advocates for farming.
Farming on Leased Lands	-Most community members are inherently farmers as such would make do with any farming opportunities without considering the associated challenges.	Practically, farming on borrowed land contributes to households living within and across communities with or without polluted landed areas	Leasing land for agricultural purpose is an evergreen alternative for communities and households whose primary occupation is farming and has no land.

8.3. Intervention mechanism

It well established that intervention means a helping strategy which could cut across entrepreneurship development, sustainable livelihood approach, infrastructural development and community development approaches (Awogbenle & Iwuamadi, 2010). The intervention mechanisms, as identified by communities and the oil and gas companies, have been discussed in section 6.4.2. Among them, irrespective of the context and classification, some intervention mechanisms are identified as ineffective by a majority of the communities participants, and to some extent, the oil spill-related agency in as much as, KOGMP-A, participants acknowledged that all the interventions mechanisms are effective across the communities of their operation. Table 12 list the intervention identified by a majority of the community members, the oil and gas industry and the oil spill-related agency.

Table 13: Effective and ineffective intervention mechanisms

Intervention mechanisms for community livelihood rebuild and development	√ Effective Intervention	X Ineffective Intervention	
	KCMP	KOGMP	OSAP
Memorandum of Understanding (MOU)	√	√	√
Youth Empowerment and Skill Acquisition Training (YESA)	X	√	X
Community Infrastructure (CI)	X	√	X
Contracts and Employment within Communities (CEC)	X	√	X
Compensation (C)	X	√	√
Occasional Emergency Food Provision (OEFPP)	√	√	√
Provision of Fertilizers for farmers (PFF)	X	√	√
Part-time Pipeline Security Jobs (PPSJ)	√	√	√
Provision of Scholarship	X	√	√

The result shows that irrespective of the contextual shades, most of the intervention for community's livelihood were accepted by the communities and the oil spill-related agency. From the interviewees across the three units, it was gathered that memorandum of understanding (MOU) serves as a significant avenue

for community intervention. As mentioned by different scholars that, memorandum of understanding (MOU) encompasses the agreement between two or more parties, countries, communities or organisations (Kasoulides, 1990; Polahan, 1981), is with no doubt as with the agreement documents between each community and the oil and gas industries. Thus, the documents in which both communities and the oil and gas companies have in common are widely acknowledged during the interviews. As such, a majority of the community interviewees revealed that often memorandum of understanding is signed before any operations after risk and impacts assessment have been adequately carried out within the community context. The community interviewees further revealed that the memorandum of understanding is the first key to operation irrespective of whether or not it's implemented. Thus, in the intervention context, a majority of the community participants agree that MOU's are avenues for intervention, but the content in the documents remains questionable as the majority of project never gets implemented. Notably, the researcher during the study was able to visit 30 communities across the region with which interviews were carried in some of the communities while others were not. Figure 24 shows an example of an abandoned health care facility and primary school of the significant community where the Nigeria oil product was first discovered and used in a commercial quantity. Importantly, the researcher was able to walk around some communities in comparison with the MOU's documents and thus, discovered different unfinished and abandoned projects. Thus, the Figure below depicted an example of community infrastructure in and use and abandoned physical infrastructure in communities where petroleum produces where first discovered and are used in commercial quantity.



Oloibiri abandoned Health centre

Oloibiri Primary school in use

Figure 25: Abandon and in use structures

On the other hand, the oil and gas industry and the oil spill-related agency maintained that MOU's are the key aspect and effective means to support the community's livelihood and community development. Thus, a majority of the participants from the oil and gas and the oil spill-related revealed that often what delays MOU's in some communities are intra-community related disputes which mostly revolves around issues of landed areas and or the monetisation of MOU content. According to a majority of the oil and gas participants, MOU's across communities of exploitations are as significant as the production itself, and therefore, the companies cannot venture into production without an agreement document between the communities and the operating companies. Accordingly, KOGMP-C, KOGMP-E and KOGMP-H categorically stress and agrees with the oil spill-related agency perception on the delays of some community MOU's. They stated thus, *"Delays of MOU's are frequently caused by the community itself and not the oil and gas companies"*.

Furthermore, youth empowerment, skill acquisition training, community Infrastructure, contracts and employment within communities were all identified as an ineffective mechanism to contributing to livelihood sustenance and development of the communities by the majority of the community and oil spill-related agency participants. According to a majority of the community participants, documents across communities have shown different youth empowerment projects, training and infrastructural development, but in reality, and or physical, there is no such things. In similar vein, KCMP-O, KCMP-K, KCMP-L, KCMP-P, KCMP-A, KCMP-C, KCMP-D, KCMP-E, KCMP-G, KCMP-I, KCMP-K, and KCMP-J stressed categorically, that youth or community empowerment should come in different forms which could be through the implementation of cooperation social responsibility, which is often in the MOU's of communities. Thus, such empowerment is all political empowerment where the political loyalist gets empowered through jobs and appointment while the main communities continue with degenerating conditions, as added by a majority of community participants. More so, the provision of fertilisers and scholarships is another intervention measure mentioned in all three units of the study. While the community participants revealed that such interventions are directed to a few community members, the oil and gas participants and the oil spill-related agency revealed that most times the people who are contracted with such intervention project regularly schemed in order to increase their profit.

However, the majority of the oil and gas participants revealed that issues with communities are somewhat complicated, given that the communities themselves tend to sabotage themselves in some intervention process. Further, most oil and gas participants stressed that even though the scholarship and the fertilisers distributed across communities are insufficient, the companies are trying are willing to do more if the communities put a stop to sabotage and vandalism of their facilities. Contrarily, the majority of communities maintained that fertilisers and scholarships are often awarded to non-affected people who has no effects on the people questing for justices on their damaged properties, land (stunted growth) and fishponds. Furthermore, occasional emergency food is seen as an immediate intervention during oil spills or any negative impacts that are ensued by the oil and gas activities on the mass. The results show that the

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occasional food supply was acknowledged in all three units of the study. Participants revealed that occasional food is given during significant oil spills. However, some community participants showed concern on why such occasional food supply cannot be carried out during the festive period across communities producing the wealth for the nation. Participants reinforced that such an act would give the communities some sense of involvement and belongings irrespective of the ways the communities have been marginalised and treated nationally.

Another intervention identified was part-time pipeline security jobs across the three units of study. As such, a majority of community participants contrast the opinion of the oil and gas industry and the oil spill-related agency concerning accepting part-time pipeline security jobs as intervention means for livelihood. Accordingly, a majority of the community's participants opine that part-time jobs are often awarded to the non-educated community members who are insignificant to the masses. Thus, a majority of the community members revealed their plight and disappointment in the part-time security jobs by pointing that such employment does not contribute to reviving livelihood of affected community members. The ideal process should be an intervention method that includes all community members, such as; farmers, educated youths and retirees in a different aspect. According to KCMP-K, KCMP-S, KCMP-L and KCMP-N, *"The Nigerian nation with its wealth can pay one-quarter of the 20 million Niger Delta's which are the retirees, the educated people can get jobs without having to pass through someone that knows someone that knows someone"*. However, Table 13 below further described the context and characteristic of the intervention mechanisms as identified through the analysis across the units of the study. Participant's descriptions on the context of intervention that seems effective and ineffective across communities.

Table 14: Context for acceptance of intervention

Intervention mechanisms for community livelihood rebuild and development	Characterisation of participants opinions		Characterisation of participants opinions	
	Ineffective Intervention		Ineffective Intervention	
	KCMP	KOGMP	OSAP	
	Effective	Effective	Effective	
Memorandum of Understanding (MOU)	-A physical document which contains an agreed 'intervention' statement between the communities and the oil and gas industry. -A signed theoretical documents whose implementations are on a questionable verge.	-Theoretical documents between communities and the oil and gas companies for livelihood intervention, which serves as part of the companies cooperate social responsibilities.	Theoretical documents between the communities and the oil and gas industries for development and livelihood support. Always signed before operations of any kind.	
Youth Empowerment and Skill Acquisition Training (YESA)	Ineffective -Training in a dilapidated venue with outdated equipment's -unprofessionalism in the delivery of the training -More than 80% of the trainees in the supposed skill acquisitions end results are still as though never attended any skill acquisition training due to the unprofessionalism, lack of facilities during the process. Lack	Effective -Different youth empowerment programs and skill acquisition training across diverse communities. -such training which include but not limited to sowing/tailoring, mechanical training/welding are carried out yearly across communities.	Ineffective Youth empowerments like training in handy craft/handy jobs are done but really inefficient. -Most communities lack the acceptance of such training due the approached from top-down - less effort is given to educate them on the	

	of monitoring after trained and lack of well-established platforms.		importance and as such no significant impacts
Community Infrastructure (CI)	Ineffective -Different abandoned and uncompleted projects across communities -Theoretical documents on finished projects with non-physical completions of awarded communities' infrastructural projects. Notable infrastructural documents but insignificant physical evident as such community infrastructural projects are ineffective.	Effective -Community developments projects are highly dependent on community acceptance. -CI on the company's aspect is always fulfilling -Companies award most community infrastructural projects to community contractors, as such oftentimes, companies have all the necessary completion documents on a project. Really effective, though needs more monitoring and evaluation.	Effective -Theoretical completions in many cases why little in the practical -Community infrastructures are ineffective, and that is why numerous issues are arising -different physical abandoned projects -most times contractors do away with community/public fund and not held accountable
Contracts and Employment within Communities (CEC)	Ineffective -Most contracts are awarded to the oil company's loyalist that is if awarded to community members. Most community contractors are loyalist and not based on track records of the individuals. -All communities of the study have no idea of the job quota of the communities, as such employment are dependent on 'who knows who'	Effective -Communities are considered first during employment and contracts -contracts are given out when there are incompetent and or no suitable community member for such positions.	Ineffective Notably, most employment for the communities are considered by the community as below standards, as such, are not executed by them. Often time's contracts are largely awarded to external bodies.
Compensation (C)	Ineffective -compensation are often paid through litigations -compensation structures are often not clear -compensation are always inadequate and immeasurable, considering the yearly contributions to livelihood an affected waterways and land areas may contributes to households as such, contributes to conflicts and restiveness	Ineffective -Compensations are always paid in accordance with the existing laws -compensations are paid when incidents are caused by the oil and gas companies	Effective -Compensations are paid in accordance with the law, as such are often contradicting for most communities. -realistically, compensations are paid to communities but not in the ways of communities.
Occasional Emergency Food Provision (OEFPP)	Ineffective Occasional food such as; rice, beans, <i>etc.</i> mattress, other clothing relief materials are distributed during large incidents of oil spills across affected communities.	Ineffective Food and relief materials are disbursed during incidents of large spill that affects communities means of livelihood as short term intervention	Ineffective Occasional food is disbursed across communities, just like every other disaster relief mechanism takes place when people are affected.
Provision of Fertilizers for farmers (PFF)	Ineffective -fertilizers are occasional given to 'few' which are significantly insignificant. -More than 80% households across a majority of the oil and gas communities are farmers; thus, fertilizers are not disbursed across all, but just a few.	Effective Fertilizers are distributed to communities yearly as far as the companies are concerns, farmers across the majority of the communities who may in a way or the other affected negatively by oil	Effective Fertilizers are distributed to communities yearly. Though it may not have gotten to all communities, but they're effective mechanisms by which

		production on their farms are given yearly fertilizers.	fertilizers are sent to various communities.
Part-time Pipeline Security Jobs (PPSJ)	Ineffective -Frequent part-time pipeline security jobs are given, but the communities need proper jobs. -A majority of the community members are involved in pipeline security jobs which is effective as it permanent given to community members.	Ineffective All most all the pipelines across the region are entrusted to the hands of the communities. -Pipeline security jobs help to reduce oil spill incidents from third party interference and contributes to the livelihood.	Effective Most pipeline security jobs are given to the communities as they know the terrain deeply than the external bodies.
Provision of Scholarship	Ineffective Scholarship provided for the masses without special consideration to the main oil spill affected communities are not seen as a contribution to livelihood, development, human capacity building and or intervention mechanism.	Ineffective Scholarships of different kinds are provided on a yearly basis	Effective Scholarships of different kinds are provided on a yearly basis across communities -Though they may not be sufficient, but there are atoms of scholarships

8.4. Mechanism for relationship synergy

Community relations are essential aspects that could contribute to developmental thinking, livelihood rebuild and reduce conflicts violent issues. As argued by Idemudia and Ite (2006), that the failure to seek, understand and integrate community perceptions into policies and practices are contributing factors to disruption of intervention. Thus, recommending that the community's stakeholders and aspiration should be addressed through a tri-sector partnership approach which encompasses the communities, oil and gas industry and the government relevant agency. As such, part of the interviews covered the relationship aspect of the communities and the oil and gas industry, as a channel to quest for livelihood rebuild, development and empowerment across communities. Importantly, interviewees were asked to express their understanding about the relationship between the companies and the communities, and also to suggest a more suitable means for synergy, given that such synergy could bring an avenue for inclusion or development and empowerment. However, Table 15 presents the constructs identified through analysing of the data as reinforced by a majority of the participants across the three units of the study. Table 15 presents the ideas that could serve as mechanisms for a cordial relationship to enable community livelihood to rebuild, mechanisms for empowerment and development.

Table 15: Mechanisms for relationship synergy

Relationship synergy	Units of study
	KCMP KOGMP OSAP
Integration and mainstream active community engagement into disaster risk	KCMP KOGMP and OSAP
Active communities' engagement into oil and gas business	KCMP and OSAP
Active action and usage of community's approach towards livelihood rebuild and intervention mechanisms	KCMP and OSAP
Active community stakeholder's involvement in decision making process	KCMP, KOGMP and OSAP
Active compliance to decreased from sabotage and vandalism of oil and gas facilities	KCMP, KOGMP and OSAP

According to all three-unit respondents, integration and mainstream active community engagement in understanding disaster risk are of the paramount venture. The understanding of disaster risk at the community level would serve significantly in not just conceding cordial relationship, but, the awareness of the environment to health and other impacts would influence the actions of any negativity in the call for justices, livelihood support or ignorance. All participants confirmed that there is the need for education programs and awareness programs which should cut across existing policies for compensation, environmental compliance of the companies, cooperate social responsibilities, community engagement and job quotas for communities. According to the respondents, integration and mainstreaming engagement of the communities into disaster risk studies and awareness are vital to the environment, the people and the entire nation. According to a majority of the participants from the oil spill agency and oil and gas companies, specifically, the awareness of disaster risk at the community level are significant issues which should be taken as an emergency, given that the communities play ignorance with revenge or call for attention in respect to adverse impacts from the company's activities.

However, another important aspect is that all three units of the study accepts and believed that integration of mainstream of community into disaster risk would contribute to a synergy between the communities and the oil and gas. Further, community engagements were deduced from the data as one significant aspect that could influence synergy between the communities and the oil and gas industries. Thus, all community participants opine that exclusion of the community members and stakeholders in the oil and gas business and decision-making process are detrimental to not just the companies, but, the entire Niger Delta atmosphere. Nevertheless, all respondents from the oil spill-related agency also reinforced that communities need to get properly involved in the affairs that concern them from the decision-making process to implementation stages. Further, the decision-making process with regards to issues that relates to the environment, livelihood, development and empowerment across communities are issues that should be dealt with, with real involvement of the community members. Thus, the oil and gas companies as well supported the argument on the stakeholder's involvement and referenced that all communities of operation have their

stakeholders involved in the decision-making process, though, *“it may not be as satisfactory as the communities might want as mentioned by most participants from the oil and gas respondents”*.

Thus, the argument on the involvement of the stakeholders of communities in the decision-making process and the community's involvement in the entire oil and gas business are a concrete avenue for relationship synergy. More so, all the communities and the oil spill agency respondents agree with community approach towards livelihood rebuild as an intervention measure, given that often the operating companies have engaged with a top-down approach; hence, bottom-up should be applied as a measure during the intervention. Majority of the respondents opined that the oil and gas industries should engage with communities' suggestions in practice rather than in theory which has ended up contributing to more conflict and violence across communities. The argument above further confirmed by one of the oil and gas participants who mentioned (KOGMP, D) thus, *“community 'approach' would be accepted and agreed by all members of the communities not the situations where few communities' members quest for things without the masses agreement”*.

Another avenue that was agreed across all three units of study concerning relationship synergy is the issues with sabotage and vandalism of oil and gas facilities. All the oil and gas respondent pointed that despite the situations across communities, issues can be resolved without vandals of the company's properties as the case are, currently. As further put forward by the oil and gas participants that, irrespective of the situations as the community's claims, the situations remain the same. Thus, Issues of the destruction of the company's facilities should not be a channel for the call for justices, livelihood rebuild or development. Those issues can only end up contributing to environmental calamities, and the resources that should consecutively be used for community development would then be used for repairs of damage pipelines *etc.* On the other hand, communities in agreeing on the issues as with sabotage and vandalism, a majority of the respondents pointed that in as much as vandalism contributes to environmental calamities, there is the zeal of the companies coming close to the communities in the event of sabotage. Further, a majority of the oil spill agency agreed with the issues of sabotage and vandalism and stressed further, that, when there is synergy between the communities and the oil and gas through the community's actual involvement in the decision-making process and the entire business, such activities of vandals would drastically reduce. As further detailed by the oil spill-related agency respondents, in as much as the communities feel marginalised which is an obvious truth, ones they are involved in the business and decision-making process towards their livelihood rebuild and empowerment, various obstructions would reduce.

8.5. Empowerment Strategies

Empowerment is a strategy widely designed to increase the degree of independence in communities in order to enable them represents their self-interest, self-determined ways and to take actions on their ways (Rowlands, 1995). Thus, bringing people into decision-making process by increasing their self-

independence and managerial skills. The likelihood and frequencies of the implementation of the concept across communities of this study quest for clarity as respondents revealed how un-empowered and neglected they have been over the decades. Table 16 below describes vital means by which the communities could be empowered as suggested by a majority across the three units of the study.

Table 16: Empowerment strategies

Empowerment	strategies as suggested	across three unit of the study
KCMP	KOGMP	OSAP
Vocational centres -Realistic, physical, employable and implementable skill acquisition training. -immediate clean-up excesses that should encompassed the use of community members in an event of major oil spills -Development of youth skills -Opportunities for social, physical and mental development	More vocational training if not sufficient -Development of youth skill -provision of recreational facilities -involvement in leadership training	Vocational centres and training Cleaning excesses -Development of Youth skills -active participation in community services
Long term strategies	Long term strategies	Long term strategies
Education, community engagement and academic research -Environmental education -Environmental Awareness programs -Environmental research Substantial scholarships -Scholarships across oil producing and or oil polluted communities -Leader training (community in-depth involvement) Employment Opportunities -priorities jobs opportunities for oil producing communities -Provision of better work opportunities Infrastructural compensation (Soft and hard/ social and physical) Good Road network, drainage and power SME Engage the community's local refiners of petroleum product into a mini refinery across the region irrespective of the large national and private refineries, while restructuring the process involved in the current state one major environmental impacts. Alternative Agriculture -free government land use for oil producing communities -establishment of viable market for agricultural produce -provision of credit facilities for farmers across communities -provision of varieties of seeds and seedlings and animal hybrid	Education of community members across diverse areas as it relates to the effect of oil spillages, damagers of vandalisms as it kills faster than the oil spills Alternative Agriculture	Education, community engagement and academic research -Environmental studies -Environmental Awareness programs -Environmental research Awareness programs (Community Awareness of the Long-term impact of oil spillage on environment and health Diversification of investment (Agriculture) Vocational training Scholarships (primary-secondary and tertiary) SME

Based on the data scrutiny, most employment strategies were stressed across the three units implicating to enforce such a construct. Accordingly, a majority of the respondents from the three units of the study revealed that vocational centres and training across communities are vital aspects that could bring development and rebuild of livelihood. Accordingly, a majority of the community's respondents stressed keenly that there should be realistic and physical vocational centres across strategic places for yearly or

quarterly training for the communities. A majority of the community participants believed that skill acquisition centres should be built and be used for the training of community members as opposed to having buildings for political events. Thus, this was further confirmed by the oil and gas participants and the oil spill agency respondents, stressing that even though there are vocational centres and occasional training, the companies can always try their best and that is why the companies often call for the government contributions. Thus, as added by KOGMP-S and KOGMP-K, *“in as much as the companies are willing to carry out their responsibilities, the government have a major role to play in the empowerment of its citizens”*. Furthermore, a majority of the community participants revealed that immediate clean-up excesses should be conducted across impacted areas that way the community members are opportune to be employed, learn new techniques that could catapult them into an opportunity should in case such incidents resurface. Thus, creating a future skill for them as the exploration and exploitation of oil and gas production continuous.

Education is another empowerment strategy mentioned across the three units of the study. Thus, this is because education is the foundation for developmental thinking in the world at large as mentioned by the majority of the participants. All participants reinforce the need for education across communities. Accordingly, environmental studies, environmental awareness, research and campaign were all intensely emphasised among the respondents in both the individual interviews and the focus group discussion. For example, during the discussions, some participants in FGD 3, 6, 1 mentioned that the environment is their first right and foundation for their existence and the study of the environment and the extent of how oil pollution has damaged the environment would be an exciting area of exploit. From the point of the view of communities, education should be free across all levels, even if, it will entail different examines, thus, there should be a fair and enabling structures for free education given the poverty situation of communities within the region. In a similar vein, a majority of the oil spill-related agency participants confirms the need for education and ‘free education’ for all the communities across the region. Likewise, a majority of the oil and gas respondents mentioned that environmental awareness and research programs are vital to aid the understanding of the communities on the future calamities that could emanate from constant damages to the environment. According to a majority of the oil and gas respondents, the education of community members to become an ‘environmental expertise’ would help communities as well during a joint investigation visits to oil spill sites, which is one major setback facing the community.

Furthermore, alternative agriculture was identified as one significant means for empowerment across the three units of the study. Agriculture, according to a majority of the participants is an alternative which is currently talked about in recent times. Accordingly, a majority of the oil and gas participants, referenced that communities should venture into proper agriculture, given that there is uncertainty associated with oil and gas prices. The petroleum product as it has been used as national cake cannot be hundred per cent satisfying with the community’s demand, while, agriculture will bridge that gap as added by the oil and gas respondents. More so, that would aid diversification of product instead of relying on just a particular

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product, the petroleum product for subsistence. Thus, this was also reinforced by the oil spill-related agency, establishing that agriculture 'alternative agriculture' would serve a sustainable livelihood means for the communities, if the necessary channel and avenue are created for its sustainability. As further mentioned by a majority of the oil spill-related agency, the current Nigerian government have mentioned and stressed about agriculture in recent times and if the communities could key into that to establish their channel, that would be more sustainable than looking for menial jobs that eventually would not surfaces, and thus, influencing youths into anti-social activities.

All the community participants also confirm this argument and emphatically mentioned that alternative agriculture is one significant means for livelihood support. As observed during the interview from (KCMP-S) an elder of a community who pathetically stated, *"If only the government can remember this community and give us some portion of land for plantation, I have been a farmer all my life, and I enjoy being a farmer, but when there is no longer land to cultivate, it becomes double problem"*. The elders' point is in line with the argument of Adekola and Mitchell (2011) who pointed to the swampy areas of the region and contemplates on the avenue for survivals of the communities therein.

More so, the majority of the community respondents established the avenues to which the communities can sustainably carry out alternative agriculture by pointing to landed areas, given the nature of the region as with the swamps, and marshy wetland conditions. All participants opined for free governmental land for agricultural purposes irrespective of the state, region or communities. Accordingly, a majority of the participants categorically stated, *"If the natural resources owned by a region can be distributed across the 36 Nigerian states, why cannot land which is irremovable awarded to Niger Delta community members who want to venture into large scale agricultural practice"*. Other participants placed emphasis on the provision of credit facilities, varieties of seeds and seedlings, animal hybrid and the provision and or establishment of a viable market for agricultural produce. In this line, respondents attest that such development is an avenue not just for empowerment, but also, for development and livelihood support.

Accordingly, SME was identified by the communities, and the oil spill-related agency with regards to local refining of petroleum product, and implementable training of the local refiners for the petroleum product. Thus, the oil and gas respondent attested contrarily and pointed out that such SME in regard to local refining of petroleum product is against the existing laws, as such should encourage zero spillage from communities. According to the majority of the oil and gas respondent, not until the local refining process of petroleum goes into law, the activities remain null. On the other hand, the oil spill-related agency respondents opined that operation of bunkering in Nigeria should be restructured and should be in line with other developed countries guidelines and practice. This argument supports the study of Michel and Winslow (2000); Wang and Notteboom (2015), who discusses on the modern and suitable designing of cargo ships for oil bunkering and the different roles of the port authorities in the development of facilities for bunkering business. Thus, this in line with community respondents who emphatically stipulates on the restructuring of oil bunkering activities in Nigeria. Hence, communities' respondents maintained that oil bunkering activities serve a

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considerable source of livelihood, such as; from the local domestic use to mini marketing and semi-international market. More so, a majority of the community respondents calls for an indigenous mini refinery across strategic places in the region, irrespective of the national refining locations, given that the local refining of the product would not stop in the near future. Subsequently, Infrastructural compensation was identified as a channel for empowerment across the study units. Importantly, respondents attest that social and physical infrastructures are lacking across communities.

Accordingly, all community respondents revealed that, lack of structures such as; good road network and power supply that is required for local economic activities, and the lack of schools, hospitals and community housing had influenced underdevelopment. The underdevelopment has engrossed poverty, unemployment and crisis across many communities. While, community respondent's call for social and physical infrastructure as a means for empowerment, support for livelihood and human capacity building. The oil spill-related agency agrees with the communities by pointing that the availability of infrastructure would aid development as such, providing opportunities for community members without reliant on the oil and gas jobs as always raised across communities.

Furthermore, substantial scholarship across communities was consecutively pointed as an empowerment avenue, considering the environmental education, awareness and academic research campaign that are identified as means through which communities can become environmental expertise. According to the community participants, the community members cannot become environmental expertise when they lack funds for education, thus, strengthening that, substantial scholarships need to be awarded to community members and not political members as the cases are, currently. The community respondents' arguments and suggestions are supported by the oil spill-related agency participants who also strengthened and calls for scholarships for the affected oil-polluted communities. However, the call for education which encompasses given out scholarships to the right person and communities, infrastructural compensations, employment and credit facilities for agricultural purposes as depicts by the respondents are seen as channels for empowerment for communities. Thus, these points are supported in the literature of Ofem and Ajayi (2008a), who argues that educational programs, infrastructure, employment and empowerment strategies must be sustainable to enable reasonable impacts on the communities. Thus, the sustainability of the identified empowerment strategies as deduced from the respondents are through concrete implementation across communities.

8.6. Summary and Links

This chapter presented the cross-units analysis. First, the chapter discussed the acceptable and unacceptable livelihood as adopted by the communities of the study, followed by the intervention mechanisms accepted by the oil spill-related agency and the oil and gas companies as means for livelihood support. The chapter further discussed mechanisms for relationships which were found as keys aspect for livelihood support

system across and between the communities and the oil and gas industries. The chapter further cross-analyse what empowerment strategies could be proposed across the units of the study for livelihood support amidst of oil spills and negative impacts from oil and gas activities. The chapter that follows is the finding from the research.

CHAPTER 9: FINDINGS

9.1. Introduction

The preceding chapter 8 describes how the three units of the study analysis contrast and replicates each other. This chapter presents the empirical findings comparing the interviews of the communities, interviews of the oil and gas, oil spill-related agency respondents and community focus group discussions with the literature. As such, the underlying mechanisms for alternative livelihood are described, and the initial framework is presented to enable enhancement of empowerment for communities affected by oil spill environmental hazards on livelihood sources. The chapter then summarises the findings from the respondent's validation group interview and presents the final framework along with sets of recommendations to enhance the empowerment of the communities affected by oil spills environmental hazards. Accordingly, the chapter is structured as follows.

- First, fundamental reasons for alternative livelihood are summarised
- The roles of the oil spill agency and oil and gas company are presented with regards to intervention
- The challenges faced during livelihood interventions and how to overcome such obstructions are discussed with recommendations
- The interviews and focus group discussions of the communities and the oil and gas industry, oil-spill related agency is compared with the literature findings
- Thereafter, the initial and the final framework is presented which encompasses the literature, interviews and the focused group results, and further validated through respondent validation methods
- The chapter finalises by presenting the recommendations on how to enhance the empowerment of communities affected by oil and gas negative activities and oil spill on livelihood structures.

9.2. Key Reasons for Alternative Livelihoods

Livelihood is a critical aspect of subsistence which cut across the daily living and empowerment mechanism. Accordingly, livelihood involves the human capitals, natural, financial, physical and social capabilities for its sustainability (Billie et al., 2003; Goodman & Goodman, 1990). Thus, the concept of livelihood and what constitutes livelihood among communities within the Nigeria context are to somewhat absence for subsistence. The findings from the literature as discussed above highlights that the entire livelihood sources of a majority across communities of the study in the Niger Delta are faced and entangled with the dilemma, such that includes; the devastation of the primary sources of living and local socioeconomic structures. The people have thus, agitated, indulged in conflicts and restiveness in the call for livelihood support, environmental justices and social justices, but, to no avail. Thus, the literature

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findings revealed that in search of alternative livelihood, the communities are moving towards an improvised mechanism for livelihood support. This, however, has influenced most Niger Delta communities for the quest for alternative livelihood, such as; increase in oil bunkering activities, different types of farming systems, distant fishing and timber business engagement. According to the interview findings from the communities, human beings would naturally source for an alternative when primary means for survival become damage. Therefore, the survival means from the communities as deduced from the findings of the study is through the strategies discussed above, (See Sections 5.4.1.1, 5.4.1.2, 5.4.1.3, 5.4.1.4, 5.4.1.5 & 5.4.1.6). Further, the findings from the oil spill agency confirm with the community findings revealing that communities would indulge in alternative livelihood sources as oil spills and negative consequences of petroleum production continuous to hit the environment and the region. This, however, is due to the not enforcement, restructuring of relationship systems and lack of social and physical infrastructure which could serve as compensative mechanisms that would reduce the most impact on the communities, irrespective of the extent of the negative incidents. Further, based on the findings above, this current study reveals that the influencing factors for alternatives are due to the constant damages to the primary sources of livelihood without a concrete and or sustainable alternative from the external bodies to the communities. Thenceforth, the study deduced different suggestions for the oil and gas companies and the oil spill-related agency towards the livelihood alternatives and its sustainability.

9.3. Oil and Gas Industry & oil spill Agency Intervention for Livelihood

The findings from the experts within the oil and gas and the oil spill agency revealed that the organisation have spectacular roles to play across the communities as it relates with oil spill response, community's compensation when spills are caused by companies' fault and environmental sanitation when contaminated with petroleum product. Further, the findings from the oil and gas companies revealed that different obstructing factors had challenged their intervention during, before and after the process. Thus, hindering the effectiveness of intervention strategies as proposed by the companies at different times. The intervention strategies even as though not satisfactory on the community's perspectives, are further hindered by communities' actions, which engrave the delays and inefficiency in the manifestations of the strategies. The findings show that even though there are different intervention mechanisms, the processes are ineffective and insufficient for the communities, given that different oil products have impacted on the sources of livelihood for decades. Further, the finding also shows that most of the obstruction's factors are ensue from the oil and gas companies considering the weakness of the laws for the oil spill-related agency on prosecutions, penalties and fines.

Furthermore, the oil spill-related agency's findings revealed that the agency lacks powers to persecute the polluters of the environment, they lack facilities and funds to carry out their responsibilities effectively, as such, have hindered their productivity concerning influencing a synergy between the communities and the

oil and gas companies. The result from the oil spill agency shows similar findings indicating different hindering factors impeding their intervention, as such, calls on the Federal government for the amendment of the bill that enacted them, which has been passed to the Senate chamber of the Federal Republic of Nigeria. This experts' interviews are supported in the literature of Stakeholders Democracy Network, SDN (2018), who opined on the zeal for amendment of the laws to incorporate more power for NOSDRA.

Similarly, the findings identified obstructing factors that impede intervention of both the oil and gas industry and the oil spill agency, as such, hindering effectiveness for livelihood rebuild, and relationship synergy and impact reductions across communities of effects. As shown from the findings in Section 6.5, the oil and gas companies obstructing factors can be reduced through an enforced construct (See Sections 6.4.6.1 & 6.4.7). While, on the contrarily, the oil spill agency obstructing factors could be reduced through an enforced power of prosecution of the polluters and real provision of facilities. Such facilities as suggested by all the respondents are; oil monitoring device, high van vehicles, and helicopters. Importantly, these construct from the oil spill-related means to overcoming challenges and improving intervention mechanism for the communities are supported in SDN, (2018) study, who reinforced for more power and facilities to enable realistic, practical, physical and obvious contributions to the community's livelihood systems while improving the relationship mechanisms between the communities and the companies (See Sections 6.5.1, 6.5.2).

9.4. Challenges Faced during Interventions and how to overcome challenges

The challenges deduced from communities, and oil spill agency interviews were compared with the challenges facing the oil and gas companies and the literature. It was established that most challenges are similar while some are contrasting with regards to livelihood, relationships and intervention mechanisms. Accordingly, the findings from the communities as with regards to livelihood alternative and obstructing factors were similar to the oil spill-related agency, given the context to why such a construct is established as livelihood sources. Accordingly, nine challenges were identified after further scrutiny from the community's data as it affects the alternative livelihood support means, discussed in sections above (See Section 5.5.1 and 5.5.2). While, further findings shows six major challenges and twenty-three (See Sections 6.4.3 and 7.4), as identified across the oil spill agency and the oil and gas findings, towards the intervention for livelihood, empowerment and relationship synergy. Thus, these challenges are discussed in tabular form, in two sections, overcoming the challenges as it emanates from the communities and at the same times, the challenges as emanates from the oil and gas companies as revealed from the community findings. As such,

Table 17 are factors ensued from the communities which have often obstructed the interventions of the oil and gas companies in relation to livelihood rebuild, impact reduction and community relationship synergy. This finding is, to some extent, confirmed with the community findings with different reasons to why some communities engaged in some of the activities as listed below. Therefore, the suggestions on how to overcome the challenges identified are of the combination from both the oil and gas and the community findings.

Table 17: Community Challenging factors obstructing oil and gas intervention (oil and gas perceptions)

CHALLENGES	OVERCOMING THE CHALLENGES
SECURITY AND VIOLENT THREAT	<ul style="list-style-type: none"> • Create a Concrete involvement channel for community members to reduce security and violent threat • More non-violent security personnel should be engaged across the region • Communities should abstain from ant-social activities that increases threat on other cooperate organisations • The issues with militancy should be check by the community stakeholders to restructure their thinking as a way of developmental thought that could support the communities positively • Stakeholders meeting that should cut across government concern bodies, concern communities and oil and gas industries on the root causes of security and violent issues across the oil producing region
COMMUNICATION GAPS	<ul style="list-style-type: none"> • The communities should engage well trained and exposed representatives during meetings and or negotiations between the communities and the oil gas companies. • More awareness of legal documents is required across the communities to aid understanding between the communities and the oil and gas companies, as such, bridging the communication gaps that exist
CULTURE, MENTALITY AND ATTITUDE PROBLEMS	<ul style="list-style-type: none"> • Training and re-training of community stakeholders, representatives and members in such a way that their mentality towards oil and gas businesses would be reoriented • Communities need awareness programs which could be achieved through establishment of event and conference programs across communities
COMMUNITY LEADERSHIP STYLES	<ul style="list-style-type: none"> • Change of leadership selection types (which should be an independent selecting criterion across communities) • Leadership should be based on merit, tract records and community involvements in the community's affairs.
COMPENSATION AND STRUCTURAL DIFFICULTIES	<ul style="list-style-type: none"> • Compensation laws must be made educative across communities • Restructuring of compensation should be set to include the damages to perennial crops, open water ways that affects transit communities and should be well established when spills are caused as a result from rupture, technical failures and accident (when it's from the oil and gas activities)
LACK OF COMMUNITY ENVIRONMENTAL EXPERTISE	<ul style="list-style-type: none"> • Education is needed across environmental disciplines and across communities • Education, environmental awareness programs and campaign needs to be carried out across communities
CONTRADICTION ISSUES BETWEEN HOST AND TRANSIT COMMUNITIES	<ul style="list-style-type: none"> • Host and transit communities' laws needs to be established as it relates to effects of petroleum production in order to avoid conflict between communities • Host communities impacts compensation scheme and transit community impact compensation should be established prior to the operation and production of petroleum product in any given community to avoid contradiction during production activities

Table 18 below describes the challenges identified through the analysis in the preceding chapters. Thus, it presents the findings on the interpretations of obstructions as emanates through the oil and gas actions and activities for intervention. The findings which encompasses the views and suggestions from the three units of the study are constructs identified by the community and the oil spill agency respondents, but overcoming these challenges are suggestions from all three units.

Table 18: Community Challenging factors obstructing oil and gas intervention (community perceptions)

CHALLENGES	OVERCOMING THE CHALLENGES
TRANSPARENCY BETWEEN THE COMPANIES AND ELITES AND THE COMMUNITY MEMBERS	<ul style="list-style-type: none"> • Create a culture of transparency when dealing with the communities as relates to the community's livelihood support • Transparency in the issues of the real causes of oil spills • Transparency in the investigation process as relates with the participants of such venture.
ACCOUNTABILITY	<ul style="list-style-type: none"> • Strong institutional restructuring and contributions to grassroots • Other Agency and bodies contributions, agency such as NDDC, NDM etc.
COMMUNITY LEADERSHIP STYLES	<ul style="list-style-type: none"> • Change of leadership selection types (which should be an independent selecting criterion across communities) • Leadership should be based on merit, tract records and community involvements in the community's affairs.
CORRUPTION, BRIBERY, POLITICAL DIFFICULTIES	<ul style="list-style-type: none"> • Prioritise oil communities in political issues • Create an incontestable political position for the Niger Delta communities (that can be contested for among the regions communities)
INADEQUACY IN COMPENSATIONS SCHEME	<ul style="list-style-type: none"> • Clarity of compensation through awareness programs • Clarity in measurement styles across the local communities • Inclusions of perennial crops in payment and making it as measurable to the output from such crops • Inclusion of affected transit communities in compensation schemes
COMPLICATIONS AND IMPLICATIONS ASPECT OF MONETARY COMPENSATION	<ul style="list-style-type: none"> • Monetary compensations should be standardized and make know at the community levels • Monetary compensations be made available for retirees across and gas producing communities
EXCLUSIVITY OF KEY STAKEHOLDERS IN JOINT INVESTIGATION VISIT	<ul style="list-style-type: none"> • Community's stakeholder's sincere involvement in the oil and gas business and joint investigation visits. (stakeholders are selected by the communities not imposed stakeholders and representatives)
POOR COMMUNITY REPRESENTATIONS	<ul style="list-style-type: none"> • Most representatives are handpicked by influencers which is often times against the communities wish. • Contrarily, some representatives are self-representatives imposed by some groups which the oil and gas companies can identify and fish them out for concrete and developmental negotiations as the case may be. • More training and re-training of community representatives on awareness programs, environmental issues, relationship and developmental thinking
SENSE OF NEGLECT AND MARGINALISATION	<ul style="list-style-type: none"> • Concrete involvement of community members in the oil and gas business • Community job quota be made know and fulfilled across communities • Physical and social infrastructural development with the involvement of the communities in the process • Fixed political positions for Niger delta communities which should be debated/contest across the communities. To reduces the issues of marginalization
DOUBLE STANDARDS ISSUES	<ul style="list-style-type: none"> • Companies should work directly with the communities without and unclears third party interference. • Community issues as with negotiation for operation and pre-impact and post impact assessment etc. should involve communities directly. • Companies should act and engage communities directly in any issues of development and livelihood building • Issues of the communities should be discussed with the communities in a town hall meeting

DIVIDE AND RULE ISSUES	<ul style="list-style-type: none"> Communities developmental projects should be directly carried out to avoid theoretical completion and non-existence in practice or physical
INADEQUACY IN COMMUNITY INVOLVEMENT	<ul style="list-style-type: none"> Companies should restructure the practice of divide and rule Communities involvement in the oil and gas business remains paramount to overcome numerous challenges, such as; security threat, issues with host and transit communities, as the community's involvement would influence concrete relationship between communities and the companies Useful community engagement and involvement would build relationship between communities as involved community members passes useful awareness to transit communities

9.5. Compare and contrast empirical findings with literature

The findings above revealed that communities improvised different alternatives livelihood support mechanisms for their subsistence due to the damages to the original livelihood structure. Thus, the study finds out seven key alternatives such as; local refining of oil product (oil bunkering), long distant fishing/ deep sea fishing, distant timber production engagement, daily bricklaying casual jobs, farm and share system of farming, internship farming system and farming on leased land, as presented and discussed in Section 5.4.1. According to Section 2.7, literature findings shows that the communities across the region have sourced and called for livelihood support through agitation, a hostage taken, and conflict with little or no evidence of support. As revealed by the literature, different incidents have hit the shores and boundaries of the region, with decade's impacts on primary livelihood sources with no replaceable alternatives by the spillers and or operating companies. Furthermore, the literature reveals that in the course of the numerous impacts across communities, the government have at different point established bodies, agencies and commissions to oversee the activities of the oil productions, negative impacts on the communities and most especially, oil spillages. Thus, the findings further show different lapses in existing frameworks and or legal policies which have influenced a more negative impact on the people as opposed to positive impacts.

More so, while supporting the literature, the empirical evidence shows different challenges faced by the existing bodies that have contributed to the ineffective and unsuccessfulness of livelihood support across oil and gas producing communities. Accordingly, while the oil and gas bodies face challenges with transparency, accountability, corruption, bribery and political difficulties, inadequacy in compensations, complications and negative impacts of monetary compensation, joint investigations problems, poor community representation, sense of neglect, divide and rule strategies, double standards and inadequate community involvement as revealed by the community participant. It was further revealed by the oil and gas respondents that, while different challenging factors emanates from the companies as revealed by the communities. Different factors such as; security threat, communication gaps, culture, mentality and attitude of community members towards the oil and gas companies and their approach to acceptance of available opportunities, communities understanding of compensation laws, and the lack of community environmental expertise have, thus, contributed to the impediment of successful intervention for livelihood rebuild, community development and empowerment.

Thenceforth, the empirical investigation provided a more comprehensive list as to overcome the challenges faced by the study case bodies as an avenue to improve livelihood strategies, empowerment and development. Such factors to overcome the challenges are; community presentation selections; physical intervention; restructuring the compensation methods; monthly allowance, adequate community involvement, training and retraining of community representatives; active institutional collaboration and contribution, stakeholder's collaboration meetings; environmental impact assessment, monitoring and evaluation; and adequacy, transparency in compensation. Further, the empirical findings also reveal how the factors that impede community alternative livelihood could be reduced. Factors such as; infrastructural compensation across communities, alternative agriculture, small scale business, clear authorities' mandates and information dissemination, provision of fishing and farming tools, protection of the river borders, education and adequate monetary compensation. Thenceforth, it was evident that the research has a significant contribution to the existing body of theory by creating awareness on the identified livelihood which has decade not been acknowledging to assess whether the restructuring of the alternative livelihood would contribute to oil spill impact reduction. Also, it was noted that the result has contributed to the study has contributed to two of the four priorities of the Sendai Framework adopted by the United Nations for disaster risk reduction 2015-2030. Priority 1 and 3 "*Understanding Disaster Risk*" and "*Investing in disasters reduction for resilience*". The outcome of this research contributes to priority one (1) and three (3) by recommending that oil and gas and other related bodies should invest in the communities through practical and concrete empowerment strategies. The outcome pointed to the fact that the oil and gas-related bodies need restructuring, structural and non-structural measures to improve the communities socioeconomically, and sociocultural resilience while empowering them. The next section below presents the framework to enhance community empowerment amidst of oil spill environmental impact on livelihood mechanism across communities.

9.6. Framework to enhance empowerment of communities affected by oil spills on livelihood

Chapter 4 above discussed issues that formed the initial framework through the literature synthesis. This section presents the theoretical framework, having combined the findings from the community's respondents through the interviews, documents, focused group discussions, interviews from experts of the oil and gas sector and the oil spill-related agency. Thus, the final framework is developed to enhance the empowerment of communities with devastating livelihood structures as a result of oil spillage and or oil production activities within the Nigerian context. Thus, the first framework presents the framework before validation, while, the second is after validation.

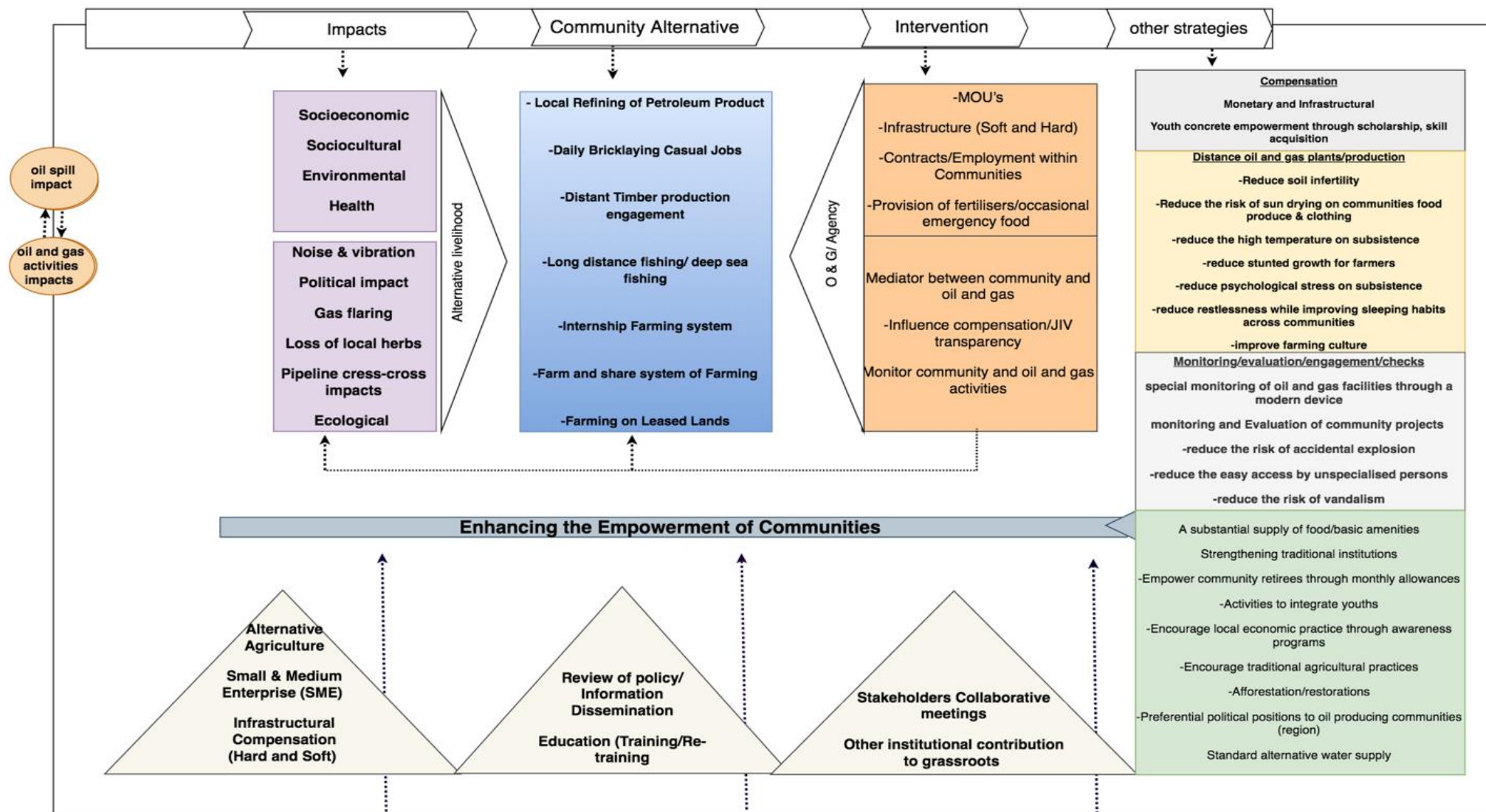


Figure 26: Final Framework before Validation

Table 18 below illustrates the underlying component of the framework above with the details of what constitute the key factors that influence the impacts of oil spill environmental hazards on livelihood systems across communities. The Figure (See figure 18) summaries different interventions from the oil and gas, oil spills agency and the constructs that can enhance empowerment across communities. Also, the figure (See figure 18) explains other strategies that can be adopted by other NGO's as mechanisms to empower communities affected by oil spill environmental hazards on livelihood structure. The explanatory structure of the framework is presented below Table 18 above.

Table 19: Framework Explanatory Table

<i>Characteristic of the framework</i>	<i>Uniformities identified in the context</i>	<i>Cross-link across the cases</i>	<i>Explanations</i>
<i>First section with orange colour; Shows the problem for the research; oil spill and oil and gas activities and interference on livelihood of communities.</i>	The positive output for communities was the existing of the product, while having more of negative impact on various aspect of the community's subsistence	Chapter 2, 6 and 7	<p>This first phase of the framework shows the oil and gas activities/ production and the oil spills and their graving impacts on the selected communities. Thus, challenging the original livelihood structures of the communities. All units of the study analysis confirm that the incidents have graving impact on the affected communities.</p> <p>Thus, it is reasonable for communities to sort for alternative means, given that their original livelihood sources are constantly disrupted due to the incidents of oil spills, and negative consequences on diverse angle of the communities.</p>
<i>The second box shows some impacts as ensued by the incidents of oil spillages and oil companies' activities</i>	The need for and alternative livelihood was highly needed across communities, considering the highlighted impact on livelihood structure.	Chapter 2 and 6	The graving impact on local economic, culture, social and the environment of the communities infused the need for high search for external livelihood support, given that humans would definitely sources for a survival means.
<i>Characteristic of the framework</i>	<i>Uniformities identified in the context</i>	<i>Cross-link across the units</i>	<i>Explanations</i>
<i>The third section shows the Improvised means for livelihood support</i>	Means for livelihood was highly prioritized than the impact of the oil spill on the environment and health	Chapter 2, 5, 6 and 7	<p>The interviews, focus groups and literature sections all shows that there is important need for livelihood before even responding to oil spill remediation, clean-up and restoration, given that the process for clean-up and restoration takes longer due to the existing formalities, protocols and political difficulties/interest</p> <p>The findings show that community are forced into different alternative for livelihood/household's support.</p> <p>Thus, due to the delays in clean up that would have realistically forced the affected communities into their original methods of survival</p> <p>The findings further show that the communities</p>
<i>Community alternative</i>	Practical alternative as mentioned in the framework	Chapter 2, 5	The community divulged to different alternatives. The finding shows that the

	<p>were better than that of other alternative as revealed in literature</p>		<p>alternative divulged by the communities were better than the other 'tag' alternatives such as; conflicts violent, agitation and hostage taken. The findings further indicate that irrespective of the different challenges that obstruct the alternative, the identified alternatives remain contributing factors while calling for restructuring, and support mechanisms for the already improvised strategies</p>
<i>Characteristic of the framework</i>	Uniformities identified in the context	Cross-link across the units	Explanations
<i>The third section of the framework displaces intervention measures</i>	Urgency need of the intervention of the oil and gas and oil spill agency	Chapter 5, 6, 7	<p>Thus, the communities need the government and the oil and gas intervention during oil spill and or negative impacts from the activities of oil production</p> <p>The intervention needs were recognising to support livelihood structures given that the communities constantly suffer the negative impacts. Interviews findings revealed that the companies suffer obstructions from the communities while intervening for the livelihood support. Thus, recommends for the communities to deceased from anti-social activities while calling for support, to improve the intervention when needed.</p>
<i>Intervention from the oil spill agency</i>	Urgency needed for the empowerment	Chapter 2, 6, 7	<p>It was evidence that the communities can only operate properly with the intervention of the oil and gas companies and the oil spill agency during oil spill incidents and or negative activities of the oil companies. The findings show that irrespective of the challenges that obstruct the intervention, the communities are still supported while a wait for full government support in terms of funding the agency, providing facilities that will aid community intervention and spill reduction on livelihood of the communities</p>
<i>Intervention from the oil and gas</i>	Urgency to check and monitor implementation and restructuring the mode of implementation. Check and control of the process	Chapter 2, 6, 7	<p>Given that, different obstructing factors exist that to somewhat obstruct both the oil spill agency and the oil and gas companies, making their intervention process ineffective. Thus, the companies have created the platforms through the existing intervention platforms. There is the need to check and monitor the process of delivery of the intervention strategies</p>
<i>Characteristic of the framework</i>	Uniformities identified in the context	Cross-link across the units	Explanations
<i>compensation</i>	Need for adequate compensation for damages, retirees and inclusion of the other long-term impacts on livelihood across communities	Chapter 2, 5	<p>Monetary compensation for all the Niger Delta community members retirees</p> <p>Likewise, soft and hard infrastructural compensation to be made obvious for the oil producing communities</p> <p>Prioritised infrastructure across communities if not stated in the MOU's. Making available functional infrastructure that can be fitted in by the trained communities' members</p>

		<p>Make clearer the compensation framework and restructure the framework to incorporate the community's opinions and impacts</p> <p>Neighbouring community's compensation structure should be made available, highlighting the need and action/ intervention measures to be taken in the case of negative impacts</p>
<i>Other strategies</i>	Needs for application of different strategies	Chapter 2, 5 <p>It was event that since the existing measures from the oil and gas industry are ineffective with their approach. Different alternative approaches need to be encompassed into the already existing approach not just to reduce challenges facing the oil and gas during intervention, but as a way of reducing the impacts of the oil spillages and negative oil and gas activities as it related to community livelihood</p>
<i>Strategy one</i>	The distance of oil and gas activities/ Platforms	Chapter 2, 5, 7 <p>The activities of the oil and gas, such as; gas flaring and onshore production should be distant away from the communities. The findings show that the nearness of oil and production have caused building cracks due to the transportation of heavy equipment to and from the location and oil struck activities. Further, interviews show that gas flaring apart from the inhalation of the fumes, there are physical impacts on crops, both planted and harvested. There are impacts on the clothes spread on the outside of buildings as the culture of the people due to the no availabilities of modern washing facilities, electricity etc. The findings show that, when the oil and gas platforms are distant from the communities, there would be increased in crop yield as opposed to the stunted growth, the heat temperature within the communities would be reduced, improvement of farming culture within the available landed areas.</p>
<i>Strategy two</i>	Monitoring and evaluation	Chapter, 2,6,5 <p>There is the need for monitoring and evaluation of community projects if awarded. Concrete check, monitoring and the enforcement of the project till the completion is a vital aspect to contribute to not just the community infrastructure but also empowering communities through infrastructural development.</p>
<i>Others empowerment strategies</i>		Chapter <p>The findings show the need for substantial supply of food and basic amenities during festive periods as a means for drawing the communities closer to the oil and gas sector and or the government</p> <ul style="list-style-type: none"> -Strengthening the traditional institutions across communities with oil and gas product and or effects from the oil spillages. -There should be empowerment of community's retirees through monthly allowance -Create activities to integrate youths across and between host and transit communities

				-Encourage the local economic practice through alternative agricultural programs and awareness -preferential political positions for the oil and gas communities -provide alternative water channels for domestic use.
Characteristic of the framework	Uniformities identified in the context	Cross-link across the units	Explanations	
The section five comprises the Stakeholders means towards empowerment	The need for the involvement of all stakeholders at all levels	Chapter 2, 6	The result shows that there is ineffective involvement of community stakeholders in the decision-making process as it relates to livelihood support. Thus, the finding support and recommends that all stakeholders at all level should be involve in the decision-making process that relates to their environment, resources, and the pre-impact and post impact that could emanate from the oil and gas activities. As such, there should be stakeholders' concrete meetings with regards to and agreed MOU enforcement, monitoring, evaluation process, feedback/report on conclusion. Concrete stakeholders meeting as to an employable skill acquisition training for community members. Further, the findings also show concrete evidence why other organization apart from the oil and gas, to the contribution to the communities. The finding indicates that with other little contribution from any other beneficial organization from the oil and gas product have vital role to play as par contributions to communities, irrespective of the government. The findings see this aspect as major empowerment strength for the communities. The decision made from the communities' stakeholders would help the communities as that stance as their voice towards what and how they receive the negative impacts on livelihood aspect	
Characteristic of the framework	Uniformities identified in the context	Cross-link across the units	Explanations	
Existing Policy framework	Urgent policy restructuring needed	Chapter, 2, 5, 6,7, 8	The finding shows that, there are different gaps in the existing policies as regards implementations. There is the need to review the existing policy, especially, compensation policy to incorporate damaged on general land, waterways and neighbouring communities instead of just damage to economic trees and owners of portion of land.	
Characteristic of the framework	Uniformities identified in the context	Cross-link across the units	Explanations	
Alternative agriculture		Chapter 2, 5,6,7	The finding greatly reveals alternative agriculture as a means towards the reduction of oil spill impacts on livelihood structure of communities. As such; there should be the provision of training of farmers, sensitization and provision of credit facilities, such as, fertilizers, improved varieties	

SME	<div>Chapter, 5</div> <div> <p>of seeds and seedlings and animal hybrids. (restructure of agricultural credit scheme)</p> <p>The finding further reveals that in order to successfully flourish in the alternative agriculture for the communities, there should be an establishment of viable market for the sale of the produce. Free land be awarded to farmers whose lacks land, and or whose landed areas are covered with oil pipeline, oil spill or swamp.</p> <p>Thus, since the community's members already improvised their alternative livelihood. The findings indicate that oil bunkering cannot be abolished as the local petroleum product is used across majority of the household across Niger Delta communities for either local domestic use or livelihood support. As such, there should be an organized and well-structured scheme for the conduct of oil bunkering. Finding further suggest for a well-organized and structured market.</p> <p>Most importantly, the findings reveal that there should be an established modular refinery across strategic places within the Niger Delta irrespective of the federal refineries. The findings further indicate that the bunkers should be incorporated into the mini refineries after training and re-training. That way the communities are empowered, while reducing environmental pollution through oil spillages</p> </div>
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9.7. Validation of the findings

Validation of academic research outcomes are described in various ways (See sections 3.10 and Table 10), and it establishes different meaning across various disciplines and tested accordingly (Nanda, Rivas, Trochim, & Deshler, 2000). Generally, four tests are commonly referred to in empirical social research for the validation of research results. Accordingly, Yin, (2016); Nanda et al. (2000) establishes construct validity, internal validity, external and statistical validity as four significance validity in social science.

As such, construct validity is associated with the appropriateness of the data collection tools which encompasses three tactics, namely, the use of multiple sources of evidence, the establishment of a chain of evidence, and draft case study report reviewed by key informants (Yin, 2016). Likewise, Nanda et al. (2000), expresses that even though, there are difficulties in establishing what validity means in a quantitative or reductionist formula, construct validity encompasses the procedure where the instrument for data collections are assessed for its appropriateness to a simplified version of a problem of interest. Thus, this research adopts multiple data collection techniques, namely, unstructured and semi-structured interviews, focused group discussion and documents for triangulation purposes, as such, meeting the criterion for construct research validity. Thereafter, four series of expert's semi-structured interviews were conducted for the final result and framework validation. Notably, the concepts gathered through the literature synthesis, where further triangulated with the interviews and the focused group discussions from the primary data collected. As such, the instruments for the data collection maintained the chain of evidence

by using the same assessed instruments across each unit of the study, thereby strengthening the quality and the validity of this research. Accordingly, by adopting the use of multiple data sources for evidence, the study has demonstrated the construct validation for the research. Furthermore, as reinforced by Yin, (2016) that a draft case report of data collection instrument must be reviewed, this study audio-recorded interviews and transcripts are stored in Nvivo 11 software.

More so, internal validity is more associated with an experimental and quasi-experimental study. Yin, (2016) describes internal validity and its appropriateness by indicating that internal validity is mainly concern with an explanatory and inference studies, as such, internal validity was not tested in this current study given that the study aims for an exploratory investigation. Furthermore, external validity has been tested for the findings by exploring the applicability of the final framework within the Niger Delta Nigeria context. All interviews followed the case study protocol and consistently maintained the chain of evidence which contributed to the high-quality outcomes of the research. Importantly, four experts from the oil and gas and oil spill-related agency, all experienced in the field of disaster, oil spills and environmental impact, two community respondents were selected for the validation process. Table 20 presents the profile of the participants for the framework validation.

Table 20: Validation profile of participants

No of Interviews	Position	Description/Qualification
KOGMP-A	Environmental Coordinator/ oil spill pollution respondent	PhD, Environmental Engineer
KOGMP-B	Public Relation manger	PhD, Environmental Engineering
OSAP-A	Public Relation Officer	MSc, Social Scientist
OSAP-B	Principal Environmental Officer	PhD, Disaster, Risk and Emergency
KCMP-A	Chief, Elder council member	B.Sc. Farmer, Fisherman, Security Personnel
KCMP-B	Social and environmental activist, community representative, Community development Chairman	B.Sc. Farmer, Agricultural specialist

9.8. Framework After validation

The framework was revisited after the validation to incorporate the feedback from the respondents. Accordingly, the fifth objective of the research was to develop a framework that can enhance the empowerment of communities affected by oil spill environmental hazards on livelihood structures. First, the study identifies the improvised alternatives for livelihood having explored the negative impacts of oil and gas production, and oil spills on the original livelihood sustenance across communities. The study proceeds to identify the intervention mechanisms adopted by oil spill agency and oil and gas industries with the various factors that obstruct the intervention on the verge for livelihood rebuild and empowerment. Furthermore, the study addresses the challenges through other constructs as a channel to overcome the identified challenges while empowering the communities. After that, the framework was presented to key

representatives and experts across the three units of the study as shown in table 20 above. The significant feedback is summarised as follows;

Accordingly, KOGMP-A and KOGMP-B opine that even as though some alternative livelihood improvised by the communities are not acceptable, that communities still need the empowerment through other channels as listed in the framework for livelihood support. KOGMP-B mentioned that with policy restructuring to incorporate some useful community approach could lead to empowerment while reducing reckless and ignorant activities on the environment. Likewise, the need for integration of DRR into primary and secondary school syllabus for grassroots awareness as key angle to start practice towards environmental consciousness and friendliness. KCMP-A and OSAP-B reinforced on the educational systems and awareness by stipulating that the communities across the region and beyond need proper environmental awareness, disaster risk and how to reduce the risk of oil spill impact on the livelihood. KCMP-A further pointed, even though Nigeria have not experienced tsunami, cyclone and hurricane of any such, there is the need for proper awareness across the educational setting due to climate change which could eventually cause different issues in the near future if the proposed policy actions are not abided by humans.

More so, OSAP-A and OSAP-B emphasised on the need for creating a community business hub development scheme to integrate community members after skill acquisition training. According to OSAP-B, presently, most of the skill acquisition training conducted sometimes by the oil and gas industries have yielded little or no practical gain, considering that after such training the trainees are left with little or no guide on standing and developing what they have learnt. OSAP-B, points supported by KCMP-A and KCMP-B, confirming that most of the skill acquisition training are politically motivated and are not intended to establish individual, considering that after such training, people remains the same as though they never had any training due largely to the dilapidated, unqualified and how the training is conducted. Despite KOGMP-A pointed out that skill acquisitions are conduct across the region, KCMP-B stress that community business hub development will argument the skill acquisitions conducted across communities. As such, a community comparative advantage should be adopted by the oil and gas, and the oil spill-related agency during intervention for livelihood rebuild.

Furthermore, OSAP-A and OSAP-B opine in response to the framework, the need for a creation of activity centres for aged and retirees of the Niger Delta as opposed to monthly allowance, considering that most of the retirees would not migrate for long distance fishing or farming activities which are perceived to being out of the original livelihood means. OSAP-B pointed out, as a means to empower the communities suffering either decade, accumulated impacts or daily disruption of the livelihood structures of communities across the Niger Delta. The aged population which are considered the community information wardens and channel for feedback in contributing to community growth, transferring of knowledge to the young generation and developmental history are a vital angle to fill marginalisation and neglect gaps across the region. According to KCMP-A, and KCMP-B, most communities have lost their traditional storytelling

which often takes place along the river banks during fishing festivals, as such, centres for the aged population will create that avenue of restoring the lost culture and traditions of the people.

KOGMP-A, and KOGMP-B further reinforced that communities should take responsibilities for saving the environment irrespective of their anger, frustrations and perceived marginalisation and neglect towards capacity building and community development through cooperate social responsibilities and or through community memorandum of understanding. Likewise, capacity building and human development should be noted that is everyone business which is what often the communities neglect to acknowledge as such imposed challenges for the oil and gas industries by the destruction of facilities, emphasised by KOGMP-B. According to OSAP-B and OSAP-A, there is a great need for environmental awareness programs, academic research and advocacy across the region. OSAP-A pointed, in recent times, we have realised that education is one significant aspect that can speedily bring young youths together for creative thinking, innovation and research output. Most people across the region lack awareness and expertise in most relevant areas that could be very useful across the region and which can further be extended to similar cases within the continent. In agreeing to OSAP-A, is KOGMP-B who referenced that most community members who want different employment opportunities within lacks expertise and as such prevents them from such opportunities, thereby, enforcing that community should welcome research ideas when the need arises.

Importantly, a majority of the response to the framework validity indicate thus; having seen different challenges that accompany the intervention for the improvised alternative livelihood, oil and gas intervention mechanisms for livelihood, and the oil spill-related agency intervention for relationship and oil spill impact reduction skills. There is the need to tackle the issues by applying the identified construct, such as; proper academic and environmental research awareness across the region, inclusivity and incorporation of community business hub into the cooperate social responsibility scheme, and revitalisation of culture through a strategic centre for integration of the aged population knowledge into the new systems. Hence, the suggested systems are suitable for empowerment amidst the negative impact of oil spill environmental hazards on communities. These will contribute to livelihood sustainability, oil spill incidents reduction and empowerment, considering that majority of oil spilt across the region are often referred to as the 'third party interference' due to the lack of the underlying factors of this research. Figure 26 below presents the final framework after validation with feedback and suggestions on constructs that can enhance the empowerment of communities affected by oil spill environmental hazards on livelihood structures.

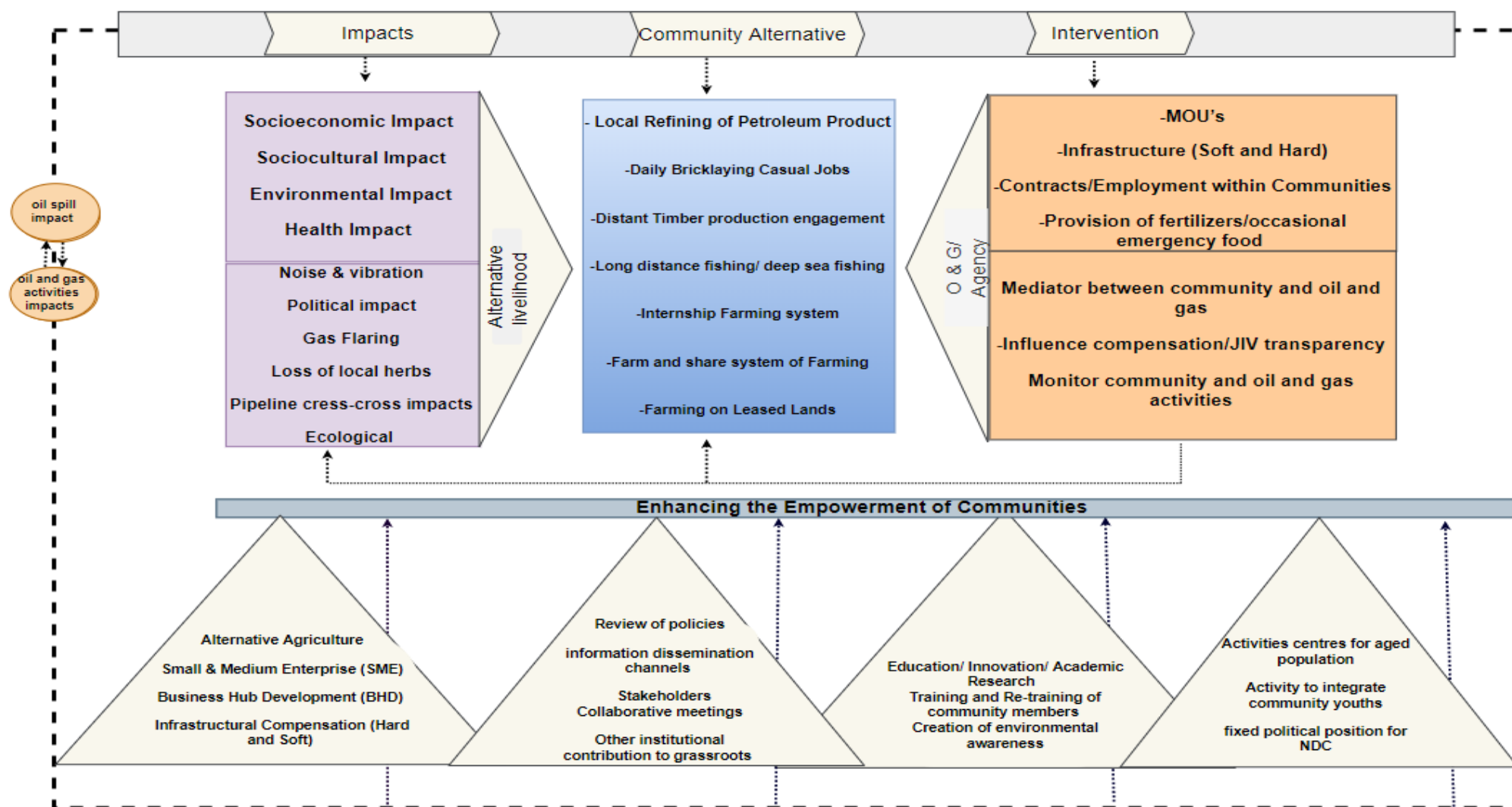


Figure 27: Final Framework after Validation

9.9. Recommendations to Enhance Community Empowerment

This section provides recommendations to enhance the empowerment of communities affected by one or more negative impacts of oil spillages and or negative impact from petroleum production on livelihood structures in the Niger Delta context of Nigeria. Accordingly, the section provides recommendations for the three sectors to which all the implementations would enhance empowerment across communities within the Niger Delta region. All recommendations are directly and indirectly focusing toward strategic means to enhance empowerment as it relates to livelihood rebuild, empowerment and resilience of the communities.

- Policy review to incorporate and or prioritise oil and gas producing communities with regards to livelihood rebuild. Likewise, oil spill-related agency strong empowerment through a legal structure for proper oil spill management, responds, and intervention for community livelihood rebuild as tools for synergy between communities and the oil and gas industries.

Accordingly, policy review, implementation and amendment are highly recommended for both the oil spill-related agency and other policies, directly and indirectly, related to the communities with regards to adverse impacts of oil and gas exploration and production activities. First, the policies as directly linked to the communities, for example, compensation policies for damages that relate to livelihood sources of the communities are significantly unclear to communities suffering the daily impacts of either gas flaring, oil pollution and or environmental pollution. According to all participants especially, the community participants, compensation policy and other related policy needs a proper review to incorporate damages such as; rivers or land of transit communities, transit community's specific policy for any negative impact, long term health impact if remediation and clean-up are not carried out as fast as possible. However, it should be noted that incorporation of the constructs mentioned above without the awareness across communities are detrimental and therefore, policy awareness programs are highly recommended in this study.

More so, the oil spill-related agency should be empowered through the review and or amendment of the existing policy guiding its operations. The policy should be amended to incorporate significant mandate and the power to execute penalties and fines for environmental polluters. According to all respondents from the oil spill-related agency, a policy is an instrument for development and empowerment, as such, it is vital to review if there are gaps and or no substantial outcome from such policy or not addressing critical issues in its context. Notably, policy review is an act of acknowledgement to the existing one and improvement; therefore, reviewing to fill-in identified gaps should be recognised. Further, the study suggests the inclusion of the necessary facilities into the policy for easy access to facilities and executions when the need arise.

- Provision of basic necessities for subsistence of the Niger Delta communities in terms of soft and hard infrastructural development as an indirect and direct means to empower the communities.

The study recommends that the government and the oil and gas companies make provisions for health care facilities and other services that would aid the improvement of cultural and social standards across communities. The vulnerable communities need access to health care as they dwell with daily inhalation of either gas fumes and oil pollution or vibration and noise from operation activities, which may increase the chances of other long-lasting health issues if health facilities and affordable measures are not put in place. Evidence shows that most communities lack necessary infrastructure, such as; primary school building and primary healthcare (see section Figure 23); thus, lives near the operational gas plant and oil rigs. Accordingly, the provision of an excellent road network, electricity and potable water system would, directly and indirectly, influence a more reliant and sophisticated self-employed system for livelihood support of across communities. Therefore, the study recommends for stakeholders' engagement on the issues that relate to infrastructure across the affected oil spill communities within the region. Notably, communities have prioritised constructs which is often stated in the memorandum of understanding to which infrastructural development are amongst them. It is unequivocal that soft and hard infrastructural development are highly needed especially across communities whose natural resources are lawfully used to the masses benefit.

- Restructuring of some alternative livelihood improvised by the communities for livelihood support.

Restructuring of policy and alternative livelihood systems across the region is of significance not just within the community context but, also, the federal and state level. Notably, the petroleum refining systems across the community level have proven to have a negative implication for the national government, given that it reduces the output for the federal coffers while in turn contributing to environmental damages as discussed in (section). The study from the evidence of the participants suggests that a strategic SME is established to incorporate the existing system, given that a majority across the region uses the oil products for domestic purposes as refine at the local level. The Small Medium Enterprise in the form of the establishment of modular refineries would not only improve and or stop the negative contribution of such practice to the environment but, would also reduce the accidents that are often accompanied with the activities. Given that the operations at the community level is well known by the operator or the participants, such individuals should be incorporated into the modular refineries while rendering percentages to the federal coffers. Importantly, the modular refineries should be managed by each state government with the mandate to be operated by the indigenes across the Niger Delta region. The provision of the SME with practical policy

guidelines for its operation should be strictly enforced across the region, which would automatically serve as an empowerment structure for communities.

- Establishment of a viable channel for alternative agricultural practice across the region and or the Nation.

The study recommends alternative agriculture as a vital tool for empowerment and livelihood rebuild across communities. Agricultural activity is seen as one significant aspect indulged by all participants across the communities, and to some extent was reinforced by other organisation and stakeholders on the need for a sustainable agricultural practice. Importantly, all respondents attest to the fact that agricultural practice would increase the livelihood structures across communities. Thus, this study recommends the provision of credit facilities for individuals who want to engage in alternative farming. Also, free government landed areas should be allocated to farmers across communities for agricultural purposes as compensation for decade's exploration and production of her natural resources, given that communities have lived with and coped with different negative impacts of oil and gas production across a wide number of communities. The physical provision of standard markets for the produced product from the alternative agricultural practice should be made practical for the sales of produce while avoiding the risk of waste of perishable good. Importantly, given that the communities are willing to engage in any form of agricultural practice, the agricultural grant schemes across the country should be made flexible for local communities across the Niger Delta Region.

- Establishment of structure for the collaboration between the oil and gas companies, communities and academic institutions to encourage academic research.

In empowering the communities across the region, there is a vital need for collaboration of the industry with research institutes. The study believes that the awareness of the problems that emanate from a deliberate activity that in turn affect subsistence of communities even though, they are intended for livelihood support, would improve if proper academic research is considered for across communities without a financial implication for such engagement. The study suggests free education for across communities and strengthening research activities in available Nigeria universities. It is established that the more educated community members the less perception of marginalisation, and more proactive steps for self-development. This amplifies the need for empowering the community members through an academic channel while engaging in academic research as it relates to environmental issues, long term impact of toxic chemicals like oil spills and gas fumes. Importantly, while the community's members have some sense of marginalisation and neglect issues which have pushed a majority into different survival means, it is

recommended that academic research purely established for the Niger Delta communities should be enforced to facilitate and encourage the community members towards self-empowerment.

- Relevant stakeholders collaborative meeting across the region for strategic implementation of empowerment structure for oil spill affected communities

In empowering community members, the stakeholders from across oil and gas industry, government-related bodies and NGO's need frequent meetings to understand and review the memorandum of understanding of communities and other capacity building activities. There is the need to adopt a community approach in solving communities' problems and how it affects them as opposed to a top-down approach currently practised. The community's plights should be acknowledged in a town hall collaborative meeting where all stakeholders are gathered to deliberate on the implementation of community development projects and empowerment projects. The empirical evidence gathered that often, communities' projects are abandoned and or left half way of completion given that most contractors are a loyalist to the organisation associated with the project. Thus, when the agreement is made amidst other stakeholders, there would be a limited chance of non-implementation of projects as it obviously practised. Hence, the community's stakeholders, oil and gas stakeholders and other related organisation stakeholders need to harness the channel towards achieving a bottom-up approach in especially communities affected with daily oil and gas negative activities on either health, environment, social, economy and livelihood strategies. Emphatically, this study recommends frequent meetings depending on the urgency and need for individual communities across the region.

- Receiving adequate compensation for across communities

Adequacy in compensation is a significant construct in the context of this study as it relates to environmental damages, health, socio-culture, socioeconomic and the entire livelihood structures of communities. Accordingly, it was evidence that monetary and infrastructural compensation stance a chance for reducing the impacts of adverse effects on the livelihood of the affected communities. There should be a monthly monetary compensation/ allowance scheme established for all retirees across the Niger Delta communities. Thus, other compensation should include all the necessary effects across the community instead of limiting compensation to the payment for economic trees and fishing rights. The communities should have compensation for the daily negative impacts of oil and gas activities, especially communities living within a short distance to gas flaring, vibration and noise from oil and gas activities.

9.10. Summary and Links

This chapter explains the main findings of the research, detailing the underlying factors for alternative livelihood, the interventions to rebuild livelihood and the hindering factors that impede the effectiveness of the existing intervention mechanism. Thenceforth, the chapter compared and contrast the findings from the focus group discussion, documents, and the series of the unstructured and semi-structured interviews with the literature. Thus, the chapter then presents the final framework from the combination of the output from the different evidence adopted for the data collection and the analytical tools to build the framework that would enhance the empowerment of communities affected with oil spill impact and negative oil and gas exploration on livelihood systems. Afterwards, the chapter presented the sub-findings from both the interviews and literature. Thenceforth, the chapter summarises the validation of the findings and the framework, along with recommendations to empower communities with devastating impacts from daily oil spills on livelihood strategies. The next section presents the concluding chapter of the research.

CHAPTER 10: CONCLUSION

10.1. Introduction

The chapter one of this thesis provides an introduction, background and justification to the conduct of the study followed by a detailed synthesis of literature while establishing state of the art in the context of the research in chapter two. Subsequently, chapter three presented the conceptual framework through the identified key concepts from the literature synthesis, which was further justified through interviews and focus group discussions. Thereafter, chapter four outlines the steps adopted to achieve the aim and objectives through the use of Saunders et al. (2016) research onion as a fundamental tool that underpinned the study. Accordingly, chapter five presented the first analysis of the empirical data gathered through the community interviews and the focus group discussions. Chapter six presented a detailed analysis of empirical data through the oil and gas industries interviews, followed by chapter seven which presented a detailed analysis of the empirical data of the oil spill-related agency. Afterwards, chapter eight provides the crossed case analysis of the three units of the study, where similarities and contrasting opinions were highlighted to draw conclusions on which measures and tools could enhance the empowerment of communities whose primary livelihood sources are disrupted due to oil spill environmental hazards. To this end, this chapter arrived at the research conclusion by summarising the entire results of the research objectives. Thus, the chapter first presents the summary of the objectives, as stated in section 1.3, followed by the implication/contribution to theory and practice. Thereafter, the limitation of the study and further research work are presented.

10.2. Synthesis on the Objectives

As specified in Section 1.3, the research aim is to develop and propose a framework to enhance the empowerment of communities with devastated livelihood structures has resulted from oil spill environmental hazards. Thus, the aim of the study was examined through four research objectives as listed in Section 0. However, the first objective was to explore the impacts of oil spills and negative consequences of oil and gas activities on livelihood structure of communities. This first objective was mainly addressed through the literature review in Chapter 2 and 2.7. The second objective was to explore the alternative livelihood of the affected oil spill communities in the midst of the incidents and how such alternatives contribute to livelihood rebuild. This was explored through focused group discussion, observation, interviews and was supported in the existing body of literature. The third objective was to identify the strategies employed by the oil and gas industry and oil spill-related agency in reducing oil spill impacts and rebuilding community livelihood as a way of empowerment. This was an empirical investigation through semi-structured interviews and was supported by the literature. The fourth objective was to understand and

evaluate challenges and Barriers faced by oil and gas industry and the government- related agencies in the face of intervention and how to overcome them as a means to enhance empowerment and rebuild of community's livelihood. This objective was empirical through interviews, communities and was also supported in the literature. The fifth objective was to design and propose a framework to enhance the empowerment of communities affected by oil spill environmental hazards on livelihood structures. The objectives were achieved through the findings from the empirical data analysed and presented in chapter 4, 6, and 7. Thereafter, recommendations were presented to how oil spill affected communities can be empowered amid oil spills and negative impacts from oil and gas activities. The following sections below summarise the key findings as related to each objective chronologically.

10.2.1. Objective 1: To explore the impacts of oil spills and negative consequences of oil and gas activities on livelihood systems of communities.

The first objective was to explore the diverse impacts of the decades and frequent incidents of oil spillages across communities in Niger Delta, Nigeria. This objective was primarily explored through literature and was further confirmed through the interviews and focused group discussions. The findings from this objective is presented in Chapter 2 and chapter 5. Accordingly, it was evident that oil spillages and negative effects of oil and gas production have caused a significant impact on diverse areas of the subsistence of the communities. Also, while the literature suggests impacts such as; a significant long-term effect on the immune system of aquatic organisms and wildlife species in affected oil spill areas; a significant delay in crop plants germinations which cause stunted growth and reduces crop yield if eventually grown to maturity stage as discussed in section 2.7.1. The extensive social underdevelopment that engrosses the lack of social amenities, including physical infrastructure, piped water, schools, hospitals, and employment opportunities leading most individuals into prostitution within affected oil spills and oil and gas operating communities (see section 2.7.2). Likewise, the damages to traditional institutions, the culture that encompasses fishing and farming styles, ancestral worship, traditional storytelling at river banks and the breakdown of community fabric and heritage, and loss of values for traditional institutions (see section 2.7.3). Furthermore, there was literature evident of health impact across diverse areas impacted by oil spills. Thus, evidence shows that oil spills cause deleterious health effect, ranging from mental health issues that include; increased symptoms of anxiety, posttraumatic stress, depression, asthma, psychological distress, emotional distress, nausea and dizziness to some types of cancers and central nervous system problems (See section 2.7.4).

On the other hand, the study further found out from the communities that oil spill has not only caused the impact listed above but, have caused severe displacement and migration for either alternative livelihood sources or due to the damages to primary subsistence means. It was found out that there are presently high increased of the loss of parenting, due to the local economic stagnation and threat on food security as the community's glamour for restoration of devastated areas to enable them to bounce back to their original

source of existences. This study found out that a majority of the youths are forcefully independent, which also contributed to the loss of parental values within the cultural believes of the region. It was further evident from the cross-analysis that most community members due to the various impacts from both the oil and gas activities and oil spill environmental hazards incidents have involved in different means for alternative household support. Therefore, it was identified that in other to reduce these impacts mentioned above across communities; the oil and gas operations should be sited distance away from the communities, considering that gas flaring contributes to stunted growth and health, noise and vibrate affecting health and contributing to building cracks across communities. Also, proper monitoring and evaluation of oil and gas facilities for either pipeline against rupture or vandals and strengthening traditional institution as a means of creating a communal bond. The study further identified different medium to empower the communities while strategizing on cleaning up of polluted areas, monitoring of existing projects and or oil and gas production facilities against unexpected incidents (See Table 16). Thus, by doing all of these, the communities are assured to be impact-free from oil and gas negative activities. Also, it is vital that the other factors that have contributed and are contributing to community livelihood disruption as discussed (See Section 5.4.11) should be reviewed by the concern bodies for proper restructuring as a means towards empowerment of community members while reducing environmental impacts from oil spill hazards. The analysis further showed that the empirical evidence replicates the findings in similar contexts reported in the literature.

10.2.2. Objective 2: To explore the alternative livelihood of the affected oil spill communities in the midst of the incidents and how such alternatives contribute to livelihood rebuild

The second objective of this study was to explore the practical and everyday alternative livelihood adopted by the communities in the midst of the negative impacts of oil and gas activities and oil spill impacts on the original livelihood mechanisms. The first motive for this objective was to identify the alternative means and to evaluate whether such alternative contributes to sustainable livelihood standards that could prevent the people from agitations, restiveness and hostage taken in the call for environmental justices and social justice. The second motive for this objective was to evaluate whether the improvised alternative could be an avenue to reduce the direct and indirect impact of oil and gas activities on the primary livelihood structure of the people while contributing positively to the rebuild of the damaged livelihood systems across communities. The findings related to this objective discussed extensively in Chapter 5, is summed up below. Based on the analysis, the study finds out seven different practical alternative livelihood strategies adopted by communities for daily subsistence across and within oil spill affected. Although some identified alternative contributes to environmental damages due to the structure of the practice of such alternative (See Section 5.4.1.1), while other alternatives contribute to everyday livelihood with challenges such as; insufficient landed areas for such practice and lack of proper awareness of health and safety in the practice

of such activities (See Section 5.5. & 1.2). Further, it was found that all the alternative improvised by the communities contributes to socio-economic conditions across the region. Notably, while a majority of the alternative's livelihood contributes to the socio-economic and sociocultural development of the communities, a few other alternatives, such as; local oil refining of petroleum product, daily bricklaying and timber engagement activities only contributes to the socio-economic condition of the people across the communities. Likewise, the cross-case analysis showed a massive acceptance to the adopted alternative livelihood improvised by the communities, considering that all the alternatives contribute to socioeconomic conditions of the people across communities (See Section 5.6.1.2). Notably, only one alternative livelihood was term unacceptable by the oil and gas and the oil spill-related agency, considering the environmental damage that accompanies such activities (See Section 8.2). However, considering the nature of the alternative livelihood and the associated challenges as discussed in section 5.5, the study found that alternative agriculture, adequate soft and hard infrastructural development, SME, and academic research are some significant constructs to aid the reduction of the associated challenges while reducing incident and impact of oil spills. The study concerning this objective found that the restructuring of some of the alternative livelihood of the communities is a vital aspect that should be considered by policymakers, given that a majority of the communities across the region feels economical, socially, resourcefully and politically marginalised.

10.2.3. Objective 3: Identifies the strategies employed by oil and gas industry and oil spill-related agency in reducing oil spill impacts and rebuilding community livelihood as a way of empowerment

The third objective of this research was to identify the strategies employed by the oil and gas and the oil spill-related agency on the intervention strategies towards the reduction of oil spills, community livelihood rebuilds and relationship synergy across oil spill affected communities. First, the management styles of the oil spills, oil and gas activities, and the oil spill-related agency roles was explored through literature (See Section 2.8 and 2.9). Thereafter, the constructs were then empirically investigated through interviews and focus group discussions across all three units of the study. The interviews revealed that the oil and gas had established different intervention strategies for either livelihood support and community development through community's memorandum of understanding. Thus, the findings revealed that as part of corporate social responsibilities, the oil and gas industries have engaged in different short-term intervention in the form of the distribution of credit facilities to farmers. Likewise, distribution of occasional food materials for communities, provision of pipeline security jobs and other unskilled jobs to unskilled individuals while providing skilled jobs to the skilled individuals across communities (See Section 6.4.2.1). The empirical evident further revealed youth empowerment through skill acquisition training, contracts awarded to community contractors at different occasions and compensation for damages when necessary (See Section 6.4.2.2 & 6.4.2.3). Thus, it was revealed that the successfulness of the constructs mentioned above and

other constructs on the community's livelihood have remained questionable, given that most contracts are never executed in physical while completed in theory. Likewise, most skill acquisition training is conducted in an unpleasant environment resulting in unemployable trained individuals across communities as detailed in section 6.4.2.1. Empirical evidence further showed that as a means to enhance synergy between communities and oil and gas about the rebuild of community's livelihood, reduction of impact through the completion and or well structuring of the intervention mentioned above. First, there is the need for integration and mainstream active community engagement into disaster risk awareness, an active communities' engagement into oil and gas business, and active attention to communities' plights and active usage of community approach in an intervention process and execution. The finding further finds out that considering the disconnects and mismatch between the communities and the oil and gas, intervention for the livelihood of different kinds have become incomplete yearly, thereby contributing to the perceived non-physical aspects of some interventions. Accordingly, the study identified strict monitoring and evaluation of projects, stakeholders' collaborative meetings to assess the needs of the communities before execution of any projects and different impact assessment as some means to support the livelihood structure while successfully conducting intervention as needed, see detailed for other suggestions in sections 6.5.2 & 7.4. The analysis further showed that the empirical evidence replicates the findings in similar contexts reported in the literature.

10.2.4. Objective 4: To evaluate challenges and Barriers faced by oil and gas industry and the government-related agencies in the face of intervention and how to overcome them as a means to enhance empowerment and rebuild of community's livelihood

The fourth objective of this research was to identify the challenges and barriers faced by the oil and gas industry and the oil spill-related agency in the contribution towards livelihood rebuild, impact reduction and relationship synergy across communities and oil and gas industry. The empirical evidence showed different challenges and barriers obstructing the intervention of both the oil spill-related agency and the oil and gas companies. Accordingly, the interviews identified 18 barriers challenging the oil and gas intervention from both the community's activities and to somewhat the oil and gas activities, which are all discussed in section 6.4.4 6.4.5. Such barriers from the communities that obstruct interventions are; security threat, communication gaps, culture and mentality of communities towards the oil and gas members, community leadership styles and the impact on intervention, compensation and lack of understanding, lack of environmental expertise and barriers from transit communities that obstruct intervention for host communities. As such, the comprehensive evidence is presented in the sections 6.4.5.1, 6.4.5.2, 6.4.5.3, 6.4.5.4, 6.6.4.5.5, 6.4.5.6 & 6.4.5.7 above. Notably, while barriers that emanate from the oil and gas sector which obstruct their intervention for communities are; the lack of transparency among and between the companies and the community's elders; Representation; corruption; bribery and political difficulties;

inadequacy in existing compensation structures; complication, and negative impacts of monetary compensation. Evidence shows that the current monetary compensation scheme, which is highly led by the oil and gas companies contributes hugely to community conflicts (See Section 6.4.4.1, 6.4.4.2, 6.4.4.3, 6.4.4.4 & 6.4.4.5). As such, the study found out that a community-led approach is an avenue to reduce conflict, improve livelihood structure and restructure of the existing compensation policy. The empirical evidence showed joint investigation visit, poor community representation, sense of neglect, divide and rule issues, double standard games and inadequate community involvement as some barriers and challenges that obstruct the intervention of the oil and gas for livelihood rebuild, development and socio-economic growth of the people (See Sections 6.4.4.6, 6.4.4.7, 6.4.4.8, 6.4.4.9, 6.4.4.10 & 6.4.4.11). Also, the study identified good community representations selection, physical intervention, restructuring compensation structure to incorporate communities' approaches, a monthly allowance for retirees, adequate community involvement, training and retraining of community members as some ways to overcome challenges while empowering the communities (See Section 6.4.6.1.1, 6.4.6.1.2, 6.4.6.1.3, 6.4.6.1.4, 6.4.6.1.5 & 6.4.6.1.6). Likewise, to overcome challenges that emanate from the oil and gas sector, the study identified strong stakeholders' collaborative meetings to obtain the communities opinions on how any intervention could improve their livelihood while overcoming the current challenges faced by the oil and gas industries, discussed in section 6.4.7.1.

Strengthening of related institutional structures, pre-impact assessment and post-impact concrete assessment, monitoring and evaluation of projects as some construct that would reduce the impacts of the hazards while contributing to overcome challenges during intervention for livelihood. Also, another seven barriers challenging the oil spill-related agency during intervention for synergy between the communities and the oil and gas, oil spill responds, and the livelihood rebuild across communities, discussed in section 7.4 were further identified. Thus, the study recognised adequate funding of the agency, amendment of existing policy, provision of oil spill monitoring devise, proper information dissemination channels, and training and re-training of agency staff as some key ways to empower the agency for its concrete intervention for the communities while overcoming obstructions (See Section, 7.4.1, 7.4.2, 7.4.3, 7.4.4, 7.4.5, 7.4.6).

10.2.5. Objectives 5: To design and propose a framework to enhance empowerment of communities affected by oil spill environmental hazards on livelihood structures

The fifth objective was to develop a framework to enhance the empowerment of communities affected by the incidents of oil spills and negative consequences of oil and gas activities on livelihood structures. Thus, the basis for the framework was derived through the synthesis of the literature as discussed in chapter 2 to enhance the empowerment of the communities affected by oil spill and oil and gas negative activities on livelihood systems. Accordingly, to achieve how the communities could be empowered, series of interviews

across communities, oil and gas industry and oil spill-related agency were conducted in concurrent with series of focus group discussions to evaluate, assess and validate construct that could empower the communities affected by oil spills and negative oil and gas activities on livelihood. Accordingly, the study first found out how the communities are empowered through their local means for livelihood subsistence, followed by how the oil and gas and oil spill-related agency intervene for the rebuild of the affected community's livelihood structures. The study found out series of community's alternative for livelihood subsistence across various communities. These alternatives were revealed to have contributed to the livelihood structured with little sustainability strength that could revitalise or be transformed to empowerment, as such, faced different challenges and obstructions, to which the study has provided potential constructs fore (See Section 5.4.1).

Accordingly, it was evident that the intervention strategies adopted by the oil and gas and the oil spill-related agencies were ineffective towards the rebuilding of community livelihood and empowerment. The study found out different associate challenges and barriers that obstruct the intervention process, thereby incapacitating the procedure for empowerment and livelihood rebuild (See Section 6.4.3 7.4). Thus, the study, identified different construct embedded in the framework to enhance the empowerment of the communities, discussed in section 5.6. Based on the findings from the three units of the study the final framework was developed and was further validated by the study respondents. Based on the feedback from the respondent validation process, the framework was refined and presented in Figure 27, thus fulfilling this objective while attaining the aim of the study undertaken.

10.3. Contribution of the research to theory, practice and policy

This undertaken research contributes to the existing body of knowledge by providing the framework to enhance the empowerment of communities affected by oil spills, and oil and gas negative consequences on livelihood structures. This study contributes to both theory, practice and policy within the field and is discussed below.

10.3.1. Contribution to theory

The study demonstrates how communities affected by oil spills, and decades negative consequences of oil and gas activities could be empowered amidst of the impacts. The study contributes to the existing body of theory by identifying how communities, oil and gas, and oil spill-related agency could overcome challenges obstructing their intervention while empowering the communities. Accordingly, there are various studies on oil spill impacts and the Nigerian environmental degradation issues and are still on high growth. However, most of the publications identified the scenarios while paying little attention to the rigorous scientific investigation and proffering potential solutions to the problems as it relates to the livelihood rebuild and empowerment of the communities amidst the incidents and activities. Consequently, this

research work provides significant contributions to theory through the rigorous empirical investigation regarding the channels for the empowerment of communities affected by oil spills and adverse effects of oil and gas production in the Niger Delta Nigeria.

10.3.2. Contribution to practise

The study presents oil spill environmental hazards with the vulnerability context of the communities and how related bodies could adopt some practical alternatives for livelihood and empowerment strategies across Niger Delta communities. Accordingly, the study identified intervention strategies of all the related bodies and the challenges faced by the bodies during intervention for livelihood rebuild, impact reduction and empowerment process. The study, therefore, presented a framework to would enhance empowerment across communities while overcoming the challenges that face the related bodies. The framework encompasses constructs to reduce the incidents of environmental damage from oil spills naturally and to improve livelihood systems of the communities while contributing to livelihood sustainability. The framework and the recommendations to overcome challenges faced by communities and the related bodies will be beneficial for policymakers in structuring policy that deals with community impacts, livelihood disruption and how to empower the communities amidst negative challenges from related oil and gas activities. Likewise, the findings will be beneficial to the communities in helping them to understand the policy, the roles of the oil and gas and the related bodies and the benefit of adopting sustainable and practical means for livelihood support systems without impacting negatively on the environment. Also, considering that the study has highlighted the community obstacle that prevents and or obstruct a successful intervention and has identified construct to overcome such challenges, the communities would significantly benefit when in practice of the strategies mentioned above. The study significantly contributes to the oil and gas sector in helping them to identify that community's obstacle that obstruct their intervention could be overcome through the identified strategies provided in this study. As it was evident that the related organisation's encountered different obstructions at the verge of intervention for community's livelihood rebuild when affected by oil spills, obstruction during intervention for oil spills response, compensations and empowerment. The study, therefore, contributes to strengthening the existing systems adopted by the bodies by providing recommendations to empower the community as an essential strategy to overcome such obstacles.

10.3.3. Contribution to global policy

The study also addresses two of the four priorities of the Sendai Framework adopted by the United Nations for disaster risk reduction 2015-2030. Priority 1 and 3 "Understanding Disaster Risk" and "Investing in disasters risk reduction for resilience". The outcome of this research contributes to priority 1 and 3 by recommending that oil and gas and other related bodies should invest in the communities through practical and concrete empowerment strategies as identified in the study framework. The outcome pointed to the fact that the oil and gas related bodies need restructuring, structural and non-structural measures to improve the

communities socioeconomically, and sociocultural resilience while empowering them. Likewise, the recommendation for academic research and the collaboration with the industries and the research institutes on environmental and disaster studies as a channel for creating more community awareness of disaster risk and understanding of how any environmental negligence could contribute to livelihood negative impact. Also, given that the vulnerable communities are always exposed to the negative activities, such as gas fumes and oil pollution, the study recommends free education across all levels for environmental and disaster-related issues/studies across the Niger Delta region. Thus, this research has been conducted in the most vulnerable area of Niger-Delta Nigeria, as such could provide a valuable contribution to the understanding of oil spill environmental hazard on livelihood structures of vulnerable communities. Importantly, considering that the framework is validated through respondent's validation process, there is an opportunity to adopt the framework when assessing community post-impact damage and how to restructure an ineffective existing measure for a quick resilience of communities in the Nigerian context.

10.4. Limitation of the study

While evidence for data collection for this study was through multiple sources following a structured case study protocol to ensure the validity and credibility of the study, the philosophical paradigm that underpinned this study inflicts some limitations, given that interviews are more context-specific which reflects more of subjective standpoint and socially constructive while ignoring the objective views. The study further tested the findings through a series of expert's interviews to overcome this limitation; however, adopting both objective and subjective context may reinforce more clarity to overcome the limitation. Though the final framework has been validated based on the series of interviews, thus, the implementation and practicability remain untested as this is beyond the scope of this current research. However, the framework was theoretically tested via respondent validation process, while the real applicability and practicability of the framework within the Nigerian Niger Delta context were not tested due to time constraints of the study.

Another limitation of the study is that the data collection was limited to the Nigerian Niger Delta context as it provides more access to relevant data and the research problem directly related to Nigeria. Though, the findings of the literature survey show that most other countries with oil and gas production face related oil spill issues with a relatively low impact on livelihoods, due to the availability and improved management and response mechanisms. Thus, this current study can only be generalised within a context-specific modification in similar cases in Nigeria other than the Niger Delta.

10.5. Further research

The recommendation for further research is presented below.

As the final framework for this study was not tested for its applicability and practical implications, which was beyond the scope of this doctoral study. The study, therefore, recommends that the final framework be applied across a selected and more vulnerable and impacted oil spill communities in the Niger Delta to test the validity and practical usefulness. Furthermore, given that key concept and impact of oil spill environmental hazards were discovered through the literature within the Nigeria context irrespective of the management systems facilities availability to curb the impact, it will be desirable to conduct an empirical study on the livelihood aspect of the impacts within a similar case study context in other developing countries.

More so, this study was conducted in the aspect of social context, which the final framework offers potential solutions to enhance empowerment as a means to revitalise damaged livelihood structures rooted in social aspects. It is, therefore, recommended that similar studies be conducted from health perspectives, given that some sub-findings of this current study highlighted deformity in new-born babies who were perceptively belief to be related to the daily contact and usage of contaminated water, inhalation and the nearness of pollution to communities. It will be desirable to conduct an empirical study on the relationship between the deformities of newly born and the oil spill/ pollutions across the contaminated Niger Delta communities.

10.6. Conclusion Notes

The main conclusions of the study have been presented and summarised in this chapter above. The conclusion demonstrated that the aim and the objectives of this study had been fulfilled through the adoption of the philosophical stance, data collection instrument and the analytical measures underpinned all through the study. The primary outcome of the study is a framework to enhance the empowerment of communities affected by oil spill environmental hazards on livelihood structures. The study further explains the fundamental factors for the quest for alternative livelihood which forms part of every existence, while detailing the alternative community livelihoods, oil and gas, and oil spill agency intervention mechanisms for community and obstructions associated therein. Irrespective of the associated challenges obstructing the alternative livelihood improvised by the communities, and the obstructions impeding the oil and gas, and the oil spill agency, the research identifies ideas to overcome the challenges, as such, embedded in the framework that will enhance the empowerment of communities impacted by negative oil and gas activities on livelihood sources. Further, while this research contributes to both theory, practice and policy, the final outcome opens up further research areas in terms of the context, focus and the applicability.

Appendices

Appendix 1: Semi Structured Interviews guidelines for Communities

Oil spill affected communities (Community representatives/Academic/Activists/Religious and Traditional leaders)

1. Impacts of oil spillages on the community's livelihood structures
2. Secondary impacts of oil spills and oil and gas activities across community
3. Households livelihood sustainability and livelihood alternative for community sustenance
4. Alternative livelihood strategies that support household during and after oil spill and or negative oil and gas activities
5. How community alternative livelihood support systems influence the socio-economic and socio-cultural revitalisation
6. Community's relationship with the oil and gas industry with respect to impact reduction and rebuild of community livelihood system
7. How oil spill environmental impact issues can be reduced on communities through alternative livelihood support mechanisms
8. Mechanisms for livelihood and resilience

Policy aspect

9. Communities understanding of existing environmental policy and policy that relates to their natural resources.
10. Issues of survival within the context of the policy with regards to compensation for damages on primary livelihood system.
11. Issues with management and compensation as relates to livelihood damages
12. Issues of environmental awareness and environmental policy implementations

Appendix 2: Semi Structured Interview guidelines for oil and gas participants

About communities' impacts, oil spills, intervention mechanisms and responds to livelihood rebuild

1. How the oil and gas response to oil spills that impact livelihood damages of communities.
2. Communication channel involved through, for spill response, compensation and clean-up of damaged places
3. Concrete, physical and practical intervention means for oil spill affected communities
4. Effectiveness of the intervention strategies for livelihood support adopted by the industry
5. Issues with community MOU and cooperate social responsibilities
6. Issues with overcoming community challenges, crisis, and deliberate act of saboteur

7. Issues with relationship of the oil and gas and the communities with respect to environmental challenges and how it affects communities
8. Issues with policy and community perceptions
9. Issues of empowerment as strategies for livelihood revitalisation

Appendix 3: Semi Structured Interviews guidelines for oil spill related agency participants

1. Issues with government intervention strategies through agency for livelihood support across communities affected by oil spill environmental hazards
2. Issues with community synergy as tools for impact reduction
3. Issues with compensation for damages on livelihood structures
4. Issues with policy and implementation at community level
5. Issues of alternative community livelihoods
6. Community and their mechanisms with the oil spill agency
7. How community perceive available interventions from the oil and gas and the oil spill agency
8. Issues with empowerment as tools to reduce oil spill impact on livelihood systems

Appendix 4: Sample interview transcript

Question: From your experience, how can you describe the incidences of the spills on the entire sources of livelihood?

Response: The spills was massive because it was under high pressure and was unattended to for several weeks. Though, the exert date of the spills is disputed by the concern bodies and the community members. But the fact remains that the oil spilled for several weeks before it was checked and clammed. The creek being a tidal environment was submerged in oil, being a sheltered environment that is sheltered with mangrove, the retention of the oil in the creek even if there were continues flushing of the oil out of the creek with tide. Being a sheltered environment with low current energy, lots of oil was retained in the creek and the mangrove swamps. The impacts on the eco-system was massive (destroyed) it affected up to 4-5 thousand hectares of mangroves in the creek, and an estimated of one thousand hectares of mangroves suffered total mortality and were killed, so were the organisms, the animal component of the mangroves in the affected areas. Another 2 thousand hectares suffered chronic impacts which lead to death of the mangroves at the early stages (fringes) and those at the intron that was not too exposed to the oil survived but showered different kinds of chronic/effects and response such as; yellowing of the leaves. In terms of fishery, there were no fishing activities and beside the few fishes migrated to other non-effected areas if they are opportune and so many entangled in the oil and was perish. For the benthic organisms who are relatively sedentary where doom as they suffered almost all the impacts, they get buried in sediment by tidal pumping. The oil is retained in the sediment which is the micro habitat of the benthic organisms. So, spices like periwinkle, bloody coco will not be able to escape from the oil because they are more sedentary.

They will respond to the oil by adopting some physical and physiological measures such as shorting their valves which will perhaps last for few days and after which they will be forcing to eat to recur their lost energy, the process of the benthic organism coming out for food makes their valves open and absorb oil which definitely kills them. The benthic organisms suffer hug mortality, there are no live bottom dwellers fishes of any kind in the Bodo creek which was hug income sources before the spills. Also, sources of mangrove were drastically affected and impacted negatively on the mangrove wood harvesters within the communities which was a major source of income for the harvesters, also all the different species of fishes within the region had been lost.

Question: How can you summarize specific impacts on the social and economic support structures of the people and what alternatives are devised by the people?

Response: A vey cultural heritage of the people had been lost, there were different kind of traditional fishing that people learn without practically known that they have leant different methods of fishing. For example, playing in the river banks and using their hands in catching fishes. It has impacted in all angles of the society and that's why we are trying to put some of these things in writing, so that anyone could stumble on it and try to come to the aid of the people. Fact remains that, when parents of predominately fishing community lost their livelihood support 'sources of income' then pre-school children, children of school age will all suffer the effects so also the youths, if the youths are not engaged in the activity that will generate income for them in a fertile environment like the Niger Delta, it will result to social tension within the society. And when the youths are not rightfully engaged, they will also engage in the activities such as bunkering (artisanal oil refining) which further contribute to environmental degradation within the area. In terms of school children, their parents will no longer afford their fees, and a major form of their nutrition is lost because the main protein sources from a predominantly fishing community like the Bodo is fish and when they don't have access to fish any more, then their major source of protein is lost. Which affects their growth rate and mental alertness and also affects their general performance in school for those who still have the opportunity of going to school. Most school children have lost their education because of the impacts of the oil spills on the sources of income of families. There was a component that has to do with nuisance when the mitigation was brought. Nuisance about children who are supposed to go to the creek as it's the culture of the people to bath in the creek water, go back to their houses and get dressed for school. But, when the spill happened they lost that opportunity of swimming in the creek. Also, the people are exposed to high level of hydrocarbon contamination through direct contacts with the water, because most people leave just at the edges of the creek and even those who leave far away still inhale the toxic air that blow from the sea to land ward areas. For example, every first of March, people from all works of life usually gather at the bank of the creek for festival which is called New Year 'koso beach' party in Ogoni. Which started in the year 2000 and by the time of the spill it has turned to an annual ritual by the people. There is usually different cultural dancing during the festive periods such as; cannon regatta, swimming, which increase micro-economy within party. The spill had a big impact on the social lives of the people in the

sense that, people who normally come together for swimming, dancing and exchanging pleasantries are no longer coming together for such activities. Also, every three years the people, there used to be communal fishing party in Bodo community, the lagoon-like part of the creek is usually fenced, the collusion of fishhance. That are fishers come together with their net, boat, pen, to fence a part of the creek, so everybody in the community both men and women, young and old come in their numbers to fish within the fenced area every three years. Interestingly, the fishers usually calculate to make sure that the fencing coincides with what science called 'Espinosa tide' 'highest tide'. That is when the moon and the sun are maximally aligned, so the gravitational boll on the earth is hug, so people records the highest tide in the year. The implication is that water will penetrate into the mangrove interior and beyond to supratidal areas where water will never get to and so, the fishers will now be able to go far into the interior of the mangrove and then they get entrapped. So, people tend to catch as many fishes as possible and because the entire community will converge on the different water front within the lagoon-like part of the creek. People of different age grade. Then as the elderly awaits the tide to reside/ reduce, they tell traditional stories at the bank/front of the creeks preserved in oral tradition of the people. Which educate the people traditionally which is lost presently, there are no such activities in the land, no fishing activities, dancing etc. And as the young ones are not told this story, the elderly dies with the stories which have increased loss of culture and heritage. Presently, young generations are almost forgetting the traditional stories and their culture partly to oil activities within the region. There is no young peer telling traditional stories to one another because they have gradually lost the root/foundation of the story tellers which were the elders during fishing festivals/rituals. The stories made a major part of oral tradition of the people are lost. So, social lives of the oil spill affected region is terrible. There is no cooperative weeding in the land anymore. For example, young girls previously form groups for weeding, and what they do is, they move from one member's farm to another in cooperation. There are usually lots of groups which always engage in computations between different themes. Competition to see which theme weeds faster than others. Apart from leaning the skills of cooperative weeding, there was sense of cooperation/theme building among. Whenever, such activity is finished and whosoever takes the lead of the weeding endeavour of that day, the person's name is used in 'composing a song' and thereafter, they move with the song to the stream to have their bath. And besides, they usually go to the farms with baskets bought by individual's parents as a way of support to form such theme. So, they go to the farms with their fine cloths and makeup in the basket and after finishing from the farm, had their bath in the stream, then they makeup, dress in their fineries and sing the song with the winner of the competition on their way home.

Question: So, will say the spills increase jobs or reduce job opportunities for community members, given that oftentimes people uses the product locally?

Response: Oh no! The spill actually caused reduction of jobs for the societies and not only that, it actually and forcefully destroyed our social and traditional lives and sources of jobs. Do you know when you talk about job opportunities? When people come from far and near to festive with a particular region, society or

community, you know what happens? People that ordinarily wouldn't have done anything will be eager to go into trading of different kinds because of the different activities and participants including tourist personnel's that will be coming for the event. People within this region have actually lost a lot of values that I might not be able to explain. Most important part is if the National bodies recognises the people and make things a lot easier, it would have reduced the cry, poverty and the health issues ramping all over.

Question: Do the spill incidents instigate restiveness or what do you think could be an influencing factor for restiveness if there are any?

Response: Presently, the people are handicapped, I wouldn't say it is the spill specifically. But, it because they have lost the sense of belonging, which is the Nigerian state seems to have abandoned the people. You see, when people are not engaging wisely and intensely, there is a problem. The youths are not engaged, women who used to pick periwinkles are all at home and abled men are always no doing anything, so there is a problem. Like you commonly here the people saying, we will destroy equipment's and their facilities, if they are everyday going to work, such things won't exist. Or is it the local refining of oil? There are lost to be done from the company involved and the Nigerian state. The spill impacted on the ability to lean in traditional way, theme building, and cooperation. This are the reason why there is a sense of frustration, the traditional/ cultural way of the people leaving together, dancing and farming together as a community is lost. And to an extent is contributing to the crisis, conflict in the Niger Delta, because there is that sense of individualism, frustration. In previous decades, people used to attach themselves to an individual with high traditional good behaviours which they practically use as model. Presently, the region had lost that fabric. So, with the lack/ erosion of livelihood support structure including lack of jobs/engagement of the youths, people tend to be more violence within the region.

Question: So, sir, could you mention some few means for survival across the communities?

Response: The people still engage in fishing and farming activities even though they travel miles away for such activities. It is a natural thing that when one's major sources of survival get damaged there are tendency for alternative.

The question now is, how are the alternative means engaged by the communities contributing positively for the community's members? The government and the oil and gas sector need to understand that and do something useful for the communities. First, most people do not have land of their owned for farming except borrowed land or they migrate to other communities for farming or daily casual jobs for household survivals. The oil bunkering rate has increased and it's challenging to curb that activities peacefully except through violence and killing on both sides that is the government and the communities, because that activities cannot stop. The only means is to restructure and put proper policy in place that welcomes or incorporate communities' approach also.

Question: How has the oil related agency and oil and gas industry intervened in terms of spill response and impact curtailment? (Measures)

Response: I will point that the measures they have been applying are not international best practices. (They should work towards zero spillages so that the people can fall-back to their original sources of livelihood). The little scholarships given to few will not improve the socio-economic lives of the affected oil spill communities. The little food stuff provided occasionally will not in any way improve the socio-economic conditions of the people. Both the oil and gas and the oil spill related agency must work in synergy to contribute largely to the communities across the communities. When both parties work in accordance with international best practice that will improve the livelihood system of the communities and reduce different environmental issues.

Question: What measures/strategy do you think could reduce the impacts when employed?

Response: Strengthening contingency plans in the oil industries, I wouldn't advocate that the oil should be left in the ground because it is the major source of foreign exchange earnings for the Nation. I will advocate for international best practice, putting in place contingency measures that will be able to address spills in a very prompt manner when they happened. Putting in place best practices that will prevent oil spills in the Niger Delta. Putting in place a well thought out community driving cooperate social responsibility packages that will take care of some of the social tensions within the societies. For environment that had been degraded by oil spills, cleaning and restoring them, so that the people can pick their livelihood support structures. The people need proper inclusion, education, i.e. free education across the region, which will help people and enlightened the youth on the importance of what they have got. There is lack of environmental awareness I repeat, look at the communities and check carefully how people live wretchedly in the midst of plenty. It's really disheartening I must say. We can only write and put it out for reference because the even the different agencies responsible for the region's environment and the empowerment and improvement are all politically incline. So, I advocate for best practice just to avoid the impact because the communities would continuously suffer when it occurs.

Question: Why do you think the measures that the oil companies engaged have not improved the socio-economic and the cultural conditions of the community members?

Response: It has not improved the socio-economic because they are not in-cooperating the community's decisions, exclusion of the community members in the oil and gas business, neglect and marginalization on community perspective. The little and uncompleted numerous projects across the communities cannot improve anything, how can it? It cannot. There should be very clear standards for communities as the oil and gas sector have with the government. All the activities be it within cooperate social responsibility or memorandum of understanding have yield little empowerment or impact reduction on the people's livelihood.

Questions: Do you think there are barriers and challenges the companies might be facing that compelled them to operate the way they do?

Response: Barriers and challenges? Hmmm. Corruption, Double standard games, Divide and rule are some barriers that are ensued. For those in the coastal villages because this particular area, is made up of 35

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villages, the children in those coastal villages are more directly in contact with the oil, they benefited from the nuisance component of the case. Though, the case was eventually vindicated in the United Kingdom, from 2011 to 2014 when both the communities and the oil company involved negotiated and was settled out of court with £55m paid to the community involving (£35m) individual claims and (£25m) community's claims including those coastal communities. Though, majority of the people that benefitted from the monetary compensation were from Bodo, that's about 13,600 people and 2000 people from other coastal villages. The reason was because those coastal villages operate within the same area of the creek, 80% of the creek covers all other coastal villages, so the spill impacted on fishing activities of other communities within the region. The total number of claimants was 15,600 fifteen thousand six hundred individuals from communities around the Ogoni and each had an average of six hundred thousand Nigerian currency which is equivalent to £1000.

Question: Sir, you mentioned about compensation paid to 15,600 people, how sustainable is that compensation?

Response: No compensation can replace or equate to the benefit the people have been deriving from the creek because you cannot be able to pay for the ecosystem goods and services, culture degradation, coastal shrine of the people that are degraded. You cannot compensate for the lost learning activities such as the fishing party activities and the cooperative weeding etc. The compensation ends up given the people a sense of justice and to provide them with a sense of relieve, to go into something differently. So, having received the little money they got, it then now depends on individual to utilize the money wisely? Though, I call that acceptance of incidents and was not aiming to sustainably improve anything across communities.

Response: The compensation has to be complimentary because it's about monetary compensation. But, what is fundamental is environmental compensation which is the restoration of the degraded lands, waters ways and re-vegetation of the mangrove that were destroyed by the oil spills so that the fisheries of the people will return, periwinkle pickers will also go back to source for their livelihood support, each will now complement the other and the life of the people will bounce back. But, without restoring the ecosystem, the main of livelihood of the people to complement what they have got. The money they got is symbolic because it gives that sense of justice as it didn't turn out to be business as usual, as experienced around the Niger Delta whereby there will be oil contamination and the people will not get anything. Restoration of the ecosystem of the people is fundamental because if that is not done soon than later, those who have the experience in fishing that would have passed it onto the knowledge to the younger generation are fading away. Death rate and deforming newly born babes is alarming all is due to the source of contaminated food intake, and those who are repository of knowledge are dying in their numbers every day, the environment should be restored so that the remaining experienced members of the population can teach and transfer the experience to the young ones, the act of fishing preserved in the tradition of the people and generation yet unborn.

Thank you, sir,

Is there anything you would like to add?

There is no significant improvement that has emanate from oil multinationals activities to improve on socio-economic development across communities. Let me say this, Because of population explosion, most of the farm areas are converted to residential areas which have resulted to farming on island that dug the creek. The islands have been partitioning into farm lot for members of the communities and the island became in accessible, contaminated by the spills. Especially the ones at the edges of the creeks, so farming on those islands became less attractive and so the people loss that sense of coming together. The spill impacted on the ability to lean in traditional way, theme building, and cooperation. This are the reason why there is a sense of frustration, the traditional/ cultural way of the people leaving together, dancing and farming together as a community is lost. And to an extent is contributing to the crisis, conflict in the Niger Delta, because there is that sense of individualism, frustration. In previous decades, people used to attach themselves to an individual with high traditional good behaviours which they practically use as model. Presently, the region had lost that fabric. So, with the lack/ erosion of livelihood support structure including lack of jobs/engagement of the youths, people tend to be more violence within the region.

Thank you, sir

THE UNIVERSITY OF HUDDERSFIELD
School of Art, Design and Architecture

STUDENT PROJECT / DISSERTATION ETHICAL REVIEW
(Limited or Significant Risk)

APPLICABLE TO ALL UNDERGRADUATE AND TAUGHT POSTGRADUATE PROGRAMMES

Please complete and return via email to your Project / Dissertation Supervisor along with the required documents (shown below)

SECTION A: TO BE COMPLETED BY THE STUDENT

Before completing this section please refer to the School Research Ethics web pages which can be found at [this link](#).

Students should consult the appropriate ethical guidelines. The student's supervisor is responsible for advising the student on appropriate professional judgement in this review.

Please ensure that the statements in Section C are completed by the student and supervisor prior to submission.

Project Title:	An Investigation into oil spill environmental hazards impact on livelihood structures
Student:	Albert Oshienemen Ndu
Student number:	U1555723
Course:	PhD (Art Design and Architecture/ Global Disaster Resilience Centre (GDRC))
Supervisor:	Professor Dilanthi Amaratunga
Project start date	1 st /April /2015

SECTION B: PROJECT OUTLINE (TO BE COMPLETED IN FULL BY THE STUDENT)

+	
Issue	Please provide sufficient detail for your supervisor to assess strategies used to address ethical issues in the research proposal
Aim / objectives of the study These need to be clearly stated and in accord with the title of the study. (Sensitive subject areas which might involve distress to the participants will be referred to the Course Approval Panel).	The study intends to investigate negative social impacts of oil spillage and to propose a framework to reduce the negative societal impacts in the Niger delta region of Nigeria Objectives 1. To examine the social impacts of oil spill disasters and how they are managed with special emphases on women, chiefs/ elders and youths 2. To examine the extent to which the oil companies and governmental agencies policies have mitigated the societal impacts caused as a result of oil extraction activities in the affected communities. 3. To examine the extent to which the Traditional leaders as custodians of these host oil communities handle issues of oil spills impacts in other to reduce violent, physical abuse (rape), prostitution and conflict 4. To design and propose a framework for reduction of social impacts of oil spill disaster in the Niger Delta. 5. To make recommendations as to how the socio-economic impacts of oil activities can be reduce and the

	people reforming their strategies in quest for justices through nonviolent means
Brief overview of research methodology The methodology only needs to be explained in sufficient detail to show the approach used (e.g. survey) and explain the research methods to be used during the study.	The study will involve an in-depth face to face (semi-structured) interviews among traditional leaders and governmental officials in the bodies/ agencies established for the interventions and development of the Niger delta region. Secondly, focus group will be conducted among youths and women across oil spill affected communities. Finally, documentary search will also be employed.
Does your study require any permissions for study? If so, please give details	Yes , there is need to acquire permission from responsible authorities at the University of Huddersfield Research Ethics team for approval
Participants Please outline who will participate in your research. If your research involves vulnerable groups (e.g. children, adults with learning disabilities), it must be referred to the Course Assessment Panel.	The interview and focus group discussion will involve traditional leaders, governmental officials, youths and women with no disabilities
Access to participants Please give details about how participants will be identified and contacted.	Research participants will be accessed through both formal and inform communication. Interviews will be on purposive means, and will be approached physically at their place of work or convenient environment as the case maybe for some governmental officials (participants). Focus group discussion on women participants will be from purposive to snow ball means, while youths participants will be contacted randomly among the affected communities.
How will your data be recorded and stored?	All data collected will be tap recorded and stored in my drop box and flash drive (hard drives) likewise pictures and videos.
Confidentiality Please outline the level of confidentiality you will offer respondents and how this will be respected. You should also outline about who will have access to the data and how it will be stored. (This should be included on information sheet.)	Before participant's acceptance for participation, assurance of confidentiality and anonymity will be made clear to the participants. Stating that the information they provide will only be used for the research purpose and not otherwise. Furthermore, all data collected by recording will be deleted after data analysis and the useful information's have been transcribed by the completion of the research program.
Anonymity Do you intend to offer anonymity? If so, please indicate how this will be achieved.	Yes , I will completely offer anonymity; both interviews and focus group discussions (only when participants voluntarily offers approval of mentioning/ quoting him/her by name) otherwise anonymity will be assured. During result discussion, ministries/agencies, and some other cases will remain unnamed where fictitious names will be used for example, Traditional letters of each of the communities, can simply be, Traditional leaders A, B, & C etc.to replace the names of the traditional leaders or the governmental officials that participated.
To what extent could the research induce psychological stress or anxiety, cause harm or negative consequences for the participants (beyond the risks encountered in normal life). If more than minimal risk, you should outline what support there will be for participants.	This research will involve interaction between the researcher and other human beings of different category. The reflection on my role as the key person in the research is very essential for the field work, for the fact that this research intends to capture the people experiences, opinion, perspective and views which will constitute data can create tension between the researcher and the participants, and such situation can affect response from the participants which may lead to the data/information not been reliable. Therefore, will carefully maintain good relationship in all areas in order not to intimate my participants. Being the key actor, I

	might affects the project in one way or another if proper and accurate steps are not taken. Therefore, flexibility is the key instrument to a successful fieldwork. My roles will include, seeking information consent from the participants and the agencies, emphasizing the benefits of the research, sharing experiences with participants linking the research gaps, facilitate group participants for discussion and to assure the confidentiality and anonymity of their information's
Does the project include any security sensitive information? Please explain how processing of all security sensitive information will be in full compliance with the "Oversight of security - sensitive research material in UK universities: guidance (October 2012)" (Universities UK, recommended by the Association of Chief Police Officers)	NO, the research does not include any security sensitive information to my best of knowledge

SECTION C – SUMMARY OF ETHICAL ISSUES (TO BE COMPLETED BY THE STUDENT)

Please give a summary of the ethical issues and any action that will be taken to address the issue(s).

Since, my research aim at involving participants from different ethnic group and agencies, accessibility to agencies and other communities to the traditional leaders is required. There is need to acquire permission from the University authorities concern. The university of Huddersfield ethical approval will need to be south through the school of ethics committee for complete permission for the data collection process/ the project conduct. Informed consent; respondents informed consent will also be made available to the participants before the start of the exercises. In addition, participants will be informed on their freedom to participate or withdraw from participating at any giving time of the process (during or before). Assurance will also be made clear that after the process, all recorded discussions, videos and pictures will be deleted and destroyed when the information's are transcribed, except any individual or participant who voluntarily indicate interest to the researcher to mention his/her name with his/her opinions otherwise anonymity and confidentiality is assured.

SECTION D – ADDITIONAL DOCUMENTS CHECKLIST (TO BE COMPLETED BY THE STUDENT)

Please supply to your supervisors copies of all relevant supporting documentation electronically. If this is not available electronically, please provide explanation and supply hard copy

I have included the following documents (A hard copies of the following documents will be provided in due time)

Information sheet	Yes	<input checked="" type="checkbox"/>	Not applicable	<input type="checkbox"/>
Consent form	Yes	<input checked="" type="checkbox"/>	Not applicable	<input type="checkbox"/>
Questionnaire	Yes	<input checked="" type="checkbox"/>	Not applicable	<input type="checkbox"/>
Interview schedule	Yes	<input checked="" type="checkbox"/>	Not applicable	<input type="checkbox"/>

Appendix 5: Publication of the researcher

- Albert, Oshienemen N., Dilanthi Amaratunga, and Richard P. Haigh. "Evaluation of the impacts of oil spill disaster on communities and its influence on restiveness in Niger Delta, Nigeria." *Procedia engineering* 212 (2018): 1054-1061.
- Albert, O. N., Amaratunga, D., & Haigh, R. P. (2018). Environmental Policies within the Context of Compensation for Oil Spill Disaster Impacts: A Literature Synthesis. *Procedia engineering*, 212, 1179-1186.

- Oil-Spill Environmental Hazards and Community Adaptive Livelihood Alternatives in Nigeria (Book Chapter)
- An Investigation into Root Causes of Sabotage and Vandalism of Pipes: A Major Environmental Hazard in Niger Delta, Nigeria (Book Chapter)

Ongoing journals

- Managing Oil-spill Disaster for Resilience: An Appraisal of Agency's Intervention for Livelihood Rebuild in Nigeria.
- Evaluation of Oil and Gas Wastewater Treatment and its Impacts on Livelihood; the Niger Delta Case

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