

The Impact of Environmental Accounting and Reporting on Organizational Performance of Selected Oil and Gas Companies in Niger Delta Region of Nigeria

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Abstract

This study examines the impact of environmental accounting and reporting on organizational performance with particular reference to oil and gas companies operating in the Niger Delta Region of Nigeria. The study was conducted using the Pearson's product moment correlation co-efficient. The elements were selected by means of random and stratified sampling technique. Data were gathered from primary and secondary sources. Data collected were presented using tables and analyzed using the Pearson's product moment correlational analysis. It was found from the study that environmental cost has satisfied relationship with firm's profitability. It was concluded that environmentally friendly firms will significantly disclose environmental related information in financial statements and reports. The study recommended that firms should adopt a uniform method of reporting and disclosed environmental issues for the purpose of control and measurement of performance and that accounting standards should be published locally and internationally and reviewed continually to ensure dynamism and compliance to meet environmental and situational needs.

Keywords: Environmental Account, Environmental Cost, Environmental Impact, Environment Report, Financial Information

1.0 Introduction

Earth environment is a rich heritage handed over to us by previous generations. The present civilization has involved us in varied activities. Many of these activities generated waste with potential constituents. The ultimate disposal of the waste lead to environmental pollution in many parts of the world, the magnitude of pollution of the environment has already reached an alarming level (Pramanil, Shiland Das, 2007).

During the fifties and sixties of the 19th century people all over the world become more concerned about the quality of their environment. Well known environmental tragedies, like the cause of mercury poisoning in mania mate (Japan), severe smoke pollution episode in London and massive oil spill caused by TERRY CANYON accident reinforced in people's mind the sense that the quality of air, water and a wide range of natural resources was being seriously degraded.

The awareness of the environment and man's ability to cause damage started from the fifties of the 19th century. This concern had been repeatedly expressed in a series of international summits and consensus right from the sixties. The starting point that composed an organized through proves a large scale the celebrated public action of the club of Rome entitled "Limit to Growth that initiated a worldwide debate of economic growth at the expense of natural environment (Shiland, 22005).

Between 1968 and 1972, two international conference were held to asses the problems of the global environment and more importantly, to suggest corrective action. The world conference held in stocking on global environment and more importantly to suggest corrective actions. The aim of the conference was to create a basis for comprehensive consideration with the United Nation of the problem of human environment and to focus the attention of the governments and public opinion to various countries on the importance of the problem (Touche, 1996).

In recent years, the adverse environmental effect of economic development has become a matter of great public concern all over the world. Gradually environment is becoming a much more urgent economic, social and political problem.

Accountants, as the basic custodian and light bearer of economic development can no longer shut their eyes to the effect of environmental issues on business management, accounting, audit and disclosure system. Protection of environment and the potential involvement of accountant is becoming a common subject of discussion among the accountant all over the world. Now-a-days, accountants are expected to take a proactive role in the environmental protection process with the advent of liberalization, remove of trade barriers makes it logical that the costs of environmental degradation due to industrial activities should be internalized in corporate account to the extent possible, that is why environmental accounting and reporting therefore is of paramount importance today.

1.2 Statement of the Problem

Environment accounting involves the identification, measurement and allocation of environmental costs, and the integration of these costs into business and encompasses the way of communicating such information to companies' stakeholders. In this sense, it is a comprehensive approach to ensure good corporate governance that includes transparency in its societal activities. The unserious attitudes of several firms not take environmental accounting into consideration makes performance below expectation. This is because environmental accounting helps the firm to record all environmental costs incurred by the business thereby finding away of reducing the cost (environmental expenses) so that the business can increase profit. Also environmental accounting helps firm to disclose to the outside world their ability to be environmental friendly. According to Pramanik, Shil and Das (2007), some of the specific issues (problems) regarding the environmental accounting and reporting include:

- Identification of environmental cost and expenses
- Capitalization of cost
- Identification of environmental liabilities
- Measurement of liabilities

At present, no accounting standard has been issued for accounting treatment of these specific problems. Some guidelines regarding these issues have been issued by many organization such as international chamber of commerce, the Japanese Industry Association, the chemical manufacturing association, inter-governmental working group of expert on intimation standards of accounting and reporting. As regard environmental reporting, different organizations have also issued guidelines. But these guidelines are only advisory in nature and not mandatory. Consequently, the researcher interest is therefore to investigate if companies in Niger Delta Region of Nigeria practice environmental accounting and if so how this affects the profitability of their companies.

1.3 Objectives of the Study

The objectives of the study are as follows:

1. To ascertain how environmental costs influence the profitability of firms in Niger Delta Region of Nigeria.
2. To identify those environmental liabilities associated with firms operations in the Niger Delta Region of Nigeria.
3. To identify the effect of environmental disclosures on firms profitability.
4. To determine how firm's size affects its voluntary disclosure of environmental information.

1.4 Research Questions

The study will provide answer to the following research questions:

1. To what extent does environmental cost influence the profitability of a firm?
2. Does environmental disclosure influence the profitability of firm?
3. To what extent does a firm's size affect its voluntary disclosure of environmental information?

1.5 Research Hypotheses

The following hypotheses were formulated for the study:

H₀: Environmental cost does not significantly influence firm's profitability

H₀: The voluntary disclosure of environmental information in the annual report is not positively related to firm's size.

2.0 Literature review and theoretical framework

2.1 *Theoretical Framework*

This study examined the theoretical background of environment accounting based on the social theories of accounting.

The social theories of environmental accounting discussed in this study include, stakeholder, legitimacy and positive accounting theories. This approach is extended to stakeholder's theory by explaining information disclosure as an obligation and the right of the stakeholders. Stakeholders are groups, which are influenced by the corporate activities or which can affect the corporation. 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.

According to the legitimacy theory, organization seek to establish congruence between the social values associated with or implied by their activities and the norms of acceptable behaviour in the larger system of which their activities are part.

2.1.1 Stakeholders Theory

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 Stanford research institute (SRI) to refer to those groups without whose support the organization would cease to exist (Freeman 1983).

In developing the stakeholder theory. Freeman (1983) incorporates the stakeholders concept into categories (i) a business planning and policy model, and (ii) a corporate social responsibility model of stakeholder management. In the first model, the stakeholder analysis focus on developing and evaluating the approval of corporate strategies decisions by groups whose support is required for the firm's continued existence. The stakeholders identified in this model include the owners, customers, public groups and suppliers. Although these groups are not adversarial in nature, their possibly conflicting behavior is considered a constant on the strategy developed by management to best match their firm's resources with the environment (Deegan and Gordon, 1966).

In the second model, the corporate planning and analysis extends to include external influences which may be adversarial to the firm. These adversarial groups may include the regulatory environmentalist and/or special interest groups concerned with social issues (Guthrie and parker, 1990). The second, model enable managers and accountants to consider a strategic plan that is adaptable to change in the social demands of non traditional stakeholders groups.

The stakeholder's theory proposed an increased level of environmental awareness which creates the need for companies to extend their corporate planning to include the nontraditional stakeholders like the regulatory adversarial groups in order to adapt to changing social demands (Trotman, 1999). The main concern of the stakeholders theory in environmental accounting is to address the environment cost elements and valuation and its inclusion in the financial statements.

2.1.2 Legitimacy Theory

Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values and definitions (Suchman, 1995).

According to Tilling (2008), legitimacy theory offers a powerful mechanism for understanding voluntary social and environmental disclosure made by corporations, and that this understanding would provide a vehicle for engaging in critical public debate. The problem for legitimacy theory in contributing to the understanding of accounting disclosures specifically and as a theory in general is that the term has an occasion been fairly loosely. This is not a problem of the theory itself, and the observation could be equally applied to a range of theories in a range of disciplines.

Legitimacy theory suggests that a firm may be in one of four phases with regard to its legitimacy. Establishing legitimacy which represents the early stages of a firm's development and tends to revolve around issues of competence, particularly financial, but the organization must be aware of socially constructed standards of quality and desirability as well as perform in accordance with accepted standards of professionalism ((Hearit, 1995). Maintaining legitimacy is the phase that most firms would generally expect to be operating in, where their activities include: ongoing role performance and symbolic assurance, that all is well, and attempts to anticipate and prevent or forest all potential changes to legitimacy (Ashford and Gibbs, 1990)). However, the maintenance of legitimacy is not

as easy as it may at first appear. Legitimacy is a dynamic construct community expectations are not considered static, but rather, change across time thereby requiring organizations to be responsive to the environment in which they operate. An organization could accept this view; lose its legitimacy even if it deemed acceptable (legitimate) (Deegan, et al 2002).

Extending legitimacy is point where an organization enters new markets or changes the way its relates to its current market. This can give rise to a need to extend legitimacy which is apt to be intense and proactive as management attempts to win the confidence and support of wary potential constituents (Ashford and Gibbs, 1990).

Defending legitimacy occurs when legitimacy is threatened by an incident (internal or external) and therefore requires defense. Legitimation activities tend to be intense and reactive as management attempts to counter the Ihie at (Ashford and Gibbs, 1990). Even baring a major incident, it is likely in the capitalist system that almost every corporations will regularly needs defend its legitimacy, but the fact that corporation must fulfill both a competence and community concerns while, conversely, responsibility to the larger community requirements to realize legitimacy, satisfaction of stakeholders interested often occurs at the expenses of community concern while, conversely responsibility to the larger community often occurs at the expense of the stockholders (Hearit, 1995).

It is this last phase that has tended to be the main focus of accounting researchers. It also provides us with the clearest opportunity to examine the crucial link between legitimacy and resources. Lindblom ((1994).

2.1.3 Positive Accounting Theory

This theory suggests and explains why firms make voluntary social disclosures. Based on the original work of Watts and Zimmerman 919986), the positive accounting theory have directly sought to establish evidence for the political cost hypothesis as an explanation for firms social disclosures.

Along with numerous others, Gray et al (1995) dismiss the positive accounting arguments on the grounds of the underlying assumptions of the theoretical framework. As they suggest positive theories are not about what (social) reporting should be, but rather about what it is on the face of it, and on the basis for explaining why firms are making social disclosures, positive accounting explanations are less easily dismissed. Casual observations, for example reveals that positives accounting explanation rely on empirical evidence largely identical to that used in support of other explanation (most notably, legitimacy theory) of social disclosure, explanations which, incidentally Gray et al (1995) seem to find more acceptable. As Gray et al (1995) note, a number of empirical studies have shown strong associations between disclosure and firm size, and between disclosure and type of industry. In fact, the size disclosure and type of industry. In fact, the size disclosure relationship appears empirically the most robust. Such results are claimed in support of legitimacy theory (Patten, 1991, Deegan and Godon, 1996), as well as in favour of positive accounting theory.

2.2 *Accounting Interest in the Environment*

Substantial effort and resources have been deplored to ensure that our natural environment is not treated as a free good (Tapang, Bassegy & Bessong, 2012). Accounting has an instrumental role in disclosing environmental responsibility for different entities whether industrial, commercial service and at all levels whether micro or macro. Thus, accounting became concerned with achieving new goals such as measuring and evaluating potential or actual environmental impacts of projects and organizations. These new goals are of great importance as they enable many users to take different development decisions that are economically and environmentally sound (Bala and Yusuf, 2003).

Ali (2002) identified the main reasons of accounting interest in the environment as follows:

- (i) Many environmental costs can be significantly reduced eliminated as a result of business decisions, ranging from operational and house keeping changes to investment in cleaner production, to redesign of processes/products.
- (ii) Environmental cost (and, thus potential cost savings) may be obscured in overhead accounts or otherwise overlooked.
- (iii) Many organization have discovered that environmental costs can be offset of generating revenues through sales of waste by products for example:
- (iv) Accounting for environmental cost and performance can support an organization's development and operating in an overall environmental management system (EMS) and 150 14000 accreditation.
- (v) Environmental expenditures whether capital (CAPEX) or operating costs (OPEX) increase dramatically day after day.

- (vi) Management needs financial data about these expenditures.
- (vii) For strategic cost leadership (Driving Cost).
- (viii) There is need to prioritized these expenditures.
- (ix) There are increasing needs from different stakeholders (government, investors, lenders, banks, non-governmental organizations, etc) to have financial data on the environmental performance of different organization.
- (x) If accounting does not provide financial data on the environmental performance of organizations that will help non-complying organizations/entities to pollute environment and spoil resources and yet appear more economic efficient than other which incur costs to protect the environment.
- (xi) Naturally any entity have a main output and a secondary outputs of which mainly pollutes and thus if the entity does not incur costs to mitigate or prevent it a third party in the society have to bear it (the concept of externality).
- (xii) Environmental risks may result in huge environmental liabilities and subsequently the organization/entity may be obliged to outlay payments which may affects seriously the liquidity and the financial position of the organization.
- (xiii) Managing recourses properly in an environmentally friendly way will result in a competitive advantage such organization.
- (xiv) There is a general trend to evaluate the organizations performance according its social and environmental effectiveness and not only on its economic effectiveness.
- (xv) Current practices demonstrate that, no track for environmental costs was available as it was charged randomly. Therefore, there is a need for proper changing and allocation. Distinguishing between environmental costs and other costs will lead to a proper cost allocation of these costs and thus precise pricing and will help to develop sustainability indicators.

For the above reasons, it is believed that accounting should be responsible for measuring, evaluating and disclosure of environmental performance in financial statements or in its attachments. No doubt that measuring environmental performance depends on accounting systems but needs data, other than the conventional accounting data, such as pollution ratios. Monetizing environmental issues may not be totally accurate but, economists and accountants have to give best estimates, according to the current level of knowledge, and techniques used (U.S. Environmental Protection Agency (EPA), 1995 and Hamid, 2002).

2.3 *Impact of Environmental Issues on Financial Statement*

2.3.1 Cash Accounting

Environmental issues can impact on financial statements prepared on a cash basis of accounting. However, the effects on the financial statements are more limited than that under financial statements prepared under an accrual basis (Sharit, 1994).

According to Bela ((2004), environmental issues can impact on the cash flows of an entity during the reporting period. He further posts that; in addition, there could be an impact where compliance reporting is included in a government financial report. For example, where the entity is required to demonstrate compliance with environmental laws and regulations.

2.3.2 Accrual Accounting

Environmental issues can have an impact on financial statements prepared on an accrual basis in many ways. There are international accounting standards, which address the general principles for the recognition, measurement and disclosure of environmental matters in a financial report (IAS-37). The introduction of environmental laws and regulations may involve an obligation to recognize impairment of assets and consequently a need to write down the carrying value. A failure to comply with legal requirements concerning environmental matters such as emission or waste disposal may require accrual of remediation works, compensation or legal costs (Rahman, 1999). He identified that if a firm fails to comply with the legal requirements regarding pollution control, the firm may risk a fine or penalty. He went ahead to opine that, some annual operating cost are environmental in nature. For example, energy costs can be considered an environmental cost as the use of fossil fuels is a source of carbon dioxide and air pollution. Some entities may need to recognize environmental obligations as liabilities in the financial statements. For example, obligations association with solid waste lanful closure and after care and restoration obligations, associated with

mining operation. An entity may need to disclose a potential environmental obligation as a contingent liability where:

- (i) The possible obligation depends on the possible occurrence of a future event; or
- (ii) The amount of the present obligation cannot be reasonably estimated; or
- (iii) An outflow of resources to settle the obligation is not probable (Callen, and Thomas, 1999).

In the course of meeting the relevant accounting standard requirements, some additional disclosures in the note to the financial statements may be required. Examples might include:

- (i) The industry in which the entity operates and the associated environmental issues.
- (ii) The accounting treatment adopted for environmental costs, i.e. what is included, when items are expensed or capitalized, how they are amortized to income etc.
- (iii) Environmental restoration have been incurred under environmental legislation; and
- (iv) Environmental restoration liabilities, including measurement uncertainties, nature and timing (Prickard and Wendy, 2000).

2.4 Environmental Accounting Approaches

Physical approach vs. monetary approach two approaches are adopted in environmental accounting. Firstly, the physical approach was suggested by the United Nations where a complete guides to be prepared indicating the available resources within a country classified according to it state and uses (for instance, agriculture, desert land etc).

Depending on this approach the environmental operations are presented in a physical terms, the current balance of the resources and the additions and deductions from that resource. No monetary value is assigned according to this approach (Ahamed, 2002). The monetary approach emerged due to the fact that the physical approach does not fulfill the requirements of the environmental accounting. The physical approach is very important to get physical information about the resources which enables to prepare the environmental statistics and is considered the first step in the monetary approach. Despite the difficulties associated with the monetary approach, it gained a lot of interest a such data will enable to know the profit and loss associated with environment operations and to get an environmental adjusted economic indicator (Hamid, 2002).

2.5 Environmental Information and their Users

Environmental information connected with the company which is object of attention of the interested parties, may be divided into two basic groups (Burrit, Halu and Schattegger 2004).

- Environmentally induced inputs on the economic system of the company; and
- Environmental aspects of the company activities products and services, and impacts on the environment caused by the company.

Environmentally induced impacts on the economic system of the company are expressed in monetary units (according to the approach of Horngren et al, 2000, these are, therefore, financial information). This concerns all impacts on past, current or future cash flows of the company, on its financial position and on economic results, which are caused by the influence of the company, on its financial position and on economic results, which are caused by the influence of the company, on its financial position and on concerns environmentally induced financial impact – a part of this information is, for example, information on capital costs spent in connection with cleaner production, on lines for violating laws on the protection of the environment, on environmental liabilities, etc. Representation of the value aspects of the business process is a accounting system. However, accounting also comprises information expressed in physical units. For evaluation of the environmental behavior of a company. It is necessary to have information on environmental aspects and impacts of the company activities, products and services on the environmental.

Environmental aspects are impacts on the environment caused by the company are expressed in physical units (according to the approach of Horngren, et al, (2000) these are non-financial information. It means that this concerns information on the amounts of consumed energies and materials, on amounts and types of produced wastes etc (Veber, 2000).

The conventional accounting system does not provide sufficient information serving to the users in filling their information needs for evaluating environmental behaviour of the company and its economic consequences. The conventional accounting system is concentrated mainly on filling information needs of the interested parties concerning economic performance of the company. Due to all interested parties, attention has been paid, in the latest

tears, to environmentally induced impacts on the economic system of the company environmental aspects and environmental impacts caused by the company (Kral, 2002).

In view of the fact that information on environmental aspects and impacts of the company activities, products, services on the environment must be avoidable for an appropriate assessment of the environment performance of the company, a need has developed to produced an analyzing and reporting environmental information, designated as environmental accounting (Bennett and James, 1998).

Schattegger and Stum (1998) identified that various interested parties are interested in environmental information. In the case of certain users, main attention is paid to economic consequences of the influences 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. Attention to economic consequences of the company approach to the environment is paid not only by the company management, but also by other interested parties. Investors and creditors are primarily interested, on the other hand, in environmental risks 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 consequence of environmental behavior of the company and their impacts on return on investment. Other interested parties, for example, customers, suppliers competing companies, state bodies, the public, mass media, movements and initiatives concerned with environmental protection, etc; also pay attention to the company approach to the environment.

Somme interested parties (for example, the public, movements and initiatives concerned with environmental protection) are primarily interested in impacts of the company activities, products and services on the environment. Therefore, it is obvious that needs in the field of environmental information are very diverse. The task of environmental accounting is to fill information needs of all important interested parties (Jaroslava and Miroslau, 2006).

Environmental accounting must therefore be designed so that it provides information enabling users to assess environmental behavior of the company and its economic consequence therefore, parts of the system are both information in monetary units (financial information) and information in physical units (non-financial information). Furthermore, it is necessary to ensure that different information needs of various interested parties are filled. It also means that, the conception of environmental accounting is based on the basic recognition influencing development of accounting system in the 20th century method of reflecting the business process should be differentiated according to the users of the accounting information and according to decision making tasks for support of which the accounting information is used (Kral, 2002).

Consequently, the conventional accounting system of the company is divided into three basic subsystems (Kral, 2002)

- (i) Management accounting: Its main aim is to reflect the business process from the point of view of information needs of the management, namely of all staff members of various levels of the company management – the provided information serves to support management of the business process.
- (ii) Financial accounting: Its main aims is to fill information needs of external users (primary, owners, creditors, business partners, employees, entities participating in financial and capital market), which although stay out of the assessed entity, are connected with and its development by both future benefits and future risks.
- (iii) Tax accounting: The aim of this accounting subsystem is to reflect the same business process with the purpose to correctly determine the income basis, as well as other tax lien and liabilities of the company.

In the case of the financial and tax accounting the users press on unification of terms and processes so that the information submitted in individual cases are comparable. To the contrary, the management is characterized by the fact that practically no regulation from outside of the company exists. This accounting subsystem is not uniformly defined even concerning not used for this subsystem (Kral, 20002).

2.6 Objectives of Environmental Accounting

According to Pramanik, Shil and Das (2007), environmental accounting is required to fulfill a lot of demands from different stakeholders. However, for academic reason, the following basic objectives can be identified on the logical ground.

Environmental accounting would aid the discharge of the organizations 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.

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.

Environmental accounting consumerism movement launched by the environmental lobby groups encourages the consumers to purchase the environmentally friendly products i.e. green products. Companies, thus producing green products may take competitive marketing advantage by disclosing the same.

By making environmental disclosure, companies may show their commitments towards introduction and change and thus appear to be responsive to new factors.

Companies engaged in environmentally unfriendly industries arose strong public emotion. There is a strong environmental lobby against these industries. Green reporting may be used to combat potentially negative public opinions.

By cultivating the enlighten 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).

2.7 Benefits of Environmental Accounting

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 (William, 1999; Tapang, Bassey & Bessong, 2012; Tilt, 1994).

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 inform environmental and financial manager's decision-making, and concretely demonstrating environmental commitment to stakeholders. The environmental Protection Agency (EPA) adds the following benefits:

- (i) Many environmental problems can be significantly reduced or eliminated as a result of effective decisions.
- (ii) Environmental cost (and potential savings) may be obscured in overheads or otherwise overlooked
- (iii) Environmental cost can be offset by generating revenues through sales of waste or by-products or recycling them
- (iv) Understanding of environment costs can promote more accurate costing and pricing of products.
- (v) Competitive advantages with customers can result from processes, products and services which can be demonstrated to be environmentally friendly; and
- (vi) Accounting for environmental costs and performance can support a company's development and operation of an overall environmental management system (e.g. Iso 14001).

2.8 Basic Environmental Accounting Elements

Environmental accounting is premised upon clarification of the objectives of engaging in environmental accounting. The objectives must conform to policies for environmental considerations made in the business activities of companies and other organizations, and with their environmental targets and environmental action plans (UUNSD, 2001). The following items regarding execution of environmental accounting are important.

Target period and score of calculations: In principles, the target period covered should be the same as the period covered by the company's environmental report. Basically, information pertaining to the company's financial accounting, environmental activities and environmental accounting should all be coordinated to match the said company's business (fiscal) year.

The scope of calculations shall be the same as that for the company's environmental report. Basically, it must cover the business group. Nevertheless, if problems arise as a result of performing calculations for the business group as a whole calculations shall be performed within a range covering the entire company and its business sites,

with sequential calculations to actual operations of the company or other organization being desired (UNSD, 2001) and Reporting (ISAR). Institute of chartered accountant of England and waste. Accounting Advisory Forum (AAF) etc. But these guidelines are only advisory in nature and not mandatory.

An increasing number of countries impose requirement on companies to report on their environmental performance. Denmark was the first country to adopt legislation on public environmental reporting. In this country, the companies are required to prepare a so called "Green Account". In the Netherlands, new legislation on mandatory environmental reporting has been adopted. Both Danish and Dutch regulations require reporting to the authorities and to the public. In Norway, the new accounting act requires that all companies include environmental information in the annual report from 1999 onwards. In Sweden, similar legislation has been adopted for mandatory environmental disclosure in annual financial reports. In U.S.A., the companies are required to submit data on emissions of specific toxic release inventory (TRI) in addition; the Securities and Exchange Commission (SEC) requires disclosures on legislative compliance, judicial proceedings and liabilities in relation to the environment. In Canada, the securities commission requires public companies to report the current and future financial or operational effects on environmental protected requirements in an annual information form. Australian companies are now expected to give information on performance with regard to environmental regulations that apply to them. In addition a national pollutant inventory (NPI) is being created which requires industrial companies to report emission and inventories for specified chemicals (Pramanik, 2007).

2.9 *Disclosure of Environmental Accounting Information*

The environmental accounting guidelines (2005) recommended the voluntary disclosure of environmental accounting information from the standpoint of the external functions of environmental accounting, by means of the environmental report.

While the guidelines provide consideration of a simple approach corresponding to the actual situation at a company or other organization; the actual information disclosed is to be determined by the company or other organization itself. Therefore, it is necessary when disclosing environmental accounting data externally to clarify the pre-conditions of the data disclosed so that stakeholders gain a consistent understanding of the environmental accounting data.

The following items are noted with regard to the environmental accounting disclosure:

- (i) Processes and results of environmental conservation activities
- (ii) Key items forming the bases of environmental accounting
- (iii) Aggregated results of environmental accounting

2.9.1 Processes and Result of Environmental Activities

With regard to the aggregated results of environmental accounting, the company or other organization shall provide a summary and the results of the environmental conservation activities it emphasizes, an explanation of the aggregated results of environmental accounting (including an evaluation of large and small figures and the reason for increases or decreases in comparison with the previous period), and the policies activated with regard to future environmental conservation activities.

2.9.2 Key Items Forming Bases of Environmental Accounting

- (a) Status
 - (i) Target period: In cases in which the target period is not the fiscal year, the reasons for that are to be noted. Also, in cases in which there are related companies within the range of aggregation, i.e. the business group, that have target periods for environmental accounting different from that of the company or other organization, the names of those related companies and their target periods are to be noted.
 - (ii) Scope of aggregation: In establishing the consideration range, note the attitude toward, the importance of environmental conservation within the business group, and describe the actual criteria.
- (b) Content and Calculation standards for environmental conservation cost
 - (i) Aggregation of Depreciation Cost:
 - In cases in which there are no particular costs included in the depreciation cost, make a note to that effect.

- In cases in which the period of depreciated used is different from that used in financial accounting, make a note to that effect providing the details and the reasons.
- (ii) Standards for Booking Complex Costs:
 - The main details of environmental conservation costs, for which differences are aggregated, the aggregation method, and the reasoning concerning costs other than environmental conservation cost;
 - The main details of environmental conservation costs subject to allocation aggregation, the aggregation method, and the allocation standards;
 - For allocation aggregation based on simple methods, the main details of environmental conservation cost for which the total amounts are aggregated;
 - While it is assumed that environmental conservation cost included, the details of environmental activities not subject to aggregation.

2.10 Indicators for Analyzing using Environmental Accounting Data

The meaning of the aggregated results can be indicated from various prospective through the use of indicators for analysis of the environmental conservation activities, which combine the various environmental accounting aggregation categories and the business activity indicators. Also, period comparison of these indicators makes it easy to check the progress of the company or other organizations environmental conservation activities. Furthermore, these indicators may be used in internal management as targets for environmental conservation efforts.

The indicators for analysis using environmental accounting data are as follow:

- (i) Indicator for analysis of proportion of total scale of business activities consisting of environmental conservation activities. It is necessary to evaluate the relative magnitude of environmental conservation cost in comparison with the scale of business, in addition to the absolute cost. This indicator is provided through the following formula:

Environmental Conservation Cost- Actual example –Cost of R & D for environmental conservation/overall R & D cost.

Sales of products that take the environmental into consideration/total operating revenue

- (ii) Indicator for analysis of effectiveness of environmental conservation benefit and environmental conservation cost:

The effectiveness of the environmental conservation benefit as reflected in the degree to which the desired benefit has been gained through the input of environmental conservation cost is very important. This indicator is provided through the following formula:

Environmental Conservation benefit/Environmental Conservation Cost.

Actual example

- (i) Degree of energy productivity improvement/environmental conservation cost made for that purpose.
- (ii) Water usage productivity improvement/environmental conservation costs made for that purpose where: energy productivity = added value/total energy input volumes. Water usage productivity = added value/total energy input volume. Recycling usage rate improvement/environmental conservation cost made for that purpose.

Where:

Recycling usage rate = volume of recycled material used/volume of recycled material used + total natural resource input volume.

- (iii) Indicators for analysis of relationship between business activity volume and environmental impact volume:

While the environmental conservation benefit is basically ascertained according to the difference in the total volume of environmental impact, it is also vital to pursue business growth potential. Evaluation analysis of the relationship with business activity volume is effective in achieving the dual goals of environmental consideration and economic growth.

- (i) Environmental impact volume per unit of business activities volume: This is the environmental impact volume per unit of business activity volume, and is referred to as environmental impact intensity. This indicator is provided through the following formula: greenhouse gas emission

- volume/added value waste volume/added value. Emissions volume of chemicals subject to prescribed control/sales of certain products.
- (ii) Business activity volume per unit of environmental impact volume, this is business activity volume per unit of environmental impact volume, as is referred to as environmental efficiency. This indicator is provided through the following formula:
Business activity volume/environmental impact volume.
- Added value/total energy input volume
 - Added value/total water input volume
 - Sales of certain products/input volume of chemical subject to prescribed controls.

2.11 Business Uses of Environmental Accounting Costs

A broad view of environmental accounting and the EMS includes application of techniques and procedures so support management decision making, performance measurement, recognition and reporting of liabilities and contingencies, capital market reactions to accounting disclosures and taxes (Babington, 1997). Tax implications include:

- Specific environmental taxes;
- Appropriate treatment of environmental expenditures;
- Pollution allowances as tradable permits;
- General federal income tax issues.

An example is super fund surcharge taxes for Environmental Protection Agency (EPA) environmental cleanup. Environmental accounting and environmental cost determination shows how “costs of environmental errors (CEEs) are treated (Gulch, 2000). In an accounting context, this is an example of managerial accounting applied to environmental impacts. Managerial accounting and CEE both provide the full range of accounting treatment. CEE is designed to determine:

- The financial burden of environmental regulations;
- The impacts on environment and society;
- The costs of measuring environmental impacts.

CEE is for internal use as managerial accounting providing a business perspective. From a control perspective, for types of environmental cost need to be recognized: prevention, internal failures, external failures and appraisal. These costs reflect:

- Cost for prevention or correction of environmental impact in facility construction or use of facility.
- Prevention costs related to correction of defects.

CEE is applicable due to complexity of regulation certain industry as reflected by multiple environmental standards and ambiguous for mutation of standards. This is likely due to poor knowledge in the content of environmental and other standards in multiple materials.

2.12 Determinant of Environmental Reporting in Nigeria

The environmental reporting or sometimes known as “green reporting” is one of the voluntary social reporting included in the financial statements. At the beginning the issue of social and environmental reporting is somewhat neglected. The nature of accountant’s focus is dominated by traditional economic thinking, which tends not to take account social and environmental impacts (Pasker, 1996). In fact, the concern goes more towards cash flows, prices, profits and properly, ecological issues such as quality of air usage of sea and the pollution of rivers are intangible matters, which easily overlooked. In addition, the general views of social and environmental accountability are among the unfamiliar concerns. Junaina and Ahmad (2008) identified the main determinants of environmental reporting to include:

2.12.1 Company Size

A study by Trotman and Bradley (1981) has found a positive association between size and voluntary social responsibility disclosures. There are numerous explanations for such association. Firth (1979) suggests that firms, which are more visible in the “public eyes”, are likely to voluntarily disclose information to enhance their corporate reputation. Watts and Zimmerman (1986) suggest that larger firms would have higher political costs because the firms are more politically visible and may attract more resentment due to their perceived market power. Leftwich,

Watts and Zimmerman (1981) maintain that firm size is a comprehensive variable, which can proxy a number of cooperate attributes, such as competitive advantage, information production costs and political costs.

2.12.2 Financial Leverage

Jensen and Meckling (1976) and Myers (1977) have used agency theory to assert that political transfers of wealth, from bondholders to shareholders can take place in highly leveraged firms. Agency theory predicts that restrictive covenant may be written into debt contracts to protect firm's economic interests. Management may also voluntarily disclose information in financial report for monitoring purposes. Thus, agency theory predicts that level of voluntary disclosure increases as the leverage of firm grows.

Leftwich (1981) suggest that he the proportion of outside capital tends to be higher for larger firms as the potential benefits of voluntary disclosure increase with shareholder debt holder-manager conflicts. Moreover, companies with high leverage may disclose more, information to satisfy the needs of long-term creditors (Malone, fires and Jones, 1993) and to remove suspicious of debt holders regarding wealth transfer (Myers, 1979).

2.12.3 Profitability

There are two different conceptions regarding profitability and the tendency to disclose voluntary information. First, more profitable firms are more likely to disclose more while less profitable firms tend to be more secretive. Profitable firms may be more inclined to disclose more information in order to screen themselves from led profitable firms (Akerlof, 1970). A well run company has incentives to distinguish themselves from less profitable company in order to raise capital on the best available terms, one way to do this is through disclosure Inchausti (1997) also argues that managers of very profitable companies would use external information in order to obtain personal advantages such as continuance of their positions and compensation arrangement, while provides some agency notion of this variable.

However, Lang and Lundhloim (1993) suggests that there is a certain ambiguity in theoretical and empirical studies regarding the sign of profitability in relation to disclosure and therefore the relationship between disclosure and profitability is non-monotonic. This is because less profitable firms may disclose more information to explain the reasons for the negative performance and reassure the market about future growth. Companies also disclose bad news at an early opportunity in order to mitigate the risk of legal liability, severe devaluation of share capital and loss reputation (Skinner, 1994).

2.12.4 Effective Tax Rates

Another measure of political visibility is the effective tax rate (Salamon and Dhaliwal, 1980). The taxation system provides the most direct means by which wealth transfers can be made from companies to the government. Income tax can be viewed as one of the components of political costs borne by a company (Watts, and Zimmerman, 1986). This suggests that a company that is liable to pay relatively higher levels of taxation may be seen to be presently subject to high levels of the political costs. A company which is subjected to high taxation burden, may be motivated to employ technique that reduce these costs (Deegan and Carroll, 1993).one way to achieve this is by disclosing environmental related activities performed by the company. Moreover, it has been shown in the literature that companies with higher effective tax rates more likely to disclose more voluntary information that companies with lower effective tax rates as n effort to reduce political costs (Deegan and Horllau, 1991).

2.12.5 Industrial Membership

Each industry has different characteristics from each other, which may relate to competition, growth and risks, and specific culture to historical factors. These may provide scope of differential disclosures policy as suggested by Dye and Sridhar (1995). Holthausen et al (1983) detected that limitation and tradition can ensure that new entrants to an industry are likely to follow accounting methods used by industry leaders. Moreover different industries have different proprietary costs, which give incentives for companies belonging to the same industry to disclose mae, or less information than companies belonging to another industry (Verrechia, 1983).

2.12.6 Audit Firm

Jensen and Meckling (1976); Watts and Zimmerman (1986) considers that auditors play a major role in limiting opportunistic behaviour by agents, thereby reducing the agency costs borne by principles and agents. Watts el al (1986) argue that auditors incur costs from entering contracts with audit clients, and so will influence clients to

disclose as much information as possible in theory annual reports. Auditors with high reputation such as the big five are less to be associated with clients to disclose low levels of information in their published annual reports. Nevertheless, empirical studies that examine the relation between the size of audit firms and the extent of voluntary disclosure by companies are contradictory. Graswell and Taylor (1992) round a positive relationship between auditors and voluntary reserve disclosure in the United States oil and gas industry. A study done by Tan, Kidman and Cheong (1990) also found no support that audit firms influence disclosure strategies of companies in Nigeria. In order to test the relationship between disclosure choice audit firm.

3.0 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 test hypothesis or answer research questions. Also, the choice of this design was necessary because of the complex relationship that exists between the various which were not subject to manipulation.

The researcher utilized both primary and secondary sources of data in the course of this study.

Primary Source: The primary sourced used in collection of the necessary data was the questionnaire which was designed to ensure the exhaustive retrieval of relevant data. Other primary sources were information from the company under study via oral interview and observation.

Secondary Source: The secondary source were the document 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 and government publications.

The model for analyzing the collected data was the Pearson's product moment correlation analysis statistic. The model is significant in the following ways: it measures the relationship between two or more variables, it shows when the hypothesis should be accepted or regretted; it is also significant, because it determine the positive or negative association between the dependent and independent variable.

4.0 Data presentation

<Insert Table 4.1 here>

4.1 Discussion of Findings

Hypothesis one was tested that environmental cost does not significantly influence firm's profitability of the selected oil companies, it was tested using the Pearson's product moment correlation analysis statistic at 0.05 level of significance and at 4 degree of freedom and the Null hypothesis (H_0) was rejected, while the alternative hypothesis (H_1) was accepted; this shows that environmental cost significantly influences a firm's profitability. This shows that environmental cost significantly influences firm's profitability. This is with the ascertain of Ali (2002) when asserted that environmental cost may be obscured in overhead account or otherwise overlooked, that environmental cost can be offset of generating revenue through the sales of waste, by products, and accounting for environmental cost and performance can support an organizations development and increase firms profitability and operation in an overall Environmental Management System (EMS).

Hypothesis two was tested that the voluntary disclosure of environmental information in the annual report is not positively related to firm's size. It was tested using the Pearson's product moment correlation co-efficient at 0.05 level of significance and at 4 degree of freedom and the Null hypothesis's was rejected, while the alternative hypothesis was accepted, this implies that the voluntary disclosure of environmental information in the annual report is positively related to a firm's size. This is supported by Jensen and Meckling (1976) when they found a positive association between size and voluntary social responsibility disclosure; they argue that firms which are more visible in the public eyes are likely to have voluntary disclosure information to enhance their corporate reputation.

Also, Walts and Zimmerman (1981) supported this findings, when they maintain that firm size is a comprehensive variable, which can proxy a number of corporate attributes, such as competitive advantage, information production cost and political cost.

Furthermore, it has been revealed that environmental accounting and reporting enhances organizational performance of the selected oil company, that environmentally friendly organizations who voluntary discloses their environmental activities enjoy high level of competitiveness.

5.0 Conclusion/ Recommendations

Based on the finding above, and from the analysis made in chapter four, it can be concluded that environmental related cost management positively influence firm's profitability and enhance organizational performance, that large firms significantly reports and discloses environmental related information, also that environmental friendly organization enjoys high level of corporate cooperativeness. Finally, it can be concluded that 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.

Arising from the above findings, the researcher wishes to recommends as follows:

- i.) Accountants should be trained on environmental accounting and reporting.
- ii.) Environmental accounting standards should be published locally and internationally and reviewed continually to ensure dynamism compliance and meets environmental situational needs.
- iii.) Firms should formulate and implement environmental friendly policies to enhance their competitiveness.
- iv.) Firms should adopt uniform reporting and disclosure of environmental issues for the purpose of control and measurements of performance.
- v.) Finally, it was recommended that reporting environmental related matters should not be left to large firms only as even small entrepreneurs should be encourage to report and disclose environmental impact/related activities in their annual reports and accounts.

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Table 4.1: Summary of Environmental cost of Nigeria oil Companies (Pollution, oil spillage and gas flaring) ₦mms

| YEAR | MPN | SPC | APC | CPC | TOC | TOTAL |
|------|-----------|--------|---------|--------|--------|----------|
| 1990 | 49632.3 | 147.2 | 952.6 | 435.6 | 1383.9 | 52,557 |
| 1991 | 50456.6 | 128.4 | 440.9 | 775.1 | 249.6 | 59,027 |
| 1992 | 51570.3 | 130.2 | 488.4 | 1035.1 | 462.0 | 53,686 |
| 1993 | 56709.8 | 136 | 346.6 | 1184.2 | 39.9 | 58,417 |
| 1994 | 63006.2 | 190.2 | 861.2 | 252.5 | 416.0 | 64,726 |
| 1995 | 71368.1 | 56.2 | 180.7 | 985.4 | 392.4 | 72,983 |
| 1996 | 72128.2 | 81.2 | 442 | 892.5 | 266.4 | 73,810 |
| 1997 | 106883.2 | 69.5 | 139.1 | 305.1 | 506.4 | 107,963 |
| 1998 | 142678.3 | 183.2 | 281.8 | 595.7 | 703 | 14,44.42 |
| 1999 | 222457.6 | 126 | 221.9 | 981.5 | 422.9 | 224.21 |
| 2000 | 257873.0 | 257 | 331.7 | 1758.5 | 247.6 | 260.47 |
| 2001 | 320247.7 | 137.6 | 289.1 | 551.2 | 62.3 | 323.89 |
| 2002 | 544330.7 | 188 | 384.1 | 763.0 | 125.0 | 545.79 |
| 2003 | 691600 | 352.9 | 1563 | 1820 | 442.8 | 695.78 |
| 2004 | 911070 | 961 | 2405.7 | 2800.1 | 14.5 | 917.25 |
| 2005 | 1960690 | 1725.5 | 3307.4 | 4691.7 | 120.5 | 1970.4 |
| 2006 | 2740460 | 1669.5 | 3215.8 | 3892.8 | 492.1 | 2,749.73 |
| 2007 | 2835000 | 2623.8 | 3808 | 6247.4 | 330.6 | 2848.00 |
| 2008 | 2765670 | 7123.8 | 1279 | 8876.6 | 4081.2 | 2787.031 |
| 2009 | 3225990 | 7386.8 | 8516.6 | 6912.6 | 1284.4 | 325.09 |
| 2010 | 4,842,186 | 6669.2 | 23342.6 | 5761.7 | 6843.4 | 4884.9 |

Source: (1) CBN, statistical bulletin Vol. 12. Dec. 2011

(2) Federal Ministry of Finance and Economic Development

Where; MPN = Mobil Producing Nigeria Limited
 SPC = Shell Petroleum Company
 APC = Agip Petroleum Company
 CPC = Chevron Petroleum Company
 TOC = Texaco Oil Company

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