

**The importance of environmental auditing in ensuring sustainable
development**
**L'importance de l'audit environnemental dans la garantie du développement
durable**

Dr. MEZIOUD brahim

MCA.Lecturer University of MEDEA. mezioud.2007@gmail.com

Received: 19/09/2018

Accepted: 17/10/2018

Published: 01/02/2019

Abstract

The increasing consciousness of environmental protection has fostered the development of environmental auditing. Within the globalized economy, environmental auditing is established as an essential mean for the management of environmental performance.

The objective of this study is to illustrate the important of environmental auditing as tool to ensure sustainable development. in the first part of this paper to give a general idea of Sustainable development, including definition, principle basic, gaols, approach and processes of environmental auditing. In the second part, deals with environmental audit definition, types and its benefits. The last parts focused on the process and tools of environmental audit.

keywords : Environmental Audit, Sustainable Development, Environmental Auditors

ملخص:

أدى زيادة الوعي بأهمية حماية البيئة الى تطور المراجعة البيئية، حيث في ظل العولمة الاقتصادية أصبحت المراجعة البيئية أداة أساسية لتحسين الأداء البيئي. ان هدف هذه الدراسة هو توضيح أهمية المراجعة البيئية كأداة لضمان التنمية المستدامة، حيث تناولت في قسمها الأول مفاهيم عامة للتنمية المستدامة وهذا من خلال التطرق الى التعريف، وفي القسم الثاني تتناول المراجعة البيئية من مفهوم وأنواع، وفوائدها اما القسم الأخير فإنها تركز على خطوات المراجعة البيئية المراجع البيئي وكذا أدوات المراجعة البيئية. **الكلمات المفتاحية:** المراجعة البيئية ، التنمية المستدامة ، المراجع البيئي.

Corresponding author: MEZIOUD brahim. mezioud.2007@gmail.com

Introduction :

Sustainable development has become a widely recognized goal for human society ever since deteriorating environmental conditions in many parts of the world indicate that its sustainability may be at stake.

Adoption of an environmental policy is one of the main requirements of an organization, In light of this development, environmental accounting and consecutively environmental auditing appears to be attracting increasing attention, The development of environmental auditing is the result of the need to employ internal effective tools to manage environmental issues.

The importance of environmental audits has gained momentum greatly during the last few years, with the launch of Eco-Management and Audit Scheme (EMAS) in 1993 and the publication of ISO 14001 in 1996. More and more companies are finding it valuable to audit their environmental impacts.

The paper is organized as follows:

- I. Sustainable development**
- II. Environmental Audit.**
- III. Process and tools of Environmental Audit.**

I .Sustainable development**I.1.Origin and history sustainable development**

The concept of sustainable development formed the basis of the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. The summit marked the first international attempt to draw up action plans and strategies for moving towards a more sustainable pattern of development. It was attended by over 100 Heads of State and representatives from 178 national governments. The Summit was also attended by representatives from a range of other organisations representing civil society. Sustainable development was the solution to the problems of environmental degradation discussed by the Brundtland Commission in the 1987 report Our Common Future.

The remit of the Brundtland Report was to investigate the numerous concerns that had been raised in previous decades, namely, that human activity

was having severe and negative impacts on the planet, and that patterns of growth and development would be unsustainable if they continued unchecked.

The concept of sustainable development received its first major international recognition in 1972 at the UN Conference on the Human Environment held in Stockholm. The term was not referred to explicitly, but nevertheless the international community agreed to the notion - now fundamental to sustainable development - that both development and the environment, hitherto addressed as separate issues, could be managed in a mutually beneficial way.

The term was popularised 15 years later in *Our Common Future*, the report of the World Commission on Environment and Development, which included what is deemed the 'classic' definition of sustainable development: "development which meets the needs of the present without compromising the ability of f It was not until the Rio Summit, however, that major world leaders recognised sustainable development as the major challenge it remains today.

More recently, the World Summit on Sustainable Development was held in Johannesburg in 2002, attended by 191 national governments, UN agencies, multilateral financial institutions and other major groups to assess progress since Rio. The Johannesburg Summit delivered three key outcomes: a political declaration, the Johannesburg Plan of Implementation, and a range of partnership initiatives. Key commitments included those on sustainable consumption and production, water and sanitation, and energy.⁽¹⁾

I.2. definition of sustainable development

Sustainable development is a term widely used by politicians all over the world, even though the notion is still rather new and lacks a uniform interpretation. Important as it is, the concept of sustainable development is still being developed and the definition of the term is constantly being revised, extended

Although many definitions abound, the most often used definition of sustainable development is that proposed by the United Nations World Commission on Environment and Development in 1987, development is sustainable if it "meets the needs of the present without compromising the ability of future generations to meet their own needs"⁽²⁾.

This concept of conserving resources for future generations is one of the major features that distinguish sustainable development policy from traditional environmental policy, which also seeks to internalize the externalities of environmental degradation ⁽³⁾

1.2. The basic principles of sustainable development

The sustainable development is guided by three concrete principles ⁽⁴⁾:

***First, build on what already exists:**

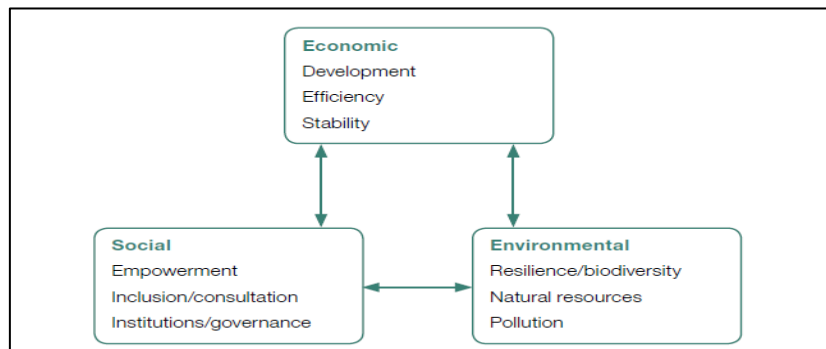
Development projects are especially effective when they help people improve what they already do. In Africa, for example, this primarily means agriculture. Sustainability requires direct work with farmers, as well as infrastructure-based stabilization investments that expand market access and overcome constraint along the value chain. Investing in infrastructure—roads, bridges, and the electrical grid—can yield impressive results for the development of market-driven economic activities of all kinds, including agriculture.

***Second, development organizations must work with and through communities:**

Sustainable economic and social development only succeeds if it identifies with and engages local power structures by leveraging the knowledge and capabilities of local leaders and groups. By engaging the community, one helps reconcile competing interests that impede work and develop the long-term commitment and resources to maintain market-friendly governance structures.

***Third, development groups must build the capacity of local partners.**

As the USAID Forward initiative puts it, "development organizations must build in sustainability from the start." Building on what already exists requires reliance on local partners, communities, and leaders and the thick web of activities and relationships they have developed over years. Development is about helping people help themselves.

Figure : the three pillars of sustainable development

Source: Marcus Popplewell, Louisa Shakos, Gill Gibson and Hannah Moffatt under the direction of Jill Goldsmith., sustainable development . National Audit Office London .2010

I.3.The sustainable development goals :

The sustainable development goals otherwise known as the global goals are universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.

The 17 goals build on the success of the millennium development goals are (5).

- End poverty in all its forms everywhere
- End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Ensure healthy lives and promote well being for all at all ages
- Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Achieve gender equality and empower all women and girls
- Ensure availability and sustainable management of water and sanitation for all
- Ensure access to affordable, reliable, sustainable and modern energy for all
- Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

- Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Reduce inequality within and among countries
- Make cities and human settlements inclusive, safe, resilient and sustainable
- Ensure sustainable consumption and production patterns
- Take urgent action to combat climate change and its impacts
- Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
- Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
- Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

I.4.Indicators of sustainable development

An indicator helps understand where we are, which way we are going and how far we are from our goal. It alerts us to a problem before it gets too bad and helps recognize solutions to fix the problem. Indicators of sustainable development are different from traditional indicators of economic, social, and environmental progress.

Traditional indicators such as unemployment rate or GDP growth, stockholder profits, asthma rates, and water quality measure changes in one part of a community as if they were entirely independent of the other parts. SD indicators on the other hand, reflect the reality that the three different segments are very tightly interconnected ⁽⁶⁾.

Gross National Happiness (GNH)

Gross National Happiness (GNH) is an attempt to define quality of life in a more holistic and psychological terms than Gross National Product.

Human Development Index (HDI)

The Human Development Index (HDI) is the measure of life expectancy, literacy, education, and standard of living for countries worldwide. It is a standard means of measuring well-being, especially child welfare. It is used to determine and indicate whether a country is a developed, developing, or underdeveloped country and also to measure the impact of economic policies on quality of life.

Ecological Footprint (EF)

Ecological Footprint (EF) compares human consumption of natural resources with Earth's ecological capacity to regenerate them.

The Happy Planet Index (HPI)

The Happy Planet Index (HPI) is an index of human well-being and environmental impact. The index challenges other well-established indices such as Gross Domestic Product (GDP) and the Human Development Index (HDI).

II.Environmental Audit

The development of environmental audit started in the US in the 1970's and the concept of auditing spread to Europe in the 1980's. The importance of environmental audits has gained momentum greatly during the last few years, with the launch of Eco Management and Audit Scheme (EMAS) in 1993 and the publication of ISO 14001 in 1996. More and more companies are finding it valuable to audit their environmental impacts.

Although approaches involved in an environmental audit are not definite, however, there are common elements among most audit programs. Information collection ; findings evaluation, facts analysis, reporting to the concerned parties are the major steps in an environmental audit. These kinds of activities can also be classified as pre audit activities, on-site audit activities and post-audit activities. The details of the activities can be varied with different practices of the auditing consultancies and the cooperation of the organization.

II.1.Definition

Environmental auditing is a relatively new endeavour and there are no universally accepted or established principles, conventions, or standards in carrying at an environmental audit

The term 'environmental audit' was defined by Confederation of British Industry as: the systematic examination of the interactions between any business operation and its surroundings. This includes all emissions to air; land and water; légal constraints; the affects on the neighbouring community; landscape and ecology; the public's perception of the operating company in the local area. Environmental audit does not stop all compliance with legislation. Nor is it a 'green-washing' public relations exercise. Rather it is a total strategic approach to the organisation's activities ⁽⁷⁾.

Although there is no fixed definition, there is a broad definition of environmental The most commonly used definition was given by the International Chamber of Commerce, which defined environmental auditing: as a management tool comprising a systematic, documented, periodic, and objective evaluation of how well environmental organisation, management and equipment are performing with the aim of helping to safeguard the environment by:

- facilitating management and control of environmental practices; and
- assessing compliance with company policies, which include meeting regulatory requirement.

II.2.Types of Environmental Audit

The practice of this domain develops five main types of environmental audit ⁽⁸⁾:

***Environmental Management Audits**

These are aud its which are specifically designed to check and evaluate the effectiveness of environmental management systems. Sound environmental management at a site or in an operation depends upon procedures,work instructions, guidelines, specification, training programmes and monitoring systems being implemented by the employees of the organisation operating on the site. If these employees are not given the right instructions, training and procedures within the system,they cannot be expected to carry out their work effectively. Thus, the first stage in auditing an operation is to check the presence, absence and functioning of the environmental management system (which could be formal or informal). This then creates a baseline against which one can check the environmental functioning of an organisation more effectively and objectively.

***Environmental Compliance Audits :**

Environmental compliance (or performance) audits are specifically designed to test compliance (which covers both legal compliance and corporate compliance) to environmental policies, objectives, laws, by-laws, ordinances, regulations and standards. These types of audits will often also include more numerical testing and specific checks on, for example, compliance with requirements in water and air permits and licences.

***Waste Audits**

Waste audits are environmental audits which specifically look at the waste management component of an operation or site. In such audits, the various aspects of waste management would be reviewed and the methods, procedures and systems checked and verified.

In cases where site management are reluctant to undertake full site environmental audits, it is often easier to motivate for a specialised waste audit because the results of this will often more readily generate data and actions which can save money.

***Environmental Due Diligence Audits**

Environmental due diligence audits are described in different ways but are essentially audits which look at the actual and potential environmental liabilities of a site or operation. They are most commonly carried out as a precursor to the purchase of property which has been or is likely to be used for industrial or commercial purposes. Often, they form a part of a wider financial due diligence audit which looks at the various business risks associated with the purchase of property.

The kind of issues that can emerge from environmental due diligence audits include past dumping or burying of hazardous waste which may result in pollutants contaminating the groundwater. In such circumstances, the owner of the land where the waste was buried could be held liable for the clean up costs. It is important, when purchasing property, to ensure that the new owner is not taking over someone else's hidden ⁽⁹⁾

II.3. Benefits of Environmental Auditing

If environmental auditing is implemented in a constructive way, there are many benefits that can be derived from it.

According to Campbell (2009) as cited by Owusu & Frimpong (2012) many customers especially in product markets make decision to patronize product and

services of manufacturers based on ethical performance of the entity and the impact of its activities on environment. For example, some consumers would decline to buy from companies with unfavourable ethical reputations. some consumers would decline to buy from companies with unfavourable ethical reputations. Also, potential employees may use ethical performance as a criterion in their choice of potential employer. It is also possible that specialized entities may incur environmental obligations as a direct result of their core business ⁽¹⁰⁾.

Where companies publish credible environmental and social reports which are properly audited and certified by an auditor, it encourages investors to gain trust in the company ⁽¹¹⁾

In addition to the above we can summarize the benefits in the following elements :

- To safeguard the environment and natural resources used in the plant/project
- To verify compliance with domestic and international environment laws
- Address current or potential future problems that may arise during the course of action
- Assess training programs and provide data to assist In training to poor people's skill development initiatives
- Enable companies to build on good environmental performance, give due credit where appropriate and highlight deficiencies
- Identify potential cost savings from waste minimization and other activities
- Facilitate exchange and comparison of information between different plants or subsidiary companies of the parent company
- Demonstrate company's commitment to environmental protection to employees, the public and the authorities.

IV. Process and tools of Environmental Audit.

Financial auditing and environmental auditing have similar structures. The assessment of control systems is essential in both systems. This supports the argument that auditors trained traditionally to assess financial statements may play a key role in environmental audit. In this audit, the audit plan should identify the objectives and the auditing scope, what procedures will be applied, who will conduct the audit and when the procedures will be performed⁽¹²⁾.

III.1.Process involved in undertaking an Environmental Audit:

There are a number of different environmental auditing procedures advocated in the auditing literature, A model of the audit procedure which is universally accepted was

***Phase one Audit Planning :**

A successful environmental auditing program requires careful planning of the audit program at the early stage. It is especially important to select and define explicit goals and objectives that are appropriate for the organization. The objectives will depend on the company's nature, management philosophy, and size. Having the defined objectives, the scope of proposed audit can then be established. Besides setting up the objectives and scope, selection of the audit team is also significant to an effective program. The responsibility of each team member has to be assigned. An audit protocol which lists the step-by-step procedures which will be followed during the audit is prepared at the planning stage to provide guidelines for the implementation of the auditing program. ⁽¹³⁾

***Phase two On-site audit activities:**

The on-site audit is the most important step of the audit procedure. This includes ⁽¹⁴⁾:

- The opening meeting is the first step between the audit team and auditee. In this meeting the purpose of audit, the procedure and the time schedule are discussed.
- Site inspection is the second step for on-site activity. In this step the audit team may discover matters which are important to the audit but which are not identified at the planning stage.
- The on-site phase requires the audit team to develop a working understanding of how the facility manages the activities that influence the environment and how any environmental management system, if there is one, works.
- Assessing strengths and weaknesses of the auditee's management controls and risks associated with their failure need to be established.
- Gathering audit evidence involves collecting data and information using audit protocol.
- Communicating with the staff of the auditee to obtain most information.
- Evaluating the audit evidence against the objectives established for the audit and an agreed protocol.

3. Phase three: Post-audit activities :

Post-audit activities begin with the preparation of a draft report. The draft report should be reviewed by the facility personnel directly involved in the audit.

The final report should be derived from it and it should then be distributed to all interested parties within the organisation

An environmental audit report contains, ideally, a statement of environmental performance and environmental entity's position and may also determines what needs are to support and improve the performance and position indicators. In a general sense, an environmental report contains the following elements ⁽¹⁵⁾:

- *exposing content and main objectives of the program and the relationship with other related plans;

- *relevant aspects regarding the actual environmental status and its possible development if the proposed plan is not implemented environmental characteristics of the area to be affected ;

- *any relevant environmental issues for future work, including those related to any area of particular importance, such as areas protected by law;

- *environmental protection objectives established at national, EU or international level;

- *potential significant environmental effects, including: biodiversity, population, climate factors, material assets, cultural heritage;

- *measures to prevent, reduce and compensate any adverse effects on the environment due to implementation;

- *state the reasons that led to selecting certain options and describe how to evaluate.

III.2.THE TOOLS AND TECHNIQUES USED IN AUDITING

The Environmental Auditors uses many tools in his auditing such as ⁽¹⁶⁾:

***Checklists**

Checklists are very useful tools to use to ensure that different tasks or topics are included during the audit.They are very useful in specialised cases where a complex range of issues and questions need to be asked to ensure that nothing is missed.

One of the limitations of checklists is that there is a tendency to rely too much on a checklist and not look at matters that arise beyond the contents of the checklist or secondary questions and issues that may develop as a result of other information or observations. A checklist with all the sections carefully ticked off is not necessarily a true reflection of, say, a fully compliant site. If questions or

check items have, for some reason, been left off or forgotten, this could have a significant impact upon the conclusions of the audit. It is for that reason that additional information needs to be used in support of checklists.

***Questionnaires**

Audit protocols or audit questionnaires provide the basis and structuring for most audits. They are based upon checklist questionnaires but are more complex and include more detail and sometimes-logistical information and data relating to the audit and the site being audited. When developing protocols, every effort should be made to avoid generating questions that can be answered by a simple “yes” or “no”. The purpose of questions in protocols is to trigger supplementary questions, additional information not specifically asked in the question and encourage a two-way dialogue.

***Questioning**

Questioning is one of the most crucial aspects of auditing yet from a training and awareness point of view, it is often given the least attention. Questions should be posed in a neutral, friendly manner to prevent the auditee feeling defensive or threatened by the nature and content of the questions. The purpose is information gathering in nature and not an interrogation. The questioner must therefore be sensitive to the perspective of the auditee and avoid making the questions accusatory, judgemental or aggressive.

***Photographs**

Photographs are a very valuable aid in the audit process .However, in order to use them, a number of important practical points must be borne in mind. The first point is that formal approval to bring a camera on to site for the audit must be obtained before the audit begins.

***“Drill Down” Sampling**

Drill down sampling refers to the process of investigating data as far back as possible, going right back, for example, to the point where the operator read the pressure dial and wrote the reading down on a clipboard. It is necessary, on a sampled basis, to drill down to information or action source in a number of situations to check whether a system is working and that the data being generated through the system’s requirements, is actually being generated, recorded and utilised.

***Research**

It is useful to try and undertake some background research and investigation into the site or company to be audited. Familiarisation with the operations, products, raw materials reports, press material and newspaper articles all provides useful background information to supplement questioning sessions and help understand the operational processes.

3.3 Environmental Auditors :

An environmental auditor is defined as a person qualified to perform environmental audits. Auditors should have a combination of education and work experience, either a secondary education or equivalent and five years of work experience, or a degree and at least four years of experience. Because of the differences in educational systems around the world, ISO 14012 includes.

definitions for degree and secondary education. A degree is defined as a “recognized national or international degree, or equivalent qualification, normally obtained, after secondary education, through a minimum of three years formal full time, or equivalent part time study.” Secondary education is that part of the national educational system that comes after the primary or elementary stage, but that is completed immediately prior to enter to a university or similar establishments.” The auditor must be knowledgeable about environmental science and technology, technical and environmental aspects of facility operations, pertinent environmental laws and regulations, and the audit procedures for an EMS. Both internal and external auditors need on-the-job training. This should include involvement in a number of audits under the supervision of a lead auditor. The standard also recommends that auditors participate in refresher training to maintain their skills.

Two informative annexes to ISO 14012 provide additional guidance concerning environmental auditors. **Annex ‘A’** talks about the qualifications of internal/external auditors and **Annex ‘B’** addresses the problem of registering auditors. Annex ‘A’ methods are for evaluating the qualifications for environmental auditors (internal/external): 9 Interviews with the candidates 9 Written and/or oral assessment 9 Review of candidate’s written work 9 Discussions with formal employers and colleagues 9 Role-playing 9 Peer observation under actual audit conditions 9 Reviewing records of education, experience, and training 9 Consideration of other professional certifications and qualifications Annex ‘B’ techniques are used by an environmental auditor registration body to register auditors⁽¹⁷⁾.

Conclusions :

Environmental auditing is a new subject but is rapidly developing world-wide. Within the globalized economy, environmental auditing is established as an essential mean for the management of environmental performance to ensue sustainable development.

It is an evaluation technique used to increase compliance with environmental laws, identify operational liabilities, reduce cost and review environmental management systems.

There are differences between environmental auditing and the auditing of financial statements. One difference regards the need that environmental auditors have for the support of the managers before beginning the audit, and that goals and objectives should be defined and an action plans should be designed and implemented.

Environmental auditing measures the effectiveness of management processes and consequently the effectiveness of the systems concerning the environmental matters in this context that environmental auditing assists in:

- *reduction of fines for regulatory noncompliance
- *early identification of problems (Kim, 1997)
- *cost saving from waste
- *enhancing the reputation for environmental responsibility.

References:

- (1)- Sustainable development commission , www.sd-commission.org.uk.
- (2)- Rachel Emmis, Florida International University The Concept of Sustainable Development: Definition and Defining Principles.
- (3)- Tatyana P. Soubbotina the International Bank for Reconstruction and Development ,2000,P9
- (4)- www.worldpolicy.org/ date of consultation, 16/05/2017
- (5)- United Nations, transforming our world, the 2030 agenda for sustainable development , p 18.
- (6)- Madhavi Joshi, Shailaja Ravindranath, Gopal Kumar Jain and Keren Nazareth Sustainable Development: An Introduction, Centre for Environment Education.2007,16-18
- (7)- Choida Jamtsho, Environmental auditing and sustainable development from the perspective of a government auditing, p8.

- (8)- S. Alam, Environmental Auditing, P02.www.environment.gov.za/date of consultation 10/06/2017
- (9)- Environmental liabilities. Department of Environmental Affairs and Tourism, pretoria , southe affrica Environmental Auditing, 2004, p 5-6.
- (10)- Usman, Timothy Onechojon; 2Paul, Salisu Ojonemi; & Ochala, Mark Green Audit and Environmental Sustainability in Nigeria: Unveiling Corporate Perspectives international journal of public administration and management research, volume 2, number1, October, 2013. P 108.
- (11)- CSR and Sustainability institute, benefits of Environmental audit/
- (12)- Usman, Timothy Onechojon; 2Paul, Salisu Ojonemi; & Ochala, Mark ibid.p 109.
- (13)- Tong, Wing-yin, Viola, The role of environmental audit in environmental management, The University of Hong Kong.1994.p11.
- (14)- S. Alam, ibid.
- (15)-MIHAELA Ungurean, role of environmental audit in modern entreprise.econpapers .repec.org
- (16)- Department of Environmental Affairs and Tourism. Ibid , p
- (17)- S. Alam, ibid.