

## THE EFFECTS OF ENVIRONMENTAL ACCOUNTING ON A DEVELOPING NATION: NIGERIAN EXPERIENCE

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**ABSTRACTS:** *The degrading of natural resources and the continued green house gas emissions in Nigeria are on the increase and of concern to the stakeholders, hence the need for increased information on the organizations' influence on the environment. The study identifies environmental accounting issues and the effects of these environmental factors on the life of Nigerians. It was discovered that environmentally friendly organizations who voluntarily disclose their environmental activities enjoy high level of competitiveness. Environmental accounting motivates organizations to track their green house gas emissions and other environmental elements against reduction or elimination point. It was 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.*

**KEYWORDS:** Environmental Accounting, Environmental Effects, Green House Gas Emission and Stakeholders.

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### INTRODUCTION

Environmental accounting is an inclusive aspect of accounting. It generates reports for both internal use, providing environmental information to help make management decisions on controlling overhead, capital budgeting and pricing, and external use, disclosing environmental information of interest to the government, public and to the financial community. This paper takes into consideration both internal and external uses.

Yakhon & Dorweiler (2004) emphasized that the impact of business activity on the environment is found in several forms: air, water, underground pollution, drinking water, land and habitat for endangered and threatened species, oceans, atmosphere, land, mass etc. An array of pollutants, including toxic, hazardous and 'warming' is accountable to business activities. They expressed that from this range of environmental impacts, multiple disciplines are needed for analysis of effects, and for integration into management decisions and accounting reporting.

Mastrandrea & Schneider (2008) in their own view highlighted that industrial revolution has brought economic improvement for most people in industrialized societies. Many enjoy greater prosperity and improved health. They opined that there have been costs, however.

Industrialization has brought factory pollutants and greater land use, which have harmed the natural environment. However, the application of machinery and science to agriculture has led to greater land use and therefore, extensive loss of habitat for animals and plants. These factors, in turn, have caused many species to become extinct or endangered.

Nigeria being a developing nation, endowed with abundant natural resources such as petroleum, natural gas, coal, limestone, vegetation etc is not devoid of environmental degradation. The nation, in an attempt to tap these resources to enhance its economic development and well-being of the citizenry invariably finds herself experiencing an array of pollutants including carbon dioxide, warming and other greenhouse emissions.

Akinbami & Adegbulugbe (1998) opined that the use of natural resources including energy is indispensable to economic development and not devoid of environmental consequences as traceable to the environmental degradation and atmospheric pollution experienced in Nigeria.

Beredugo & Mefor (2012) highlighted that Nigeria as a developing country must continue to advance economically and thus requires increased exploitation of natural resources. They buttressed further that there exist a polarity between Nigeria's GDP and energy consumption, as they are highly correlated. They emphasized that most of the natural resources consumed are nonrenewable and are under threat of depletion, and a persistence consumption of our most valued natural resources in present-day, would compromise the ability of future generations to meet their own needs.

Oil exploration and government activities may have reduced the quality and usefulness of life through gas flaring, industrial pollution, oil spillage, deforestation and other related problems.

However, huge amount of money is derived daily by the country from sales of crude oil and its by-products. Therefore, one would generally assume that this money should have significant impact at least on the development of oil and on the mineral producing communities. This should be so because it is on record that the oil and gas industry remains the major income earner (about 90% of the total revenue) for the nation (National Economic Empowerment and Development Strategy (NEEDS, 2004 and Shell, 2000).

Ogbeifun (2007) argues that decades of development have been lost apparently due to slow economic growth, inadequate development plan, and corrupt practices in high places. Nigeria had a Gross Domestic Product (GDP) of about \$45 billion in 2001. Again, their per capital income of about \$300 a year reveals that the country remains one of the poorest in the world. In spite of the country's natural endowments such as vast mangrove forest, wet and fertile lands. However, serious threats from exploitation of timber, oil spills, gas flaring and the impacts of increasing costal urbanization appear to be posing serious challenges to Nigeria (NEEDS, 2004).

Obemene & Olaoye (2009) pointed out that the haste to develop did not incorporate pollution control and waste management into environmental management plan. Even the environmental laws regarding pollution and waste management seem to be inadequate or where they exist remain to a large extent unenforceable. It is no wonder then, that Ogbeifun (2007) advocates that urgent steps be taken, so that this present generation does not bequeath to her future generation, a downstream sector that is import dependent and dollar driven.

The researcher observes that majority of the people in the country continue to dwell in abject penury, despite the fact, that the country is blessed with abundant natural resources which are being harvested on continuing basis by multinational companies and governments.

However, other contending issues that are still being debated are the effects of some environmental accounting issues (which are largely unaccounted for) but have tremendous impact on the economic development of Nigeria. Hence, questions such as what are these environmental accounting issues that should be accounted for in the harvesting of our natural resources, especially in the oil and gas industry. What are the effects of these environmental factors on the economic development and environmental protection of citizens.

To sufficiently, address these questions, the following research objectives are pursued, namely to identify the environmental accounting factors that should be accounted for in the country's natural resources with special reference to oil and gas industry, to evaluate the effects of these environmental factors on the life of the citizens and to proffer solutions for future reforms in order to improve economic development, social development and environmental protection efforts of the country.

The paper is structured as follows: the second section deals with review of important theoretical and empirical literature on the effects of environmental accounting and reporting on developing country-Nigeria, while sections three and four dwell on the method used for the study as well as discussion of findings respectively; and finally, the main conclusion and recommendations are discussed in the last section.

## **REVIEW OF RELATED LITERATURE**

### **Concept of Environmental Accounting**

Environmental accounting is a term with a variety of meanings. In many contexts, environmental accounting is taken to mean the identification and reporting of environmental specific costs, such as liability costs or waste disposal costs. Environmental accounting involves any costs and benefits that arise from changes to a firm's products or processes, where the change also involves a change in environmental impacts (James, 1998). He further highlight that environmental accounting information need not be the product of accountants, nor need it be used by accountants. Instead, it is any information with either explicit or implicit financial content that is used as an input to a firm's decision – making. Product designers, financial analysts, and facility managers are equally to be the users of environmental accounting data. He pointed out that almost any type of information collected and analyzed by firms will qualify. Examples include input prices, technical and scientific studies that relate production processes to physical outputs and legal, marketing and financial analyses.

Seetharaman, et al; (2007) opined that environmental accounting is used to asses full environmental costs associated with activities and / or products. They also emphasized that environmental accounting can be used to track environmental performance of organization in more measurable manner. The key areas for monitoring are aggregated emission to air, water effluent discharge, soil contamination and boundary noise level.

## **Stakeholders Theory**

Bassey, et al; (2013) highlighted that stakeholders are groups which are influenced by the corporate activities or which can affect the corporation. They emphasized that the organization's survival in the long run requires stakeholder's support and approval. The more powerful the stakeholders are, the more the organization must adapt to their interests and demands.

The basic proposition of the stakeholders theory is that the firm's success is dependent upon the successful management of all the relationships that a firm has with its stakeholders a term originally introduced by the Stanford Research Institute (SRI) to refer to those groups without whose support the organization would cease to exist (Freeman 1983).

Myers (1989) observes that the quest for development has led to massive destruction and degradation of the environment and natural capital. This, of course, is a threat to sustainable development. Environment and development are closely interrelated. Therefore, one should not be ignored to the detriment of the other.

Omotosho (2006) opines that a suitable macroeconomic environment is necessary if Nigeria is to be relevant and effectively compete in the global economy.

Owolabi (2006) expressed that oil spillage is one of the major challenges facing the oil industry with its consequential environmental pollution. Ogbeifun (2002) emphasized that spills may occur as a result of rupture and diminished integrity and aging process of the pipes or through sabotage.

Osemene & Olaoye (2009) expressed that dangerous hydrocarbons are emitted into the air whenever there is oil spillage or leakages. They explained that this is dangerous to man and other living organisms. The effects of petroleum and crude oil pollution on man, plants and microbial population cannot be over-emphasized.

Omuta (1988) observes that waste management is grossly inadequate because infrastructures available in the system are not enough. Asiodu (2007) was of the opinion that a comprehensive long-term agenda for the environment is required if Nigeria's are to enjoy quality of life.

Schattegger & Stum (1998) identified that various interested parties are interested in environmental information. They opined that in the case of certain users, main attention is paid to economic consequences of the influence of the company on the environment; other users are interested primarily in environmental aspects and impacts. Environmental aspects of the company may significantly influence economic results of the company (not only concerning costs, but also concerning revenues) and its financial position. Investors and creditors are primarily interested on the other hand, in environmental risk and extent of liabilities arising from these risks.

Naturally, owners are also interested in the environmental behaviour of the company. Their attention is paid to economic consequences of environmental behaviour of the company and their impacts on return on investment. Other interested parties, for example, customers, suppliers competing companies, the public, government agencies, mass media, and initiatives concerned with environmental protection etc also pay attention to the company approach to the environment.

Jaroslara & Miroslau (2006) emphasized that the task of environmental accounting is to fill information needs of all important interested parties. Some interested parties are primarily concern with the impacts of the company activities, products and services on the environment.

### **Environmental Activities and Nigerian Experience**

Nigeria as a developing nation with her abundant natural resources (Oil and Gas products) is facing difficult challenges in the control of environmental degradation. Oil exploration and government activities may have reduced the quality and usefulness of life through gas flaring, industrial pollution, oil spillage, deforestation, irregularity in the distribution of oil proceeds, and other related issues.

Although, the country derives huge amount of money daily from the sale of crude oil and it's by-products, one would generally assume that this money if properly managed should have significant impact on the development of oil and non-oil producing areas of the country.

The researcher observes that most of the oil producing communities continues to dwell in abject poverty, despite the fact that the huge amount of the nation's resources is obtained from there. The multi-national companies that explore the crude oil and its by-products from these communities often fail to consider that they should pay adequate attention to the social demands of the host committees and become environmental friendly with them.

The oil producing communities often find it very difficult to cope with their natural environment because of the oil spilage, industrial pollution, deforestation etc from these foreign companies. The impact of these environmental pollution to the host communities cannot be over-emphasized. In line with the stakeholder theory, one would ask if the multi-national companies are doing their best to ensure enhancement of quality of life of the host communities. These entail providing the communities with good drinking water, construction of good roads, health care centres, schools, electricity employment opportunities especially for junior cadres, and finally ensure adequate environmental control measures in line with international regulatory laws.

However, for non-oil producing Nigerian states, the emergency of corrupt practices in the economic management of oil proceeds by government officials of questionable integrity has made life unenjoyably for them.

The reported irregularities in the national dailies and other media agencies about the disbursement of oil proceeds by government officials and other agencies have affected negatively on the economic, social and environmental welfare of the people. It is wise to express that the money meant for the poor masses is now in the hands of the very few people who use their positions to accumulate illegal wealth for themselves.

The researcher, observes that oil proceeds constitutes about 90% of the total revenue of the country, and once these resources are being mismanaged and in control of the very few people. It means majority of the people will be languishing in abject poverty while small proportion of the populace will be benefiting. Hence, such basic facilities that will enhance quality of life of the people will not be sufficiently provided.

The inability of the oil companies and often the government to meet the demands of the oil producing communities and the citizens in general creates unwholesome and hostile relationships between the parties. A situation whereby the oil communities discover that a

chunk of their naturally endowed resources are being tapped without commensurate reward by the multi-national companies and the Government creates a negative attitude by the communities to the oil companies which sometimes affects operational stability of the companies.

Failed promises to Oloibiri people as stated by Foloranmi (2014). He pointed out that Chief Inegite lamented that all the promises made to the people of the oil community, when oil was discovered there have not been fulfilled, while the federal government abandoned the people.

Highlighted that during the exploration, they did a lot of damage to our crops and aquatic life. What they said (oil companies) was that they were going to compensate us for the deforestation and replace the trees they have damaged. They would pay some money to us to compensate for the period we have suffered. But today, we the natives have not seen anything and you can count the number of years. Chief Inegite, went on to express that, there are things we have been crying for. Erosion is threatening us; our water front has been washed away. We are not puppets; we are humans and have really suffered. Oil companies should compensate us.

However, dangerous hydrocarbons are emitted into the air whenever there is oil spillage or leakages. This is dangerous to man and other living organisms. The effects of petroleum and crude oil pollution on man, plants and microbial population cannot be over-emphasized. Various effects of different hydrocarbons on health have been discussed. These include benzene which on chronic exposure may cause leukemia and birth defects, ethylbenzene which may cause dizziness, slower reflexes, loss of consciousness and death; xylene may cause damages to a developing foetus, liver, kidney, skin, eyes, and bone marrow (Mabogunje, 2007).

The search for profitability by the multinational oil companies, large scale fishing industry, lumbering companies and mineral extracting companies have made such companies exceedingly rich to the detriment of the environment. This has made the issue of environmental management very difficult more so when man's continual exploitation of natural resources is without recourse to emerging stress and problems arising from such activities (Olorunfemi and Jimoh, 2000).

Unfortunately, in spite of all the above mentioned economic gains from exploration of the environment, little or no attention is being paid to the environment (Camoszi, 1994). It is the researcher's view that urgent and bold attempt should be exercised to eradicate or minimize environmental problems in a developing country like Nigeria.

### **Objectives of Environmental Accounting**

Pramanik, et al., (2007) emphasized that environmental accounting is required to fulfill a lot of demands for different stakeholders. However, the following objectives can be identified under the following:

➤ ***Discharge of Organisation's Accountability:***

Environmental accounting would enhance the discharge of the organization's accountability and increase its environmental transparency, it helps negotiation of the concept of environment and determines the company's relationship with the society in general and the environmental pressure group in particular. This helps an organization seeking to strategically manage a new and emerging issue with its stakeholders.

➤ ***Propagation of Environmental Friendliness:***

Because of the ethical investment movement, ethical investors require the companies to be environmentally friendly. Therefore, by upholding friendly image, companies may be successful in attracting fund from “green” individuals and groups.

➤ ***Enlightment of Environmental Commitment through Disclosure***

By making environmental disclosure, companies may show their commitments towards introduction and change and thus appear to be responsive to new factors. By installing enlightenment approach of environmental accounting, companies can increase their image of being enlightened to the outside world and this, can be regarded as enlightened companies (Pramanik, et al 2007).

- Engaging in environmentally unfriendly industries creates strong public emotion. There is a strong environmental lobby against these industries Green reporting may be used to combat potentially negative public opinions (Bassey, et al, 2013).

**Benefits of Environmental Accounting:**

Richardson (1999) identified that, more elaborately, environmental accounting is an effective tool for placing environmental issues firmly on top management agenda, providing useful data to facilitate environmental and financial manager’s decision making, and concretely demonstrating environmental commitment to stakeholders.

The benefits of understanding an environmental accounting initiative is that the identification and greater awareness of environment related costs often provides the opportunity to find ways to reduce or avoid these costs, whilst also improving environmental performance (Tapang et al; 2012).

Environmental accounting is used to assess full environmental costs associated with activities and /or products. It can also be used to track environmental performance of organizations in more measurable manner. The key areas for monitoring are aggregated emission to air, water effluent discharge, soil contamination and boundary noise level (Seetharaman, et al., 2007).

The environmental protection Agency (EPA) adds the following benefits.

- Many environmental problems can be significantly reduced or eliminated as a result of effective decisions.
- Environmental cost (and potential savings) may be obscured in overheads or otherwise overlooked.
- Environmental cost can be offset by generating revenues through sales of waste or by-products or recycling them.
- Understanding of environment costs can promote more accurate costing and pricing of products.
- Competitive advantages with customers can result from processes, products and services which can be demonstrated to be environmentally friendly; and

- Accounting for environmental costs and performance can support a company's development and operation of an overall environmental management system.

## **RESEARCH METHOD**

The research design adopted for this study was the survey design. This was used for the purpose of obtaining data to enable the researcher answer research questions. Also, the choice of this design was necessary because of the relationships that exist between variables which were not subject to manipulation.

The researcher utilized both primary and secondary sources of data in the course of this study. The primary sourced information was from interview. The secondary sources were the documents that were in existence before the need to conduct this study; but which were related to the research topic. Data from secondary source include those collected from internet, textbooks, journals, library research, national dailies and government publications.

## **Research Findings and Discussion**

Environmental accounting covers information relating to all aspects of the environment. It serves as a systematic approach in managing the environmental aspects of company activities, hence the following findings:

- Lack of environmental reporting and disclosure standards significantly affects the reporting and disclosure uniformity of environmental related information in financial statements, annual reports and accounts.
- Environmental issues affect different areas of an organisation's operation such as, manufacturing, raw material procurement, energy usage, marketing, product management, disposal and waste management (Banerjee, 2001).
- Environmentally friendly organisations who voluntary disclose their environmental activities enjoy high level of competitiveness.
- Voluntary disclosure of environmental information in the annual report is positively related to a firm's size (Jensen and Meckling, 1976). They argue that firms which are more visible in the public eyes are likely to have voluntary disclosure information to enhance their corporate reputation.
- Accounting for environmental cost and performance can support an organization's development and increase its revenue and operations in an overall environmental management system.
- Environmental accounting also can be used to track environmental performance of organizations in more measurable manner. The key areas for monitoring are aggregated emission to air, water effluent discharge, soil contamination and boundary noise level.
- Multi-national oil companies and other extracting firms are not putting adequate effort to minimize or prevent environmental problems affecting oil producing communities in Nigeria. Hence the relationships between the parties concerned are not encouraging.

- Multinational companies in the oil producing communities have not been fully complying with environmental laws and regulations. Thus the effectiveness of these laws is yet to be seen.

## **CONCLUSION AND RECOMMENDATIONS**

Nowadays, the society particularly from the developed nations is highly concern about the impacts on the quality of their life due to the pollution of air, land and water. However, the same concern is rather slow in developing countries including Nigeria.

Environmental accounting enhances the quality of decision making, requiring organizations to establish a baseline (standard) of its greenhouse gas emissions, energy usage, resource usage and other key environmental indicators, and set reductions targets and production patterns alongside protecting and managing Nigerian natural resources.

Lately, the relationship between the companies and the environment is receiving increasing attention. Presently, debate on global climatic change and biodiversity is becoming more common place in corporate world, together with concern over water, air and soil pollution. Although the sustainability of economical development is a shared responsibility amongst organizations, government, consumers and communities. However, organizations can play vital role in slowing down the environmental degradation.

Unsustainable consumption of natural resources, increased contribution to Green house gas emissions (GHG), contribution to ozone layer depletion amongst others are prevalent in Nigeria and serve as impediments to favourable business climate and human inhabitation in general.

Multinational companies can contribute towards, sustainable environment by innovating and improving their products and processes in order to use raw materials more efficiently reduce the waste generated from their processes, improve the waste disposal methods and improve the work conditions.

Stakeholders obviously require companies to manufacture goods efficiently and at competitive prices without degrading the environment. This can lead to an improvement in overall environmental performance, company performance, company performance, customers and communities satisfaction.

Based on the conclusion, the researcher recommends among other that:

- Environmental accounting standards should be published locally and internationally and reviewed continually to ensure dynamism compliance.
- Organizations should formulate and implement environmental friendly policies to enhance their competitiveness.
- Government should make environmental reporting in annual reports compulsory since most organizations hardly report their environmental activities in their reports.
- Corporate organizations on their part should ensure that they comply with the environmental laws of the nation as it will go a long way in enhancing their performances.

- Government agencies should give tax credit to organizations that comply with its environmental laws of the land which will encourage environmental reporting.
- Companies should adopt uniform reporting and disclosure of environmental issues for the purpose of control and measurements of performance.
- Accountants should be trained on environmental accounting.
- Propagation of environmental awareness within the host communities should be encouraged. This will go a long way in creating cordial relationship between the multi-national companies and the communities.
- Government should pass legislation which will compel multi-national companies to integrate environmental issues into their strategic planning process.
- Companies should design products which generate less waste or emission during their life cycle. This can be carried out through life-cycle analysis
  - Develop method to re-use or recycle waste rather than sent for disposal.
  - Minimize depletion of natural resources by establishing effective control measures or prevention measures.
  - Develop continual waste and energy minimizing programme.
  - Modify operating processes to reduce wastes.
- Government should ensure optimum utilization of proceeds accruing from the sale of our natural resources. Objective disbursement of the funds to all sectors of the economy will enhance quality of life of the people.

## REFERENCES

- Bassey, E.B; Sunday, O. E & Okon, E. E. (2013). The Impact of Environmental Accounting and Reporting on Organizational Performance of selected Oil and Gas Companies in Nigeria Delta Region of Nigeria. *Research Journal of Financial and Accounting*, 4(3).
- Bevedugo, S.B. & Mefor, I. P. (2012). The Impact of Environmental Accounting and Reporting on Sustainable Development in Nigeria. *Research Journal of Finance and Accounting*, 3 (7).
- Deegan C, Rankin and Tobin J (2002). An examination of the Corporate Social and environmental disclosure of BHP from 1983 – 1997: A test of legitimacy theory. *Accounting, Auditing and Accountability Journal*, 15(3), 312 – 326.
- Donwa, P (2011). Environmental Accounting and Host Community Agitation in Nigeria: The Petroleum Industry Experience. *International Review of Business Research*, 7(5), 98 – 100.
- Freeman A B (1983) Towards an Epistemology for Radical Accounting: Beyond Objectivism and Relativism. *Critical Perspective on Accounting*, 6(1), 485 – 496.
- Hutchinson, P.D (2000). Environmental Accounting: Issues, reporting and disclosure. *Journal of Applied Business Research*, 16 (4).

- James, B (1998). The Benefits of Improved Environmental Accounting: An Economic Framework to Identify Priorities Resources for the future Washington, DC, 13 – 15.
- Mabogunje, A.I (2007) “Health Challenges of Nigerian Urbanisation Paper Presented at 9<sup>th</sup> Benjamin Olukayode Osuntokun memorial. *Lecture Presented* at University College Hospital (UCH) Ibadan.
- Myers N (1989) The Environmental Basis of sustainable Development Environment Management and Economic Development. John Hopkins University Press, Baltimore.
- Myers, N (1998). Emergent Issue of Environmental Economics – What we should be analyzing closely but haven’t thought much about. *International Journal of Social Economics*, 25(6), 1271 – 1278.
- Obilo, O.P. (2002). Impact of Crude Oil Pollution on the Growth and Performance in Oguta, Imo State. *Unpublished Ph.D Thesis* University of Nigeria Nsukka.
- Ogbeifun, L.B. (2007). Effects of Petroleum products gandalisation on Nigerian Economy [www.tribune.com.Ng.23rdjan](http://www.tribune.com.Ng.23rdjan).
- OPEC (2001). Annual Statistical Bulletin, Organization of Petroleum Exporting Countries September.
- Pramanik, A.K; Shil, O.H & Das, A.B. (2007). Environmental Accounting and Reporting, New Delhi, Deep Publication P.V.T ltd. Rocky Harris (2009) Environmental Accounting Applications for Sustainable Consumption and Production Policies, Department of Environment, United Kingdom, 3 – 7.
- Seetharaman, A; Mohamed, I & Saravanan, A.S (2007). Environmental Accounting as a tool for Environmental management system. *Journal of Applied Science, Environment and Management*, 2(2), 137 – 145
- Tapany, A.T; Basseyy B.E & Bessong, P.K (2012). Environmental Activities and its implications on the profitability of oil companies in Nigeria. *International Journal of Physical and Social Sciences*, 2(3), 285 – 302.
- Trotman, K (1999). Social Responsibility Disclosure by Australian Companies”, The Chartered Accountant in Australia, 24 – 28.
- Williams, M.S. (1999). Voluntary Environmental and Social Accounting disclosure Practices in the Asia – Pacific region: An International empirical test of Political economy theory. *The International Journal of Accounting*, 34(2), 209 – 214.
- Yakhou, M & Dorweiler, V (2004). *Environmental Accounting: An Essential Component of Business Strategy*. USA: John Wiley and Sons Ltd.