

Environmental Auditing and Sustainable Development in Nigeria

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ABSTRACT

This study seeks to examine the issues of environmental auditing on sustainable development. The quest for industrialization and sustained development in Nigeria and the attendant improvement in the quality of life of the populace has taken its toll on the environment. The domineering influence of economic sophistication on every aspect of living had negative climatic impacts which sustainability sets out to correct. As sustainability pursues equitable distribution of opportunities between present and future generations through conservative use of resources, economic development promotes uncontrolled consumption of resources to increase material wealth. Primary data was collected with the use of questionnaire and the data were analyzed using descriptive statistics method, correlation matrix and binary logit. The study hypothesis was also validated. It was revealed that this result is quite distorting, which implies that the more environmental audit carried out the less the effect on sustainable development, environmental engagement and impact assessment. Thus it was concluded that while companies subscribe to the policy of being environmentally friendly, only few engage environmental audit services. This might be a fall out from the voluntary nature of environmental audit.

KEYWORDS: Environmental Audit, Sustainable Development and Environmental Impact Assessment.

1.0 Introduction

The quest for industrialization and sustainable development in Nigeria and the attendant improvement in the quality of life of the populace has taken its toll on the environment (Aina,1998). The effects of different industrial sector activity on the environment vary enormously but it is an incontrovertible statement that damage is being done to the environment worldwide. Environmental concerns rarely formed an integral part of development plans, particularly in the Third world countries like Nigeria. The major objective of a company is not only increasing the company's profit but its multidimensional: economic, social and environmental (Caraiani, Lungu, Dascălu, Colceag & Gușe, 2010). Supported activities for sustainable development worldwide have increased company's confidence in auditing systems of environmental impact and environmental performance to gain a competitive advantage in strategic positioning. An organization's ability to achieve environmental objectives depends heavily on monitoring the continuous improvement of environmental performance through efficient planning of organizational, economic investments and necessary technological measures.

The realization that sustainable development can only be achieved through interdependence between economic growth and environmental quality has compelled some governments to now regard the environment as a valued and an integral part of economic growth. Consequently, environmental issues are now at the vanguard of international and domestic as well as local governments' agenda. However, environmental policies are rarely enforced in some third world countries. The inability of government to implement stringent environmental regulations is compounded by the fact that the goals of most corporate organizations are purely economic. Little attention is devoted to their social responsibilities. How organizations achieve their goals are issues of great social importance, but organisations are more concerned about the elements in their environment that are necessary to their success and less about the social and ethical implications of their actions (Koontz & Wehrich, 1988). There is now a growing interest on environmental issues, but organizational researchers and scholars rarely discuss environmental issues and sustainable development. Issues of discourse have always been ethics, organizational structures and processes, the impact of the environment on organization, etc. Thus, there is a dearth of literature on the impact of corporate activities on the environment.

Environmental auditing is not a particularly new discipline; however its popularity as a means of assessing environmental performance has recently increased dramatically (Welford, 2002). The first compliance audits can be traced back to the United States. Corporations adopted this methodology during the early 1970s in response to their domestic liability laws. The importance of environmental audits has gained momentum greatly during the last few years, with the launch of Eco-Management and Audit Scheme (EMAS) in 1993 and the publication of ISO 14001 in 1996. More and more companies are finding it valuable to audit their environmental impacts (Welford, 2002).

Accounting has an instrumental role in disclosing environmental responsibility for different entities whether industrial or commercial services, and at all levels whether micro, meso and 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 & Yusuf, 2003). The awareness of the environmental and man's ability to cause damage started from the fifties of the 19th century. This concern had been repeatedly expressed in series of international summits and consensus right from the sixties. The starting point that comprised an organized thought proves on a large scale the celebrated public action of the club of Rome entitled "Limits to Growth" that initiated a worldwide debate on economic growth at the expense of natural environment (Shil & Iqbal, 2005).

The world conference held in Stockholm on global environment in June 1972, where the heads of the states all over the world came together for the first time, was the pivotal event in the growth of the global environmental movement. It was the first occasion on which the political, social and economic problems of the global environment were discussed at an inter-governmental forum with a view to take corrective action. It aimed to create a basis for comprehensive consideration with the United Nations on the problems of the human environment and to focus the attention of the governments and public opinion to various countries on the importance of the problem. It ultimately gave birth to special UN Agency titled "UN Environmental Programme (UNEP).

1.2. Statement of Research Problem

The production of goods and services requires inputs from, and has effects on, the natural environment. In particular, these effects are the depletion of resources and the production of wastes which are returned to the environment. Pollution occurs when these wastes disrupt or change natural systems, including those that are important for human well-being (for example, air and water). If the natural environment is conceptualized as a stock of natural capital, and if its uses for humans are regarded as the services that flow from this stock, then in principle the use of the natural environment for economic activity can be accounted for in the same way as the use of other kinds of capital (for example, manufactured capital, including machines, buildings and infrastructure) and the products to which they give rise. The nature and use of Integrated Environmental and Economic Accounting more precisely, to the extent that any product that is included in GDP has made use of natural capital as a resource or as a waste depository, any accounting system that does not account for natural capital will be incomplete and may be misleading. There has never been any dispute about the importance of the natural environment to economic activity. Clearly its role in providing resources, absorbing wastes and generally maintaining a habitable world is fundamental.

Any system of economic accounting that omits the environment is omitting a dimension of crucial importance to the functioning of the economic system, and to the wider generation and maintenance of wealth. Yet until very recently, practically all countries omitted the environment from their national accounts. There were good reasons for this omission. First, human activity, beyond producing effects that were local and reversible, was perceived as unlikely to affect the environment so as to jeopardize its contribution to the economy and to wider human welfare. Second, accounting for the environment's contribution to the economy and human welfare was considered extremely difficult, requiring the resolution of intractable methodological problems and the costly generation of a large amount of data. As a result, little or no action was taken to include the environment in the national accounts.

However, realities and perceptions change. It is now clear that human activities can profoundly affect, and are profoundly affected by, basic environmental systems and functions, with significant implications for national economies and humanity as a whole. It has also become evident that all countries at different stages of economic development have experienced environmental depletion and degradation. This manual addresses, therefore, the environmental accounting concerns of both industrialized and developing countries. Unless otherwise stated, environmental accounting is the short form of integrated environmental and economic accounting. Yet without a systematic, quantitative, structured relationship between the environment and the economy, it is hard to know not only what are the various economic contributions to environmental damage, but also how the damage might be remedied. It is therefore not surprising that the inclusion of the environment in the system of national account came to be regarded as a necessity. The difficulties of such inclusion became a problem to be solved rather than an insurmountable obstacle. In Nigeria there is a little studies on environmental auditing and sustainability development, most studies in Nigeria are usually on the determinants of environmental disclosure. This is the gap this study attempts to fill and add to existing literature. In the light of the above research problems the following research questions are raised.

1. What's the relationship between environmental audit and sustainable development?

2. What's the relationship between environmental audit and its engagement by Nigerian firms?
3. What's the relationship between Firms in Nigeria that do comply with the provisions of Environmental Impact Assessment Act and those that do not?

1.3. Objectives of the Study

The main objective of this study is to examine environmental auditing and the impact on sustainable development in Nigeria. The specific objectives are to:

1. Find out if there's a relationship between environmental audit and sustainable development
2. Know if there's a significant relationship between environmental audit and its engagement by Nigerian firms.
3. Know if there's a relationship between firms in Nigeria that do comply with the provisions of Environmental Impact Assessment Act and those that do not.

1.4 Research Hypotheses

The paper attempts to test the following Null hypotheses:

H₀₁ There's no relationship between environmental audit and sustainable development

H₀₂ There's no significant relationship between environmental audit and its engagement by Nigerian firms.

H₀₃ There's no relationship between firms in Nigeria that comply with the provisions of Environmental Impact Assessment Act and those that do not.

2.0. Literature Review

A company's attitude to the environment is likely to be seen as a benchmark of its commitment to innovation and good management. Companies setting the pace on environmental issues will be seen as the leaders of the corporate sector' (Lickiss, 1991). The audit, regardless of its nature, requires commitment to the audit philosophy, its social norms and a joint investment in this technical practice. Society is increasingly more committed to self-observance through various types of auditing practices.

The rationale behind this commitment is the notion that people must be responsible for their actions, and this responsibility must be verified. Being related to the environment, the environmental audit has evolved from a tool used by companies to ensure compliance with environmental norms to a management based style of self assessment, emphasizing systems and self-informing (Power, 1997). The International Chamber of Commerce (ICC, 1991) defines environmental audit as a management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of helping to safeguard the environment by: facilitating management control of environmental practices and assessing compliance with company policies, which would include meeting regulatory requirements.

According to the Confederation of British Industry, environmental audit represents the systematic examination of the interactions between economic and environmental operations. These include emissions into the atmosphere, water, soil, effects on neighboring areas, landscapes and public perception of the community regarding the company's activities. Environmental audit doesn't analyze all legal provisions, but provides a strategic approach for the activities of the entity (Bețianu, 2008).

The Council of the European Union (1993) defines environmental audit as a management tool consisting of a systemic, documented, objective and regular evaluation of the entity's performance, of the management system and of the processes designed to protect the environment in order to control the practices that have an environmental impact and to assess their conformity with the entity's policies. According to the International Standard ISO 14050 Environmental Management, environmental audit represents the systemic and documented process of verifying audit evidences obtained and assessed objectively in order to determine if activities, events, conditions, established environmental management systems or information about them are in accordance with audit criteria, and communicating the results of this process to the client. Order no. 50/14.01.2004 on the Establishment of the organization and coordination procedure of the Eco-Management and Audit Scheme (EMAS) defines environmental audit as a managerial tool of systemic, documented, regular and objective assessment of the organization's performance, the management system and the processes developed for environmental protection, with the purpose to facilitate managerial control of practices with potential environmental impact and to assess compliance with environmental policies, including achieving the environmental objectives and targets of the organization. Environmental audit is a systematic analysis of the entity's environmental impact. Environmental audit focuses on those aspects of the operations that have a significant impact over the environment. As can be seen from above, environmental audit represents a mean for improvement, being recommended to conduct it regularly in order to avoid the risk of failure to comply with environmental regulations in force.

2.1. Sustainable Development Defined

The most commonly accepted definition of sustainable development is found in the Brundtland Commission Report, *Our Common Future*, which defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Commission Report). Although sustainable development serves as the stated objective of many development initiatives, such as the Millennium Development Goals (MDG), ecosystems worldwide are deteriorating.

A summary of the report of the Millennium Ecosystem Assessment by its Board entitled, *Living Beyond Our Means: Natural Assets and Human Well-being*, identified the failure to value ecosystem services as a major contributing cause to this problem. As part of the solution, the Assessment proposes that the economic background to decision making be changed so that policy making and planning take into account the full value of ecosystem services, market and non-market. To achieve this, a framework is needed that is quantitative and comprehensive with respect to the environment, and can be reliably integrated with economic accounts used for decision-making (Sachs, 2005). Integration of sustainability and ecosystem valuation into a more complete economic performance evaluation has increasingly focused on ‘greening’ the national income accounts. The national income accounts are crucial because they constitute the primary source of information about the value-added generated by an economy and are widely used for assessment of economic performance and policy analysis in all countries.

The national accounts, however, fail to adequately factor in the treatment of the environment. For example, while income from harvesting timber is recorded in the national accounts, the simultaneous depletion of natural forest assets is not (Sachs, 2005). This can result in misleading economic signals about economic growth and development. Indeed, one of the primary motivations for the early environmental accounting efforts in the mid-1980s was the concerns that rapid economic growth in some countries was achieved through liquidation of natural capital; a temporary strategy that creates no basis for sustained advances in wealth and human well-being (Sachs et al. 2005). In the years since the Brundtland Report, many natural and social scientists, as well as international institutions, have worked to develop environmental accounts as a tool to promote sustainable development (Sachs et al. 2005). Such accounts provide a framework for collecting and organizing information on the status, use, and value of the nation’s natural resources and environmental assets, as well as on expenditures on environmental protection and resource management.

An important step forward was the creation of the System of Environmental and Economic Accounting (SEEA), which provides a comprehensive and broadly accepted framework for incorporating the role of the environment and natural capital into the conventional system of national income accounts through a system of satellite accounts for the environment (Sachs et al. 2005).

2.2 Sustaining the Goals of Sustainable Development

The recent spate of global warming and its insidious effect on the world’s climate makes the need for sustainability pronounced. As explained by Meyers (2006, p.105), global warming generates unsustainable features like ozone depletion, toxic pollution, species extinction and habitat, social conflict, poor sanitation and resource depletion. These developments clearly indicate the dire need to protect and prevent our environment from further damage through the integration of sustainable principles into a variety of human activities. Sustainability influences all but few existing issues and its principles are vaguely and variously defined and difficult to apply since the concept is more generic than specific.

While some schools define sustainability using the triple bottom line (TBL) criteria of environmental, social and economic issues, the Brundtland report perceives sustainability in terms of inter- generational and intra-generational equity. Hence the argument on the disparity between ecological and environmental issues; the challenge in defining the dynamic scope of social sustainability in terms of health, culture, citizenry, affordability etc as well as the puzzle of classifying technological and economic issues within the context of sustainability. As stated in the Brundtland report of 1987 sustainable development is “Development that meets the needs of the present without compromising the ability of future generations to meet to their own needs”.

In 1996, the International Council of Local Environmental Initiatives ICLEI (cited in Meyers 2006, p. 105) defined sustainable development as “Development that delivers basic environmental, social and economic services to all residences of a community without threatening the viability of natural, built and social systems”. Irrespective of how sustainable development is defined, a leaning towards the natural environment is perceived in all interpretations. In the widely accepted Brundtland definition, environmental protection and human well-being are exalted at the expense of economic success. However, the influence of economic principles in past and present global scenes exceeds limits to be ignored but rather sets forth basis for proper integration of economic principles into sustainable development. Hence the adoption of TBL concept where economic, social and

environmental elements interact on the basis of equity is applauded. The ambiguous nature of sustainability provides for flexibility and subjective use that allows all sectors the freedom to identify relevant paths of association between their activities and sustainable development. This ambiguity paved way for isolated concepts of environmental, “economic” or “social sustainability” resulting in either slim benefits or a scenario of solving one problem and creating another at the expense of its holistic solutions. For instance, urban policies of greenbelt, urban growth boundaries (UGB) etc can predispose urban areas to influences of rising house and land values, urban congestion, urban sprawl and higher commuting costs (Hurley, 2009, p.4-5).

The application of sustainability in the construction industry justifies central attention as the built environment maintains direct contact with the physical environment and the industry consumes more raw materials than any other industrial sector, generates large amounts of wastes and the old construction practices have proved to be unsustainable and insensitive to change (Myers, 2006; Lorenz, 2008). This perceived lack of change within the construction industry explains why the delivery practices of housing products and the environmental performance of new urban development as observed in Australia by Hurley (2009,p.5) and other countries feature little or no evidence of sustainable innovation. To remedy this challenge of inertia, C.J Kibert in 1994 redefined construction as sustainable construction: “the creation and responsible maintenance of a healthy built environment, based on resource efficient and ecological principles” (Nelms, Russell & Lence 2005). At the other extreme, the adoption of any idea of sustainable construction in developing countries like Nigeria at the moment is missing and appears to be ill-timed owing to the enticement of sophisticated building options developed in unsustainable ways. (Oyalowo,2009, p.29) comparably, identified a re-orientation of societal values as the most important criterion for developing countries like Nigeria to shift focus towards the realization of sustainable communities. However, realizing the goals of sustainable development requires the economic justification of such social re-orientation. Therefore, the combined integration of the three-strand policy of economic, environmental and societal elements is required for sustainable construction.

3.0. Methodology

The study adopted a cross sectional survey research design. The data used in the study were obtained through the administration of questionnaire. Using convenience sampling methodology, the questionnaire was distributed to auditors and some quoted firms in Nigeria.

4.0. Data Analysis and Discussion of Results

The data collected were analyzed from respondents using questionnaires with the necessary statistical tool used. 85 Questionnaires were returned which was administered to accountants and auditors in the analysis.

DESCRIPTIVE STATISTICS

	EA	SD	EE	EIA
Mean	0.6823529411 76	0.5764705882 35	0.8352941176 47	0.8941176470 59
Median	1	1	1	1
Maximum	1	1	1	1
Minimum	0	0	0	0
Std. Dev.	0.4683243866 09	0.4970501217 48	0.3731161833 46	0.3095130357 96
Skewness	- 0.7833679783 65	- 0.3095238095 24	- 1.8079302171 3	- 2.5618090282 2
Kurtosis	1.6136653895 3	1.0958049886 6	4.2686116700 2	7.5628654970 8
Jarque-Bera	15.500405953 2	14.199174193 6	52.005203799 9	166.71051251 2
Probability	0.0004306551 18801	0.0008254456 82056	5.0958126607 3e-12	0
Observations	85	85	85	85

A critical evaluation of the table reveals that an average of 83% of the observation engage in environmental practices. That is 83% engage in environmental reporting, however, 70% went the extra mile of engaging an audit for environmental audit. The implication is that while companies subscribe to the policy of

being environmental friendly only few engage environmental audit services. This might be a fall out from the voluntary nature of environmental audit.

Furthermore, based on the Jarque- Bera statistics of the observations, we discovered that the observation are normally distributed. Hence, most values for our observations fall within the mid points of the distribution.

Pearson Correlation Matrix
Correlation Statistics

	EA	SD	EE	EIA
EA	1	0.1245446785 88	0.2348435027 12	0.1526627766 9
SD	0.1245446785 88	1	0.3254878544 63	0.2467129519
EE	0.2348435027 12	0.3254878544 63	1	0.3626184901 39
EIA	0.1526627766 9	0.2467129519	0.3626184901 39	1

The table shows that a negative relationship exist between the observed variable although this relationship is weak. This result is quite distorting, it implies that the more environmental audit carried out the less the effect on sustainable development, environmental engagement and impact assessment. (EA is environmental audit, SD is sustainable development, EE is environmental engagement, EIA is environmental impact assessment.)

Binary Logit Regression Result

Binary Logit (Quadratic Hill Climbling)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	3.223645	1.388774	2.321216	0.0203
EE	-1.745711	1.101076	-1.585458	0.1129
EIA	-0.836311	1.146503	-0.729445	0.4657
SD	-0.203778	0.512081	-0.397941	0.6907
Mean dependent var	0.682353	S.D. dependent var		0.468324
S.E. of regression	0.462022	Akaike info criterion		1.266453
Sum squared resid	17.29064	Schwarz criterion		1.381402
Log likelihood	-49.82426	Hannan-Quinn criter.		1.312689
Restr. log likelihood	-53.13207	Avg. log likelihood		-0.586168
LR statistic (3 df)	6.615607	McFadden R-squared		0.062256
Probability(LR stat)	0.085213			
Obs with Dep=0	27	Total obs		85
Obs with Dep=1	58			

From the table, a few observation have been noticed based on the following parameters. The Mcfadden R.Squared of approximately 6% indicates that only 6% of the systematic variations in the dependent variable are explained by the independent variables leaving 94% unexplained. The LR statistics and probability of 6.62(0.09) shows that the explanatory power of the model is weak as the independent variables taken together do not significantly explain the dependent variables. The sign of the Z. statistics reveals that all the independent variables have a negative relationship with environmental audit.

Furthermore, the probabilities as observed are greater than 0.05 hence they all insignificantly affect environmental audit.

5.0. Conclusion / Recommendations

This study has empirically examined environmental audit and sustainable development. The implication is that while companies subscribe to the policy of being environmental friendly only few engage environmental

audit services. This might be a fall out from the voluntary nature of environmental audit. When environmentally friendly firms disclose sufficient environmental related information, they enjoy competitive advantage, high liquidity and reduced environmental cost in the long run.

Arising from the above findings, the study recommended that: (1) Firms should formulate and implement environmental friendly policies to enhance their competitiveness which would subsequently lead to high corporate performance. (2) Firms should adopt uniform reporting and disclosure standards of environmental issues for the purpose of control and measurement of performance.

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