CHALLENGES OF ENVIRONMENTAL AUDIT IN AN EXTERNAL AUDIT PROCESS

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Abstract

Concerns about damaging the natural environment have taken a new dimension globally in recent years. This increased focus on environmental issues is having a profound impact on many organizations which must deal not only with changes required by specific laws and regulations, but with public perceptions. Business failures involving or caused by management's illegal acts have also focused worldwide attention on the modern Auditors' role and responsibilities. The objective of this paper therefore is to examine the characteristics of current environmental concerns and to investigate the preparedness of external auditors in Nigeria to meet up with the challenges posed by these developments, using relevant textbooks, periodicals, International Standard Organization (ISO) pronouncements on these issues, and so on. By means of questionnaire we also carry out a study on selected audit firms based in Benin City, Warri, Lagos and Jos-Nigeria, as reference points. The paper is of the view that it is important for Audit professionals to become involved in all aspects of environmental management in order to fully realize the capacity of business organizations to solve the environmental issues we face in contemporary global economy, and that for sustainable development, the business of environmental safety and protection is the business for all.

In recent years, concerns about damaging the natural environment have taken a new dimension globally. Many countries under the umbrella of the United Nations (UN) now classify themselves as concerned about the environment. This increased focus on environmental issues in having a profound impact on many organizations which must deal not only with changes required by specific laws and regulations, but with public perceptions. In other words, the environmental challenge is much more than a question of legal compliance, it is a major strategic issue for business (Crosbie and Knight, 1995). It has also created several opportunities. For instance, many organizations today are involved in developing new processes and new products that either do no environmental damage or clean up environmental damage that has already occurred. Many refuse disposal or recycling firms are also springing up in most urban and sub-urban cities or towns. These developments have posed new challenges for auditors and managers of business enterprises.

Furthermore, business failures involving or caused by management's illegal acts have indeed focused worldwide attention on the modern auditor's role and responsibilities. The International Federation of Accountants (IFAC) has responded to public concern on these issues in International Standard on Auditing (ISA) No. 250, "Consideration on the Laws and Regulations in the Audit of Financial Statements". The new Standard deals with the auditor's responsibility with respect to the prevention, detection and reporting of material misstatements resulting illegal acts when carrying out an audit of financial statements. The ISA 250 was adopted in the Nigerian Standard on Auditing (NSA) No. 6 in July 2006 by the Nigerian Auditing Standards Committee (NASC).
According to Cleaver (1995), The term "Environmental audit" is defined in the International Chamber of Commerce Guide to Effective Environmental Auditing as:

"A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organizations, 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."

ISO 14001: 1996 defines "environment" as "surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation." Business organizations are expected to protect the environment in which they operate. It is a mandatory social responsibility. The monitoring of a company's performance against previously agreed policy or statutory standards on the environment is referred to as "Environmental auditing" or "environmental accounting" or "Green reporting".

The purpose of this paper therefore, is to examine the characteristics of current environmental concerns, the emergence of environmental auditing (or green reporting) and to investigate the preparedness of external auditors in Nigeria to meet up with the challenges posed by these developments.

The findings of our study will enable external auditors to enlarge their duties and hence to contribute to safeguarding the environment through objective reporting. Recommendations made are aimed at correcting the deficiencies in modern audit process.
The reminder of this study is Structured as follows:
In section 2 we review and evaluate related literature on Environmental concerns. In section 3 (Methodology and Data), we present data and develop the hypotheses and in section 4, we discuss our findings.
In section 5 and 6, we draw up conclusion, and made recommendations respectively.

Literature Review

Environmental Concerns

The literary of environmental concerns is long. Organizations as well as individuals contribute to these problems and can have an impact on their resolution. These problems are discussed as follows.

1. **Pollution**

Pollution comes in many forms. There are hazardous substances such as PCBs (polychlorinated biphenyls) which are used as cooling fluids in electric power transformers. Chlorinated solvents are major concerns as contaminants to drinking water. Pesticides accumulate in the environment over time. Lead found in the pipes, and asbestos, used in earlier construction, are both toxic. Hazardous waste such as nuclear waste and toxic chemicals are both by-products of industry and government and must be stored safely. Solid waste is any unwanted or discarded materials that is not liquid or gas, and must be disposed of in incinerators, landfills or by other means. Acid rain is a form of air pollution that damages soil, water and vegetation in certain areas.

2. **Climate Change**

We have human induced climate changes such as global warming. Some scientists have suggested that global warming poses a severe threat to life as we know it. Small rise of several degrees in the average temperature would be enough to set off major changes in climate. In industrialized nations, Greenhouse gases, which are emitted from the burning of carbon based fuels such as gasoline serve to trap warmth in the atmosphere, resulting to continuous rise in average temperature as being witnessed presently.

3. **Ozone Depletion**

When chlorofluorocarbons (CFCs) are released into the atmosphere and break down, they release chlorine molecules, which destroy ozone molecules resulting in the degradation of the ozone layer surrounding the earth's protective layer. As Ozone layer gets too thin, the damaging ultra-violet radiation will lead to an increase in skin cancers. Ozone layer has lead to international agreement to limit the production of CFCs and to ban CFCs altogether in some countries.

4. **Other Global Issues**

We also have to worry about large global issues such as biodiversity, adequate water supplies, population, and food security. The recent debacle in Somalia has been called an environmental crisis by some, since the nomadic way of life of some Somalia people is no longer sustainable given de-vegetation, population increases, and the scarcity of foods.

The Emergence and Development of Environmental Auditing

This is a new concept in the field of auditing. All enterprises in the 1990s face a climate of rapid change and escalating regulatory requirements. Among the major changes occurring are environmental obligations, both legal and moral. Millichamps (2003) observes that the near future is going to bring many constraints and duties on the enterprises in connection with environmental factors and this brings with it new obligations and opportunities to accountants and Auditors. He enumerated the followings as relevant environmental matters: Man induced climatic change; Litigation against environmental offenders; Recycling; Accident; Discharges to ground, water, air; Energy use; Storage, use and transportation of hazardous materials; Life cycle analysis of products; Waste management; Tidiness of the environment; Nuclear electricity generation; Industrial processes; Noise/vibration; Ultimate clean-up; Resources minimization; Landscaping and tree planting; and Excessive lighting.

Pearce & Warford (1994) while x-raying Environment and Development, opine that: If poverty is to be reduced and the standard of living of the average person improved, economic growth must remain a legitimate objective of national governments and the world community… But most people are now painfully aware that pursuing economic growth without paying adequate attention to the environment - both built and natural - is unlikely to be sustainable: it cannot last.

Financial statements are used to appraise past performance and cash-flow by business organizations. In some companies, for example, the manufacturing, the extraction, energy, water, chemical, and the exploration industries and so on, environmental factors are likely to be significant in this appraisal. Companies may have land, which is contaminated, and plant, which may need wholesale replacement. In some cases land exceed *book value* as the costs of clean-up may need to be made available to the market or, as the Stock Exchange fears, a false market price in the shares, based on incorrect values, may be established.

Lenders must be aware of any environmental factors affecting assets and liabilities as security may not be real (e.g. contaminated land) or cash flow may not be as expected perhaps due to the need to replace plant or liabilities for environmental damage and offences).

Companies making takeover bids need to be aware of any environmental factors affecting the victim company. If the takeover is based on public knowledge including current share price and annual financial statements, then the need to disclose the effect of the environmental factors on assets, liabilities and future cash flow of the victim company is inevitable (Millichamps, 2003; Coyle, 2008; Chandra, 2008).

Some specific areas where these factors impact on companies' financial statement as identified by (Millichamps, 2003 and in IAS 10 ,2005) include:

(a) **Contingent Liabilities**, where there may be claims against an enterprise for environmental offences including for example, nuisance or water course contamination or damage to health (e.g. tobacco companies can be sued).

(b) **Asset Values** may be affected. For instance, inventories may be subjected to environmental concern or may need to be modified or replaced. Land may be contaminated and require clean-up. Plant and machinery may need to be replaced because it pollutes or otherwise fails to meet modern environmental standards.

(c) **Accounting** for Capital and Revenue expenditure on fitting environmental safeguards and in undertaking remedial treatment following incidents of pollutions.

(d) Provision for future improvements in the plant required to enable the process to continue operating within stricter controls such as BATNEEC (Best Available Techniques Not Entailing Excessive Costs).

Implications for External Auditors

Audit firms may well see environmental audit as a new opportunity and an extension to the services presently offered to clients and the public. However, there are immediate implications for annual audits, which include mainly the creation of fundamental uncertainties about the assets and liabilities of a company and its future which may lead the auditor to consider whether he or she can say the accounts show a *true and fair view.* However, current auditing standards require “qualified auditor’s reports” where there is material uncertainly. In addition, insurance cover may not be adequate and hence contingent liabilities may exist which are uninsured.

Another factor which may also have implication for external auditor is where a comprehensive legislation exists in many areas requiring environmental action. Breaches of these may not be apparent to auditors but may lead to undisclosed liabilities. The provisions of the Factories Act, 1945 as amended in 1987 and 2004 are cases in point, in Nigeria. The main objective of the Factories Act is to ensure the safety, health and welfare of employees who work in factories and other workplaces. The law requires companies to provide a clean and sanitary work environment, good ventilation and lighting, as well as spacious work rooms. Machines are required to be made safe while employees are required to be trained in the handling and operation of the machines. The acts also require employers to provide such services as first aid, good drinking water and wash rooms. Industrial accidents, which incapacitate employees for more than five days, are required to be reported to the Factories Inspectorate Division of the Federal Ministry of Employment, Labour and Productivity.

The Environmental Audit Process

The process follows the normal audit process which is governed by the generally accepted auditing standard (GAAS), laws and government regulations. Each segment of the audit must be performed in accordance to these standards, regulations and laws (where applicable). In addition, environmental regulations that require modern auditor’s verification and compliance test as contained in the ISO14001 and the Federal Environmental Protection Agency (FEPA) Guidelines in Nigeria must be followed.

The ISO 14001 is an international Environmental Management System (EMS) standard created in 1996 to drive environmental improvement world-wide through a systematic approach to environmental management. The establishment and maintenance of this process specification ensures that the task of managing environmental issue are system dependent rather than “person dependent”. It also enable the organization that conforms to become registered or certified to international standards. Implementation of the elements of ISO 14001 enable the conforming organization involve employee as well as investors, in the established environmental process. This has an added advantage of achieving set objectives/targets as well as ensuring conformity with regulatory requirements not only with ease but also at an affordable cost.

The environmental audit process starts with the verification of the organization's established programmes and procedures for periodic environmental management system audits to be carried out in order to:

a) Determine whether or not the environmental management system:

i Conforms to planned arrangement for environmental management including the requirements of the International Standard,

ii Has been properly implemented and maintained; and

iii Provide information on the result of audits to management.

a) The organisation's audit programme, including schedule shall be based on the environmental importance of the activity concerned and the results of previous audits. In order to be comprehensive, the audit procedures shall cover the audit scope, frequency and methodologies, as well as the responsibilities and requirements for conducting audits and reporting results. The programme and procedures should also cover the auditor's competence (ISO 14001:1996). An important aspect of the environmental audit process is *"records verifications"*.

Procedures for identification, maintenance and disposition of records should focus on those records needed for the implementation and operation of the environmental management system and for recording the extent to which planned objectives and targets have been met.

Environmental records according to the ISO 14001;1996 may include: Information on applicable environmental laws or other requirements; Compliant records; Training records; Process information; Product information; Inspection, maintenance and calibration records; Pertinent contractor and supplier information; Incident reports; Information on emergency preparedness and response; Information on significant environmental aspects; Audit results; Management reviews.

Proper account should be taken of confidential business information.
Audits may be performed by personnel from within the organization and / or by external persons selected by organization. In either case the persons conducting the audit should be in a position to do so impartially and objectively.

But the problem at this stage is whether practicing accountants or external auditors verify or possess skill to verify the implementation of the existing Environmental laws and regulations in the course of their client audit.

Statement of the Problem

Put succinctly, the research problem is to determine whether Environmental factors have any significant impact on financial statements as reported by business organisations.

Challenges for External Auditors

Audits of financial statements are carried out by suitable qualified and supervised accountants. Environmental audits are in general beyond the competence of accountants and it is expected that environmental audits will be conducted by small teams numbering perhaps 3 or 4 persons (Cleaver, 1995). The teams will consist of suitable technically qualified persons from within or outside the organization with a leader who is independent of the organization. It is thought that a professional person such as a chartered accountant or a lawyer may be a good leader.

Accounting/auditing firms may be asked to act as verifiers for their audit clients. This makes sense in that:

- An environmental management system is part of the company's overall management system and the auditor is already engaged in an examination of that management system as part of the normal audit procedures.
- The actual skills required for an audit of an environmental management system are the same as those required for a financial audit. It is the management system that is being verified, and not the technical criteria.

Moreover, auditors or accountants may encounter any or all of the following problems when designing a suitable Financial Reporting Standard (FRS) for environmental matters:

a. What constitutes environmental costs and how are such costs to be distinguished from other costs? Capital expenditure on new machinery may be designed to provide enhanced efficiency but also to take into account new or expected environmental legislation. Should environmental costs be charged to profit and loss account or be capitalized? Should capitalization of environmental costs incurred subsequent to the acquisition of a capital asset be dependent on an increase in the future economic benefit expected from the asset? When should future environmental expenditure be recognized as a liability and how should the liability be recognized if the amount involved is difficult or impossible to estimate?

b. How should impairment of "the value of assets resulting form environmental concerns be recognized?

Essentially, the problem is one of disclosure. Disclosure of environmental liabilities is one of trade-off between relevance and reliability (Crosbie and Knight, 1995; Wood & Sangster, 2008; Robertson & Louwers, 2002).

The challenge is clear. Managers and Auditors today must reinterpret what they do, in response to external relationships and a new time horizon has become essential to strong organizational leadership. It is also important to note that, on a global scale, the environment is becoming one of the hottest issue for business in the new millennium. The export market for goods, services and technologies is rapidly expanding. Stricter regulatory standards are being adopted globally as emerging market regions such as Asia discover that high rates of industrial expansion and economic growth are compromising the quality of the environment.

Methodology and Data Analysis

For this study, all relevant data for analysis were collected mainly from primary sources, using questionnaires. Personal interviews were also held with auditors and auditing consultants such as surveyors of an International Environmental Safety Survey Agency. We made use of percentages based on number of responses and extracted table deemed relevant and necessary from the questionnaires in our analysis. The Pearson product-moment correlation coefficient (r) is used to test identified hypotheses from the study. This parametric statistic is used to find the strength of the relationship between two variables that have been measured on internal scale. To be significant, the obtained 'r' must be greater than the critical value. Questionnaires were administered on thirty audit firms (sample size of 30), spread across Lagos, Benin City, Jos and Warri.

Results

Out of the 30, Benin City accounted for 50% of the total questionnaires received, followed closely by Lagos area with 43.3% and 3.3% each from Jos and Warri areas respectively.
On responses to the awareness of the concept or issue of Environmental audit, 70% of the total respondent claims awareness, 26.7% claims no awareness and 3.3 did not respond.

On responses as to number of audit clients that have incorporated Environmental Management System (EMS) into Management Information System (MIS), 13 out of 30 responses are from Oil companies representing 43.3% of respondent, 7 from manufacturing firms representing 23.4%, zero (0) from commercial and service firms, and 10 out of the 30 representing no response.

This distribution indicated that none of the commercial and service firms have incorporated EMS into their overall MIS.

Reponses as to whether environmental factors have impact on financial statements, 12 out of 30 representing 40% expressed their opinion positively, while 3 (10%) disagreed and a greater proportion did not respond, perhaps due to their low level of awareness on the issue under investigation. For responses to level of participation in Environmental audit, only 5% responded positively, while 63.3% said they have not participated at all.

However, 73.3% claimed to be qualified for environmental audit, and 66.7% also claimed to have verification skill which is necessary to carry out environmental audit effectively. Regrettably, a greater proportion (80%) of the respondents agreed that they do not verify the implementation of existing Environmental laws and regulations during the course of clients audit. This shows that the scope of auditors verification procedure is inadequate. A greater proportion (83.3%) also held the opinion that government environmental policies affect the development and growth of business enterprises. They buttressed their opinion with the following reasons:

i. Cost of compliance with relevant laws and regulations, and
ii. Increase in environmental safety facilities/ equipment.

However, few respondents were unable to express their opinions on this issue, perhaps due to inadequate knowledge of the subject.

Hypotheses

The following hypotheses drawn from the literature were tested using the Pearson product-moment correlation (r):

(i) Environmental factors have impact on financial statement
(ii) Government environmental policies affect the development and growth of business enterprises.

Hypotheses	Degree of freedom	Level of confidence	Critical value (two-tail test)	Calculated value (two-tail test)	Decision
I	30	0.05	0.349	0.740	Reject Ho
II	30	0.05	0.349	0.823	Reject Ho

Table 3.1 Summary of "decision based on Pearson product-moment correlation.
Source: Researchers.

From Table 3.1 above, it is quite obvious that the alternative hypotheses (Ha) for hypotheses I and II respectively were accepted as the correct results of the data analysis carried out on the empirical investigation of the challenges posed by Environmental audit based on the views of auditors in practice.

Discussion of Findings

The environmental challenges are much more than a question of legal compliance. It is a major strategic issue for contemporary businesses. From our above analysis, the following findings most of which are in agreement with earlier studies in this area could be summarized as follows:

(i) Though majority claimed to be aware of the concept "Environmental audit", they could not identify the environmental matters or factors that impact on financial statements they audits.
(ii) None of the respondents has participated in environmental audit before. However, greater number claimed to possess verification skill.
(iii) None claims the verification of existing environmental laws and regulations during the course of client audit.

A greater proportion also expressed their opinion that government environmental policies affect the development and growth of business firms. The main reasons being cost of compliance with the relevant law and Environmental safety facilities and equipment costs.

Conclusion

The threats to the natural environment can bring about critical changes in many aspects of the business environment. Concern for health, financial integrity, safety, quality and consistency are part of the framework of best practice in multiple of ways, and detailed regulation ensures both that these obligations are complied with and that public security is possible. Within this context, the environment is becoming something of test case for everyone. Environmental audit, therefore pose a big challenge to modern auditors especially the aspect of 'compliance audits'. Compliance audits in relation to environmental audit, helps to establish the extent to which companies comply with their legal obligations; they represent a particularly important category with a wide relevance throughout Oil and Gas, manufacturing, and service industries.

We believe that it is important for Audit professionals to become involved in all aspects of environmental management in order to fully realize the capacity of business organizations to solve the environmental issues we face in contemporary global economy. The business of environmental safety and protection should be seen as *'business for all'* for sustainable development to take place.

Recommendations

From our findings and conclusion drawn, the following recommendations are made to external auditors, and if implemented systematically better results in terms of reliability on information contained in financial statements they audit will be achieved. These recommendations will also contribute immensely to the bridging of the *expectation gap*, which is defined as the difference between what the public and users of financial statements perceive the role of an audit to be and what the audit profession claim is expected of them during the conduct of an audit.

1) Auditors should be aware of, and be involved in environmental issues that affect Organizations. In order to play this role, auditors have to maintain full awareness of current environment thinking, particularly in relation to the effects of substances and technologies used by companies or which could be used in the future. The effect of climatic condition should also be noted. In many cases, this means taking part in the argument themselves, by way of communication or investigation on impacts and alternatives in the work place and contributing to conferences on environmental issues.
2) The auditor using Compliance audit techniques should examine the extent to which the environmental aspects of an organization's operations comply with:

- Environmental legislation, including Acts of parliament, regulations and orders.
- The organization's own environmental policy, procedures and instruction, and where none is in existence, he must advise for the formulation and introduction of one.
- Any codes of practice with which the organization has undertaken to comply. These might include the Nigerian Industrial Standards (NIS), International Standards such as ISO guidelines and environmental protection guidelines produced by statutory authorities such as the Federal Environmental Protection Agency (FEPA), NAFDAC and guidelines produced by other related institutions or trade bodies.

3) When carrying out audit, the auditor should find out or verify whether adequate environmental records exist. These should include:

- Records of legal requirements, including condition specified in all authorizations, consents, licences and permits.
- Results of monitoring associated with consents, licences specified in all authorizations since such monitoring is almost always a legal condition.

- Records of environmental management activities e.g. waste management records, noise survey, land contamination surveys, herbicide application (where applicable), environmental complaints records, inventories of materials stored and relevant plans and drawings such as drawing plans for site and plants installation.

4) As with any visitors, auditor will be required to observe site safety precaution. He should find out before arrival at the workspace, what specific precautions apply. Where these requirements are not clear, the audit team should check whether there are specific safely requirements for parts of the site to be visited or visited, and use Certificates of Entry and permits of work whenever required. The auditors should also avoid entering confined spaces alone and without means of removal. In addition, they should carry their own protective equipment (hard hat, safely shoes, safely spectacles, ear defenders and weather proof clothing).
5) Auditors should note that there is an art to making audit observations since managers like doctors frequently bury their mistakes. Often the worst environmental problems have been put of sight and out of mind until they can be remedied. Auditors must therefore school themselves to look in the unlikely places, including inside unused cupboards and storerooms, on top of buildings and behind equipment and buildings. In particular, never assume that locked and out-of-use for many years cannot contain anything of interest. Such places are frequently environmental risks locked away from the time when not widely known and legislation was much less restrictive.
6) Auditors should be trained to acquire technical or basic scientific skills in environmental management systems and environmental audit in order to be competitive in the global economy.

References

Chandra, P. (2008): *Investment and Portfolio Management*, 3rd edition, New-Delhi, Tata McGraw-Hill Publishing Co. Ltd.

Cleaver B.A. (1995): *Environmental Compliance Auditing*, U.K. Stanley Thornes(Publishers) Ltd.

Coyle, B. (2008): *Corporate Finance*: *Mergers & Acquisitions*, Accra, BPP Book Services.

Crosbie L. & Knight .K. (1995): *Strategy for Sustainable Business- Environmental Opportunity and Strategic Choice*, England, McGraw-Hill Book Company.

FEPA Guidelines, Federal Government Press, Lagos.

Freeman R. K., et al (1995): *Shades of Green, Business Issues and the Environment*, New York, Oxford University Press.

International Accounting Standard Board – IASB (2005): *International Accounting Standard (IAS) No. 10 on Contingencies and Events after the Balance Sheet Date*,London, IASB Publications.

Millichamps A. H. (2003): *Auditing*, 11th ed., London, Letts Educational.

ISO 14010 (1996): *Guidelines for Environmental Auditing – General Principles*.

ISO 14011 (1996): *Guidelines for Environmental Auditing – Audit Procedures for Auditing of Environmental Management.*

ISO 14012 (1996): *Guidelines for Environmental Auditing – Qualification Criteria for Environmental Auditors.*

Nigerian Auditing Standards Committe (NASC)(2006): *Nigerian Standard on Auditing (NSA)6 on Consideration of Laws and Regulations in the Audit of Financial Statements*, Lagos, ICAN Publications.

Pearce, D.W. & Warford, J. J. (1994): *World Without End- Economics, Environment and Sustainable Development*, 2nd ed., U.S.A, IBRD / The World Bank Publications.

Pearce, J. A. & Robinson, R. B. (2009): *Formulation, Implementation, and Control of Competitive Strategy*, Eleventh edition, New York, McGraw-Hill/irwin Inc.

Porter M. (1990): *The Competitive Advantages of Nations*, New York, Free Press.

Robertson J. C. & Louwers (2002): *Auditing and Assurance Services*, 10th edition, New York, McGraw-Hill/Irwin Inc.

Wood F. & Sangster (2008): *Business Accounting 2*, 11th Edition, Essex-England, Prentice-Hall/ Pearson Education Limited.