FEASIBILITY OF ENVIRONMENTAL ACCOUNTING IN NIGERIA

BY

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(M.sc/Admin/38683/2002-2003)

BEING A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL AHMADU BELLO UNIVERSITY ZARIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE (M.SC) ACCOUNTING AND FINANCE

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DECEMBER, 2007

DECLARATION

I hereby declare that this research work titled Feasibility of Environmental Accounting in Nigeria is solely conducted by me under the supervision of Mr. A.B.D. Watoseninyi and Mallam A. Bello. To the best of my knowledge and belief, this work has never been previously submitted anywhere for the award of any degree or certificate of any kind and the work of others are acknowledged and referenced.

Therefore the researcher wholly accepts liability for any error(s) therein.

....

LAWAL, L. O.

DEDICATION

This project is dedicated to my parents for their love and care.

CERTIFICATION

This thesis titled Feasibility of Environmental Accounting in Nigeria by **LAWAL, Lukman** meets the requirement for the award of Master Degree of Science (Accounting & Finance) of Ahmadu Bello University, Zaria, and it is approved for its contribution to knowledge and literary presentation.

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.... Dean, Postgraduate School	.... Date

ACKNOWLEDGEMENT

"Proclaim (or Read) in the name of thy Lord and cheriser, who created, created man, out of a leech-like clot: Proclaim! And thy Lord is most Bountiful, - He who taught (the use of) the pen, - Taught man that which he knew not" (Q 96 v 1-5).

I am most grateful to Allah who created and provided me the opportunity to attain this educational level and His messenger Prophet Mohammed (Peace be upon Him).

My sincere gratitude to my supervisor Mr. ABD Watoseninyi and Mallam A. Bello for painstakingly reading through the manuscript and offering suggestions that make this thesis a successful one. Also my special thanks go to Mallam M. Sodangi for his fatherly advice and guidance.

I must acknowledge the contribution of Dr Salisu Mamman and Mallam A. Bello, more especially for their believe in the researchability of the thesis.

Also my special thanks goes to all those who had impacted one knowledge or the other towards the successful completion of this study. My profound gratitude goes to my lecturer, my colleagues in the department of Accounting Ahmadu Bello University Zaria as well as Nuhu Bamali

Polytechnic Zaria, my course mates and friends for their support and encouragement throughout the duration of this programme.

I wish to express my profound appreciation to my parents for sound, moral and spiritual upbringing as well as the various supports and care they have given to me through the mercy of Allah (SWT), without which the successful completion of this programme of study wouldn't have been possible.

My special thanks goes to my wife FATIMAH for her co-operation and encouragement during the period of the study and my children FAREED and ABDULRAUF for the "little trouble". Kudos to my siblings for their prayer and moral support throughout the period of the thesis and they are Tajudeen; Sarafadeen; Mikhail; Ismael; Kudirat; Selimot; and Madina.

I must not fail to mention the followings for their contribution towards the successful completion of this research work.

Sue gray and Lynn Christie (both of Center for Social and Environmental Accounting Research Scotland); Brother Wasiu Bakare (London) Engr. Sulaiman Abdullrauf, Alfa Abdulwahab, Abdullahi Hussein, Mrs. Taibat, Mr Hassan Ibrahim, Mr. Hassan Salawe, Mr. J. Adefiranye (Prince), Dr.

M.S. Bello, Dr. Salisu Mamman, Brother Ibrahim Muritada, Brother Laide Abdulrazaq(London), Mal. Sodangi, Mr. & Mrs Olatunji, Mr and Mrs Adebayo, Mr and Mrs A. Lawal, Alhaji Suleiman Mohammed, Hon. Kasumu Lawa(Abasco), Engr.Moshood Ojutiku, Tobechukwu Ukeje, Odumah Ekojoka and the entire staff of Tikshood Engineering Ltd. I pray that Allah will reward all those that contributed to this work in one way or the order abundantly, amen.

ABSTRACT

Perhaps one of major growing crisis face today by the world inhabitants is environmental crisis. Such issues as ozone layers depletion, acid rain, drought, pollution, species extinction, habit destruction, global warming, and green house effect continue to pose treat to the continuation of life on the planet. Most, if not all of the above are caused through man's activities in what is known as business or economic activities.

The question is what can business do to ameliorate the above scenario? It is on this background that this research work investigates the feasibility of environmental accounting and reporting in financial statements of Nigerian firms and actual disclosure. Also the work sought to know the attitude of managers and professional accountants on environmental disclosure.

As at year end 2006, a total of 94 firms were listed on Nigerian Stock exchange. These firms were carefully scrutinized based on three criteria as listed in chapter three of this study, 37 firms were found to posses all the criteria and thus form the sample for the study. While 10 audit firms were selected using random sampling technique. Data were collected using primary and secondary sources. Primary data were sourced through questionnaire while secondary data were sourced from journals, textbooks and other relevant materials. Such data were analysed using tables, simple percentages and t-test was used to test the hypotheses.

The study reveals that it is feasible and practicable to report environment issues in annual reports and that the attitude of managers and professional accountant to environmental accounting and reporting can significantly affect the report. Another major finding of the study is that environmental reporting will become a general practice in the future, this is in agreement with the United Nations Global Environmental Outlook 2000(GEO2000) Hence, the study recommends that government; professional bodies and all stakeholders should intensify their efforts to abate the environmental crisis. Also further research in environmental issues in an attempt to come up with a standard format for accounting for environmental activities was recommended.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Accounting is a discipline that is concern with provision of information about the financial position, performance and financial adaptability of an enterprise that is useful to a wide range of potential users in making economic decision. Accounting is in age of rapid transition; its environment has undergone vast changes in the last three decades and an accelerating rate of change is in prospect for the future.

According to Glautier and Underdown (1997), the process of change has had a dramatic impact on accounting theory and practice in recent years. They stress further that the changes in the environment have caused much concern and necessitated changes in accounting.

Among major changes in the environment is an environmental issue, which is the focus of this study. The emergence of social responsibility accounting imposes new information objectives for accountants, which will require a new accounting methodology. Latterly, the concept of social responsibility accounting has been enlarged to include a concern for ecology in the form of what has become known as 'green_accounting', that is, environmental accounting.

According to Gray and Collison (2002) there is no absolute and discrete set of issues, which can be labeled "environmental". The environment and humanity are, in a very basic and real sense, indistinguishable. They stressed further that to a considerable extent and certainly historically – every individual, community and people depends upon the environment for its sustenance, sense of location and even sense of self. While Millicamp (1997) sees the environment as all of the air, water, land and air, with air including air within buildings and structures above and below ground.

No doubt everything we have and everything we are – is intertwined with the natural environment. However, according to Zimmerman (1994), the very institutions, practices, values and goals that currently we take for granted (often referred to as modernity) are predicted upon a desire to insulate ourselves from "nature" and to celebrate man's ascendancy over natural forces.

Thus, the success of modernity - the world all over in achieving this insulation for a significant minority of the planet's denizens is the very thing we celebrate in economics, business and accounting (i.e.) growth, consumption, profit, expansion, and so on.

This "success" has, however, been bought at a price, that price is the threat to the continuation of life on the planet; ozone layers depletion, acid rain, drought, pollution, species extinction, habitat destruction. Gray and Collison (2002) states that it is generally accepted that the natural environment is in a parlous state, that the parlous state is worsening steadily and that this is, by and large, a consequences of Man's activities.

Also Beder (1997) opined that the current state of the natural environment can be seen as a direct and inevitable consequence of the very success of modernity.

The 1992 Rio Earth Summit – the biggest intergovernmental conference the world had seen -was convened in Brazil by the United Nations commission for sustainable development. That gathering was convened to seek ways to address the increasingly pressing exigencies of sustainability. Sustainability was to be achieved by seeking development, which "met the need of the present without compromising the ability of future generations to satisfy their own needs, "(UNWCED 1987).

The conference acted as an international wake-up call about the increasingly parlous state of the global national environment and the alarming levels of destitution of many of the people of the world. That is our ways of life were essentially and increasingly un-sustainable.

Five years later – at Rio + 5 – the re- convened conference was dismayed to discover the bulk of the indicators of the state of the planet and its peoples were continuing to move in the wrong direction. Fifteen years after the first conference, there is growing dismay that the indicators are continuing to worsen – the planets ability to sustain human and non-human continues to decline.

As a result of this, scholars have since viewed the traditional position of the firm towards profits maximization as being myopic in the context of a more enduring and beneficial protection of the environment. Ackerman (1973) reported that the serious erosion in the quality of the environment caused by productive activities have led to sharp criticisms of the use of profits as an all-inclusive criterion of corporate social performance.

The disturbance in the environment and the attendant health hazard is not expected to abate without a deliberate effort towards environmental planning, management and control.

According to Gamble, et al (1996:294)

> The revitalization of interest in the environment has not been isolated in a particular region of the earth, but the 1990s have shared in an era in which the environmental movement has drawn attention at a global level. This worldwide concern for environmental issues and the emerging emphasis on globalization translates into an important externality for corporate entities. That is, environmental cost and concerns are now major ingredients in an enterprises investment decision model.

The argument is that if accounting is defined as dealing with financial information, then it can be argued that environmental accounting and reporting has nothing to do with accounts as such. Today, however some accountants would certainly reject this restriction. The attention of the community is increasingly focused on the "quality of life" rather than money, and if accountants do not attempt to produce useful information in this area then someone else will. Lickiss (1991:6) states

> In responding to the challenges posed by the environment, which is our natural wealth, all aspects of accounting including financial reporting, auditing and management accounting and taxation will have to change. We must measure up to the environmental challenge if we are to fulfill our duty as a profession to promote the public interest .

Thus, this study is an attempt to assess the feasibility of the environmental accounting and reporting in Nigeria.

1.2 STATEMENT OF THE PROBLEM

The problem of environmental degradation has now assumed a global dimension and pre-occupies the minds of governments and the public at international, National and local levels. Long-term environmental strategies at National and International level were proposed by the World Commission on Environment and Development in 1987 (the Bruntland report). This report, stresses the need to account for the use of environmental resources and the use of substances, which may damage the environment. The argument is that if we continue to consume the environment we will impoverish, perhaps not ourselves, but certainly future generations.

Consequently, investors, regulators, environmentalist and the general public at large are demanding better environmental performances and environmental disclosures from firms. However, in Nigeria there seems to be general apathy towards these demands (Disu and Gray: 1998; Anao 1985). Thus, the study put forward the following research objectives and research questions.

1.3 OBJECTIVES OF THE STUDY

The main objective of the study is to assess the feasibility of accounting for environmental activities in financial statement of Nigeria firms.

Other objectives are: -

i. To investigate companies environmental performance and disclosure.

ii To investigate is the attitudes of managers and accountants towards environmental accounting and reporting?

iii To identify segment where environmental activities is being reported in financial statement of Nigeria firms.

iv To find out Implication(s) if any, of Nigeria firms not taken into congnisance environmental matters.

v. To identify problem(s) associated with environmental accounting and reporting in company annual reports.

1.4 RESEARCH QUESTIONS

1. Is it feasible to account for environmental activities in the financial statement of firms in Nigeria?
2. What is the current trend of environmental reporting in annual accounts of Nigerian Firms?
3. What is the attitude of managers and accountants towards environmental accounting and reporting?
4. Are there any implication(s) for any firm that do not report their environmental activities?
5. What are the problems that firms are likely to encounter in reporting their environmental activities?

1.5 STATEMENT OF HYPOTHESES

Hypothesis One

H_0– It is not feasible to account for environmental activities in the financial statement of firms in Nigeria?

H_1 It is feasible to account for environmental activities in the financial statement of firms in Nigeria?

Hypothesis Two

H_0– Attitude of Managers and accountants towards environmental performance does not significantly affect environmental performance and reporting.

H1 – Attitude of Managers and accountants towards environmental performance significantly affect environmental performance and reporting.

1.6 SCOPE OF THE STUDY

The study consist two sets of population and they are:

1. Nigerian quoted manufacturing companies
2. Practicing Accounting firms.

The study will cover a period of 5 years starting from 2002-and ending 2006.

1.7 SIGNIFICANCE OF THE STUDY

This study will be of significance to the general public who need information that will keep them abreast of company's environmental performance.

Investors who are ethnically inclined will need such information that will guide them in their investment decision. Thus this study will be of assistance to such investors.

This study hopefully will be of significance to the government because it will assist them in formulating policies towards environmental control and abatement. It will also help them in formulating policies on sustainable development.

Environmentalism will be greatly assisted by the work since it will guide them as to environmentally sensitive companies. Also the study will guide management of firms towards better environmental performance and control.

The Nigerian Accounting Standard Board (NASB), which is the body, saddled with the responsibility of formulating accounting standard will benefit from this study, since hopefully it will guide them on future deliberation as regards environmental matters.

Finally, future researchers will benefit immensely from this research work because it will provide a framework for future research and by extension contributing to knowledge.

1.8 PLAN OF THE STUDY

The study was organized into five chapters. Chapter one is the introduction, which gives an insight into the study.

Chapter Two deals with the review of literature, it covers the following, Historical background of environmental accounting, the concept of environmental Accounting, environmental disclosure in financial statements, the overseas experiences and the concept of sustainability reporting.

Chapter three deals with methods and techniques adopted in carrying out the research; the justifications of the methods employed by the research are highlighted by the research in this chapter.

Chapter Four which is the data presentation and analysis covers the presentation of data and its analysis.

Finally, chapter five deals with summary, conclusions, limitation of study and recommendations.

1.9 DEFINITION OF TERMS

Acid Rain: Cloud or rain droplets containing pollutants such as oxides of sulfur and Nitrogen, to make than acidic.

Environment: Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, and humans and their interrelation.

Environmental Issues: soil degradation, overgrazing, deforestation and desertification.

Environmental Accounting: The collection, recording classification, extraction and summary of information relating to the natural environment.

Environmentalism: is the support or involvement with the environmental movement by environmentalists.

Environmental Reporting: is the disclosure to interested parties of information relating to the natural environment.

Ecological or Ecological sciences: the interrelationship of living things to one another and to their environment or the study of these interrelationships.

Pollution: undesirable state of the natural environment being contaminated with harmful substances as a consequence of human activities.

Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

One of the major growth areas within accounting in the recent past has been "accounting for the environment" which has generated interest beyond the confines of accounting academics and professional accountants. Managers, the media, politicians and the public have noted environmental and therefore, social problem which may be addressed, in part at least by identifying, measuring and (perhaps) valuing the interactions between business and the environments.

Thus this chapter is an attempt to critically examine the theoretical background of environmental accounting.

2.2. HISTORICAL BACKGROUND

2.2.1 Conventional Accounting in Perspective

Accounting systems are one of the most important management tools for every company. The function of accounting is to provide relevant, reliable, and accurate information to guide the decision of management, investors and other stakeholders. Yet reality is so complex that this function often cannot be achieved at a reasonable cost. Hence accounting systems are based on conventions about how to reflect some thing – a transaction, an internal transformation or an external event. In particular, the convention of using money and monetary calculation is among the greatest simplifiers of complex affairs (Chambers 1999).

Although some conventions are necessary in order to manage complex reality, those in conventional accounting have been heavily criticized. Some of the most extreme criticisms go as far as to maintain that all the conventions and the information collected by today's accounting systems mirrors only what business and political leaders currently considers to be important for the economy and society, from their own perspective.

As some society changes, new information and new stakeholders also become important. This puts accounting systems under additional pressure to change. Consequently, pressure grows for economic activities to be reflected through other, more appropriate, conventions. Growing concern over company environmental impacts has generated criticisms of accounting conventions that are in use.

An environmental twist to conventional accounting provides the hallmark of a new aspect of stakeholder concern and involvement.

2.2.2. Environmental Criticism of Conventional Accounting.

Historically, the first complex accounting systems evolved in the Renaissance period in sixteenth Century. One of the most extreme criticisms directed at accounting points to the influence of this historical period. The belief that humans are distinct from nature and indeed able to manage nature in a rational manner is still reflected in contemporary accounting practice. Although not immediately evident, this belief has led to some weakness in conventional accounting. In particular, the fundamental outlook of conventional accounting, with its focus on the accounting rather then on the ecological entity, has been criticized (Maunder and Burritt 1991, Wainman 1991).

The significance attached to events happening within an entity and the convention of ignoring events that take place outside an accounting entity lead to major problems when one tries to account for environmental damage. From a legal point of view, corporate *environmental impacts often occur outside the transactional* boundaries of a company, so that these environmental impacts are often treated as 'externalities'. As they fall outside a company's legal boundary they have to be addressed by a company only in limited circumstances.

Today, in general accounting systems do not reflect environmental impacts caused directly or indirectly by a company. This situation will remain the same as long as organizations are treated as 'semi-closed system with hard (legally based) accounting boundaries' (Maunders and Burritt 1991).

Conventional accounting system do not provide information on how much the environment is harmed no matter how high the social costs and no matter whether the damage is irreversible. If management relies only on conventional accounting information it will very often not even recognize that the environment has been harmed because:

a. Natural and environmental resources are not included in balance sheets.
b. Depreciation of natural capital is not internalized.
c. Environmental damages are not considered unless reflected in fines, penalties, and licenses and enforced clean up cost (Schaltegar and Burrit, 2000).

Therefore, it has been argued that adverse effects on the environment can be seen- to a certain extent – as resulting from current accounting practices.

Given that accounting has a dominant function in information system, partly because it quantifies and simplifies a complex reality and partly because it can be used by business to downplay ecological impacts, adverse ecological impact arise as a result of the use of conventional accounting information (Gray and Bebbington 2001, Maunders and Burritt 1991).

Impacts of current accounting practices can be divided into two categories:

i. Direct effects on the environment: Since Father Pacioli treatise on double entry, accounting information has remained a major decision making tools for both internal and external stakeholders. Therefore, comprehensive information, as correct and as complete as possible, becomes crucial. Decision-making and evaluation of activities that have an environmental impact must rely on accounting information that often conforms to generally accepted accounting standards that are based on the conventions of financial accounting.

No doubt there will be misleading result from decision made as a result of exclusion of externalities.

In short, internal costs appear too low because some cost are passed on to external parties and are not included in decision-making. As a result, manager's favour products and process with the lowest internal cost as against the ones with the lowest total costs to the society.

ii. Indirect Effect on the Environment: Indirect effects of conventional accounting on the environment are connected with the mental framework unconsciously used when viewing the world. Conventional accounting for example, although measuring income and financial wealth, does not question their distribution.

Instead it accepts existing interpersonal, interregional and intergenerational distribution regardless of their moral or ethical flows. For example, conventional accounting systems do not show who received the money spent by a company (interpersonal), nor do they show the region in which company suppliers are situated (interregional) or whether money is spent with the needs of future generations in mind (intergenerational).

A further criticism points out the inherent discrepancy between conventional accounting systems and natural ecosystems. For accounting, no upper limit to financial resources exists- the word 'enough' never translated into number- whereas the natural environment has such a limit reflected in the notion of 'carrying capacity. From a macro-economic perspective this argument has been used as a criticism of the concept of gross national product (GNP) as a measure of wealth and the related constant striving for higher GNP (Gray 1992, Lutz and Munasinghe 1991). Environmental damage is not considered in this quest for higher monetary income and wealth, because no value is put on most (priceless) environmental goods. The same critics also see it undesirable to give environmental goods an artificial price (Hines 1991)

Nature reacts according to completely different laws than those assumed under the rules set down for conventional accounting systems; it is based on the interconnectedness and interaction of all substances and beings. Accounting systems, on the other hand divide, separate and count everything independently; they use special accounts for every accounting item and finally aggregate many different items together in a standardized format such as a balance sheet an income statement or a cash-flow statement in ways that just do not add up even though the figures are relied on by managers and stake-holders (Chambers 1966).

The interdependence of time is also ignored in most conventional accounting systems. For example, outlays that are expected to produce future ecological benefits (e.g. pollution abatement expenditures) reflect negatively on current economic performance if the expenditures are considered to be expenses. These procedures are not only seem to contribute to the problems alluded to above but also cause problem for financial analysis of companies, products, investments and production processes.

Maunders and Burritt (1991) summarizes their criticism of conventional accounting in the following ways. "By providing the only quantified analysis available, it is not decision support which is provided (by conventional accounting), but rather conditioning. Conditioning that facilitates further exploitation and plundering of ecological systems is neither sustainable nor acceptable for the business of the future. Likewise, accounting systems that facilitate that conditioning must be changed.

2.2.3 The Emergence of Environmental Accounting

The environment can be seen as all of the air, water, land, plants, human beings, and the entire ecosystem (including air within buildings and structure above ground). (Milichamp 1996). At the beginning of the 20th century, dense, dark smoke and contaminated water were regarded as necessary evils of industrial economic activity. Today, society demands a higher-quality environment and is seeking that quality through policies on sustainable development, eco-efficiency and wider disclosure of information leading to improved company accountability.

In many cases, environmental degradation associated with company activities is continuing (WWI 1995; Beder 1996) despite the progress made by part of the business community with regard to environmental performance since the rise of environmentalism in the late 1960s and early 1970s (Economist 1997b). As scientific findings illustrate –about the ozone layer and climate change human impact on the natural environment today is not only local or regional but also poses a threat to the global ecosphere (WWI 1995). According to Schaltegar and Burrit (2000) ongoing environmental degradation and the economic and social problem associated with it mean that increasing importance is being attached to information about environmental issues.

The finding of GEO-2002 is an anticlimax of the universal awareness of environment safety and protection issues consequent upon the massive degradation of the ecosystem the world over (The Guardian 1999). The 1990's witnessed a revitalization of interest in environmental issues, which rivals that of the 1970s (Gamble et al, 1996). Also according to Millstone and Watts (1992) "what began as a grassroots effort is quickly becoming a mainstream issue of concern to consumers, politicians and business people alike.

This increased awareness by the general public of environmental issues, especially; the pollution problem has put pressure on "the polluters" such as the business firms on the need to be socially responsible in their relationship towards the environment.

However, the most pressure is coming from the stakeholders of a company. According to Freeman (1984) the stakeholders of a company are any individuals or groups having an interest in the company because they can affect and/ or be affected by the company's activities. The term 'stakeholder' indicates that these groups or individuals obtain some form of benefit and / or are exposed to some form of risk from the corporation's activities financial, social or environmental.

Stakeholders can be divided into internal and external groups, the two being separated by the boundaries of the company. Stakeholders include, for example, managers and employees within the company (internal stakeholders) and government regulatory agencies, shareholders, environmental pressure groups, suppliers, customers, local communities and the general public as external stakeholders.
Companies need material and intellectual resources (e.g. information and services) in order to perform, and individuals and groups will supply these as long as relations are perceived to be favourable and fair. To verify that this is the case, stakeholders require information that must continually be collected, organized and reported. The stakeholder concept helps to explain:

i. Why today's organization have to consider a multitude of different interest if they wish to become successful in economic terms.

ii. The need for new forms of stakeholder engagement if environmental improvement and greater accountability are to be achieved (Dyllick 1989; Sustainability/UNEP 1996a).

iii. How different accounting systems have evolved and will continue to evolve in the future.

Accounting provides the most important corporate system of information collection and analysis. This is reflected in the notion of being held accountable which means that someone has the duty to give an explanation for how resources have been used. The process of "being held to account" determines, reflects, strengthens and solidifies the power relationship between the accountee and accountor (Maunders and Burrit 1991).

Accounting systems are designed in such a way as to make management and employees accountable for their activities through improved transparency about an organization's activities, thereby promoting the engagement of stakeholders even where trust in the accountor may be lacking (sustainability /UNEP 1996a). In some instance improved transparency is encouraged through environmental compliance audits that are driven by, and also shape environmental regulations (power 1997). As the penalties for undesirable environmental impacts have grown, so has the demand for environmental assurance and verification services. Voluntary self-assessments and self-informing environmental management systems have also recently been added to the range of assurance options available to improve accountability relationships (UNEP 1998; IISD 1998).

Because of ongoing environmental degradation and the problems associated with it, growing importance is attached to the provision of environmentally related information for stakeholders. Accounting, as one of the most pervasive and frequently used information gathering systems, needs to adapt to this new situation if useful information is to be provided. Creation of new accounting practices dealing specifically with environmental problems is one possible way of responding (Gray 1993).

2.3 CONCEPT OF ENVIRONMENTAL ACCOUNTING

Environmental Accounting is a system for providing accurate and quantitative measures of the costs and resulting effects, efficiency and effectiveness of investments in environmental preservation activities. It is an attempt to links the economy to the biophysical environment. It enables people to understand the full spectrum of environmental costs and integrate these costs into decision-making.

According to Gray et al. (1987) "environmental Accounting is the process of communicating the environmental effects of organisation's economic action to particular interest groups within society and to the society at large. As such it involves extending the accountability of organizations (particularly companies), beyond the traditional role of providing a financial account to the owners of capital, in particular, shareholders. Such an extension is predicated upon the assumption that companies do have wider responsibilities than simply to make money for their shareholders"

Mathews (1993) sees environmental Accounting as voluntary disclosures of information, both qualitative and quantitative made by organizations to inform or influence a range of audiences, the quantitative disclosures may by in financial or non-financial terms.
Gray et al (1993) defined environment accounting in the following terms" it can be taken as covering all areas of accounting that may be

affected by the business response to environmental issues, including new areas of eco-accounting.

Definitions applicable to social and environmental accounting literature (SEAL) do not appear to be problematic, despite some differences, especially where authors cannot decide whether disclosure are expected to be voluntary, or in compliance with legal or quasi-legal requirements, or whether disclosure must be quantitative or financial to be regarded as a part of the accounting process. The definition, which implicitly governs this survey of the literature, is broad, as provided by Mathews and Perera (1995:364).

> At the very least, social (and environmental) accounting means an extension of disclosure into non-traditional areas such as providing information about employees, product, community service and the prevention or reduction of pollution. However, the terms "Social and environmental accounting" is also used to describe a comprehensive form of accounting which takes into account externalities. Public sector organizations may also be evaluated in their way, although most writers on the subject of social and environmental accounting appear to be concerned with private's sector organizations.

2.4 DISCLOSURE OF ENVIRONMENTAL ACTIVITY IN FINANCIAL STATEMENTS

2.4.1 Financial Accounting and Environmental issues

> "First we (accountants) can encourage companies to develop innovative environmental policies, to disclose them in the financial statements and to keep them regularly updated ....we must measure up to the environmental challenge if we are to fulfill our duty as a profession to promote the public interest. We forget at our peril that we do not own our natural assets; we merely hold them in trust for future generations. (Lickiss 1991, P.6)

Financial accounting and, in particular, the reported profit figures in financial statement lie at the very heart of the environmental crisis. The central reason why accounting is so closely implicated in the environmental crisis is that a company, an industry, an economy can be showing very positive "success" indicators in the form of profits and growth whilst, simultaneously, polluting the air and the sea, laying off staff, destroying habitants, disrupting communities, etc. That is profits only show one aspect of organizational and economic life. Consequently, shareholders, managements, governments and so on are not only being mislead by these "success" signals into thinking that 'all is well' but also increasingly seeking to use these indicators to guide their activities, decisions and policies. As long as profit signals, 'success' the environment and societies will suffer.

Gray and Bebbington (2001) identify three reasons why these environmental issues should concern accountants and they are.

1. Moral /Ethical reasons
2. Professional reasons
3. Pragmatic, economic reasons

By moral/ethical reasons they posit that accountant as decent people need to recognize that our professional expertise is not only giving misleading signals but is actually encouraging environmental (and social) dislocation.

The second point stresses that one major product of our activities is clearly acting against the public interest and that our "accounts" of organizations are seriously incomplete.

Finally, there are the more pragmatic, economic reasons: that management and shareholders are taking decisions based on seriously incomplete and misleading information. They argue further that in the nearest future many environmental issues will, affect income and cost streams as well as economic well-being of the organization and that there is need to provide information that will guide both management and shareholders in this areas.

In Financial Accounting (Reporting), before any changes can attract attention it must be of material. Many issues of environmental in nature can prove to be material and yet others are of such a nature that they may prove to be material in the future Gray et al (1998). Also some environmental cost could involve the closure of an organization for its inability to meet some environmental legislation. The best illustration of what this can mean is probably the experience with; superfund (1980) in the United States.

2.4.2 The Response Of Accounting Regulators

What is probably the most significant and longest standing initiative in the development of environmental reporting within a conventional financial accounting framework has come from the United Nations Center for Transnational Corporations Inter governmental Working Group of Experts on International Standards of Accounting and Reporting (UN CTC ISAR).

The Ninth session of UN CTC ISAR (1992) made detailed recommendations as to the types of environmental disclosure that corporations should undertake. Below is the extract of the recommendation.

Recommendations for environmental financial reporting from the UN CTC ISAR'S 9th session.

In the Director's report:

a. Environmental issue pertinent to the company and industry.

b. Environmental policy adopted

c. Improvements made since adopting the policy

d. Enterprises environmental emission targets and performance against these.

e. Response to government legislation

f. Material environmental legal issues in which the enterprise is involved.

g. Effect of environmental protection measures on capital investment and earnings

h. Material costs charged to current operations

i. Material amount capitalized in the period.

In the notes to the financial statements:

a. The accounting policies for recording liabilities and provision, for setting up catastrophe reserves and for disclosing contingent liabilities.

b. $/E amount of liabilities, provisions and reserves established in the period

c. $/ E amount of contingent liabilities

d. Tax effects

a. Government grants received in the period.

Sources: Gray and Bebbington (2002 p.229)

It is possible to argue that within a very narrow definition of the traditional accountant's world, existing accounting guidelines and standards are sufficient to cover environmental matters. However, the very size of the potential financial impact of the issues, their ubiquity and unpredictability appear to have combined with a growing realization about the parlous state of the natural environment and its critical importance to life to force a wider consideration of how financial accounting and environmental issues might be combined.

Once again, the UN has been in the vanguard of developing thinking on how to approach the regulation of accounting and environmental issues. Below is an extract from one of the UN's draft guidelines and gives a flavour of the issues involved and how the UN'S thinking has been developing.

UN-ISAR Accounting Guideline-Environmental-Financial Accounting

Recognition of environmental costs

a. Environmental costs relating to damage should be recognized immediately and charge to income

b. Environmental costs should only be capitalized if they meet specific criteria

c. Future site restoration costs should be accrued and capitalized as the damage is incurred.

d. Environmental costs which are part of an asset should be included with that asset

e. Environmental costs that do not meet asset recognition criteria should be expensed immediately.

RECOGNITION OF ENVIRONMENTAL LIABILITIES

a. An environmental liability should be recognized when the enterprise is obliged to incur an environmental cost and cannot avoid that cost.

b. Environmental damage- even where there is no immediate duty to remediate- should be disclosed in the notes to the accounts

c. Costs relating to remediation or removal of long-live assets should be recognized as a liability at the time of the damage.

RECOGNITION OF RECOVERIES

a. Recovery expected from a third party should not be netted-off but separately recorded.

b. Expected sale of property should not be netted-off against an environmental liability.

MEASUREMENT

a. Best practice should be used to estimate liability and where this is not possible this must be explained in the notes to the accounts.

b. Net present value may be used to estimate certain liabilities and this should be disclosed.

DISCLOSURE

a. The enterprise should separately disclose:

i. Its categories of environmental costs

ii. Environmental costs charged to income

iii. Fines and penalties

iv. Environmental liabilities with accompanying detail

Source: Adapted from UN-ISAR Accounting Guideline Environmental Financial Accounting Draft, July 1997.

2.4.3 Environmental Matters and Auditing

The essence of statutory financial audit is for the auditor to be able to form an opinion regarding the truth and fairness of the financial statements based on the records avail him by company management.

However, researches have shown that most companies do not take into cognizance environmental matters in their day-to-day activities (United Nations 1992). This ought not be so considering environmental liabilities, provisions and contingencies issues. Furthermore, there are other elements of the accounting system which are driven by environmental matters and which may have a direct impact on the financial statements. According to David Pimm (1990) these include:

1. **Obsolete stock-** through, for example, changing tastes or developments in legislation or other standards. Costs of storage and /or disposal of certain chemicals, for example, may also rise, with attendant implication for assessments of net realizable values.
2. **Production assets.** Changing legislation may make existing processes illegal or require additional costs, the life of assets may be shortened, or changes in demands and /or standards relating to the product may decline. All of these will reduce the life and terminal value of the assets.
3. **Depreciation policy-** to reflect changing conditions or life of productive assets.
4. **Viability of product lines-** may be put into question through changing taste, standards or legislation. This may raise going concern issues.
5. Additional costs of production or processes ranging from increasing upstream costs (through say, changing standards on extractive industries or an energy tax) through to costs of pollution abatement equipment and the costs of waste disposal.

These must be anticipated, perhaps provided for and questions of capitalization of certain expenditures considered.

6. **Catch-up and potential legal costs.** This relates to the remediation, abandonment and contingent liability.

In the same vein Millichamp (2002) identifies the following issues as relating to environmental matters and the audit.

1. Material environmental matters can present major risks to some clients and can lead to possible misstatements in the financial statements.
2. Responsibility for environmental matters, their recognition measurement and disclosure is with the management.
3. The main possibilities for misstatement in financial statement include:

i. The introduction of environmental laws and regulations that may involve impairment of assets.

ii. Failure to comply with legal requirement may require accrual of remediation, compensation or legal costs.

iii. Fines, damages and legal costs may need to be accrued for violations.

iv. Some companies (including waste management companies, chemical manufacturers etc) may incur environmental obligation as a direct result of their core operations.

v. Constructive obligations may occur from publicly stated environmental policies. These may not be legal obligations but may be just as binding.

vi. Contingent liabilities may need to be disclosed in some circumstance.

vii. Initiatives to abate environmental damage may cost a great deal but may not enhance the value of fixed assets.

viii. Vicarious liability may reside in a client as a result of the environmental damage caused by a previous owner of a site.

4. Some standards which may be relevant in this includes:

   (i) Knowledge of the business

   (ii) Risk assessments and internal control

   (iii) Consideration of laws and regulation

   (iv) Using the work of an expert

   (v) Audit of accounting estimates

5. In some extreme cases environmental matters can lead to abandonment of going concern in whole or in part. An example

of this is if a company was obliged to ceases production of some environment polluting product altogether.

What, however, is an auditor to do when a company will not disclose these things and thereby impacts the truth and fairness opinion.

Such matters as these have potential legal implications and, in particular, affect the auditor duty to investigate and perhaps report on the truth and fairness of fines. The immediate implication for annual audit according to Millichamp (2002) includes:

a. Environmental factors may have an impact on asset values.

b. Environmental factors may have created actual or contingent liabilities.

c. Environment factors may create fundamental uncertainties about the assets and liabilities of a company and its future, which may lead the auditor to consider whether he can say the accounts, show a true and fair view.

d. Environmental factors may have implications for future capital expenditure and cash flows, which may impinge on the viability of the company as a going concern.

e. Balance sheet items such as secured loans may not be secured if land values are affected by environmental factors.

f. Insurance corer may not be adequate and hence contingent liabilities may exist which are uninsured.

In the final analysis environmental matters are clearly far from trivial and are exercising both the accounting firms and the auditing profession. Research in the UK has demonstrated that the more auditors (accountants) know about environmental issues, the more they are concerned about them (Collison and Gray, 1997).

2.5 RESEARCHES IN ENVIRONMENTAL ACCOUNTING AND REPORTING

In 1974 the Accounting standards steering committee (ASSC), operated jointly by the major accounting bodies, appointed a subcommittee to prepare a wide-range discussion paper. Its terms of reference were:

> The purpose of this study is to re-examine the scope and aims of published financial reports in the light of modern needs and conditions. It will be concerned with public accountability of economic entities of all kinds, but especially business enterprises.

> It will seek to establish a set of working concept as a basis for financial reporting. Its aim will be to identify the persons or groups for whom published financial reports should be prepared, and the information appropriate to their interest.
> It will consider the most suitable means of measuring and reporting the economic position, performance and prospects of undertaking for the purpose and persons identified (ASB 1975pp6).

The report identifies seven separate "user Group", as follows:

1. The equity investor group, including existing and potential shareholders and holders of convertible securities, options or warrants.
2. The loan creditor group including existing and holders of debentures or loan stock, and providers of short-term secured and unsecured loans and finance.
3. The employee group including existing, potential and past employees.
4. The analyst-adviser group, including financial analysts and journalist, economists, statisticians, researchers, trade unions, stockholders and other providers of advisory services, such as creditors-rating agencies.
5. The business contact group including customers, trade creditors and suppliers and in a different sense competitor,

business rivals and those interested in mergers, amalgamations and takeovers.

6. The government, including tax authorities, departments and agencies concerned with supervision of commerce and industry, and local authorities.

7. The public, including taxpayers, ratepayers, consumers and other community and special interest groups, such as political parties, consumer and environmental protection societies and regional pressure groups.

Furthermore, the corporate report discussion paper suggests six additional statements. The report stated:

We recommend where appropriate corporate reports contain the following statements in addition to those now current:

a. A statement of valued added
b. An employment repot
c. A statement of money exchanges with government
d. A statement of transactions in foreign currency
e. A statement of further prospects
f. A statement of corporate objectives.

In addition to the above-mentioned specific proposals for additional statements, two other aspects are briefly considered in the corporate report. Social and environmental accounting is one of these.

Researches into social and environmental accounting dated back into early seventies, which were directed, to reporting fairly unsophisticated empirical studies, which attempted to measure the amount of new information being produced and published by a limited number of enterprises. This was accompanied by a relatively small volume of normative and philosophical contribution, environmental matters were not often identified separately at this time, but treated as part of a generally undifferentiated `social accounting movement.

Thus, early empirical studies were not specific in focus, it was a matter of attempting to develop methods to measure the incidence of information disclosure by organizations, which was voluntary, tentative, frequently unreliable and unorganized (Mathews 1996). The typical outcome of many studies was a yes or "no" to the existence of a disclosure of information related to the social dimension of accounting, most frequently connected with employees or product (Ernest and Ernest, 1972-1978).

In this line the accounting firms of Ernst produced a series of analyses of the annual report of fortune 500 companies between 1972 and 1978 (1971-1977 annual reports) towards the end of the series, disclosure rates for socially-oriented information occurred with about 90 percent of the annual reports, but the average volume was about half a page.

Also, early empirical studies had a variety of motivations. Bowman and Haive (1975) was one of the earliest studies, which looked for a relationship between social responsibility disclosures and increased income to the corporation. It was found that the largest return on equity was associated with a medium level of social responsibility disclosures. In a Swedish study of about the same period Grojer and stark (1977) concerned with developing a goal-oriented report giving explicit consideration to several constituencies, particularly employees.

However in the 1990s researches into environmental issues become more purposeful and directive, for example, Bartholomew (1997) examines the role of external drivers in advancing environmental accounting practices by Italian companies. It was disclosed that environmental pressure from legislation and local community are the main impetus behind current environmental accounting practice by Italian companies.

In a study of US Industry, Stead et al (1998) contend that any firm must take the management of environmental issues seriously. The consequences of not doing so, the authors argue are intolerable. Including the familiar litany of lost customer loyalty, lost market opportunity, as well as the more telling threats of Jail terms, plant closures, etc. to take such matters seriously, firms need to institutionalize the demands of environmental change. For this purpose, the paper presents two empirical questions: to what extent are corporations institutionalizing environmental performance? And what happened to those, which do not? The authors investigate the first question by a questionnaire in which corporation from selected industries are requested to indicate the steps they are taking to incorporate different levels of environmental institutionalization. The result suggests that great strides are being made but full institutionalization is rare. The second question is addressed through a review of recent US case law in which the courts appear to be moving towards a much harsher interpretation of senior employees lack of knowledge or awareness of corporate environmental transgressions. That is the argument goes, non-institutionalized environmental management lays senior executives open to an increasingly punitive legal environment.

Fekrat et al (1996) examines the environmental disclosure of 168 major companies from 18 countries. The focus of the research was testing the relationship that exists in country and industry. Disclosure is found to differ, to a degree at least, with industry and country. Forestry disclose the most, motor vehicles the least, Japanese companies disclose the least, Canadian companies disclosure the most.

Jaggi and Zhao (1996) report a test of hypothesis about manager and accountant attitudes to environmental performance and reporting and contrast it with levels of environmental disclosure in Hong Kong companies. The attitudes are captured by a questionnaire to 100 listed companies and 100 CPAS. The findings reveal that managers were pretty enthusiastic about the importance of environmental issues and about half were positive about the desirability of environmental disclosure. On the other hand the accountant only expressed an overwhelming passion for environmental protection but relative indifference for environmental disclosure.

Deegan and Gordon (1996) the study comprises two separate investigations of Australian company environmental reporting during the 1980s and early 1990s. The first study looks at the environmental disclosure practices in the annual reports of 197 companies. Examining the question of whether or not companies are more likely to undertake self laudatory disclosure than critical or "objective" disclosure, they find that 71 of their sample produce environmental disclosure and only 5 of these provide any negative disclosure, while the rest provide self-laudatory. The second element of the inquiry examines 25 of these 197 companies for the years 1980, 1985, 1988 and 1991. They find a significant rise in environmental disclosure throughout the period.

Tilt (1997) the study examined the extent of the provision of information concerning corporate environmental policies (CEPS). The study explores the influences on the development of the CEPs, how and where they are produce, and to whom they are disclosed. The author identified, notably the influence of environmental law, disclosure regulation, environmental risk, shareholders, the public, consumers, lobby groups and employees and the effects of the size of organizations and the type of industry to which they belongs. A significant finding of the study is that environmental law seems to be a major influence on companies' policy development and environmental activities. As the author states, the stick appears to be more effective than the carrot. However, the author recommends further research in this area.

Beets and Souther (1999) the study-in an essay format- considers the argument for standards for both environmental reporting and attestation of those reports. The paper provides a review of US developments in environmental reporting with a specifically investor and accounting focus, draws on the need for comparability and credibility, briefly reviews some of the European developments (typically EMAS) and then provides justification for the claim that standards are needed for preparation and audit.

De Villiers and Bernard (2000) the study examines environmental disclosures by South African mining industry. The authors scrutinize listed South African mining companies annual reports and the result compared with the disclosures practices of the largest 100 listed companies in South Africa. The study reveals that disclosure by the mining companies increases over the study period as against the largest listed companies.

Baylis et al (1998) this study is based on a questionnaire survey of South Wales (UK) companies, the authors seek to identify the extent to which size of the company and environmental regulation "shape company perceptions of those stimuli that will encourage them to improve their environmental performance". The paper confirms that environmental regulation is the most telling of stimuli on corporate response and more interestingly, identify that large companies identify many more stimuli for change than do SMES. They conclude that the legislative change is necessary to encourage all but a minority of companies to improve environmental performance.

Lodlina (2003) this study examines the question of accountant could and, indeed, are doing to advance the environmental agenda with the organization. The work is based on semi- structured interviews: 10 with individuals (usually partners) in chartered accountant firms and 9 with accountants in industrial companies. The results are compared with a previous study undertaken in Fiji in 1992- there has been a significant rise in awareness among accountants-. But in line with prior studies, accountants do not see themselves as innovators nor do they seem willing or able to integrate environmental issues into mainstream accounting practices. Principally, the author concludes, that little will happen in Fiji until the richer Nations with greater accounting resources have shown the way.

In an examination of environmental and social disclosures in annual reports of Canadian companies operating in the mineral extraction, forestry, oil and gas and chemical industries, Neu et al, (1998), provided additional evidence that "environmental disclosure in annual reports provide organizations with an effective method of managing external impressions." They identify the "relevant public" of corporate entities to include stakeholders (primary) and environmentalist groups (Secondary). The latter group includes environmental regulatory bodies.

Samuels (1990) notes that the main motivation for social and environmental reporting within developing countries centers on the inability of conventional accounting models, developed in the west to serve the present and future needs of today's developing countries. He argues that just as the paths towards socio-economic development of contemporary developing nations may differ from those of pre-capitalist West, so would their accounting needs and reporting mechanisms. He further observes that there is an enormous amount of pressure on developing countries to over-exploit their natural resources in their drive towards advancement in the socio-economic living conditions of their people. Such pressure will require governments of developing nations to provide mandatory regulations for corporate entities to report on the impact of their operations on the environment. These regulations are urgently required because of the fear that multinational corporations may take advantage of these countries in ways that will not be possible in the developed world.

2.6 THEORETICAL FRAMEWORK

The public perception of accounting as a mere discipline that is concern with provision of information about the financial, performance and financial adaptability of an enterprise that is useful to a wide range of potential users in making economic decision (decision usefulness) has change in the recent time. This process of change has had a dramatic impact on accounting theory and practice in the 80's and 90's. Among major changes in Accounting is the change in the environment i.e environmental issue, which offered radically different interpretation over the need or necessity of environmental accounting.

Several researches have been done in the area of social and environmental accounting (SEA) and on the need for environmental reporting. This had gave birth to several theory developed by scholars to justify the need for an environmental accounting. Some of which include; **Decision usefulness theory, Theory of**

Accountability, Stakeholders Theory, Legitimacy theory, Deep Green theory, Political Economy theory, Economies Based theory and Theory of Justices and Fairness among others. But for the purpose of this study, the John Rawls theory of justice and fairness will be adopted, which we believe encompass if not all, larger percentage of other theories.

THEORY OF JUSTICE AND FAIRNESS

This theory asserts that society is at point of bifurcation, one route points towards proceedings with present market based solutions to economic and accounting problems using techniques such as "decision usefulness" and an alternative approach developed via accountability, based on social and moral obligations that can go some way to rectifying justly the damage already exacted on the environmental (Lehman, 1995).

As pointed out by Williams (1987) Accounting must transform itself from its traditional role of providing only useful information for a narrowly constructed notion of business decision making to providing information that satisfies a broader set of "users". "Decision usefulness" indeed now appears to have completely subsumed accountability (Robert 1991).

Rawls, (1991) opined that in so subsuming accountability within the definition of decision usefulness, accounting has abrogated its moral obligation; decision usefulness fails to recognize that accounting reports do more than just "transmit" a set of numbers; they transmit information which establishes accountability relationships in which legitimate expectations exist that the one giving account is attempting to satisfy the right of various groups.

Accountability is construed as a relationship between a stakeholders and a firm that specifies moral obligations and duties between them. Accountability contrast with the facilitation features of decision- useful financial information (Robert 1991, Gray 1983, Scapan 1985). Decision usefulness neglects to account for the fact that "accounting is highly situated in the context of human interest" and accountability relationship exist as independent criteria Puxty (1991).

Gray (1983) Hines (1988), Laughlin (1990), Accountability researchers have emphasized that 'fairness" need to be given explicit recognition in the context of accounting since notion of justice form an important component of people everyday reality. Within this analysis accountability becomes an autonomous concept and is no longer subsumed within decision usefulness.

This led to the conclusion given by Robert (1991) that environmental reporting is essential in order to satisfy these accountability relationships and alters corporate consciousness. Environmental accounting ultimately calls for corporation to "give and provide reasons' for their use of environment. Accounting is both the means for defending action and the means for identifying which action one must defend.

According to Rawlsian theory of justice, the case for environmental reporting is based on a pluralist model. Rawls analysis is concerned with pluralism in its new form, or more correctly in its new meaning. Society is no longer seen as consisting of group neither of sovereign individuals nor as interest maximizing groups (as in earliest pluralism) but of group held together by inter-subjectively shared languages. Lehman (1995) pointed out that the purpose of theory of justice, defined on pluralist terms is "to discover and formulate the deeper basis of agreement that he hopes to be found within the present social structures and intuitively in terms of citizens considered convictions.

Rawls (1993) has indicated that his theory is inspired by philosophy of Emmanuel Kant, whose essential theme is that each individual is sacrosanct and inviolable. He formulated the idea of a "categorical imperative" where he said that:

> Act in such a way that you always treat humanity, whether in your own person or in the person of another, never simply as a means, but always at the same time as an end (Kant Groundwork 1949 P.96).

In his theory Rawls argues that capitalist institutions must consider what are to be 'primary goods' he believes "primary goods are 'things which it is supposed a rational man wants whatever else he wants" and these goods may not have a market value. He continued that with more of these goods, citizens are assured of greater success in carrying out their intensions and advancing their end, wherever they may be.

Rawls (1991:42) opined that

> The environment is higher order goods the value of which managers of corporations needs to preserve in order to satisfy the needs of concerned users groups. A society that is concerned primarily with decision usefulness information can neglect to account for those facilities for example that are conducive to the health and pleasure of our lives.

As pointed out by tinker (1991), additional obligations for accountants that flow from the original position concern the "**just saving principle**". The just saving rate is defined as that rate which would maintain or improve the lot of each succeeding generation without causing hardship to earlier generations.

The issues are central to the problem of attaining an overlapping consensus in a pluralist society and these lead to the concept of consensus and self-respect, closeness and transparency developed by Rawls.

Rawls (1987) pointed out that accounting can assist in achieving consensus by transmitting information that is useful to all interested stakeholders. The traditional conception of accounting via "decision useful" has given a false sense of "factuality" thereby abrogating its role in attaining a just consensus. The conditions for achieving an overlapping consensus are based on Rawls politically grounded moral mechanism, self respect, which he defines as follows:

> First of all ...... it include a person sense of his own value to his secure conviction that his conception of his good; his plan of life, is worth carrying out. And secure self-

> respect implies a confidence in one's own ability, so far as it is within one's power, to fulfill one's intention (Rawls 1971, 8).

According to Wilson (1987) self-respect presupposes that individual citizens can exercise moral powers and, therefore have a fully developed sense of justice. Fundamentally, Rawls is arguing for the use of the concept as a 'mechanism to order rival claims concerning the distribution of the good. In an environmental accounting context self-respect is adapted to respond to charges that the middle of the road theorizing is necessary.

Tinker (1991:8) opined that self-respect is:

> Concerned about what is politically pragmatic and acceptable, not what is socially just, scientifically rational, or likely rectify social ills arising from waste, exploitation, extravagance, disadvantages or coercion

Self-respect therefore is a guiding principle based on the belief in moral progress as part of the construction of a society that orders and evaluates the good society; it does not necessarily do this by seeking out opinions, feelings perceptions and preference. It performs this task by ranking the most important primary goods in terms of whether each individual's life is being achieved. As a consequence, the environment must be accorded the status of a primary good (Lehman 1995).

Wenz (1988) state that "the closer our relationship to some one or something, the greater the number of our obligation in that relationship and/or the stronger obligation in that relationship" from this viewpoint accountant should take seriously the arguments concerning the environment. This new perspectives based on accountability encompasses closeness which utilizes the concept of justice and fairness in order to consider whether rival view can leads to an overlapping consensus (Lehman 1995).

As pointed out by Gray (1987) closeness can be advanced through transparency, which is defined as expansion of corporate reporting to inform the community about the use of its recourses and the burdens/benefits it has been obliged to bear.

Also, Gray (1991) opined that self-respect forms the bases for green reporting (environmental reporting) practices which in turn represented a fundamental transformation in accounting. Self-respect prompts us to ask whether organisations have complied with the minimum standards of law and in what basis do we want to revise the law?

Accountants are confronted with the challenges of providing data about the "just' saving rate. However, this theory argues that the real issue is about exploring the ontological level thereby constructing a society that explicitly recognizes the relationship between people and the environment (Rawls 1991).

Furthermore, human utilization of the environment has often been neglected to account for other life forms Rawls (1991:8) argued that.

> It is wrong to be cruel to animals and the destruction of a whole species can be a great evil. The capacity for feelings of pleasures and pain and for the forms of life of which animals are capable clearly impose duties of compassion and humanity in their case.

Accounting can perform these functions by moving beyond decision usefulness frameworks, and aiming to expose, enhance and develop a social relationship about the use of the environment by corporation. Gray (1992)

However, the theory have some short coming as pointed out by Hagel (1992) that Kant categorically imperative as being based on a narrow and atomistic understanding of community, also that it is within the public culture.

By and large Rawls theory is particularly useful in the context of developing a middle of the road justification for environmental reporting because his theory can be used to formulate vision of the good society that would be concerned about the relationship between people and nature. Accounting in such a world, would be concerned with providing information in attaining that vision. The value of a Rawlsian approach is that it adds rigour to accountability in that fairness is included within accountability and constructors of just social institutions account for primary goods. Justice as fairness is designed to clarify the theoretical bases of the "middle ground" as part of changing consciousness within a capitalist society (Lehman 1995).

There are emerging trends in social accounting-one is the fact that the accounting profession is beginning to recognize the need for expanded corporate, social and environmental reporting. It does not mean that corporations act out of altruism, but they are recognizing that they do indeed have duties to the society they inhabit (Gray 1988).

In the light of the above we are of the opinion that Nigerian firms are not only under moral obligation to account for their use of environment (primary goods) but to also explicitly disclose what they are doing to bequeath to the future generation an environment which if not better than they met, should however not be worse-off. It implies that for consensus to be reached firms must move from their traditional method of reporting via decision-usefulness to a more acceptable and preferred accountability method.

2.7 Summary of the chapter

In this chapter the researcher highlighted the historical background of accounting, the nature of conventional accounting and environmental criticism of conventional accounting.

Furthermore the emergence of environmental accounting and the major components of environmental accounting were highlighted in this chapter. Also in this chapter, eight different types of theory that has been propounded on environmental accounting and reporting were identified. However the chapter dwells only on theory of justices and fairness and this eventually form the theoretical framework upon which the study was built.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research is simply the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data. Research is the most important tool for advancing and developing knowledge, for promoting progress, and for enabling man to relate more effectively to his environment, to accomplish his purposes, and to resolve his conflicts. Research is oriented toward the discovery of the relationships that exist among the phenomena of the world in which we live. It is devoted to finding conditions under which a certain phenomenon occurs and the conditions under which it does not occur in what might appear to be similar circumstances (Osuala, 2001).

All research studies have to follow certain procedures before drawing conclusions and generalization being made. However, specific procedures are to a high degree determined by the research method adopted for particular studies. Each of the research method is designed to answer a different type of question depending on the topic of the research. Knowledge of various methods and procedures involved in each is important both for the researchers and consumers of the research findings.

The main objective of this research is on the feasibility of Environmental Accounting and Reporting in Nigeria Financial Statements. In trying to achieve this objective and other subsidiary objectives, this chapter discusses research methods, methods of data collection, techniques of data analysis, population and sample of the study and justification of methods and techniques used.

3.2 RESEARCH DESIGN

For the purpose of this study, the researcher adopted survey research method.

Survey research studies both large and small population by selecting samples chosen from populations to discover the relative incidence, distribution and interrelations of sociological and psychological variables (Osuala, 2001). Surveys covered by this definition are often called sample surveys, probably because survey research developed as a separate research activity, along with the development and improvement of sampling procedures.

The survey researcher is interested in some characteristics of the population or universe, but he uses a carefully selected sample from the populations for intensive study of the characteristics of the population (Osuala, 2001). The manner of selecting the sample will however determine his ability to generalize his findings for the whole population or universe (Asika, 1991).

A fairly clear line of demarcation can be drawn between survey studies and historical studies on the basis of time. While the latter deals with the past, the former deals with the present time (Osuala, 2001).

Survey research can be conveniently classified by the following methods of obtaining information/; personal interview; mail questionnaire; telephone and controlled observation (Osuala, 2001).

It is rarely impossible for survey researchers to study the whole populations, as such; they must adhere to rules of random sampling technique so as to be able to generalize their findings of the sample for the entire population from which the sample was drawn (Asika,1991).

3.3 POPULATION OF THE STUDY

According to Osuala (2001), the popularity of a study comprises the totality of units having certain defined characteristics in common. The members or unit of a population are always alike in some significance aspect.

In this line, the study consists of two sets of population; selected manufacturing companies listed on the Nigerian Stock Exchange and Professional Audit Firms that operate in Kaduna State.

For the first set, all manufacturing companies listed on Nigeria stock exchange as at 31st December 2006 constitute the universe population.

While the second set of population constitute practicing accounting firms in Kaduna state.

3.4 SAMPLES AND SAMPLING SIZE

No concept is as fundamental to the conduct of research and the interpretation of its result as is sampling, except when a complete census is taken. Research is almost invariably conducted by means of a sample, on the basis of which generalization is applicable to the population from which the sample was obtained are researched.

Sampling is taking any portion of a population or universe as representative of that population or universe (Osuala 2001).

There are generally two methods of selecting samples from a given population: probability selection procedure and non-probability selection method. Asika 1991 defines a probability sample selection as sampling method in which the sample items or subject are chosen randomly, where every item in the population is given equal and independent chance of being included in the sample.

Methods of probability selection include random sampling, systematic sampling, stratified sampling and area or cluster sampling.

Non-probability sampling, on the other had does not guarantee randomness, though it may occur by chance. The elements of the population do not have the privilege of having equal chance (Asika 1991). Methods under this group include convenience, accidental sampling, quota sampling, judgmental sampling and panel sampling.

However, in selecting the sample for the first set of the population the following criteria were adopted.

1 The firm must be a manufacturing outfit.

1 It must be a quoted firm.

2 The firm must have reported environmental issue in its annual account for at least one year out of the five-year study period.

To achieve criteria 3 above, the researcher carefully scrutinized all the annual reports of Firms that met criteria 1&2 above and 37 firms were found to possess criteria 3, thus the sample of the study for the 1st set of population were 37 in numbers.

For the second set of the population, i.e. the professional audit firms. A sample frame of an auditing firm was obtained. 39 auditing firms were listed in the sampling. Sampling fraction of $^{39}/_{10} = 3.9 \approx 4$ was obtained between 1 – 4; then 2 was randomly selected as our random start and every 4th observation in the sample were randomly chosen. This gives a sample of ten (10) auditing firms listed below.

1. Akintola Williams Deloitte and Touché
2. Balogun Badejo & Co.
3. Price Water House Coopers.
4. Ijewere & Co.
5. Kunle Ladejobi & Co.
6. Mu'allhyidi & Co.
7. Muhtari Dangana & Co.

8. Pannel Kerr Forster & Co.

9. Sulaiman & Co.

10 Ayo Ishola & Co.

3.5 METHODS OF DATA COLLECTION

This deals with the sources of data available for any type of research. It involves the primary sources of data and the secondary sources of data. It also involves the instruments of data collection such as questionnaires, interview, observation and documentation. These will be discussed below.

3.5.1 Sources Of Data

Data are normally collected in the course of carrying out any research work. There are basically two sources from which data can be obtained (Osuala, 2001). They are:

a) Primary sources

b) Secondary sources

The primary and secondary sources of data were used in this research work. However, the instruments used for primary data collection are questionnaire and personal interview.

3.5.1.1 Primary Data

Data may be expressly collected for a specific purpose. Such data are known as primary data. The collection of facts and figures relating to the population in the census provides primary data (Osuala, 2001). The main advantage of obtaining such data is that the exact information wanted is obtained. Terms are carefully defined so that as far as it is humanly possible, misunderstanding is avoided.

Besides, primary source of data is the data that come mainly from direct observation of the event, manipulation of variables, performance of experiment and response of questionnaire (Asika, 1991). Collection of data through primary source involves the use of direct observation, interview and questionnaires.

3.5.1.2 Secondary Data

The secondary source of data collection comes from textbooks, journals, magazines, periodicals gazette, newspapers and related documents. However, Osuala (2001), contends that such data must be used with caution, because it may not give the exact information needed and may also not be in the most suitable form, since initially it was collected for some other purposes.

3.5.2 Instruments Of Data Collection

Data are often collected in the normal course of administration and not specifically for statistical purposes. The instruments or tools for data collection need to be selected or constructed very carefully in order to obtain valid, relevant and standardized information from all subjects in a sample. The following list covers most important instruments of collecting data (Owojori, 2002):

i. Questionnaire.
ii. Interview.
iii. Documentations.
iv. Observation.

All of the above instruments were used for data collection both for primary and secondary sources of data.

3.5.2.1 Questionnaire

Any research instruments comprising carefully designed questions for the respondents to answer can be called a questionnaire (Owojori, 2002). There are two basic types of questionnaires; the structured or closed form and the open-ended questionnaire.

The structured questionnaire is one in which items for responses have already been written. All the respondent needs to do is to complete the blanks with a tick, one word, a phrase or sentence. In some cases the respondent will underline, or draw a circle round an item, or assign a numerical value if he/she agrees with the statement already expressed by the researcher. The all-important feature of a structured questionnaire is that it sets limits or exerts some control over the extent to which the respondent can answer questions.

The second type of questionnaire, the open-ended type contains direct questions for which sufficient space is provided for the respondent to write their answers. It is easier to construct and permits the respondent to expand or clarify their answers freely. Extra information of which the researcher was not aware when structuring his question can be gained using open-ended questionnaire.

3.5.2.2 Interview

According to Tijjani (2002) the interview is an oral questionnaire. It is a face-to-face interaction situation in which one person (the interviewer) asks another person (the interviewee) questions which are responded to orally. An interview has many advantages over other instruments of data collection if well conducted. Respondents are usually more willing to talk than to write. The interviewer can explain more explicitly the purpose of his research and just what information he/she wants.

Direct interviews with the subjects are valuable data collection tools particularly when the subjects cannot read and write or are too young or too old to read (Owojori, 2002). The flexibility not afforded by written questionnaires can easily be afforded when interviews are conducted. The flexibility is desirable as the researcher usually ends up collecting more useful data than he/she had set out to collect. Several unforeseen issues crop up during the interview and if skillfully probed, in-depth information can be collected.

On the other hand, data collection through direct interviews can lead to bias since the respondent may be able to see what direction the researcher wants him to go. In his attempt to please the researcher, the respondent may give answers that are expected. The researcher's style of dress, mannerism, politeness and method of approach could favourably or adversely influence responses. However, it is time consuming and one of the most difficult techniques to employ successfully.

3.5.2.3 Observation

This is also one of the tools of data collection. In order to try and overcome response faking and personal bias which are common with self-reporting techniques such as questionnaires and interviews, the researcher some times decides to obtain data directly by means of naturalistic observations.

Observational techniques have their limitations; in the first place, if the subjects know that the observer is present, their behaviour can be change and even faked. As such, a researcher should find ways of observing behaviour without being noticed. In addition to the above limitations, is that it is time-consuming (Owojori, 2002).

3.5.2.4 Documentation

The most objective research instrument for data collection is the documentations of the subject. This involves historical happenings about the subject for a long period of time, which was documented. It includes reports, minute of meetings and historical background of a particular organization.

3.6 DATA ANALYSIS TECHNIQUES USED

The techniques of data analysis used for the purpose of this research work include; descriptive statistics and student t-test.

3.6.1 Descriptive Statistics

This involves the use of tables and percentages for clear presentation and quick comparison.

3.6.2 STUDENT T-TEST

The t-test will be adopted in testing the significant level of Managers and Accountant attitudes towards environmental performance and reporting. It helps in measuring the degree off dependence that exit between these two variables.

The t-test is computed using the formula below;

$$\bar{t}. = \frac{\bar{X}_1 - X_2}{\sqrt{\frac{S^2}{N_1} + \frac{S^2}{N_2}}}$$

The steps involve in arriving at the reliable for the t values are:

(i) Set the Variable into two rows X_1 and X_2.

(2) Calculate $\bar{X}_1$ and $\bar{X}_2$ i.e. mean of cash set.

(3) Square the X_1 variables and the X_2 variables. Also Square each Variable and sum the results to obtain $EX^2{}_1$ and EX^2 $_2$.

(4) Compute the common Variance using the formula.

$$S^2 = \frac{\left[\Sigma x_1^2 - \frac{(\Sigma x_1)^2}{N_1}\right] + \left[\Sigma x_2^2 - \frac{(\Sigma x_2)^2}{N_2}\right]}{N_1 + N_2 - 2}$$

Decision Rule:

Accept the null hypothesis; if the computed value of t. is less than the tabulated value of t else accept the alternative hypothesis. The Degree of freedom is computed thus; $N_1 + N_2 - 2$

JUSTIFICATION OF THE METHOD USED

A researcher must decide in which area of line his problem is mainly centred. On the basis of that decision he selects his basic research methods (Osuala 2001).

For the purpose of this study, the researcher adopted survey research method. This is because the researcher believes survey research method will give the necessary exposure required..

Descriptive and t-test statistical tools were used as techniques of data presentation and analysis. These are used because the scale of measurement of the response from the questionnaire (data) is basically nominal and ordinal.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

The purpose of this chapter is to present, analyse and interpret the data collected through various sources discussed in the previous chapter with a view of investigating feasibility of environmental accounting and reporting in annual reports of Nigeria firms. Data obtained through the use of questionnaire were analyzed using tables and simple percentages. The hypothesis presented in section 1.6 of chapter one was tested using student's T -test to compare the calculated T-stat value with the tabulated value. Finally, summary of finding, were discussed in this chapter.

4.2 Data Presentation and Analysis

Table 1 Environmental Reporting Practice by selected Quoted Firms from 2002-2006

S/n	INFORMATION ASPECT	2002	2003	2004	2005	2006
	Information in statutory accounts					
1	Contingent liabilities with environmental causes	1		1	-	-
2.	Provision for environmental costs	1	1	-	-	1
	Other environmentally related information					
3.	Discussion of environmental regulations or requirements	2	3	4	6	8
4.	Specific environmental policy	3	4	6	6	8
5.	General environmental concern	20	29	29	32	37
6.	Conservation of natural resources	2	2	4	4	6
7	Environmental Awards won	-	1	-	1	2
8	Recycling efforts	1	1	2	2	3
9	Use of unleaded petrol	-	1	2	2	3
10	Reduction in CFC use	1	1	1	2	2
11	Promotion of energy efficiency	2	3	3	4	6
12	Environmental office or committee setup	-	-	-	-	-
13.	Environmental merits of product or services	-	-	-	-	-
14	Environmental audit or impact assessment	1	1	2	3	3
15	Waste reduction efforts	1	1	2	5	6
16	Expenditure related to environmental performance	-	-	-	-	-
17	Prosecutions for environmental offences	-	-	-	-	-
18	Support voluntary industry environmental programmes	-	1	1	1	2
19	Report printed on recycled or environmental friendly paper	-	-	-	1	1
20	Separate environmental report	2	2	3	3	5
	Total disclosure	37	51	60	72	93

Source: Field Survey (2008).

Table 1 above shows environmental reporting practice of firms from 2002-2006 based on classification scheme for disclosures by Wiseman (1982). There were 20 items, these items which are listed in table 1, were divided into two main categories.

(1) Information in statutory accounts

(2) Other environmentally related information

From the table, the figures reveal that most disclosures were in the non-statutory sections of company reports. It could be observed that statutory report appear only about 5 times (2%) as compare to other environmentally related information, which appear about 308 times (98%).

Furthermore, the figures reveal a general upward trend in environmental disclosures over the study period. For example the numbers of reporting in 2002 are 37, this number by 2006 rise to 93, given 151% increases.

Some notable increase in disclosures between 2002 and 2006 include: the increases in companies specifying an environmental policy (from 3 to 8); the increase in waste reduction efforts (from 1 to 6); the increase in general environmental concern (from 20 to 37); the increase in environmental audit and impact from (1 to 3) and also increase in conservation of natural resources from (2 to 6).

Table 2. Environmental Disclosure in Annual Report from 2002 – 2006

LOCATION OF DISCLOSURES

S/N	LOCATION	2002	2003	2004	2005	2006
1	Chairman statement	1	2	3	4	4
2.	Director's report	16	20	21	26	25
3.	Notes to Account	1	4	2	-	2
4.	Separate Report	2	2	3	3	5
5.	Profit and Loss account	1	1	-	1	1
	Total	20	29	29	32	37

Source: Field Survey (2008).

Table 3. Environmental Disclosure in Annual Report from 2002 – 2006

NATURE OF DISCLOSURES

S/N	LOCATION	2002	2003	2004	2005	2006	Total
1	Quantitative	4	1	1	2	2	10
2.	Qualitative	16	28	28	30	35	137
	Total	20	29	29	32	37	147

Source: Field Survey (2008).

The figures in table 2 and table 3 reveal both location (segment) and nature of disclosures by firms.

As for the location, the study found that majority of companies choose the director's report as the most popular place for environmental disclosures which account for 105 (71.4%) of the total disclosures within the study period, this is followed by separate report with 15 (10.2%), the chairman statement 14 (9.5%), the notes to the account with 9 (6.1%) and profit and loss account with 4 (2.8%) which has the lowest.

Furthermore the table reveals that only I0 reports are in quantitative form while the remaining are qualitative information.

Generally, from the data gathered and analysis three main observations can be made. Firstly, the environmental disclosures are selective and tend to emphasize favourable environmental performances. For example no single company that mentioned prosecution for environmental offences in the study periods. Secondly, from 2002-2006 reports 93% of the disclosures can be seen as public relations type information reports. Only 7% of the disclosures were financially qualified. Thirdly, even where separate environmental reports are issued by companies, the disclosures are largely non-qualified (i.e. qualitative) and intended to promote the company image.

4.2.1 DATA PRESENTATION AND ANALYSIS BASED ON QUESTIONNAIRE ADMINISTERED

Here data gathered from questionnaire administered to managers and Accountant will be presented in a table and analyzed.

Section A: Questions related to both managers and Accountants

Table 4: Stakeholders have the right to environmental information.

	RESPONDENTS			
Responses	Accountants	Percentage	Managers	Percentage
Agreed	54	78.3	57	93.4
Disagreed	1	1.4	-	-
I don't know	14	20.3	4	6.6
Total	69	100	61	100

Source: Questionnaire Administered (2008)

From the table above, both accountant and managers believes that stakeholders have the right to environmental information. This is evident from the percentage of respondents that agreed of 78.3% and 93.4% for accountants and managers respectively, 1.4% of the respondents disagreed, while 20.3% and 6.6%, each of accountants and managers chose I don't know.

This indicates that stakeholders indeed have the right to environmental information.

TABLE 5: Companies will benefit from environmental disclosures.

	RESPONDENTS			
Responses	Accountants	Percentage	Managers	Percentage
Agreed	54	78.3	50	82.00
Disagreed	2	2.9	6	9.8
I don't know	13	18.8	5	8.2
Total	69	100	61	100

Source: Questionnaire Administered (2008)

From table 2 above, both accountants and managers opined that companies would benefit from environmental disclosures. This is seen from the number of respondents that agreed which is 54 (78.3%) and 50 (82%) for both accountants and managers respectively.

On further enquiry on how would companies benefit from environmental disclosures, some of the respondents are of the view that any company disclosing environmental issues will have more opportunity as it enhance their image and also serves as a source of goodwill.

The analysis indicates, that companies disclosing environmental issues will possibly enjoy public acceptance.

TABLE 6: Government should require environmental disclosures by Companies.

	RESPONDENTS			
Responses	Accountants	Percentage	Managers	Percentage
Agreed	55	79.7	57	93.4
Disagreed	1	1.5	-	-
I don't know	13	18.8	4	6.6
Total	69	100	61	100

Source: Questionnaire Administered (2008)

Table 3 above shows that 55 (79.7%) accountant and 57 (93.4%) managers agreed to the fact that government should require companies to disclose environmental issues in it account, only 1 (1.5%) of the respondents (accountants) are of the view that government should not require companies to disclose environmental issues in its financial statement (i.e. disagreed), while 13 (18.8%) and 4 (6.6%) of the respondents (i.e. accountants and managers) choose I don't know.

This shows that majority of the respondents are of the opinion that government should require companies to disclose environmental issues in its financial statement or Account.

TABLE 7: Disclosures of environmental information will become a general practice in the near future.

	RESPONDENTS			
Responses	Accountants	Percentage	Managers	Percentage
Agreed	56	81.2	53	86.9
Disagreed	2	2.8	3	4.9
I don't know	11	16.00	5	8.2
Total	69	100	61	100

Source: Questionnaire Administered (2008)

From the above table, 56 (81.2%) and 53 (86.9%) of accountants and mangers are of the opinion and agreed that disclosures of environmental information will become a general practice in the near future, 2 (2.8%) and 3 (4.9%) of the respondents i.e. accountants and managers disagreed with the view, while 11 (16%) and 5 (8.2%) of accountants and mangers choose I don't know.

This indicates that in the nearer future environmental disclosures will be a general practice. On further enquiry, some of the agreed respondents believes that the managers and accountants can assist to realize the dream, since they will advice companies Board of directors and shareholders on the importance of disclosing environmental issues in the financial statement or Account of organisation.

TABLE 8: Companies will have a better image if it discloses environmental information.

	RESPONDENTS			
Responses	Accountants	Percentage	Managers	Percentage
Agreed	56	81,2	58	95.1
Disagreed	2	2.8	2	3.3
I don't know	11	16.00	1	1.6
Total	69	100	61	100

Source: Questionnaire Administered (2008)

From table 5 above, 81.2% of accountants and 95.1% of managers all agreed that companies would have a better image if it discloses environmental information, conversely 2.8%, 3.3%, each of accountants and managers disagreed with the view, while 16% and 1.6% of the respondents choose I don't know.

On further enquiry, some of the respondents who agreed said that disclosure of environmental issues will allow company to have a better chance in the capital market (stock exchange market) because this will boost its morale and attract investors both foreign and local.

Table 9: Environmental Accounting and reporting is Feasible and practicable in Nigeria.

	RESPONDENTS			
Responses	Accountants	Percentage	Managers	Percentage
Agreed	55	79.7	57	93.4
Disagreed	1	1.5	-	-
I don't know	13	18.8	4	6.6
Total	69	100	61	100

Source: Questionnaire Administered (2008)

From above table, 79.7% and 93.4% each of accountants and managers agreed that environmental accounting and reporting is feasible and practicable in Nigeria, only 1.5% of accountants and managers choose I don't know.

This shows that environmental accounting and reporting is feasible in Nigeria as the result above indicated a larger percent of the respondents holds the belief.

Table 10: Nigeria companies are not showing interest to environmental Issues.

	RESPONDENTS			
Responses	Accountants	Percentage	Managers	Percentage
Agreed	20	29	10	16.4
Disagreed	22	63.8	50	82
I don't know	5	7.2	1	1.6
Total	69	100	61	100

Source: Questionnaire Administered (2008)

From table 7 above, 29% of accountants agreed that Nigerian companies are not showing interest to environmental issues, in the same vain 16.4% of managers also agreed, conversely 63.8% and 82% each of accountants and managers disagreed with the view that Nigerian companies are not showing interest to environmental issues or concern, while 7.2% and 1.6%, each of the respondents choose I don't know.

This indicates that Nigerian companies are already showing interest to environmental issues or disclosures evident from the respondents that agreed which have the highest percentages.

Questions to Accountants Only

Table 11: There should be a SAS on environmental issues

Responses	Number of respondents	Percentage
Agreed	60	87
Disagreed	2	2.9
I don't know	7	10.1
Total	69	100

Source: Questionnaire Administered (2008)

From table 8 above, 87% of the respondents agreed that there should be a Statements of Accounting Standards (SAS) on environmental issues, 2.9% of the respondents disagreed, while 10.1% of the respondents choose I don't know.

This shows that most accountant hold the view and believe that there is need for a SAS on environmental issues so as to guide environmental reporting and practice by Nigerian companies.

Table 12: Environmental Accounting should be taught to prospective Accountants

Responses	Number of respondents	Percentage
Agreed	55	79.8
Disagreed	7	10.1
I don't know	7	10.1
Total	69	100

Source: Questionnaire Administered (2008)

From the table above, 79.8% respondents agreed that environmental accounting should be taught to prospective accountants; while 10.1% each disagreed and chooses I don't know. On enquiry from the respondents, some believes that when environmental accounting is taught to prospective accountant in our tertiary institution (Universities and polytechnics), it will encourage reporting as awareness level is already high which will prompt disclosures as accountant are in charge of preparing and providing information to all stakeholders of an organisation.

This shows that environmental accounting should be taught to prospective accountants as larger percent of the respondents opined to that.

Table 13: Role of Accountants is Limited only to providing useful Information for decision-making.

Responses	Number of respondents	Percentage
Agreed	10	14.5
Disagreed	55	79.7
I don't know	4	5.8
Total	69	100

Source: Questionnaire Administered (2008)

From table 10 above, 14.5% of the respondents agreed that the role of accountants is limited to only providing useful information for decision making, 79.7% of the respondents disagreed with the view that the role of accountants is limited to only providing useful information for decision making, while 5.8% choose I don't know.

On further enquiry, those that disagreed are of the opinion that the role of accountants is beyond the provision of useful information for decision making only, this they consider as it traditional function, but accountants roles as move beyond that and it now recognizes the social relationship that exist between companies and people. They argue further that information provided by accountants should serve different stakeholders not the internal users and shareholders alone.

Questions to Managers Only

Table14: Management should contribute to company's environmental sensitivity.

Responses	Number of respondents	Percentage
Agreed	57	93.4
Disagreed	-	-
I don't know	4	6.6
Total	61	100

Source: Questionnaire Administered (2008)

From the table above, 93.4% of the respondents were of the opinion that management should contribute to company's environmental sensitivity; none of the respondents disagreed with the view, while 6.6% choose I don't know.

This shows that managers can contribute to environmental sensitivity of companies. This they can do by creating awareness to the shareholders in their annual meeting on the need and importance of environmental reporting and disclosures and it effect on the overall performance of the company.

Table 15: Company has social responsibility to voluntarily incure cost to protect the environment.

Responses	Number of respondents	Percentage
Agreed	53	86.9
Disagreed	3	4.9
I don't know	5	8.2
Total	61	100

Source: Questionnaire Administered (2008)

From table 15 above, 86.9% of the respondents agreed that company has social responsibility to voluntarily incure cost to protect the environment, 4.9% disagreed, while 8.2% of the respondents choose I don't know.

This indicates that company indeed has social responsibility to voluntarily incure cost to protect the environment, which it inhabits.

4.3 TEST OF HYPOTHESES

The measure of central tendency and dispersion were carried out, including mean, standard deviation (SD) coefficient of variation (CV), which is SD/Mean. The C.V was expressed in percentage to eliminate the variation due to unit difference in the responses of the mangers to Accountants.

The t-test value is calculated using the formula

$$t. = \frac{\overline{X}_1 - X_2}{\sqrt{\frac{S^2}{N_1} + \frac{S^2}{N_2}}}$$

This calculation has been done using SPSS computer package (see appendix 1c and 1d).

To derive the coefficient of variation (CV) we use the formular.

$$X^2 = \frac{\text{Std deviation}}{\text{Mean}} \quad x \quad \frac{100}{1}$$

Hypothesis one

H_o: It is not feasible to account for environmental activities in the financial statement of firms in Nigeria.

H_I: It is feasible to account for environmental activities in the financial statement of firms in Nigeria.

Hypothesis Two

H_o: Attitudes of managers and Accountants towards environmental reporting does not significantly affect environmental performance and reporting.

H_I: Attitudes of managers and Accountants towards environmental reporting significantly affect environmental performance and reporting.

To test hypothesis one table 6 will be used and the result of the mean, standard deviation and standard error calculated (appendix 1c and 1d) would be presented so as to decide on what hypothesis to be accepted or rejected.

Mean	=	4.9167
Standard Deviation	=	0.38142
Standard Error	=	0.04924
t- stat	=	28.770
t – table at 5% significance	=	2.00

$$\text{Co-efficient of variation } X^2 = \frac{\text{Std deviation}}{\text{Mean}} \times \frac{100}{1}$$

$$\frac{0.38142}{4.9167} \times \frac{100}{1}$$

$$X^2 = 7.76\%$$

DECISION RULE

Accept the null hypothesis, if the computed value of t, is less than the tabulated value of t, else accept the alternative hypothesis.

Therefore based on the above decision rule the t computed value = 28.770 is greater than the t- tabulated value = 2.00. We therefore reject the null hypothesis and accept the alternative hypothesis. Which state thus:

H_I: It is feasible to account for environmental activities in the financial statement of firms in Nigeria.

This result is also evident from analysis made to table 9, 10, 15, 4, 6 and table 7 were all the respondents support the view that there is indeed need for an environmental reporting in Nigeria.

Also the co-efficient of variation of 7.76% shows the significance of result and thus further strengthens the acceptance of the alternative hypothesis.

To test hypothesis two, table 4, 5, 6, and 4, 7, and 8 would be used for managers and Accountants respectively.

ACCOUNTANTS

Table	Mean	Std Deviation	Std Error	T. Stat	T. Table
1	4.8167	0.56723	0.07835	17.980	2.00
2	4.8333	0.52615	0.06793	19.629	2.00
3	4.8333	0.52615	0.06793	19.629	2.00

MANAGERS

Table	Mean	Std Deviation	Std Error	T. Stat	T. Table
1	4.9474	0.22528	0.2984	48.505	2.00
4	4.8750	0.46953	0.06274	21.915	2.00
5	4.9167	0.38142	0.04924	28.770	2.00

The co-efficient of variation will be calculated using the formular

$$X^2 = \frac{\text{Std deviation}}{\text{Mean}} \times \frac{100}{1}$$

ACCOUNTANTS

1. $\frac{0.56723}{4.8167} \times \frac{100}{1} = 11.78\%$

2. $\frac{0.52615}{4.8333} \times \frac{100}{1} = 10.89\%$

3. $\frac{0.52615}{4.8333} \times \frac{100}{1} = 10.89\%$

MANAGERS

1. $= \frac{0.22528}{4.9474} \times \frac{100}{1} = 4.55\%$

4. $= \frac{0.46953}{4.8750} \times \frac{100}{1} = 9.63\%$

1. $= \frac{0.38142}{4.9167} \times \frac{100}{1} = 7.76\%$

DECISION RULE

Accept the null hypothesis, if the computed value of t, is less than the tabulated value of t, else accept the alternative hypothesis.

Therefore, based on the above decision rule the t computed value of 17.980, 19.629, 19.629, 48.505, 21.915 and 28.770 are greater than the t- tabulated value of 2.00 each for all the tables. We therefore reject the null hypothesis and accept the alternative hypothesis which state thus;

H_1: Attitudes of managers and Accountants towards environmental reporting significantly affect environmental performance and reporting.

The co-efficient of variation of 11.78%, 10.89%, 10.89%, 4.55% 9.63% and 7.76% for accountants and managers also attest to the acceptance of the alternative hypothesis since in all situation it is significant evident from the percentages.

4.4 Feasibility of Environmental Accounting and Reporting

Accounting has transform itself from its traditional role of providing only useful information for a narrowly constructed notion of business decision (decision usefulness). Now, accounting reports do more than just transmit a set of numbers; they legitimize expectations exist that the one giving the account is attempting to satisfy the rights of various stakeholders.

There are emerging trends in social accounting- one is the fact that accounting profession is beginning to recognize the need for expanded corporate social and environmental reporting. It does not mean that corporations act out of altruism, but they are recognizing that they do indeed have duties to the society they inhabit.

Sequel to the theory of justice and fairness discussed in chapter two of this study the following could be deduced as to the feasibility of environmental accounting and reporting:

1. Environmental reporting is essential in order to satisfy accountability relationship and alter corporate consciousness. Social and environmental accounting ultimately calls for

corporation to give and provide reasons for their use of environment.

2. The environment is a higher order goods value of which managers of corporation need to preserve in order to satisfy the need of concerned users groups.

3. The concept of self-respect, closeness and transparency are fundamental transformation in accounting because they prompt us to ask whether organisation have complied with the minimum standards of law and on what basis do we want to revise the law. Accounting can perform this function by moving beyond decision usefulness frameworks, and by aiming to expose, enhance and develop a social relationship about the use of the environment by corporations.

Furthermore, in Nigeria the following could be deduced as regard feasibility of environmental accounting and reporting.

1. That given the attitude of managers and accountant it is feasible to account for environmental activities in annual reports.

2. That Nigerian firm is abreast of environmental reporting for examples.

1. **West African Portland cement Plc**, Annual reports of 2002 contain the followings

(a) As part of the chairman's report on page 3: ... management, therefore, decided to close down the old Ewekoro plant permanently as it became operationally unsafe and unprofitable to run. Following closure of old ewekoro plant in August 2002, the company had to provide for demolition and environmental remediation of the plant....

(b) As part of the exceptional items on the profit and loss account on page 8: "Provision for demolition and environmental remediation of Old Ewekoro plant N840 million."

2). **Cadbury Nigeria Plc Annual reports** 2003, contain the followings (in a separate report)

The environment

Cadbury Nigeria subscribes to the Cadbury Schweppes Global environmental policy. By this policy, we see sound and responsible environmental management as an integral part of achieving our goal and in the interest of all stakeholders, proactive management of the environmental issues associated with the supply of our raw material, our manufacturing processes and facilities, as well as the distribution, sale and consumption of our products is key in our approach to protecting the environment

As a matter of policy we shall:

a. Conduct out business in compliance with environmental laws and with our guidelines, which set standard for our operations.

b. Maintain system, to manage our environmental responsibilities.

c. Set clear targets for continuous improvement and monitor these targets to ensure compliance

d. Establish and enable employee accountability for environmental performance.

e. Strive to prevent pollution and to minimize the environmental costs and impact of our operations.

f. Asses the impact of new operations and products and identify ways to contribute positively to their environmental performance

g. Train and motivate our employees to understand their environmental responsibilities and to actively support our environmental programmes:

h. Work with our supply chain and business partners to improve our collective environmental performance to protect the ecosystems that provide our raw materials and to minimize the impact from transportation.

i. Review and update this policy regularly

In furthermore of this policy, we have embarked on a comprehensive programme to install the leading edge Hazard Analysis and critical control point mechanism to further enhance our manufacturing process, and enable us to serve the under international markets without hindrance.

Energy conservation, Emissions and effluent management

The factory operation continues to run 100% on our own power station, and have been so far over 35 years. This raises significant issues about energy management, and emissions. Some key installations are now fuelled by natural gas, thus improving standards of energy efficiency, and quality of emissions. Planning work is at an advanced stage to improve the recycling of heat energy generated from the power plant, with the deployment of modern technology in tri-generation.

We have commenced the last phase of the replacement of refrigeration plant that run on refrigerant based on chlorofluorocarbon, CFC, material with the installation of the second 300T Absorption chiller, and the final installations due in a few months. At the conclusion of this project in 2006, our manufacturing facility will be free of CFC-based refrigerants completely, well ahead of the 2010 deadline set by the Montreal protocol.

We have also taken conclusive steps to ensure that our electrical installations, especially oil-cooled power transformers, capacitors and high power meters confirm to international standards with regard to polychlorinated Biphenyl (PCB)

Our efficient plant remains a reference point in the manufacturing industry, ensuring that all discharges meet the standards stipulated by the environmental protection authorities" (Cadbury Annual Report 2003 PP 30-32).

3. Ashaka Cement Plc Nigeria

Environmental policy

Ashaka cement Plc Nigeria is a leading cement manufacturer in Nigeria and part of the Lafarge Group, the World's No. 1 manufacturer of cement and other building materials.

We believe that Ashaka Cement will only succeed in the long term if our actions respect the common interest. We must comply with relevant laws, conduct our businesses in a way that is consistent with the principle of sustainable development and take into account the views and opinions of our stakeholders. We are committed to protection of the environment, human health and well being, mitigation of climate change and conservation of nature. We aim to achieve continual improvement in our environmental performance, use energy and natural resources more efficiently and minimize waste, harmful air emissions and water discharges while seeking ways to preserve heritage, landscape and biological diversity.

In order to implement this policy, Ashaka Cement Plc commits to:

Operations:

a. Operate our facilities in a manner that meets local laws, standards and regulations

b. Introduce formalized environmental management systems and obtain certification to international standard ISO 14001 at our manufacturing site by 2005.

c. Minimize the exposure of our employees and the communities we work in to environmental, health and safety risks by employing safe technologies and operating procedures.

d. Minimize the use of non-renewable resources and where feasible and safe, replace them with alternative raw materials and fuels.

e. Reduce emissions to atmosphere wherever practicable

f. Minimize water usage and discharges

g. Minimize the amount of hazardous and other waste we generate, reuse and recycle materials where feasible and dispose of waste using safe and responsible methods

h. Implement programmes to prevent accidental releases; have emergency response procedures in place.

i. Maintain high standard of "housekeeping" and appearance at our sites.

j. Develop rehabilitation plans for quarry sites that respond to the needs and expectations of our stakeholders, and where feasible, foster wildlife habitat creation and biological diversity

k. Set targets against key performance indicators to assist achievement of the above objective

l. Conduct regular environmental audits to monitor progress.

4. West African Portland cement Plc (WAPCO)

Environmental Policy

West African Portland Cement PLC (WAPCO) is a leading cement manufacturer in Nigeria and is part of the Lafarge Group, the world's no I manufacturer of cement and other building materials.

We believe that WAPCO will only succeed in the long term if our actions respect the common interest. We must comply with relevant laws, conduct our businesses in a way that is consistent with the principle of sustainable development and to take into account the views and opinions of our stakeholders. We are committed to protection of the environment, human health and well being, mitigation of climate change and conservation of nature. We aim to achieve continual improvement in our environment performance, use energy and natural resources more efficiently and minimize waste, harmful air emissions and water discharges while seeking ways to preserve heritage, landscape and biological diversity.

In order to implement this policy, WAPCO commits to:

Operations

Operate our facilities in a manner that meets local laws, standards and regulations.

Introduce formalized environmental management systems and obtain certification to International Standard ISO 14001 at manufacturing sites by 2004.

Minimize the exposure of our employees and the communities we work in to environmental, health and safety risks by employing safe technologies and operating procedures.

Minimize the use of non-renewable resources, where feasible and safe, replace them with alternative raw materials and fuels.

Reduce emissions to atmosphere wherever practicable.

Minimize the amount of hazardous and other wastes we generate, reuse and recycle materials where feasible and dispose of waste using safe and responsible methods.

Minimize water usage and discharges.

Implement programmes to prevent accidental releases; have emergency response procedures in place.

Maintain high standards of "housekeeping" and appearance at all sites.

Develop rehabilitation plans for quarry sites that respond to the needs and expectations of our stakeholders and, where feasible, foster wildlife habitat creation and biological diversity.

Set targets against key performance indicators to assist achievement of the above objectives.

Conduct regular environmental audits to monitor progress.

Greenfield Site Development and Major Modifications

Carry out an environmental impact study when selecting Greenfield sites for development or planning major modifications at existing sites.

Design and build new facilities so that they will meet local laws, standards and regulations as well as Lafarge's worldwide environmental standards.

Resources

Provide adequate financial and human resources, employee training and awareness raising to facilitate continual improvement in environmental performance.

Take the necessary steps, including use of Lafarge Group data bases and networks, to improve our knowledge of the environmental impacts of our processes and products.

Procurement

Evaluate the environmental values and policies of candidate suppliers and contractors.

Require our suppliers and contractors to respect our environmental values and comply with our policies and procedures when on our premises.

Product Stewardship

Implement principles of sustainable development and products sustainable construction, minimize their impact on human health and the environment and limit the amount of wastes generated and disposal of.

Stakeholder relations

Hold ourselves accountable to our stakeholders for our actions.

Provide our stakeholders with environmental information about our operations and products, solicit their feedback and encourage open dialogue.

Co-operate pro-actively with legislators and regulators to evaluate the feasibility, impact, and cost/benefit of proposed laws, regulations and standards.

Make this Environmental Policy publicly available.

5. Nestle Nigeria Plc

Nestle environmental progress report 2005

NESTLE

In pursuit of its commitment to environmentally sound business practices, "Nestle Environmental Management System (NEMS)", which provides a common, coherent framework for environmental management at all levels of the organization.

The Nestle Environmental Management System is aligned with the ISO 14001 international standard and is mandatory for all Nestle operating companies and plants worldwide.

To consolidate data, benchmark best practices and allow internal and external reporting, a system was established that defined standardized environmental performance indicators (EPIs) across the company. The EPIs cover manufacturing operations.

To determine environmental performance, both the process inputs and outs are measured. This is based on the concept of eco-efficiency as defined in 1992 by the World Business Council on sustainable Development, WBCSD in their document *Measuring eco-efficiency a guide to reporting company performance*.

The Methodology used to identify, track and report the indicators is also consistent with ISO 14031. The EPIs include: water and energy consumption, green house gases, air acidification potential, ozone depleting substances, emissions as well as by-products/waste generation and waste recovery.

Nestle Nigeria Consolidated (EPI's) per tonne of product

		2003	2004	2005
Water Consumption	m^3	9.3	8.98	7.21
Energy Consumption	Gigajoules	8.834	9.001	7.21
Greenhouse gases	kg CO_2	481	489	299
Air acidification potential	kg SO, equiv.	0.44	0.4	0.00041
Ozone depleting substance	g R-11 equiv.	0.0043	0.0038	0.00041
By-products/waste generation	kg	49.6	47.6	54.4
By-product/waste recovery	%	68	71	69

<u>NOTE</u>

Water Consumption

Water is a key resource for Nestle and one of its three focus areas. Water is used in many ways: as an ingredient, for industrial processes, for cleaning, as a finished product and for the presentation of products by consumers. In its factories, Nestle has put in place important provisions for water reduction, water reuse and water recycling. The objective is to use as little water as necessary to make products and, thus, improve the water use efficiency. (Water use in the Factory for production excludes water use for the production of Nestle table water – Nestle PURE LIFE).

Energy Consumption

Reducing the amount of energy needed and, therefore, the amount of energy consumed during manufacturing, is a critical element in the management of energy resources. Yearly, Nestle Nigeria sets specific energy conservation and reduction targets. In 2005, a ten percent energy reduction target was set.

Greenhouse gases

These have been defined as the sum of all on-site CO_2 emissions from combustion processes used to manufacture Nestle products.

Air acidification potential

This has been defined as the sum of SO_x and NO_x emissions from on-site combustion processes. In the absence of generally agreed factors, measurements are based upon the acidic strength of each component ($SO_x = 0.7 \times NO_x$) presented as SO_x equivalents.

Ozone depleting substances

Many of Nestle manufacturing processes are dependent on refrigeration and air conditioning. Not only do these processes use energy, but they also require refrigerants. For many years, chlorofluorocarbons (CFC) were considered to be among the safest types of refrigerants.

However, CFCs, halons, and to a lesser extent, similar substances like hydro-chlorofluorocarbons (HCFCs), have since been shown to contribute to depleting the stratospheric ozone layer. In accordance with the Montreal Protocol (1987) the use of CFCs and HCFCs is regulated in Nestle Nigeria and the phase out schedule for both substances is being respected.

By-products/waste generation

The production of unwanted or unusable materials during manufacturing is inevitable. For example, with most agricultural raw materials, one part of the food processing operation involves separating the usable part that goes into the final food product from the unusable part, the by-products or waste. Waste can also be produced during the cleaning of equipment, as scraps from packaging operations, etc. As part of our commitment to environmentally sound business practices, opportunities for waste reduction are constantly explored.

6. ETERNAL OIL

Hsse policy

In order to create a sustainable business that will compete on global scale and meet expectations of our international partners, we have enshrined HSSE policies that are benchmarked to Global standard. We observe strict HSSE philosophy and mandate it on all personnel of the Company as well as third parties working with the Company. We have zero tolerance for HSSE defects in our operations and business environments to safeguard our employees, customers and third party employees.

To minimize the damage to the environment through our activities, we have laid down strict environmental policy in the way and manner we carry on our business. These are embodied in our designs for plants and petrol stations. New technologies are being adopted and introduced into our facilities to enhance security, prevent fire, leakages, spillage and vapourization of fuel products. We are also continuously exploring modern and more effective waste disposal methods from our plaints and stations.

Plant Upgrade

Your company as you know has the most modern and environmentally friendly Lube Plant in Africa, designed and built with the assistance of our technical partners, BP Castrol. It is one of only two (2) plants licensed by Castrol to manufacture their products in Africa. To ensure that production, including quality processes and procedures are continuously improved upon to meet the world class Castrol standards, facilities at the factory including the Laboratory have been upgraded to ensure that our products maintain their superior quality position in the industry.

7. NIGERIAN BREWERIES PLC

Environmental Policy

This policy statement serves to demonstrate our responsibility to the environmental and the pursuit of world-class vision in all aspects of our operations. We strive to comply with all current and future environmental laws and regulations, continuously improving the effectiveness and efficiency of our operations. In order to meet this commitment, we are guided by the following regulations:

a. Compliance with relevant state and Federal laws and regulations;
b. Use of available knowledge and technology to prevent or continue to reduce pollution and seek savings in water and energy consumption in a cost effective manner.
c. Development of cost effective strategies to ensure that residues/by-products generated in our operations are collected and processed in a manner suitable for recycling and/or disposal with the least possible impact on the environment;
d. Assessment of the potential environmental impact of new products, processes and major projects before introduction;
e. Encouragement of the necessary awareness among our employees on environmental issues and thus engender active involvement in maintaining a clean and working environment and to act in an environmentally responsible way.
f. Promotion of environmental sustainability by regular dialogue with our immediate communities and the regulating authorities on how to improve on environmental care:

g. Publication of this policy, environmental objectives and targets in an annual environmental report, which will be issued during 2007.

h. The actual implementation of this policy rests with branches of the company with support of all employees. It is the executive committee's responsibility to ensure that it is understood and applied by employees at all levels of the company.

By and large, from the data gathered and analysis made it is evident that environmental accounting and reporting is feasible in Nigeria, as the result of the study indicates a substantial increase in environmental disclosures by Nigeria quoted firm over the study period..

4.4.1 Implication for not reporting environmental accounting

The followings are given by the respondent as possible implications for company that do not take into cognizance environmental matters in their operations as well as reporting it in their financial statements.

1) Negative image
2) Fine/Penalty
3) Outright closure by government agencies
4) Loss of goodwill

5) Hostility from the host community

6) Litigations

7) Production loss

8) Decrease in income

9) Ethical investors might divest from such companies.

4.4.2 Problem in reporting environmental matters

1. Lack of proper guidance on how to report environmental matters.

2. Problem of valuation of investment in environmental issues.

3. Problems of quantifying the effect of operations on the environment.

4. Problem of accurate estimation of the amount of provision to be made in the financial statements.

5. It is additional burden (cost) to the reporting entities.

4.5 DISCUSSION OF FINDINGS

From the Responses gathered from the field, analysis made and hypothesis tested. We found that environmental accounting and reporting is feasible and practicable in Nigeria. The result of the study indicates a substantial increase in environmental disclosures in annual report by quoted firms in Nigeria. There is a general upward trend in environmental disclosures over the study periods for example the number of disclosures increase from 37-93 from 2002 – 2006.

Also, we found that majority of the disclosures were in the non-statutory section of company reports, i.e. they are mostly reported outside the main account. The disclosures in statutory section were very minimal.

The study further revealed that the attitude of both managers and accountants towards environmental reporting as significantly affects environmental performance and reporting. Thus there are tendencies that disclosures of environmental information by companies in the nearest future will become a general practice.

From the analysis we also found that most of the reports are qualitative in nature and not quantitative. Presently, more than 95% of the reports within the study periods are qualitative. Another findings of the study were that the disclosure are selective and tends to emphasize favorable environmental performance mainly so as to promote the company image (i.e. self laudatory). This is the practice in most of the world it also tallies with finding of most researchers on environmental accounting.

The study reveled that both managers and accountants believes that stakeholders have right to environmental information. This includes potential and existing stakeholders. From literature, it was discovered that ethical investors might divert from company that do not report environmental matters. The respondents corroborated this position. Pressure from environmentalist is on the increase day - in - day – out in not too distant future most firms who do not report environmental issues might be in bad book of the public.

Furthermore, larger percent of the respondents agreed that companies will benefit from environmental disclosures and at the same time it will have a better image if it discloses environmental information. Both accountants and managers attest to this fact. And also most of the respondents opined to the fact that in the near future it will be a general practice.

From the analysis the study reveled that both accountants and mangers should contribute towards environmental matters. Managers have to show greater commitment to environmental matters so as to address this fundamental issue. Also accountants as the engine room of the organisation there role is not limited only to providing useful information for decision making rather they have duties not only to the company but to various stakeholders.

The study revealed some of the problem that a firm that wanted to report environmental matters might encounter and it includes valuation, guidance and additional cost of operation.

The study also revealed that accountants opined to the importance of teaching environmental accounting in our higher institution of learning as does in other part of the world, also a SAS should be produce on environmental accounting and reporting

Lastly, the study reveals that company has social responsibility to voluntarily incure costs to protect the environment. By this, the respondents are of the view that as a good corporate citizen, firms should ordinarily invest in the environment, which they operate. However, this seems to be at variance with current situation in most of the firms.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY

The research work centered on investigation into the feasibility of environmental accounting (and reporting) in financial statements of Nigerian firms. Corporate managers make decisions and act in the present usually guided by their experience and the information available to them about the past. As the future is uncertain, managers need access to all the relevant information they can obtain about alternative courses of action available to them.

However, there exist other decision makers who also need to make decision for various reasons. As far as economic activities are concerned accounting information is still the most reliable means of making decision.

In recent years, social and environmental accounting has attracted attention from different stakeholders. Elsewhere around the globe (Europe and America, most especially), environmental issues has taken the central stage. In most cases "green accounting" has become a major consideration in investment decision.

Given the universality of accounting and the central role accounting information plays in decision making, the main concern is that decision made based on financial statement that do not report environmental issues might be a decision made without complete and adequate information.

The main objective of this study was to assess the feasibility of accounting for environmental activities in financial statement of Nigerian firms. Other objectives are: to investigate companies environmental performance and disclosure; to identify appropriate segment for reporting environmental activities in financial statement in Nigerian firms, also to find out implication(s) if any, of Nigerian firms not taken into cognizance environmental matters and finally to identify problem(s) associated with environmental accounting and reporting in company annual reports.

Relevant literatures were reviewed. These include historical background of environmental accounting, the concept of environmental accounting, environmental management and auditing, disclosure of environmental activity in financial statements and researches on environmental accounting and reporting.

Data were collected from primary and secondary sources. Primary data were sourced through questionnaire. Secondary data, on the other hand, were sourced from annual reports, journals, textbooks and other relevant materials. Such data were analysed using tables, simple percentages and student t-test was used to test the hypotheses.

The study found out that the attitudes of managers and professional accountants towards environmental accounting and reporting significantly affect environmental performance and reporting. Also, that environmental accounting is feasible and practicable in annual reports of Nigerian Firms.

5.2 LIMITATIONS OF THE STUDY

This research work arguably is a strange topic as far as accounting discipline is concerned in most parts of the world. Even in the developed world, it is seen as a challenge to the capitalist system of win-win scenario. It is on this note that this researcher carries out his research work. In addition to the aforementioned, the researcher encountered the following limitations.

(a) **Literature:** As far as this topic is concerned bulks of the material for literature review are source from abroad. Payment for these materials was a great problem. It took this researcher close to one year to get the money across due to the cumbersome process of getting money across to overseas. Also' the cost of transfer doubled the cost of material to be purchased.

(b) **Resources:** Undoubtedly, a research of this nature requires enormous fund and time. These were not fully at the disposal of the researcher.

(c) **Data Collection:** Though questionnaire and annual reports were used, the topic being an unconventional one required in most cases personal visit to the respondents which are scattered all over the country.

Inspite of the limitations enumerated above, the researcher is of the view that the areas covered by this study are sufficient enough to draw valid conclusions. It is hope that subsequent studies will overcome some or all of the aforementioned limitations.

5.3 CONCLUSION

To effectively draw the conclusion on environmental accounting, the researcher hereby put forwards Hicks (1946) theory of capital maintenance "The purpose of income calculations in practical affairs is to give people an indication of the amount which they can consume without impoverishing themselves".

This can be applied to the environment as if we continue to consume the environment we will impoverish, perhaps not ourselves, but certainly future generations.

Economic activity affects the environment as natural resources are depleted or polluted through for example usage, the effects of global warming and acid rain. There is need to move forward, to ensure natural resources (wealth) – the environment – is maintained – as in theory of capital maintenance – and therefore a system of stewardship and maintenance of this natural wealth is a necessity.

Reporting in respect of stewardship and maintenance of assets is the accountants' domain; and considering the statement of principles produced by the ASB (1975) that they define the objectives of financial statements to be to provide information about the financial position, performance and adaptability of an enterprise for assessing the stewardship of management and for making economic decisions. In the view of many, financial statements need to incorporate the issue of environmental reporting to meet this objective. Although this will not be an easy task, however in the word of Dave Owen in Alexander and Briton (1999): "Accountants through their training are ideally placed to play a leading role in environmental reporting".

In this vein, this study is an investigation into the feasibility of environmental accounting and reporting. In particular the study verifies the attitudes of managers and professional accountants towards environmental accounting and reporting.

Based on the objectives of the study, position of our hypotheses, findings of the study and given the attitudes of managers and professional accountants towards environmental accounting and reporting, it is concluded that it is feasible to report environmental issues in annual reports of Nigerian firms.

5.4 RECOMMENDATIONS

The researcher hereby put forward, based on the findings and conclusion of the study the following recommendations.

1) Since it is feasible and practicable to account for environmental activities in the financial statement, government should intensify their efforts towards harmonization of relevant regulations on environmental matters. Specifically, they should come out with a blue print on environmental protection, which should include disclosure of environmental activities of firms in annual reports.

2) Government and Professional Accounting Bodies should organized Conferences, seminars and workshops to sensitize companies on the need to disclose environmental report both in the statutory and non statutory section of their account; this would increase companies' awareness on the need to protect their environment.

3) Also, the study reveals that the managers and accountant attitudes towards environmental accounting and reporting significantly affects environmental performance and reporting. We hereby recommend that strong laws should be enacted to

punish any company who refuses to disclose environmental information.

4) Government in conjunction with Professional accounting bodies, NASB, University authorities should encourage quantitative reporting in the financial statement of companies. This could be done by given an award or merit to companies who have quantitative reports.

5) Voluntary disclosure of environmental activities should be encouraged. Government could create an award programme (merit award) to reward those companies who disclosed their environmental involvement.

6) Professional bodies such as ICAN, ANAN, NIM should partner government on environmental crisis. Government alone cannot achieve the necessary foundation needed to achieve a coherent movement on environmental matters. Given the exposure of these bodies, we believe that with their active participation, environmental crisis will be abated in the foreseeable future.

7) Accountant Education: In most countries today, environmental accounting is taught to prospective accountant. We hereby recommend that the same thing should be introduced in our higher institutions.

8) NASB and Professional accounting bodies should produce a statement of Accounting Standards (SAS) on environmental matters, which will provide a standard format for environmental performance and disclosure. This will lead to coming up with a standardize format of reporting.

9) From literature there is gap between research findings and the users of such findings. We recommend that more effort should be made to harmonize theory and practice.

5.5 AREAS FOR FURTHER RESEARCH

Environmental accounting is a virgin topic, which comprises.

a) Management accounting, environmental management and auditing.

b) Environmental issues and financial statements.

c) Environmental reporting.

d) Social accounting and reporting.

e) Accountants and accounting education.

f) Sustainability and sustainability reporting.

All the above are potential areas of research, which is worth looking into by accounting researchers.

Also, disclosure by Multinational Corporation in Nigeria can be investigated to allow comparism in disclosure with their home countries. In addition, country-by-country disclosure level can be researched into.

Bibliography

Abbet, W. F. and R. J. Monsen (1979). On the Measurement of Corporate Social Responsibility: self: - reported disclosures as a method of measuring social involvement. Academic Manager Journal. 22 (3).

Accounting Standards Committee (1975). The Corporate Report ICAEW: London.

Ackerman, R. (1973). How Companies Respond to social Demands, Harvard Business Reviews, July (Aug).

Alexander, D. and A. Britton (1999). Financial Reporting. 5th Edition International Thomson Business press. London.

Ashanti Goldfields Ltd. (1994) Ghanaian Fixed Price Offer, Greenways, England.

Akuezuilo, E. O. (1993). Research Methodology and Statistics. Awka Nuel Centi Nig Publishers, Aba.

Anao, A. R. (1985). Issues in Corporate Reporting in Nigeria, paper presented at the Continuing Professional Education (CPE) seminar organized by the Institute of Chartered Accountants of Nigeria, ICAN News. April. Pg 14

Asika, N. (2003). Research Methodology in the Behavioral Sciences. Longman Nigeria Plc. Lagos.

Bartolomeo, M. (1997). The Italian method of Environmental Accounting. Greener Management International issue 17 spring p 107-111.

Baylis, R., Bell, L.C., and Flynn, A. (1998). Company Size, Environmental Regulation and Ecological Modernization: Further Analysis at the Level of the Firm Business Strategy and the Environment 7(5) PP 285-296.

Beder, S. (1996). The Nature of Sustainable Development, 2nd Edition, Scribe publishers, Australia.

Beder, S. (1997). Global Spin: The corporate Assault on environment, London Green Borks.

Beets, S.D. and C. C Southern (1999). Corporate Environmental Reports: The Need for Standards and an Environmental Assurance service, Accounting Horizons B (2) June PP129-145.

Belal, A. R. (2000). Environmental Reporting in Developing Countries: Empirical evidence from Bangladesh Eco – Management and Auditing Vol 7 PP114-121.

Belkaoui, A. and P. Karpik (1989). Determinants of the Corporate Decision to Disclose Social Information, Auditing Accounting journal 2 (1).

Bennett, M., and P. James (1998a). The Green Bottom line in M. Bennelt and P. James (Eds), The Green Bottom Line. Environmental Accounting for Management: Current practice and future Trends Green leaf publishing UK.

Bowman, E. H. and M. Haire (1975). A strategic posture toward Corporate social responsibility Management Review 18 (2).

Bull, R. J. (1976). Accounting in business, Butter Worths. London

Canadian Institute of Chartered Accountants (1994). The Audit of Financial Statements affected by Environmental Matters, CICA, Toronto.

CBI (Confederation of British Industry) (1990). Narrowing the Gap: Environmental Auditing Guidelines for Business CBI, London.

Chambers, R.J. (1999). 'The case for simplicity in Accounting' Abacus 35 (2).

Chambers, R.J. (1966). Accounting, Evaluation and Economic Behaviour Scholars Book, Houston Texas.

Choi, J.S. (1999). An Investigation of the Initial Voluntary Environmental Disclosures made in Korean Semi – Annual Reports Pacific Accounting Review 11(1) July 1999 PP 73-102.

Collison, D.J. (1996). The Response of Statutory Financial Auditors in the UK to Environmental Issues: A descriptive and explanatory case study. British Accounting Review 28(4) December PP 325-349.

Collison, D. J. and R.H. Gray (1997). Auditor's Response to Emerging Issues: A UK perspective on the statutory financial auditor and the environment international journal of Auditing 1(2) March PP 135-149.

Deegan, C. and B. Gordon (1996). A study of Environmental Disclosure practices of Australian corporations. Accounting and Business research 26(3) – Summer PP 187-199.

De Villier, C. J. (1999). The Decision by Management to disclose Environmental Information: A research note based on interviews: Meditori Accounting Research vol, 7, PP33-48.

Disu A. and Rob Gray (1998). An exploration of Social Reporting and MNCS in Nigeria. Social and Environmental Accounting, vol 18, No 2. Sept

Dyllick, T. (1989). Management de umwelybeziehurgen: offent liche Ausciandersetzung als Herausforderung in schaltegar S. and Roger Burritt (2000). Contemporary Environmental Accounting. Green leaf publishing, Sheffield UK.

Economist (1997. Environmental Scares: plenty of Gloom 20 December 21 – 23.

EPA (US Environmental protection Agency) (1988). Toxic Release Inventory. Public Data Release Report EPA US.

Ernst and Ernst (1972-78. Social Responsibility Disclosure Surveys. Ernst and Ernst, Cleveland, OH.

Fekrat, M.A., Inclari C., and petroni D. (1996). Corporate Environmental Disclosures: Competitive Disclosure Hypothesis using 1991 Annual Report Data International Journal of Accounting 31(2) PP 175-195.

Freeman, E. (1984). Strategic Management: A stakeholder Approach (Marshfield) M.A. Pitman.

Fry, F. and R. J. Hock (1976). Who claims Corporate responsibility? The biggest and the Worst. Business, Social Review/innovation 18 (3).

Gamble, G. O., H. Kathy, J. Cynthia and T. Cynthia (1996). Environmental Disclosures in Annual Reports: An International Perspective, The International Journal of Accounting 31(3) pp 293-331.

Glautier M. W. E. and Under Down B. (1997). Accounting Theory and Practice, Pitman Publishing

Gray, R. H. (1983). "Accounting, Financial Reporting and not for profit organisation" AUTA Review vol. 15 No. 1 PP 2.23.

Gray, R. (1992). Accounting and Environmentalism: An Exploration of the Challenge of Gently Accounting for Accountability, Transparency and Sustainability. Accounting Organizations and Society 17(5).

Gray, R. and J. Bebbington (2001). Accounting for the Environment, Sage. London.

Gray, R. H. and J. Bebbington and D. Walters (1993). Accounting for the Environment ACCA, London.

Gray, R. H., K. J. Bebbington, D. J. Collison, R. Kouhy, B. Lyon, C. Reid, A. Russel and L. Stevenson (1998). The Valuation of Assets and Liabilities: Environmental Law and the Impact of the Environmental Agenda for Business CAS Edinburgh.

Gray, R. H., D. L. Owen and K. T. Maunders (1987). Corporate Social Reporting: Accounting and Accountability, Prentice Hall. London.

Grojer, J. E. and A Stark (1977). Social Accounting a Swedish Attempt, Accounting, Organization and Society 2 (4).

Hackston, D. and Markus, Milne (1996) Some Determinants of Social and Environmental Disclosure in New Zealand, Accounting, Auditing and Accountability Journal 9 (1) pp 77-108.

Hires, R (1991). On Valuing Nature, Accounting, Auditing and Accountability Journal 4 (3).

Horngren, C. T. and G. Foster (1987). Cost Accounting: A Managerial Emphasis, Prentice Hall International.

Horngen, C and G. Foster and S. M. Dater (2000). Cost Accounting: A Managerial Emphasis, 6th ed. Prentice Hall.

Hines, R.D. (1988 Financial Accounting: In Communicating Reality, We Construct Reality, Accounting, Organizations and Society, Vol. 13 No.3, pp. 251-261.

IFAC (International Federation of Accountants) (1998). Environmental Management in Organizations: The Role of Management Accounting Study 6, IFAC New York March.

IISD (International Institute for Sustainable Development) (1998). Beyond Regulation: Exporters and Voluntary Environmental Measures IISD. Winnipeg.

Jaggi, B. and R. Zhao (1996) Environmental performance and Reporting: Perceptions of Managers and Accounting Professionals in Hong Kong. International Journal of Accounting 31 (3) pp 333-346.

Kant, I., (1949). Groundwork on the metaphysics of Morals (originally the Moral Law). Trans H. J. Paton (London: Hutchinson).

Kolk, A. (1999). Evaluating Corporate Environmental Reporting Business Strategy and the Environment 8(4) July/August pp 225-237.

Laughlin, R. C., (1990). "A model of financial Accountability and the Church of England", Financial Accountability and Management, Vol. 6, No. 2, pp. 93 - 114

Lehman .G, (1995) A legitimate concern for environmental Accounting critical perspectives on accounting 6 pp 393 – 412.

Lickiss, M. (1991). Measuring up to the Environmental Challenge Accountancy January, pg 6.

Lober, D. J., D., Bynum, E. Cambell and M. Jaques (1997). The 100 plus Corporate Environmental Report Study: a Survey of an Evolving Management Tool. Business Strategy and the Environment 6 (2) May pp 57-73.

Lodhia, S. (2003). Accountants Responses to the Environmental Agenda in a Developing Nation: An Initial and Exploratory Study on Fiji Critical perspectives on Accounting 14 (7) October pp 715-738.

Mathews, M. R. (1993). Socially Responsible Accounting, Chapman and Hall, London.

Mathews, M.R. (1997) Twenty five years of Social and Environmental Accounting Research: Is there a Silver Jubilee to Celebrate? Accounting, Auditing & Accountability Journal 10 (4).

Mathews, M. R. and M. H. B. Perera (1995.) Accounting Theory and Development, 3rd Edition Thomas Australia.

Marla, M. R. and Taxing, O. (2000). Accounting History: An illustrated overview of Accounting from 3500 BC to the present. www.acaus. Org/history/

Maunders, K., and R. L. Burrit (1991). Accounting and Ecological Crisis, Accounting, Auditing and Accountability Journal 4 (3).

Millichamp, A. H. (2002). Auditing, 8th Edition Continuum London.

Millichamp, A. H. (1996). Auditing, 7th Edition Continuum London.

Millstone, S. and F. B. Watts (1992). Effect of the Green Movement on Business in the 1990s in T. F. P. Sullivan Maryland (eds): The Greening of American Business; Making Bottom Line Sense of Environmental Responsibility, Government Institutes, Inc., pp 1-21.

Millichamp A. H. (2002). Auditing ELST with continuation. London.

Moneya, B. L. Llena, O. (2000). Special issue on Social and Environmental Accounting European, Accounting Review 9(1) May.

Nelson, J.S., (1993). "Account and Acknowledge or Represent and control? On Post-Modern Politics and Economics of collective Responsibility", Accounting, Organisations and Society, Vol. 18, No. 2/3, pp. 207 – 229.

Ndagi, J. O. (1984). The Essential of Research Methodology for Nigerian Educators, University Press Limited. Ibadan.

Osuala, E. C. (2001). Introduction to Research Methodology, 3rd edition, Africana-Fep Publishers Limited. Onitsha.

Owojori, A. A. (2002). Managerial Research, 1st edition. Kaycee Publishers. Akure.

Pattern, D. (1992) Intra-Industry Environmental Disclosures in Response to the Alaskan Oil Spill: A note on Legitimacy Theory. Accounting Organization and Society 17 (5).

Pimm, D. (1990). Environmental Issues for the Auditors, Auditing Briefing 2 (1) pp 1-3.

Power, M. (1992). "After calculation? Reflections on critique of economic reason by Andre Gorz", Accounting, organisations and society, Vol. 17, No. 5 pp. 477 – 499.

Power, M. (1997). The Audit Society: Rituals of Verification. Oxford University Press, UK.

Preston, L. E. and J. E. Post (1975). Private Management and Public Policy. Englewood Cliffs, N.J. Prentice Hall.

Price Waterhouse (1994). Progress on the Environmental Challenge: A survey of Corporate Americas Environmental Accounting and Management. Price Waterhouse NY.

Price Waterhouse (1992). Accounting for Environmental Compliance: Crossroad for G.AAP, Engineering and Government No 2 Price Waterhouse NY.

Perera, M.B.H. (1989 Accounting in Developing Countries, A Case for Localised Uniformity, British Accounting Review, Vol. 21, pp. 141-157.

Perks, R. W. (1993) Accounting and Society, Chapman and Hall, London.

Rawls, J., (1971) A theory of justice oxford: Oxford University Press

Rob Gray and David Collison (2002). Can't see the wood for the trees, can't see the trees for the numbers? Accounting Education, Sustainability and the public interest.

Robert J. and Scapens, R., (1985). "Accountability systems and systems of Accountability – understanding Accounting Practices in their organizational context", Accounting, organisations and society, vol. 10, No. 4, pp. 443-456

Roberts J., (1991) The possibilities of Accounting "Accounting organisation and society" vol. 16 No 4 pp 355 – 368

Roberts, R. Y. (1993). Overview of Environmental Liability Disclosure Requirements, Recent Developments and Materiality. A paper presented to the American Bar Association 1993 Annual Meeting.

Samuels J. M. (1990). Accounting for Development: An Alternative Approach. Research Third World Accounting (1).

Suleiman, S. N. (1997). Statistics and Analytical Methods for Researchers, Nigerian Defence Academy Press, Kaduna.

Sarokin, D. and J. Schukin (1991). Environmental Concerns and the Business of Banking Journal of Commercial Bank lending February, pp 6-19.

Stead, E., Mc Kinney, M.M. and Stead J. G. (1998). Institution Alizing Environmental Performance in US industry: Is it happening and if it does not? 7 (5) November pp 285-296.

Sustainability and UNEP (United Nation Environment Programme) (1996). Engaging Stakeholders. I. The Bench Mark Survey: The Second International Progress Report on Company Environmental Reporting. Paris. UNEP., London: sustainability.

Tinker, T., (1985)., Paper Prophets: A social critique of Accoutning (Holt, Reinhart and Winston).

Tijjani, B. (2003). "Efficiency Assessment of Internal Audit in Nigerian universities": Cases of Bayero University Kano and University of Lagos, in Dandago, K. I. and Tanko A.I. (eds.), Background Issues to Ethics in Accounting, Proceedings of the First Annual Conference on Ethical Issues in Accounting, Vol 1. Department of Accounting, BUK.

The Guardian (1999). UN, Clinton Alert on Environmental Crisis. Thursday 16th September. p.3.

Tilt C. A (1997). Environmental Policies of Major companies Australian Evidence British Accounting Review 29 (4) pp 367-394.

Tilt C. A. and C. Hymes (1999). Environmental Disclosure by Australian Mining Companies: Environmental Conscience or Commercial Reality, Accounting Forum 23 (2). June 1999, pp 137-154.

United Nation's World Commission on Environment and Development (1987). Our common Future (The Brundtland Report). Oxford University Press.

UNEP (United Nations Environmental Programme) (1998). Voluntary Industry Codes of Conduct for the Environment UNEP Paris.

United Nations Centre for Transactional Corporations (1992). International Accounting and Reporting UNCTC, NY.

Wainman, D. (1991). Balancing Nature's Books CA Magazine, Toronto March.

Walden W. D. and B. N. Schwartz (1997). Environmental Disclosures and Public Policy Pressures, Journal of Accounting and public Policy 16 (1) pp 125-154.

Wenz, P., (1988). Environmental Justice (Albany State University of New York).

Williams, P. F. (1987). The legitimate concern with fairness accounting, organisations and society vol. 12 Bo2 pp 169 – 189.

Willson, J. Q., (1993). The Moral Sense (Free Press)

World Watch Institute (1995). State of the World, W. W. Morton New York.

Zimmerman, M. E (1994). Contesting Earth's Future: Radical Ecology and Postmodernity. London University of California Press.

APPENDIX 1a

QUESTIONNAIRE (ACCOUNTANTS)

SECTION A: please tick as appropriately.

Sex: Male [ ] Female [ ]

Marital Status: Single [ ] Married [ ] Others [ ]

Qualification: ACA [ ] FCA [ ]

Length of Serice: Below 10 years [ ] 10-20 years [ ] 20 years and above [ ]

Position: Less than a Manager [ ] Manager [ ]
Above a Manager [ ]

Section B: Please tick appropriately for the questions below

Key:

A - **Agreed** D - **Disagreed**

I - **I don't know**

QUESTIONS FOR ACCOUNTANTSS ONLY

S/N	ITEMS	A	D	I
i.	There should be a SAS on environmental issues.			
ii.	Environmental accounting should be taught to prospective accountants.			
iii.	Role of accountants is limited only to providing useful information for decision making.			

QUESTIONS FOR BOTH MANAGERS AND ACCOUNTANTS

S/N	ITEMS	A	D	I
i.	Stakeholders have the right to environmental information			
ii.	Companies will benefit from environmental disclosure.			
iii.	Government should require environmental disclosures by companies			
iv.	Disclosures of environmental information by companies will become a general practice in the near future.			
V	Companies will have a better image if it discloses environmental information.			
Vi	Environmental accounting and reporting is feasible and practicable in Nigeria.			
Vii	Nigerian companies are not showing interest to environmental issues.			

Section C: Kindly provide answer as appropriate.

1. Kindly state in your own words what probable implication(s) awaits firms that do not take into cognizance environmental matters in their operations, as well as reporting it in their financial statements.

1...

2...

2. What is (are) the likely problem(s) that might be encountered by companies in reporting environmental activities in annual reports?

1……………………………………………………………………………………….

2………………………………………………………………………………………

APPENDIX 1b

QUESTIONNAIRE (MANAGERS)

SECTION A: please tick as appropriately.

Sex: Male [ ] Female [ ]

Marital Status: Single [ ] Married [ ] Others [ ]

Qualification: Secondary [ ] OHD [ ] HND [ ] BSc [ ]

Length of Serice: Below 10 years [ ] 10-20 years [ ] 20 years and above [ ]

Position: Less than a Manager [ ] Manager [ ]
Above a Manager [ ]

Section B: Please tick appropriately for the questions below

Key:

A - Agreed

D - Disagreed

I - I don't know

QUESTIONS FOR MANAGERS ONLY

S/N	ITEMS	A	D	I
i.	Management should contributes to company's environmental sensitivity			
ii.	Companies have social responsibility to voluntarily incure cost to protect the environment.			

QUESTIONS FOR BOTH MANAGERS AND ACCOUNTANTS

S/N	ITEMS	A	D	I
i.	Stakeholders have the right to environmental information			
ii.	Companies will benefit from environmental disclosure.			
iii.	Government should require environmental disclosures by companies			
iv.	Disclosures of environmental information by companies will become a general practice in the near future.			
V	Companies will have a better image if it discloses environmental information.			
Vi	Environmental accounting and reporting is feasible and practicable in Nigeria.			
Vii	Nigerian companies are not showing interest to environmental issues.			

Section C: Kindly provide answer as appropriate.

1. Kindly state in your own words what probable implication(s) awaits firms that do not take into cognizance environmental matters in their operations, as well as reporting it in their financial statements.

i.……………………………………………………………………………………

ii.……………………………………………………………………………………

2. What is (are) the likely problem(s) that might be encountered by companies in reporting environmental activities in annual reports?

i.……………………………………………………………………………………

ii.……………………………………………………………………………………

: Mean score From Professional Accountants

	Mean	S.D	S.E	Co-efficient variation	t-stat	t-table	P
QUESTIONS FOR MANAGERS ONLY							
1. There should be a SAS on environmental issues	4.25	0.44	0.056	10.4	75.39	2.00	0.0001
2. Environmental accounting should be taught to prospective accountants	4.15	0.36	0.046	8.67	90.59	2.00	0.0001
3 Role of accountants is limited only to providing useful information for decision making	4.00	0.30	0.036	7.72	93.43	2.00	0.0001
QUESTIONS FOR BOTH MANAGERS AND ACCOUNTANTS							
4. Stakeholders have the right to environmental information	4.82	0.57	0.08	11.78	18.00	2.00	0.0001
7. Companies will benefit from environmental disclosure	4.83	0.53	0.068	10.89	19.63	2.00	0.0001
8. Government should require environment disclosure by companies	4.83	0.53	0.068	10.89	19.63	2.00	0.0001
10. Disclosure of environmental information by company will become general practice in the future	3.96	0.74	0.10	18.69	40.22	2.00	0.0001
11 Company will have a better image if it discloses environmental information	4.03	0.61	0.08	15.14	51.24	2.00	0.0001
12. Environmental accounting and reporting is feasible and practicable in Nigeria	4.92	0.38	0.049	7.76	28.77	2.00	0.0001
13. Nigeria companies are not showing interest to environmental issues	3.96	0.74	0.10	18.69	40.22	2.00	0.0001

note: S.D = standard deviation; S.E = standard error;

Source : Researcher's computation

Appendix 1d:Mean scores From Management Of Firms

	Mean	S.D	S.E	Co-efficient variation	t-stat	t-table	P
QUESTIONS FOR MANAGERS ONLY							
1. Management should contribute to Company's environmental sensitivity	4.25	0.44	0.056	10.4	75.39	2.00	0.0001
2. Company has social responsibility to Voluntarily incur cost to protect the environment	4.15	0.36	0.046	8.67	90.59	2.00	0.0001
QUESTIONS FOR BOTH MANAGERS AND ACCOUNTANTS							
4. Stakeholders have the right to environmental information	4.95	0.23	0.03	4.95	48.51	2.00	0.0001
7. Companies will benefit from environmental disclosure	4.88	0.47	0.063	4.88	21.92	2.00	0.0001
8. Government should require environment disclosure by companies	4.05	0.79	0.10	19.5	33.7	2.00	0.0001
10. Disclosure of environmental information by company will become general practice in the future	3.96	0.74	0.10	18.69	40.22	2.00	0.0001
11 Company will have a better image if it discloses environmental information	4.92	0.38	0.05	4.92	28.77	2.00	0.0001
12. Environmental accounting and reporting is feasible and practicable in Nigeria	4.92	0.38	0.049	7.76	28.77	2.00	0.0001
13. Nigeria companies are not showing interest to environmental issues	3.96	0.74	0.10	18.69	40.22	2.00	0.0001

note: S.D = standard deviation; S.E = standard error;
Source : Researcher's computation

APPENDIX 2a

POPULATION OF QUOTED FIRMS

SECTOR: AGRICULTURE

AFRI PRINT NIG PLC

ELLAH LAKES PLC

GROMMAC INDUSTRIES PLC

LIVESTOCK FEEDS PLC

OKITIPUPA OIL PALM PLC

PRESCO PLC

SECTOR: AUTOMOBILES AND TYRE

DUNLOP NIG PLC

INCAR NIG PLC

RIETZ NIG CO. PLC

R.T BRISCOE (NIG)

SECTOR: BREWERIES

CHAMPION BREWERIES PLC

INTERNATIONAL BREWERIES PLC

JOS INTERNATIONAL BREWERIES PLC

NIGERIAN BREWERIES PLC

PREMIER BREWERIES PLC

GUINNESS NIGERIA PLC

SECTOR: BUILDING MATERIALS

ASHAKA CEMENT PLC

BENUE CEMENT PLC

CEMENT OF NORTHERN NIG PLC

LAFARGE WAPCO PLC

SECTOR: CHEMICAL AND PAINTS

AFRICAN PAINTS NIG PLC

BARGER PAINTS PLC

DN MEYER PLC

HEMICAL & ALLIED PRODUCTS PLC

I.P.W.A PLC

NIGERIAN GERMAN CHEMICALS PLC

SECTOR: COMPUTER AND OFFICE EQUIPMENT

NCR (NIG) PLC

THOMAS WYATT . PLC

TRIPPLE GEE & CO. PLC

SECTOR: CONGLOMERATES

A.G. LEVENTIS (NIG) PLC

CHELLARAMS PLC

JOHN HOLT PLC

PETERZON ZOCHONIS INDUSTRIES PLC

SCOA NIG PLC

TRANSNATIONAL CORPORATION OF NIG PLC

UAC OF NIG PLC

UNIVIER NIG PLC

SECTOR: ENGINEERING TECHNOLOGY

CUTIX PLC

INTERLINKED TECHNOLOGIES PLC

NIGERIAN WIRE & CABLE PLC.

SECTOR: FOOD / BEVERAGES AND TOBACCO

7-UP BOTTLING COM PLC

BIG TREAT PLC

CADBURY NIG PLC

DANGOTE FLOUR MILLS PLC

DANGOTE SUGAR REFINERY PLC

FLOUR MILLS NIG PLC

NATIONAL SALT CO. NIG PLC

NIGERIAN BOTTLING CO. PLC

NESTLE NIG. PLC

NORTHERN NIG FLOUR MILLS PLC

UNION DICON SALT PLC

UTC NIG PLC

SECTOR: FOOTWEAR

FOOTWEAR & ACCESSORIES MAIN DISTRIBUTION PLC

LENNARDS NIG PLC

SECTOR: HEALTHCARE

ABOSELDEHYDE PLC

BCN PLC

CHRISTLIEB PLC

EKO CORP PLC

EVANS MEDICAL PLC

GLAXO SMITHKLINE CONSUMER NIG PLC

MAY & BAKER NIG PLC

MORISON INDUSTRIES PLC

NEHMETH INTERNATIONAL PHARMACEUTICAL PLC

PHARMA – DEKO PLC

SECTOR: INDUSTRIAL AND DOMESTIC PRODUCTS

ALUMINUM EXTRUSION INDUSTRIES PLC

ALUMACO PLC

B.O.C GASES NIG PLC

NIGERIAN ENAMEL WARE PLC

FIRST ALUMINUM NIG PLC

LIZ – OLOFIN & CO. PLC

NIGERIAN LAMPS INDUSTRIES PLC

OLUWA GLASS CO. PLC

VITA FOAM NIG PLC

VONO PRODUCT PLC

SECTOR: PACKAGING

AB PLAST PRODUCTS PLC

AVON CROWNCAPS & CONTAINERS PLC

BETA GLASS CO PLC

POLY PRODUCTS (NIG) PLC

GRIEF NIG PLC

WEST AFRICAN GLASS INDUSTRIES PLC

SECTOR: PETROLEUM (MARKETING)

TEXACO NIG PLC

AFROIL PLC

AFRICAN PETROLEUM PLC

CHEVRON OIL NIG PLC.

CONOIL PLC

ETERNAL OIL GLASS PLC

MOBIL OIL NIGERIA PLC

OANDO PLC

TOTAL PLC

SECTOR: PRINTING AND PUBLISHING

ACADEMY PRESS PLC

LONGMAN NIG PLC

UNIVERSITY PRESS PLC

SECTOR: TEXTILE

ABA TEXTILE MILL PLC

UNITED NIG TEXTILE PLC

Appendix 2b

Population of Auditing Firms

ICAN Members:

1. Abiodun Alabi & Co.
2. Akintola Williams Deloitte and Touche
3. Akinwale Beka & Co
4. Aminu Ibrahim & Co.
5. Awa Ibrahim & Co.
6. Balogun Badejo & Co.
7. Bello Muhammed Daku & Co.
8. Egunjobi Adegbite & Co.
9. Dele Dina & Co.
10. Price Water House Coopers.
11. Dele Otitoju & Co.
12. Osindero Oni & Lasebikan.
13. Iserhienrhien Sunny & Co.
14. Ijenere & Co.
15. Joseph Akintola Aribigbola & Co.
16. Jonathan Olubi & Co.
17. Maaji & Co.

18. Kunle Ladejubi & Co.

19. Micheal Oyedepo & Co.

20. Olaleye & Co.

21. Olusimbo Agunloye & Co.

22. Mu'Allhyidi & Co.

23. Otegbade, Imobhio & Co.

24. BDO, Oyediran Faleye Oke & Co.

25. Patrick Ukakwe & Co.

26. Muhtari Dangana & Co.

27. Sada Idris & Co.

28. S.S. Afemikhe & Co.

29. Yomi Shodipe & Co.

30. Pannel Kerr Forster & Co.

31. Z.O. Ososanya & Co.

32. Moses A. Ogidigo & Co.

33. Benson Gagar & Co.

34. Sulaiman & Co.

35. Ibrahim Awwalu & Co.

Source: ICAN Membership Yearbook 2004

ANAN Members

36. Nmepa Adejoh & Co.
37. Babatunde Obigbesan & Co.
38. Ayo Ishola & Co.
39. MacPhillips & Co.

Source: Field Survey 2008

Appendix 3a

SAMPLE OF QUOTED FIRMS

1. DUNLOP NIG PLC
2. R.T BRISCOE (NIG)
3. NIGERIAN BREWERIES PLC
4. ASHAKA CEMENT PLC
5. CEMENT OF NORTHERN NIG PLC
6. LAFARGE WAPCO PLC
7. BARGER PAINTS PLC
8. DN MEYER PLC
9. I.P.W.A PLC
10 THOMAS WYATT . PLC
11. JOHN HOLT PLC
12. PETERZON ZOCHONIS INDUSTRIES PLC
13 SCOA NIG PLC
14. UAC OF NIG PLC
15. UNILEVER NIG PLC
16. NIGERIAN WIRE & CABLE PLC.
17. CADBURY NIG PLC
18. FLOUR MILLS NIG PLC
19. NATIONAL SALT CO. NIG PLC
20. NIGERIAN BOTTLING CO. PLC

21. NESTLE NIG. PLC
22. NORTHERN NIG FLOUR MILLS PLC
23. UTC NIGERIA PLC
24. EVANS MEDICAL PLC
25. GLAXO SMITHKLINE CONSUMER NIG PLC
26. MAY & BAKER NIG PLC
27. MORISON INDUSTRIES PLC
28. NEHMETH INTERNATIONAL PHARMACEUTICAL PLC
29. PHARMA – DEKO PLC
30. B.O.C GASES NIG PLC
31. FIRST ALUMINUM NIG PLC
32. VITA FOAM NIG PLC
33 AVON CROWNCAPS & CONTAINERS PLC
34. TEXACO NIG PLC
35. CONOIL PLC
36. ETERNAL OIL GLASS PLC
37. TOTAL PLC

Appendix 3b

Sample of Audit Firms

1. Akintola Williams Deloitte and Touché
2. Balogun Badejo & Co.
3. Price Water House Coopers.
4. Ijewere & Co.
5. Kunle Ladejobi & Co.
6. Mu'allhyidi & Co.
7. Muhtari Dangana & Co.
8. Pannel Kerr Forster & Co.
9. Sulaiman & Co.
10. Ayo Ishola & Co.