

# RESOLVING THE NIGER DELTA REGION OF NIGERIA CRISIS THROUGH THE USE OF ENVIRONMENTAL ACCOUNTING FOR SUSTAINABLE DEVELOPMENT

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**Abstract:** The Niger Delta region has been maverick, bedeviled with varied types of assumptions, actions, and even inactions, spanning from illusion to delusion. Most frequently, the region has been subjected to constant bombardment from land, sea and air by the Nigeria military, in a bid to return fire for fire as a reprisal for the unrelenting destruction of our common wealth by the aggrieved militant youths in the region. This region has been troubled for the past decades by the youths that have taken to arms to protest lack of adequate compensation for the continuous degradation of the environment and the traumatic effect on the people, arising from oil exploitation. This study is predicated on Frustration-Aggression theory and Geopolitics theory. The use of environmental accounting to resolve the structural disequilibrium has therefore become expedient. Data were collected from primary and secondary sources. A cross-sectional survey design was used in the administration of questionnaire. Data were analyzed through the use of chi-square statistics using the statistical package for social sciences (SPSS) (software 20). The result revealed that adequate compensation has not been instituted by the multinational oil companies and the Nigeria government not exhibiting enough political will to develop the region and make life worth living for the inhabitants. The study therefore recommended the services of environmental accountants/experts, using the necessary legal instruments to ensure a solid structural framework for environmental accounting that will be separately prepared to cater for externalities which will elicit adequate compensation for sustainable development to be achieved in the Niger Delta region of Nigeria.

**Keywords:** Maverick, illusion and delusion, frustration-aggression theory, geopolitics theory, structural disequilibrium, sustainable development.

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## 1. INTRODUCTION

The environmental damage caused by oil exploitation in the Niger Delta region of Nigeria has constituted an albatross on the inhabitants. The resultant degradation arising from oil exploitation has led to soil infertility and destruction of wild life and breeding ground for fishes due to spillages and emission of harmful effluent, thereby causing a toll on the environment and socio-economic lives of the people. The serial conflicts generated amongst the various stakeholders have made the region to become highly turbulent and militarized. The inability of the multinational oil companies and the Nigerian government to show enough commitments towards alleviating the sufferings of the people and re-direct the developmental process have been the bane of the unending crises in the Niger Delta region of Nigeria.

Arington and Francis (1993) contended that the provision of accounts is ubiquitous in every human activity and it is concerned with donating intelligibility and understanding to the moral dimension of economic experience. This has agitated intellectual discourse that the accounting profession is ideal in resolving the structural disequilibria in the national

budget and subsequent implementation. The new dimension of environmental accounting and ethical conduct will further assist the accountant to ensure a solid structural framework for sustainable development as relates to the Niger Delta region of Nigeria.

### Statement of the Problem:

For more than four decades, the people of Niger Delta had lived with the anomaly of having to feed from crumbs of the national cake which is baked in their territory, but shared in nation's capital with other Nigerians who know nothing about the negative effects of oil exploration and production, as highest beneficiaries. The host communities where oil is produced have been content to accept the little handout which came their way, in form of few development projects from the Nigerian government (Anyaeibunam, 2000). This explains the endemic nature of poverty in the region. There have really been no environmental policies to address the environmental problems of degradation, air and water pollution, waste management, biodiversity protection and wildlife and endangered species, in the Niger Delta region of Nigeria. The resultant incidence of poverty has therefore become absolutely imperative as relevant indices rank the region as poorest in the country. The establishment of Niger Delta Development Commission (NDDC) in 2000, Amnesty programme initiated by late President Umaru Musa Yar'Adua in 2009, Ministry of Niger Delta and the recent Ogoni clean up have really not helped matters as they have turned out to be mere palliatives. The cost of environmental consequences arising from resource exploitation in the Niger Delta region needs to be properly ascertained in financial terms. Apart from properly ascertaining the needs of the people, the environment also needs to be protected. Furthermore, this depletable resource base needs to benefit, not only this present generation, but generations to come, for inter-temporal equity.

### Objective of the study:

The main objective of this study is the use of environmental accounting to assess commensurate compensation to ensure sustainable development in the Niger Delta region of Nigeria. Other specific objectives are:

1. To ascertain the impact of oil exploitation on the people of Niger Delta region of Nigeria..
2. To ascertain the cost arising from oil exploitation through the use of environmental accounting
3. To ensure adequate compensation through environmental accounting for sustainable development in the Niger Delta region of Nigeria.

### Research Questions:

1. Can the impact of oil exploitation on the people of Niger Delta region of Nigeria be ascertained?
2. How can the cost arising from oil exploitation be ascertained through the use of environmental accounting?
3. Can there be adequate compensation through the use of environmental accounting to ensure sustainable development in the Niger Delta region of Nigeria?

### Research Hypotheses:

#### Hypothesis 1

Ho: The impact of oil exploitation on the people of Niger Delta region of Nigeria cannot be ascertained

Ha: The impact of oil exploitation on the people of Niger Delta region of Nigeria can be ascertained

#### Hypothesis 2

Ho: The cost arising from oil exploitation cannot be ascertained through the use of environmental accounting

Ha: The costs arising from oil exploitation can be ascertained through the use of environmental accounting

#### Hypothesis 3

Ho: There cannot be adequate compensation through the use of environmental accounting to ensure sustainable development in the Niger Delta region of Nigeria

Ha: There can be adequate compensation through the use of environmental accounting to ensure sustainable development in the Niger Delta region of Nigeria

## 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK INTRODUCTION

In every research work, the need to review relevant literature and give conceptual clarifications is always imperative. Also, there is the need to empirically analyse the works of researchers in a similar area of study in order to give credibility to the study. The theoretical framework represents the foundation upon which the study is situated or drew inspirations. It is like the foundation of a building, which if not solid, cannot stand the test of time.

### Concept of Niger Delta:

Geographically this is the region measuring about 70,000 square kilometers, lying in the southern-most part of Nigeria stretching from Nigerian-Cameroon boundary in the east to the Ondo-Ogun States boundary in the west. The area is bound in the north by Enugu, Ebonyi, Anambra, Kogi and Ekiti States with the Atlantic coast forming the general boundary in the south. Niger Delta comprises about 1,600 communities in nine States, namely, Abia, Akwa Ibom, Bayelsa, Cross Rivers, Delta, Edo, Imo and Rivers with more than 31million people (Ekpo, 2004).

To the geologist, the Niger Delta is the most sedimentary basin in Nigeria, from the point of view of size and sediments thickness. To the federal Government of Nigeria, the Niger Delta is the most important region in the country as its petroleum reserves provide a substantial part of the country's foreign exchange earnings (Asakitikpi and Oyelaran, 2000).

Contributing to the debates of the definition of Niger Delta, Isown (2001) defined it in three perspectives – the scientific, historical and political. In the scientific perspective, the Niger Delta is the location associated with lower Niger, especially where the river splits into its tributaries, River Nun and Excravos. it starts from Benin River Basin in the historical perspective, the Niger Delta is referred to as the conglomeration of people, who in 1958 canvassed for special attention that led to the inauguration of the Henry Willinks Commission in 1958. These include the Ogoni province, Degema and many other places excluding the present Port-Harcourt and Warri. The political perspective is associated with Niger Delta Development Commission (NDDC), which views Niger Delta as synonymous to oil production embracing all oil producing communities

### Concept of Environmental Accounting:

Environmental Accounting is a term with variety of meanings. It can be referred to as the identification and reporting of environmental specific costs such as liability costs or waste disposal costs (Boyd, 1998). Environmental accounting involves the identification, measurement and allocation of environmental costs and the integration of this costs into business and encompasses the way of communicating such information to company's stakeholders (Bassey, Effiok and Eton, 2013). It is accounting for any costs and benefits that arise from changes to a firm's products or processes, where the change also involves a change in environmental impact. From the above, it is obvious that environmental accounting goes beyond the purview of conventional accounting as concentrates on the proper assessment, identification, classifications and analysis of internal and external costs of a company's operations in a given environment. Internal costs involve the cost operations with the assessable monetary resources inputs using the standard accounting requirements, while the external costs involve the cost of the activities of the company which produce harmful effects to the environment and the survival of the people. This is the nexus of this study. The operation of the multinational oil companies in Nigeria Delta region has degraded the environment leading to avalanche consequences. The Federal Government of Nigeria, through the Nigeria National Petroleum Corporation (NNPC) holds an average of 57 per cent equity in all the leading multinational oil companies, while the companies joined together own 43 per cent (Ekpo, 2004).

Environmental costs are really a subset of the costs of operating a business. Formerly, when substances were released into the air, water or land, the resulting pollution would be considered as social cost or externality cost (Umeh, 2001). Usually, regulations were usually made to internalize these costs, through corporate responsibilities which are usually not enforced, with the resultant effect of neglect. Even in countries where the regulations are enforced, the impact resulting from environmental consequences is usually inadequate. These costs are usually internalized into the corporate financial statements, though Radcliff Report or Corporate Report expect companies to publish their social corporate report alongside the usual financial reports.

Environmental Accounting relates environmental data to the national accounts, to enable consistent comparison of environmental and economic indicators. The work areas range from accounts for natural resources such as extraction of oil and gas to material use and emissions data such as carbon dioxide and waste. These environment costs are usually

internally comparable through common frameworks, concepts and methods (Schenau, et al, 2009) However, environmental accounting is the collection and processing of financial information regarding the costs for ecological and human challenges caused by the operation of a given sector of the economy.

### **History of Environmental Accounting:**

The first environmental accounts were constructed in several European countries working independently of each other. Norway was one of the first, influenced by the publication of Limits to Growth (Meadows et al, 1972) and the burgeoning environmental movement. The Norwegian officials were concerned that natural resources, on which their economy is relatively dependent compared with other European countries, would run out. They therefore developed accounts to track the use of their forests, fisheries, energy and land. In the 1980s, they developed accounts for air pollutant emissions, which were closely tied to the energy accounts. The energy accounts were integrated into models used for macroeconomic planning, taking into consideration the roles of resource-based sectors in economic growth

The Netherlands was also a leader in the development and adoption of environmental accounting. The country has a long history of international coordination culminating in the System of Integrated Environmental and Economic Accounting (SEEA, 2003). The SEEA handbook was produced to provide an overview of a variety of environmental accounts. In 2005, the United Nations Committee of Experts on Environmental Economic Accounting (UNECCEA) was established with the main objective elevate the system of environmental accounts to an International statistical standard and to advance the implementation of SEEA in all countries (Schenau, et al, 2009)

France was the third early adopter of Environmental accounting. In the 1980s, it began developing an approach termed the *comptes du patrimoine* or patrimony accounts. These involved an integrated system structured around three districts, but linked units of analysis. Firstly, natural, cultural and historical resources were to be measured in physical terms and their stocks and flows quantified. Secondly, places were to be organized into geographic accounts, giving physical data about assets organized by locations and by ecological and land characteristics. Thirdly, people and institutions were to be described in both physical and monetary terms in agent accounts, which were to be linked to data about how and where each agent used resources. Portions of this system were constructed, particularly those focused on forests and water, but its complexity made it difficult to implement fully (Hecht, 2000).

In Indonesia, a study which had considerable efforts in accounting was undertaken by the World Resources Institute (Repetto et al, 1989). The authors estimated what GDP might have been, had natural resources been depreciated in the same way as manufactured ones. However, the result showed that Indonesia growth rate would have been considerably lower with the adjusted GDP than in conventional accounts. Though widely criticized on technical grounds and rejected by the Indonesian government, the study stimulated interest in the history of accounting.

In 1980s, another early accounting project took a different approach as the US Environmental Protection Agency (EPA) undertook the development of a set of pilot accounts for the Chesapeake Bay region of the eastern United States (Grambsch, et al, 1989). This work was led by an economist, Henry Peskin, who felt that the accounts should incorporate the full value of non-marketed goods and services and that all changes in value of capital should be deducted from gross indicators to calculate net ones rather than adjusting only for changes attributable to economic activities. Peskin also brought this approach to USAID – funded work in Philippines. These accounts, built by the Department of Natural Resources rather than the accounting agency, added in the value of non-marketed services of the environment, subtracted harm caused by pollution and calculated an environmental NDP by subtracting the depletion of natural capital and adding in both the natural growth of forests and new discoveries of minerals (ENRAP, 1999)

### **Countries Adopting Environmental Accounting:**

**NORWAY**– was the first country in the world to prepare environmental accounts in the 1970s by collecting data on energy sources, fisheries, forests and minerals to address the issue of resource scarcity. The country subsequently added data on air pollutant emissions in its environmental accounts. After feeding environmental accounting data into the national economy, policy, makers in Norway assessed the energy implications of alternative growth strategies.

**Philippines** – The Philippines Environmental and Natural Resource Accounting Project (ENRAP) has been working on environmental accounts since 1993, treating the environment as a productive sector in the economy, integrating the valuation of pollutant impacts, non-marketed goods and services and other economic aspects of the environment into conventional accounts.

Though this method of preparation of environmental account was different from the System of Integrated Environmental and Economic Accounting (SEEA), government agencies and researchers in Philippines get a rich array of data from their accounts for policy making and analysis.

Namibia – In Namibia, the SEEA approach to environmental accounting has been adopted in a phased manner, focusing on several key natural resource sector, designed to answer such questions as how to allocate water among competing uses and how land degradation affects the productivity of range land.

Netherlands – In Netherlands, the National Accounting Matrix, including Environmental Accounts (NAMEA), are routinely constructed which is an extended form of National accounts input and output matrix. NEMEA tracks pollution emission by the economic sector and assesses the accomplishment of environmental protection objectives by the country.

USA – The United States of America has not been a leader in environmental accounting; it was at the beginning of the Clinton administration that the Bureau of Economic Analysis (BEA) made a foray into environmental accounting in the mineral sector. Opposition from the mineral industry as well as political controversy stood the way of operational Zing environmental accounting in the country. The government then asked the National Research Council (NRC) to form a blue – ribbon panel to consider what the country should do on the environmental accounting front. Up till now, there has been no significant effort to come up with a blue – print.

Japan – In March, 2002, the Ministry of Environment in Japan issued a comprehensive guideline titled “Environmental Accounting Guidelines, 2002” encompassing the definition, functions, role, basic dimension and structural elements of environmental accounting. The guidelines emphatically state that environmental management has to occupy the centre stage of management strategy and environmental accounting would work as a vital tool of environmental management. The guidelines also envisage that environmental conservation cost benefits, including economic benefits associated with environmental conservation activities are to be measured, while the environmental accounting information both physical as well as monetary units, need to be disclosed in the environment report for the benefit of management as well as the general public. The guidelines further state that environmental accounting comprises three key elements – environmental conservation. Cost (monetary valued), environmental benefits (physical units) and the economic benefits associated with environmental conservation activities (monetary value)

The guidelines clearly state that environmental accounting is to perform two functions that would help in measuring the cost of environmental expenditures and benefits by the company. External functions would communicate to the stakeholders, the environmental conservation activities under taken by the company. To make environmental accounting meaningful, the accounting data should be relevant, reliable, comparable, easy to understand and verifiable. For disclosing environmental accounting information uniformly to the public, the guidelines stipulate three standard formats:

- Format A: Focusing on environmental conservation cost
- Format B: Comparing environmental conservation benefits and
- Format C: Comparison of the overall benefits of conservation activities

This accounting guideline clearly reveals the concerns of the Japanese government for allowing the country’s development without jeopardizing the environment.

#### **Nigeria Regulatory Provisions on Oil Exploitation:**

The Niger Delta region of Nigeria has long been seriously challenged with environmental degradation, pollution, spillages and other environmental despoliations arising from oil exploitation. The International Human Right laws establish standards which nations are required to uphold in checkmating the activities of the oil companies’ operations within their territories (Human Rights Watch, 2002). However, the Nigerian government has been caught in the web of series of human rights violations by promulgating laws restricting the right of the Niger Delta people to the oil wealth in their region. These laws include Petroleum Act 1990, Territorial Waters Act Cap. 428, Laws of the Federation, 1990 as amended by Act No. 1 of 1998 and the Exclusive Economic Zone Act 116, Laws of the Federation, 1990 as amended by Act 42 of 1989 and the Land Use Act,1990. These laws vest ownership and right of exploitation of minerals and natural resources in the territorial waters and Exclusive Economic Zone of Nigeria in the Federal government of Nigeria (ANEFF, 2004)

The promulgation of the Environmental Impact Assessment Decree No 86 of 1992 has not even helped matters. The Decree is aimed at protecting the Nigerian environment, particularly directed at regulating the industrialization process with due regard to the environment. By this Decree, no Industrial plan or development activity falling under the Federal Environmental Protection Agency (FEPA) 1988 mandatory list can be executed without prior consideration of the environmental consequences of such proposed action in the form of an environmental impact assessment. The resultant effect of these laws is that the Nigerian government and the multinational oil companies benefit from the situation where property right is denied the oil bearing communities. With this development, the oil companies have right to exploit oil unchallenged anywhere in the region, the environmental devastation caused in the process notwithstanding. In some countries of the world, the situation is different. In Britain, France, the United States of America and the Netherlands, for instance, the oil companies, whether they are directly or indirectly linked to pollution are made to pay compensation to people and the communities (Adewuyi, 2001). In Nigeria, the multinational oil companies are protected by the laws of the land. They often feel that the display of corporate responsibilities serve as enough hand out for the people. The apathy of the Nigerian government and oil companies towards the debilitating effect of environmental degradation has led to series of violence and criminal act due to intolerance as community members are unable to challenge corporate behavior through democratic or peaceful means. The multinational oil companies, drawing inspiration from the Nigeria government, continue to wreck havoc on the oil bearing communities, not only denying them their relevant benefits, but the use of brutality by the government forces to suppress any uprising.

#### **Socio – Economic and Political Impact of Oil Exploitation in Niger Delta Region of Nigeria:**

The Niger Delta region has remained grossly underdeveloped due to systematic disequilibrium in the production exchange relationship between the Nigerian state, multinational oil companies and its people. Enormous money has been derived from oil export, but the area of production has been subjected to severe degradation and socio – economic disorganization, thereby increasing poverty, misery and bloody confrontations (Owabukeruyele, 2000). The oil producing communities have basically remained dependent and poor, persistently dis-empowered, socio-culturally marginalized and psychologically, alienated. Oil exploitation has impacted most disastrously on the socio-physical environment in the Niger Delta oil bearing communities massively threatening their fragile subsistent pleasant economy and biodiversity and hence their entice social livelihood and very survival (Pegg, 1999). The result is that most of their young boys and girls have fled their homes to other places for prostitution and other odd jobs.

The people's economic activities have been traumatized as their traditional occupations of farming and fishing can no longer thrive due to environmental degradation, while the Nigerian government, in tandem with the oil companies enjoys the proceeds from oil revenue. Farm lands have been taken over due to oil exploitation and the resultant pollution destroys fishes in the rivers. Also, the flow of water is disturbed, thereby leading to water – borne deceases. (Uyigüe and Agho, 2007)

The environmental effects are well known degradation of forest, depletion of aquatic fauna, destruction of the fragile mangrove swamps and pollution of ground water sources, among others. These had led to submerged aquatic vegetation, especially water lettuce in destroying crabs, fishes and birds. The 1998 Jesse Fire incident in Delta State that laid waste about 2,000 men, women and children was due to oil spillage, which attracted them to scoop the spilled oil (Akintola, 2008). In the same year, the fire outbreak in Abia State, which claimed thousands of lives was also due to oil spillage. The Ijaw Protection Organization (IPO) believes that there were 500 cases of oil spills between 1997 and 1999, which claimed several lives in Bayelsa State alone, 94 oil spills occurred between December, 1999 and January, 2003 with many lives lost (Nyemutu, 2003). The frequency of oil spillage from exploratory stage to its final destination is enormous with consequential loss of lives and property.

Unemployment is high as oil companies normally hire its work force on the basis of competence from urban area while the people of the locally are made to accept low skilled jobs that offer little in terms of remuneration. This instigated the members of Akwa-Ibom House of Assembly to launch a protest against Mobil Company in May, 2001 (Ejibunu, 2001). From statistics, less than 5 per cent of the people from Niger Delta region work in these oil companies.

Human rights violation is rife in the Niger Delta region. Saddened by mindless devastation of their environment, the Umuechen Community in Rivers State embarked on peaceful protest to demand for better environmental practice and corporate responsibility from shell on 30<sup>th</sup> November, 1999. Shell unleashed their mobile policemen, who killed hundreds

of villagers, looted their properties and burnt the houses (Naagbantun, 2006). The people of Boro suffered a serious mayhem from Nigerian soldiers in an attempt to suppress Isaac Boro, who was a threat to the exploitation of oil (Ejihunu, 2007). Also, the Ogoni people were repeatedly harassed, arrested and killed. The human rights violation is more on women than any other group. During military occupation, the women suffer psychological, emotional and physical impacts as they are raped and maimed. They suffer as their sons, husbands and loved ones get arrested and killed in their presence. Their protestation against oil politics form part of the history of the Niger Delta struggle.

The attrition arising from the Niger Delta problem has caused a dearth on business activities as most companies stopped operations with their expatriate owners relocated to their countries or elsewhere in Nigeria. This development has in turn led to increased unemployment in the region.

The violence in Niger Delta has stunted the provision of infrastructural amenities as no meaningful development can take place in a crisis ridden area. In effect, there is no sufficient good road networks and bridges to link few urban areas with the hinterland and the creeks, thereby hampering their socio-economic activities.

It has been held in many quarters that the granting of amnesty to repentant militants in the Niger Delta is an admission of government failure and guilt. This was corroborated by the former Speaker of the House of Representative, Dimeji Bankole when he said:

“If we are to be honest with ourselves, we have not been fair to the Niger Delta----- The Niger Delta has been producing the funds with which we have been running this country for so many years. This funds we used to build Abuja---- Those lovely roads and bridges and offices came from the funds from the Niger Delta, I have not seen such bridges and roads in the Niger Delta. -----Until those roads and infrastructure come to the Niger Delta---- we will continue to put request on the front burner of the Nigerian politics” (Buhari, 2009)

The Nigerian government has actually recognized the neglect of this region for decades, hence the proclamatory action taken by the former late President Umaru Yar'Adua (of blessed memory) which transcended to the granting of Amnesty.

#### **Perspectives of Environmental Accounting Structure:**

The question that usually comes to mind when trying to design an environmental accounts structure is whether it will be internalized and integrated into the existing conventional accounting structure. Most companies all over the world are usually made by statute to disclose in their corporate report, the extent to which they have complied with social responsibilities to the environment where they operate. It is the view of most countries that if environmental account is internalized adequate compensation cannot be attained. Certain costs transcend being internalized due to the enormity of deprivations, subjugation, alienation and denial caused by company's operation in a given environment. The people's collective destinies are not only affected by their generations to come. Whatever compensation that is adequate for now should equally affect generations to come. There is the need for inter- temporal equity for sustainable development.

The construct of environmental accounts should include monetary and non-monetary items. Infrastructural provisions, for example is not what the accountant can ascertain the cost immediately, as they are expected to follow the process of bidding.

In view of the various perceptions that have trailed the presentation of environmental accounts, various countries present their own, though none has been finally developed.

Norway was the first to prepare environmental accounts in 1970s. The country recognized some cost elements by integrating them into the national budget for policy makers to adjudicate on them without presenting any structure (Schenau et al, 2009).

In Netherland, the Dutch presented the extent to which environmental accounts has been implemented:

	<b>Implemented</b>	<b>Work-in- Progress</b>
<u>Physical Flow Account</u>		
Energy accounts .....	*	
Physical water accounts.....	*	*
Material flow accounts.....		
Air emission accounts.....	*	

Waste accounts.....	*	
Nutrient (N and P) accounts.....	*	
<u>Asset Accounts</u>		
Subsoil accounts for oil and gas	*	
<u>Monetary Accounts</u>		
Environmental tax accounts.....	*	
Environmental Protection Expenditure accounts	*	*
Environmental Subsidy accounts.....		*
Environmental Industry accounts.....		*
Emission permits accounts.....		
<u>Others</u>		
Climate change accounts.....		*
Environmental accounts for household.....		*
Time series.....		*
Analyses.....	*	*

Environmental Accounts in the Netherland, Implemented and yet to be implemented.

Source: Author's field/research work

India came up with a robust legal framework for environmental accounting by setting up the Central Ministry of Environment with the object of coordinating among the states and the various Ministries, the environmental protection and anti-pollution measures. The ministry made various laws relevant to environmental protection. It is important to note that all new projects require environmental and anti-pollutant clearance before commencement. India integrated the environmental laws into her constitution. Mrs. Indira Gandhi was the first head of state to address the first International conference on human environment at Stockholm in 1972 and voiced deep concern about the degradation of the environment and eco-imbalance. She also emphasized that pollution, population and poverty are interrelated problems and there must be integrated approach to deal with them. India was also one of the signatories of the Stockholm declaration, which is known as The Magna Carta on own human environment (Shadhganga, 2018). Although, India was one of the front line countries on environmental accounting, a structure was not constructed as the assessment was left in the hands of policy makers. There existed a lacuna in the adoption of the environmental accounting practices by the corporate as the legal authorities, standard setting bodies and other regulators could not come to an accord regarding the conceptual framework of environmental accounting and reporting (Cheriyian, 2015).

Although, the United States of America is regarded as a leader in environmental accounting, there have been no conscious efforts to establish a framework or structure. All relevant items are included in her national account. Economists have tried to do some manipulations through modeling, but no structure has been established. All attempts to establish the framework have really not been improved upon by promulgation of any standard.

The United Kingdom (UK) has the Institute of Environmental Management and Assessment (IEMA) which is the largest professional body for environmental practitioners in the UK and worldwide, with nearly 15,000 members (iema.net, 2015).

IEMA is a constituent body of the Society for the Environment (SocEnv) which enables IEMA members to progress to Chartered Environmentalist status. The Environmentalist is a Magazine for environmental professionals, published twelve times in the year. Models are developed for the assessment, though improvements are being made by the Institute to improve the structure or framework of environmental accounting.

In Nigeria, there is the inclusion of environmental policy in the 1999 constitution. Section 20 of the Nigeria Constitution states that the State is empowered to protect and improve on the environment and safeguard the water, air and land, forest and wildlife of Nigeria. In addition to this, section 2 of the Environmental Impact Assessment Act of 1992 (EIA Act) provides that the public or private sector of the economy shall not undertake or embark on or authorize projects or activities without prior consideration of the effect of the environment. Other laws/regulations promulgated by the Nigerian government are:

- Federal Environmental Protection Agency Act of 1988
- National Environmental Protection (Effluent Limitation) Regulations

- National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulations
- Harmful Waste (Special Criminal Provisions, etc) Act of 1988 (Harmful Waste Act)

There is the Federal Ministry of Environment (FME) which administers and enforces environmental laws in Nigeria. It took over this function in 1999 from the Federal Environmental Protection Agency (FEPA) which was created under the FEPA Act.

FEPA was absorbed and its functions taken over by the FME in 1999. The Federal Ministry of Environment has published several guidelines for the administration of the FEPA and EIA Acts and procedures for evaluating environmental Impact assessment reports (EIA Reports).

In spite of the above establishments, there has been no conscious efforts to design a framework of environmental accounting to address the imbalance created by environmental despoliation in the Niger Delta region of Nigeria.

Schaltegger and Burritt (2000) divided the structural framework of environmental accounting into two: Environmentally induced financial impacts and Physical Environmental impact. They posit that we should not be surprised that many different perceptions of and examples relating to environmental accounting exist. The “Tinbergen rule” in economics and public policy states that a tool is less efficient and effective once it is required to pursue different goals that are not absolutely complementary (Tinbergen, 1956). It is therefore possible that none of the goals would be achieved in an effective and efficient manner. The implications are that different tools are needed to deal with non-complementary issues. With respect to environmental accounting, this is one reason why separate accounting system may be needed to address different sets of issues of concern to stakeholders. Stakeholders can be divided into internal and external groups, the two being separated by the boundaries of the company. Internal stakeholders include the investors’, managers and employees within the company, while external stakeholders include suppliers, customers, local communities and the general public who suffer the externalities arising from the company’s operations. Environmental accounting with its components of both monetary and non-monetary issues cannot therefore be accommodated in the conventional accounting system that is guided by standards.

As a result of the growing importance of environmental matters, issues of environmental accounting have attracted increasing attention in recent years. Many different interest groups are trying to influence environmental accounting methods and reporting practices. Therefore, emerging systems of environmental accounting have resulted from different group goals and perspectives as well as reflecting the relative power of critical stakeholders. Each group requires information to help with its decision making or to provide a means of accountability where the group has a “right to know” about corporate activities and impacts on the environment.

### 3. THEORETICAL FRAMEWORK

This study relies on two theoretical foundations. These are: Frustration – Aggression Theory and Geopolitics Theory

When people perceive that they are being prevented from achieving a goal, their frustration is likely to turn aggressive. The enormity of the denial determines the level of frustration and aggression. The enormity of the sufferings of the people of Niger Delta region resulting from oil exploitation and production speaks volume as can be seen from the literature review. The resultant socio-economic, political and environmental problems are not only restricted to the people, but to the environment and biodiversity without recourse to the plight of future generations. The exclusion and deprivation of development have naturally contributed to the tension, violence and conflict within the region (Asakitikpi & Oyelaran, 2000.)

The Frustration – Aggression theory is based on the work of Dollard, Doob, Miller, Mowrer and Sears (1939) and suggest that all aggression is the result of feeling frustrated, which is defined as “any event or stimulus that prevents an individual attaining some goal and its accompanying reinforcing quality”. The theory recognizes that there is always the likelihood of aggression being displayed when one is at the proximity of getting to a goal itself. If an individual perceives themselves to be close to achieving their goal, then display of aggression is more likely due to frustration when a barrier presents itself compared to if they believe the goal is much further away or less attainable (Divsly, 2016). The discovery of oil in the Niger Delta region made the people of Niger Delta heaved a sigh of relief that a gold mine had been struck, which will benefit them immensely. The resultant effect turned out to fall short of their expectations, hence the violent reactions.

The term geopolitics was coined by Rudoff Kjellen (1899) Geopolitics evolves two parts “geo”and “politics”. “Geo” is a doctrine of various geographic aspects such as space, soil or territory. More specifically, it can denote geographic conditions, such as the presence of natural resources in a bounded area, whether geography should be considered a static or a dynamic factor has also been subject to debate. “Politics” consists of factors that are related to power, such as foreign policy, international relations and military strategy. For some decades, since the exploitation of crude oil, the people of Niger Delta had lived with the anomaly of having to feed on the crumbs of the national cake which is baked in their territory, but which is shared in the nation’s capital hundreds of kilometers away – with other Nigerians who know nothing about the negative effects of oil exploration and production as the highest beneficiaries (EKpo, 2004). They had been content to accept the little handouts which came their way, in forms of a few development projects from the federal government. The Niger Delta conflict is premised on the laws regulating oil exploration and land ownership, which the Niger Delta militants believe must be abrogated as they do not represent their interests as the host communities (Nna and Ibaba, 2001). Closely related to this view (is the issue of participatory democracy, which lies in the question of resource control and self determination. Although the Nigerian government has made some efforts to cushion the sad effect of oil exploitation, they have often been regarded as mere palliatives as the region and the people remain bereft of the desired developments. Successive governments have been partial with lopsided policies that are comparatively not favourable to the region.

#### 4. EMPIRICAL ANALYSIS

Bassey, Effiok and Eton (2013) in their Journal article “The Impact of Environmental Accounting and Reporting on Organizational Performance of Selected Oil and Gas Companies in Niger Delta Region of Nigeria” conducted a study using Person’s product moment correlation analysis and concluded that environmentally friendly firm should disclose environmental related information in financial statements and reports. The study therefore recommended that firms should adopt a uniform method of reporting and disclosed environmental issues for the purpose of control and measurement of performances and that accounting standards should be published locally and internationally and reviewed continually to ensure dynamism and compliance to meet environmental and situational needs.

Eze, Nweze and Enekwe (2016) in their paper “The Effect of Environmental Accounting on a Developing Nation: Nigerian Experience” discovered that environmentally friendly organizations, who voluntarily disclose their environmental activities enjoy high level of competitiveness. They therefore recommended that companies should adopt acceptable and uniform standards for the purpose of control and measurement of performance and should design products which generate less waste or emission during their life cycle.

Emeakponuzo and Udih (2014) in their publication: “Environmental Accounting Practices by Corporate Firms in Emerging Economies: Empirical Evidence from Nigeria” tested their hypotheses using chi-square and Kendall coefficient of concordance at 5 per cent level of significance. The results of the hypotheses testing showed that environmental accounting practice is significant in benchmarking standard for corporate reporting and that compliance with Nigerian environmental protection laws has not had significant influence on environmental accounting practice because, the issues of enlightenment, enforcement and compliance have been overlooked. They recommended that the Financial Reporting Council should develop an accounting standard that will incorporate full consideration of financial and physical impacts of business activity on the environment.

Adediran and Alade (2013) on “The Impact of Environmental Accounting on Corporate Performance in Nigeria” stated the major factors influencing corporate performance in Nigeria. They collected data randomly from fourteen quoted companies and in their analysis, discovered that there is significant negative relationship between environmental accounting and Return on Capital Employed (ROCE) and Earnings Per Share (EPS) and a significant positive relationship between environmental accounting and Net Profit Margin and Dividend per share. Based on this, they recommended that government should give tax credit to organizations that comply with its environmental laws and that environmental reporting should be made compulsory in Nigeria so as to improve the performance of organizations and the nation as a whole.

Adekanmi, Adedoyin and Adewole (2015) in their publication: “Environmental Accounting – A Tool for Sustainable Development” examined how environmental accounting could be employed to enhance sustainability economic development. Through primary and secondary data collections, they made their analysis on these secondary data with the aid of descriptive statistics. The study discovered that despite the Kyoto Protocol that by 2005 nations should have made

demonstrable progress to promote sustainable development environmentally and that the aggregate value of disclosure was only approaching average. The study therefore recommended that government and business should consolidate on their efforts that enhance environmental sustainability and companies should take corrective measures where their activities devalue the environment.

Enahoro (2009) in his PhD thesis on “Design and Bases of Environmental Accounting in Oil and Gas and Manufacturing Sectors in Nigeria” hypothesized on the best practice of environmental accounting of companies operating in Nigeria using cross-sectional and longitudinal content analyses while the test statistics applied the t-test statistics, Pearson Product Moment Correlation tests, ANOVA and Multivariate Linear Regression Analysis. The study discovered the absence of cost

ing system for tracking of externality costs, while the system of environmental disclosure does not follow the same pattern among the listed companies in Nigeria. The study recommended among others, that corporate organizations should develop plans and operating guidelines expected to meet industry operation standards, which should focus on minimizing impact on environment. There should also be continuous evaluation of new technologies to reduce environmental impacts. The study further recommended standard costing definition to be agreed for environmental spending, expenditure and management accounting in the Oil and Gas and manufacturing sectors operating in Nigeria. In this connection, both the Nigerian Security and Exchange Commission (SEC) and accounting practice in Nigeria should consider the urgency of placing demand for mandatory environment disclosure which impact degradation on the environment.

## 5. METHODOLOGY

This study utilized both primary and secondary sources to collect data. The cross sectional survey design was employed in the administration of questionnaires. The target population was fifty (50) employees drawn from some companies in specific professions. Considering the sensitivity of the study, the researcher targeted special population of directors of finance, chief accountants, finance directors, internal auditors, managers, engineers and technologists. A sample size of fifty (50) responded. The collated result was used in testing the hypotheses formulated using chi-square statistical technique.

### TESTING OF HYPOTHESES:

For the purpose of testing the hypotheses formulated in the course of this research work, the statistical procedure for the analysis to be used is known as Chi-square. It is denoted by  $X^2$ , it is used to test if the sample of items are distributed according to the expected distribution pattern.

$$X^2 = \frac{\sum (O-E)^2}{E}$$

Where O = Observed Frequency

E = Expected Frequency

Df = Degree of Freedom

### Testing of Hypothesis 1

#### CONTINGENCY TABLE FOR HYPOTHESIS 1

O	E	O-E	(O-E) <sup>2</sup>	X <sup>2</sup> = (O-E) <sup>2</sup> /E
27	13.3	13.7	187.69	14.1120301
11	13.3	-2.3	5.29	0.39774436
2	13.3	-11.3	127.69	9.60075188
<b>Total 40</b>				<b>24.1105263</b>

Degree of freedom = (R-1) X (C-1)

= (3-1) X (2-1)

Df = 2

$X^2$  Calculated = 24.110

$X^2$  Tabulated = 5.991 at 5% level of confidence

#### Decision Rule:

Since  $X^2$  Calculated is > than  $X^2$  Tabulated, we reject the Null ( $H_0$ ) hypothesis and accept the alternative ( $H_1$ ) hypothesis which states the impact of oil exploitation on the people of Niger Delta region of Nigeria can be ascertained

#### Testing of Hypothesis 2

##### CONTINGENCY TABLE FOR HYPOTHESIS 2

O	E	O-E	(O-E) <sup>2</sup>	$X^2 = (O-E)^2/E$
11	13.3	-2.3	5.29	0.39774436
27	13.3	13.7	187.69	14.1120301
2	13.3	-11.3	127.69	9.60075188
<b>Total</b> <b>40</b>				<b>24.1105263</b>

Degree of freedom = (R-1) X (C-1)

= (3-1) X (2-1)

Df = 2

$X^2$  Calculated = 24.110

$X^2$  Tabulated = 5.991 at 5% level of confidence

#### Decision Rule

Since  $X^2$  Calculated is > than  $X^2$  Tabulated, we reject the Null ( $H_0$ ) hypothesis and accept the alternative ( $H_1$ ) hypothesis which states that the costs arising from oil exploitation can be ascertained through the use of environmental accounting.

#### Testing of Hypothesis 3

##### CONTINGENCY TABLE FOR HYPOTHESIS 3

O	E	O-E	(O-E) <sup>2</sup>	$X^2 = (O-E)^2/E$
17	13.3	3.7	13.69	1.02932331
19	13.3	5.7	32.49	2.44285714
4	13.3	-9.3	86.49	6.50300752
<b>Total</b> <b>40</b>				<b>9.97518797</b>

Degree of freedom = (R-1) X (C-1)

= (3-1) X (2-1)

Df = 2

$X^2$  Calculated = 9.975

$X^2$  Tabulated = 5.991 at 5% level of confidence

#### Decision Rule

Since  $X^2$  Calculated is > than  $X^2$  Tabulated, we reject the Null ( $H_0$ ) hypothesis and accept the alternative ( $H_1$ ) hypothesis which states that there can be adequate compensation through the use of environmental accounting to ensure sustainable development in the Niger Delta region of Nigeria.

## 6. CONCLUSION

We cannot say the multinational oil companies and the Nigerian government have totally been insensitive to the plight of the people in the Niger Delta region of Nigeria. Though some intervention agencies have been established by the Nigerian

government to look at the development agenda in the region, their level of performance has been abysmally low compared to the environmental damage caused by oil exploitation. As most writers agree that the provision of accounts is ubiquitous in every human activity, it has been considered appropriate to use environmental accounting to correct the disequilibrium between environmental damage and what is adequate as compensation. The cost of environmental consequences needs to be ascertained in financial terms. Apart from the monetary ascertainment, the non-immediate monetary is equally necessary to adequately cater for the people and the environment. This is the essence of accounting for externalities. In accounting for externality, a structural base is required for proper stewardship report and accountability.

## 7. FINDINGS

Having tested the hypotheses, it became crystal clear that the impact of oil exploitation on the people of Niger Delta can be ascertained and for the appropriate cost of the environmental damage and its consequences on the people can be ascertained through environmental accounting. It is only through the use of environmental accounting that sustainable development can be assured in the Niger Delta region of Nigeria. The empirical review has also revealed some vital information.

## 8. RECOMMENDATIONS

This study has critically examined the unending crisis in the Niger Delta region of Nigeria. It was discovered that inadequate compensation for the environmental damage arising from oil exploitation and its effect on the socio-economic and cultural lives of the people can only be solved through environmental accounting in order to ensure sustainable development. There should be inter-temporal equity whereby future generations stand the chance of benefitting like the present generation. Arising from the findings and detailed empirical review, the following recommendations can be made.

- (1) Externalities arising from oil exploitation in the Niger Delta region be treated using environmental accounting matrix which should be quite different from conventional accounting system.
- (2) The National Environmental Standards and Regulatory Enforcement Agency (Establishment) Acts (No 25 of 2007) be amended and saddled with the responsibility to set up a blue-ribbon committee that will draft the accounting system and structure of environmental accounting, standards, guidelines and policies for operating the accounts. This committee should consist of the Financial Reporting Council of Nigeria (FRCN), Security and Exchange Commission (SEC) and other relevant bodies.
- (3) Each multinational oil company should have parallel accounting books for operating the conventional accounting transactions while a set of books is made to cater for the resultant environmental externalities
- (4) Environmental accounts should be prepared by each oil and gas company with a central body to consolidate all the accounts of the companies in the region. The consolidated version consisting of monetary and non-immediate monetary items should be sent to the National Budget office to be included in the National Budget. The environmental accounts should be made to come under the Exclusive legislative list of the Federal government of Nigeria to avoid non implementation.
- (5) The preparation of environmental accounts does not preclude each oil and gas company from disclosing its usual corporate social responsibilities in the conventional accounting structure.
- (6) The Niger Delta Development Commission (NDDC) should be enlarged to handle all the developmental projects and giving out the appropriate compensations to the people in the various communities.

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