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ENHANCING SUSTAINABLE DEVELOPMENT THROUGH ENVIRONMENTAL ACCOUNTING: A CASE OF NIGERIA (EMPIRICAL REVIEW)

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ABSTRACT

This paper examined the level of environmental accounting practice in Nigeria. The aim of it was to provide information on how environmental accounting could be used to enhance sustainable development in Nigeria. The exploration of natural resources in Nigeria has increased over the years and this has negatively affected the living standard of Nigerians greatly. This can be seen as the weather conditions are changing and the seasons in the country are gradually becoming abnormal. Experts have explained that it is as a result of the depletion of the ozone layer. This paper takes a look at the need for organizations to account for the effects of their organizational activities on the environment. Also, adequate recommendations were made to ensure a sustainable development in Nigeria through environmental accounting.

Keywords: Environmental Accounting, Sustainable Development

INTRODUCTION

The dire need for man to always desire to exploit and maximize the resources of his environment is overwhelming. This desire makes man to engage in various activities such as the production of goods and service, ensuring good and adequate accommodation, urban development etc. Therefore, man's recent activities within the environment have resulted into serious depletion and degradation of the environment. It is also a well-known fact that environmental problems have increased tremendously by means of technological development and application of same. The fact that there has been rapid development globally since the 1990's not only has led to environmental awareness to become wide spread but also has enabled nations of the world to act fast together for the matter of environmental protection. Of great importance is that, the rising concern about environmental degradation, resources depletion and the sustainability of economic activity have made the development of natural resources and environmental accounting and reporting an area of great activity in both developed and developing countries of the world. This paper therefore x-rays the need for organizations to be accountable for the impact of their activities within the environment. This is very vital because accountability will help bring to consciousness the need to protect the environment for sustainable development.

The main purpose of this paper is to examine the literatures that deal with environmental accounting and sustainability development and how different authors have done researches in the same field.

Aims and Objectives of the Study

1. The main objective of this paper is to examine the level of environmental accounting practice in Nigeria. This is with a view to providing information on how environmental accounting could be used to enhance sustainable economic development in Nigeria.

METHODOLOGY

This study is descriptive cum exploratory in nature. Secondary data is used for the purpose of this study. To develop this study in depth literature review has been used which is collected from website, different books, and previous research findings.

Review of Related Literatures

Concept of Environmental Accounting

Environmental accounting and reporting awareness only started to feature very well in the scheme of things in most developing nations in the decades of the 1980s and 1990s. This is not surprising because the third world countries confront more urgent problems of how to satisfy the immediate basic needs of the populace and are pre-occupied with the attempt to generate faster rate of economic growth (Ironkwe & Success, 2015). Jude and sunny (2014), emphasized that the increasing concern about environmental degradation, resource depletion and the sustainability of economic activity have made the development of natural resources and environmental accounting and reporting an area of important activity in both developed and developing countries. Cornen (2006) described environmental accounting as any form of accounting involving the collection, recording and reporting of internal and external information about the financial and non-financial impact of organizational activities upon individuals, society and the physical environment. Ironkwe and Success (2015), further asserts that environmental accounting is an issue that has since the early 1970s gradually taken center stage in international discussion. They further examined that in 1992, the United Nations framework convention on climate change was signed by most countries to consider steps to reduce global warming and palliate climate change.

Adekani, Adedoyin and Adewole (2015) quoted Campbell, (2009) that the idea of social and environmental accounting was added by the corporate entities to their public reports from the mid-1980. They further argued that this was the period when the concept of social and environmental accounting began and civil societies vehemently argued that there was no moral case for organizations to report and account for impact of their activities on social and natural environments. Hassan and Ahmet (2009) assert that in the consideration of rapid deterioration in environmental conditions and concern of closing to limits of the world, it is required that business managers shall change their point of view to ecological environment as soon as possible and shall evaluate the ecological environment as soon as an crucial factor in the taking of decision related to operating activities. Corporation managers also have to pay attention to such demand into strategic decisions and develop more sensitive management approach to environment in order to catch up with the aforesaid change. Environmental management is an understanding adapted by enterprises that take into consideration ecological environment as an important matter in the decision procedures, aim to minimize or abolish entirely the damage to the environment (Hassan and Ahmet, 2009).Nemli (2009) explained the comparison between traditional management and environmental management.

Table 1: Traditional Management – Environmental Management-Comparison

	Traditional Management	**Environmental Management**
In objectives	Economic growth and profit return for partners	Sustainability and standard of living welfare of partners
In products	Products design for function, style and price packaging causing unnecessary waste	Environmentally fondly products designed for environment
In organization	Hierarchical structure decision making from top to bottom Decentralization in decision making	Nonhierarchical structure participatory decision making Decentralization in decision making
In environment	Having a good command of the environment. Managing of the environment as a source Evaluation of pollution and waste as	Being harmony with nature Becoming aware of natural resources not being unlimited

	externalities	Managing and utilizing pollution and waste
In functions of business	The marketing aims to increase the consumption. Financing asks for maximizing the profits in the shout terror	For marketing is for consumer training. Financing aims the long term sustainable growth, the accounting concentrates on environmental cost.

Sources: Nemli, 2009

Objectives of Environmental Accounting

Eze, Nweze and Enekwe (2016) emphasized that environmental accounting is needed to fulfill great demands of different stakeholders. However, the following can be identified as some of the main objectives of environmental accounting.

I. Propagation of environmental friendliness:

Ethical investment movement has ensured that ethical investors require the companies to be environmentally friendly. Therefore, by imbibing the friendly culture, companies may be successful in attracting funds from individuals and groups.

II. Enlightenment of environmental commitment through disclosure:

Through environmental disclosure, companies may show their commitment towards the protection of the environment and thus appear to be responsive to new factors. And issues that confront the natural environments. (Pramanik, 2007).

III. Discharge of organizations accountability:

The discharge of organizations accountability and increase in its environmental transparency can be enhanced by environmental accounting. It helps in setting up the stage where issues that border on the the concepts of environment and the company's relationship with the society in general and environmental pressure groups in particular are discussed (Eze, Nweze and Enekwe, 2016).

Benefits of Environmental Accounting

It has been said that environmental accounting is an effective instrument for placing environmental matters strongly on top management agenda, making available useful data to facilitate environmental and financial manager's decision making, and strongly demonstrating environmental commitment to stakeholders (Richardson, 1999).

Seetharaman (2007) emphasized that environmental accounting is used to assess full environmental costs associated with activities and or products. It can also be used to trace environmental performance of organization in a more measurable manner. The main areas of monitoring are in the aggregated emission to air, water, effluent discharge, soil contamination and boundary noise level.

According to the environmental protection agency (EPA), the following can be the benefits of implementing environmental accounting;

- Competitive advantages with customers can result from processes, products and services which can be demonstrated to be environmentally friendly.
- 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 on otherwise overlooked.
- Understanding of environment cost can promote more accurate costing and pricing of products and environmental cost can be offset by generating revenue through sales of waste or by products or recycling them.

Theoretical framework

Underlying theory

The underlying theory for this study is the stakeholder's theory.

Bassey (2003), described stakeholders as groups which are affected by the activities of the corporate entity. He emphasized that the organizations survival in the future requires stakeholders support and approval. The stronger the stakeholders, the more the corporate must devise a means of handling their demands. The main idea of the stakeholder's theory is that the firm's success is dependent upon the successful management of all the relationship that a firm has with the stakeholders and it is a term that was originally introduced by the standard research institute to refer to these groups without whose support the organization would cease to exist. Myers (1989) explains that the quest for development has led to massive destruction and degradation of the environment and natural capital. This according to him is a threat to sustainable development. Environment and development are closely intertwined. Therefore, one should not be ignored to the detriment of the other. Omotosho (2006) reaffirmed that oil spillage is one of the major challenges facing the oil industry with the resulting effects of environmental pollution. Ogbeifun (2002) agreed that oil spills may occur as a result of rupture and diminished integrity and aging process of the pipes or through oil sabotage. Omuta (1988) asserts that waste management processes in Nigeria are ineffective and grossly inadequate because the infrastructures available are not adequate. Asiodu (2007) expressed the opinion that a comprehensive long term agenda for the environment is required if Nigeria's are to enjoy quality life.

However, Oseme and Olaoye (2009) expressed that dangerous hydrocarbon are emitted into the air whenever there is oil spillage or leakages. They further explained that this is very dangerous to man and other living things. The effects of petroleum and crude oil pollution on man, plants and microbial population cannot be over emphasized.

Interestingly, owners of business also get interested in the environmental behavior of the company. They pay attention to the economic consequences of environmental behavior of the company and their impacts on investment returns of the shareholders. There are other interested parties to the company, there include stakeholders like customers, suppliers competing companies, the public, government agencies, mass media and agencies concerned with environmental protection.

Recent Developments in Environmental Accounting Theory

Some researchers on environmental accounting theory in recent years have enriched the theoretical bases in environmental accounting and reporting. They have also conducted in depth research from different viewpoints which has aided researchers to make progress in the following areas;

Development from the Perspective of Externalities

The problem of pollution externalities was put forward by Pigou (1920) who made very clear distinction between marginal net private product and marginal net social products. He called the balance between the items externalities in which the balance is external cost produced by private economic activities. The theory of externalities exposes the external properties of the pollution problem in that it expresses the economic sense and therefore lay a theoretical foundation for the next generation to handle the environmental problem by market based methods. Concerning the externalities problems, Coase (1960), introduced the popular Coase Theorem, as long as property right is clear, the externalities problem can be solved through compensation after consultation.

Furthermore, some researchers also support the levy of environmental tax to control environmental pollution. Lohman (2009) asserts that "external cost internalization" is the way out to environmental problems, and that the right measure to internalize the externalities is to implement the system of emission right trading license to levy environmental tax.

It can be observed that the reason of the research on environmental accounting based theory of externalities is to solve the environmental problems brought about by negative externalities of pollution enterprises, which provide specific methods and measures to solve the externalities problems and has practical significance and application value (Jiale, 2014).

Development from the Perspective of Sustainability

The term sustainability development is a new concept of development emerging in the 1970s. It is a strategic type of long term development for humanity based on the natural ecological environment resources. There is no doubt that the traditional accounting cannot provide sufficient information for sustainable development of enterprises or reflect the contributions to sustainable development made.

Schahegger and Burrit (2010) again put forward purely the concept of "sustainability accounting "and reiterated that it is a branch of accounting, which helps ecological system and society and that as an information management tool, sustainability accounting provides relevant and adequate information about sustainability development of enterprises and also major contributions made by other contributors.

Accordingly, sustainability accounting concerns itself with building a relationship between society, environment and economic development. The major reasons that induce managers of enterprises to build an accounting system to provide behavior information for the evaluation of sustainable development of an enterprises, in addition to the important motivation of managers and the importance of accounting to sustainable development of the enterprises include the five listed major factors, there are; propaganda of green enterprises (gray, 2006), initiation and industrial pressure (Shanaheggar, 2005) pressure from the law (shareholders and business license (cooper and Owen, 2007), enterprise self-discipline (Gumingham, 2007) and cooperate responsibility and ethical factors (Ashman and Winstanley, 2007).

Development from the Perspective of Information Disclosure

Recently, researchers in environmental accounting have come up with many theories to explain information disclosures behavior of companies. Clarkson (2008) separated the theories into two categories and defined them as voluntary disclosure theory and social political theory respectively. Voluntary disclosure theory explains that the aim of enterprises voluntary disclosure is because the environmental performance can transfer information to shareholders. It believed that they use objective environmental performance as a way to transfer information, expect the content of the disclosure of environmental performance.

The other theory is the theory of social political theory, which is made up of political economy theory, shareholders theory and legitimacy theory (gray 1996, Deegan, 2002). Guthene and parker (1990) were the first to introduce the concept of political economy theory in environmental accounting disclosure.

The theory was given more accurate description by Malby (2004) who explained that enterprises disclosure of social environment report is not just a response to the needs of the society. One of the main social report theories is the theory of political economy. The theory is widely used in literatures of social environmental accounting and reporting (Adams, 2002). If what shareholders theory considers is the relationship between enterprises and the society. Legitimacy theory is the most common approach adopted by scholars to explore the theory of corporate social environment report. According to the theory of legitimacy, enterprises try to reflect on the expectations of the society to them (Dowling and Pfeller, 1975). It means that an enterprise expects the public to legalize their activities through environmental information so as to reduce social pressure on them. However, when the facts are considered, enterprises behavior may run counter to the report. The major differences between the shareholders theory and the legitimacy theory are that the essence of disclosure is different. While in legitimacy theory, shareholders are satisfied by the information provided by the enterprise which does not reflect the real performance, nor help the shareholders make the right decision. However, in shareholders theory, companies' disclose information that can be received by shareholders and the information is consistent with the actual condition of the company.

Development from the Perspective of Cost Management

Internal control and management of cost can provide managers specific information about the internal environment and help them make better environmental decisions which will help them in effective management of environmental cost. Lawrence and Cerf (1995) separated the study of environmental accounting into the perspective of management and cost accounting and the perspective of financial accounting and reporting. The difference between the two perspectives is that cost management perspective focuses mainly on the use of internal information and control of environmental cost while the external environment of financial report emphasizes particularly on information disclosure to shareholders or the public.

Environmental Activities in Nigeria

Eze, Nweze and Enekwe (2016) describe Nigeria as a developing nation with rich abundant natural resources (i.e. both oil and gas), yet facing serious challenges in the control of environmental degradation. They assert that oil and gas exploration especially in the Niger Delta region of the country have drastically reduced the quality and usefulness of life through the activities of gas flaring, industrial pollution, oil spillage, deforestation, inequality in the distribution of oil proceeds and many other related issues. Mary (2017) describes Nigeria as a major oil producing nation with great expectations especially for the fact that the exploration of the oil is good for the economy. However, the effects of these explorations have led to serious environmental problems like water pollution etc.

The Niger Delta region of Nigeria has become one of the dirtiest places on earth since every year a huge amount of oil products are deposited there. A lot of farmers and fishermen live in this coastal territory and about 70% of the populations rely on the natural resources as their means of livelihood (Mary, 2017). Water pollution puts their health at risk. A 2011 study carried out by the United Nations on the effects of oil spillage in Niger Delta showed that majority of the locals in the oil producing areas suffer from chronic diseases all their lives. The benzene level is 900. To clean up this mess will cost up to $1billion. Significant harm to the Niger Delta is caused by the activities of ENI and SHELL companies and over 600 contaminations occur annually in the cause of their activities

(UN Report, 2011). It is evident that the country derives huge amount of money daily from the sale of crude oil and its by products, one would actually assume that is money if properly managed should have significant positive impact on the development of oil and non-oil producing areas of the country.

Eze, Nweze and Ezekwe (2016) observed that most of the oil producing communities continue to dwell in abject poverty, despite the fact that large amount of the nation's resources is obtained from their locality. The multinational companies responsible for the exploration of oil and its by-product in the areas often fail to consider that they should pay adequate attention to the social demands of the host communities and become environmentally friendly with them. They emphasized that the impact of the activities of oil exploration (especially air and water pollution) on these host communities, cannot be ever emphasized. They opined that in line with the stakeholder's theory, one would have expected the mutli-national oil companies to do their best by enhancing the quality of life of the host communities (Eze, Nweze and Ezekwe, 2016). However, Mabogunje (2007) pointed that 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 cruel oil pollution on man, plants and microbial population cannot be over-emphasized. These include benzene which on chronic exposure may cause leukemia and birth defects, ethylybenze which may cause dizziness, slower reflexes, loss of consciousness and death (Mabogunje, 2007).

Concept of Sustainable Development and Environmental Accounting

Sustainability is synonymous with other options such as social responsibility or environmental management and almost all of these terms are not new to corporate management and activity (Thorton, 2013). Brundtland commissions report on the definition of sustainable development happens to be the most quoted definition. It described sustainable development as the development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. Sustainable development can therefore be viewed as a facilitator for ensuring balance conversation of nature's resources with the need for industrial and technological development and advancement, put in a different way; it means the capacity to improve the quality of human life while living within the carrying capacity of the supporting ecosystem (Agagu, 2008).

However, Thortom, (2013) argued that due to the vagueness in the widely quoted definition of sustainable development it has been given different meaning to cover many ideas, so much that it has been compared to the Trojan horse words, a term quite sufficiently empty that it can be filled at will by different users to hold their own opinions and meaning. Esan (1998) was of the opinion that sustainable development is basically concerned with technologies that will ensure pollution reduction, people's participation in environmental degradation, and modern technologies of Biomas, wind solar energy, thereby bringing down the ecological and environmental hazards. The concept of sustainable development which actually lay emphasis on maintenance of natural resources, requiring mandatory inclusion of natural resources values in financial report has enhance the responsibility of those involved in accounting for national development.

The European commission action program on the environment, the fifth edition, titled "towards sustainability" calls for organization to;

- Disclose in their annual reports details of their environmental policy and activities and the effect thereof;
- Detail in their accounts the expenses on environmental programme and a clear definition of such expenses and
- Make provision in their accounts (European commission 1992 report)

Inclusive in the report of the programme is a recommendation that product pricing be based on full cost approach including the use and consumption of environmental resources.

Furthermore, Oladoye, (1998) asserts that there is a growing interest in the development of resources and environmental accounting in Nigeria. The development of natural resources accounting has focused on placing monetary value on known physical quantities of the resources in order to get a wealth value of national capital.

Evaluation of Empirical Studies on Environmental Accounting and Sustainable Developments

Gray (2013) explored whether the mainstream accounting when infused into environmental issues actually has anything substantive to do with or to say about the natural world. The researcher argued that conventional financial accounting is mainly economic which has no substantive conceptual space for environmental or social matters. He further re-examine why environmental and social issues can be potentially very important indeed what seems clear is that while any account can sought to reflect environmental and social exigencies, it might choose to use the technologies of accounting (Gray, 2013).

On the other hand, Harbor (2005) made an investigation into a full cost environmental accounting (FCEA). The writer examined a reporting experiment using full cost environmental accounting valuation techniques that was undertaken by an Australian government department managing public owned forest. It studied the implementation experiences of the department including reactions of its managers and its stakeholders which provided an opportunity to critically reflect on the experimental outcomes to extend current empirical knowledge of corporate and social responsibility reporting.

Khalid (2012) investigated the level of environmental management accounting (EMA) implementation in companies within environmentally sensitive industries in Malaysia as well as gaining knowledge into the pressures for implementation. The author discovered that the elements of environmental-related management accounting within some of the organization in which interviews were conducted showed that implementation was driven by a motivation to reduce costs rather than environmental conservation. Also, apart from that, companies reactions to environmental issues stem from pressures from customers who demand environmentally sensitive workplaces, procedures and processes in companies with which they do business with (Khalid 2012). In addition, P. Barttelmus (1992) analyzed accountability of socio-economic policies for environmental impacts at the Centre of sustainable development. United economic-environmental accounting assesses certain aspects of the sustainability of economic growth in terms of produced and national capital maintenance. The analysis of comprehensive development comprised further non-economic objectives that do not lend themselves to monetary valuation. Social evaluation of these objectives by means of norms, standards and targets is required for integrated development.

(Bartelmus, 2013). Irokwe and Success (2017) conducted a study on environmental accounting and sustainable development: a study of the Niger Delta area of Nigeria. The study adopted a quasi-experimental survey design and the empirical study was performed on the stakeholders which are companies, communities, environmentalists, scholars, community leaders within the six states in the Niger Delta area of Nigeria. Accordingly, the author found out that while sustainable development is now preached and emphasized globally, much is yet to be done to realize sustainable development goals in the Niger Delta area and Nigeria as a whole.

The study also emphasized that the stakeholders in Niger Delta area of Nigeria; the companies, the environmentalists, community leaders and accountants all agree that environmental accounting such as green accounting, environmental auditing and reporting has direct influence on sustainable development measurement parameters except that the implication is that while many companies welcome environmental friendly policy only a handful imbibe environmental accounting services. This could be attributable to voluntary nature of environmental accounting disclosures and poor or non-existent of environmental legislation and defective enforcement mechanisms where they exist. The study further confirms that if firms employ environmental accounting practices, disclose sufficient environmental related information, they enjoy competitive advantages, high liquidity and reduced environmental costs in the long run and ultimately it reflects in sustainable development (Irokwe and Success, 2017). Jude and Sunny (2017) emphasized that environmental accounting can serve as a tool for sustainable development in the nation if made a choice by government and regulating agencies. There further argued that it will be workable when companies are mandated to disclose the impact of their activities on the environment.

Hassan and Ahmet (2009), analyzed the concept of sustainable development as was stated in the first report of our common future prepared by commission on environment and development of United Nations in the year 1987. They emphasized that according to the report, environmental problems has threatened the earth and all people both developed and developing countries and that crises over the world are interrelating and environmental problems could not be differentiated from other problems. Igweonyia (2015), conducted a study on the impact of environmental accounting and reporting on sustainable development in Nigerian economy. The result of the survey suggested that sustainable development is a design involving a social, economic and environment. That meets the needs of the present without compromising that of the future. However, Esan (1998) was of the opinion that sustainable development is concerned with technologies for population reduction, monitoring of technologies to optimize energy mix, peoples participation in environmental degradation, modern technologies of Biomas, wind, solar energy, thereby reducing the ecological and environmental hazards and risks coming out from the use of nuclear energy, (Esan, 1998).

Findings

This study examined empirically the relationship between environmental accounting and sustainable development in Nigeria. The study also noted that while sustainable development is being emphasized worldwide, much is yet to be done to realize sustainable development in Nigeria.

The study also find out that all stakeholders in environmental accounting and auditing agreed that environmental accounting reporting has direct influence on sustainable development measurement indices.

CONCLUSION

The purpose of the study is to know how environmental accounting can be able to enhance sustainable development, a case of Nigeria. Literatures reviewed on this subject matter quite agreed that man exists within the confines of the environment, and his survival is anchored on the steadiness of that environment, therefore there must be conscious effort to manage the environment.

All stakeholders, companies, firms, communities and the government should be made to account for their activities on the environment. Also most literatures explained that environmental accounting is a tangible tool in the application of sustainable development. Environmental accounting is also a requirement of social responsibility of companies. Looking at the long term, it is anticipated that companies having the sense of social responsibility would gain more acceptance by the society which invariably would increase their market value and goodwill. Finally, overall researchers journals reviewed on this subject agreed that environmental accounting is an important issue for sustainable development mainly by concentrating on indices such as environmental cost, cost of water, pollution etc.

Recommendations

Based on the conclusions, the study recommends among others that;

a. Companies and firms especially companies in the Nigerian coastal regions should train their accountants on the act of environmental reporting.
b. The disclosure of environmental issues by companies should be uniform to ensure control and measurement of performances
c. Companies should comply with environmental laws of the land; more so government should ensure full enforcement of the laws on the companies.

d. Government should make sure that the proceeds accruing to the country for the sale of national resources are objectively disbursed for the good of all in the country.
e. Laws should be promulgated by the government that would minimize depletion of the ozone layer and gas flaring in the Nigerian Niger Delta region
f. The government should enlighten the citizenry on the management of the environment. That is enhancing environment management culture in Nigeria.
g. Enforcement of environmental accounting reporting in companies is a key ingredient to enhancing sustainable development in Nigeria.

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