
UNIT 2 ENVIRONMENTAL AUDITING

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2.0 INTRODUCTION

We all know about the significance of legal framework for operation of any business or public administration. The government formulates the legal framework in terms of laws, acts and a set of rules and regulations. For example, if any individual or business firm violates this legal framework, they are bound for penalties and punishment depending on the extremity of violation. In addition, law breakers loose reputation in the society and invite criticisms. One such incident happened on March 23, 2013, in industrial town of Tuticorin, Tamil Nadu - residents woke up to itchy eyes, burning throat and breathing discomfort. Initially they suspected some gas leak in domestic LPG cylinders, but later they came to know that an exorbitantly high emission of air pollutants from the nearby industry was the culprit. Within few hours, many people started

suffering from breathing troubles, nausea, and other respiratory problems. People become panic-stricken and rushed to the nearby physicians, clinics and hospitals. The issue was reported to the government officials and the Tamil Nadu Pollution Control Board (TNPCB) realized the release of noxious gas from the factory and after monitoring the air quality TNPCB reported high levels of sulphur dioxide exceeding the safe permissible levels. Eventually TNPCB issued a notice to close the factory until the air quality reaches the safe levels and the emission control equipments are rectified.

Let us see another case of preemptive and precautionary story in China. In Early November 2017 dozens of huge steel mills in China stopped or reduced their operations; many more cement plants in northern China are prepared to shut down before Christmas. These measures were carried out as a part of a preventive action plan that aims to cut down wintertime particulate air pollution by 15% year-on-year over the next five months. These emission reductions are envisaged as the immediate need as Beijing and the surrounding industrial provinces are suffering from poor air quality reaching “very unhealthy” levels.

Lessons from the two incidents suggest that good environmental management is crucial for the business sustainability. In a simple manner we can describe as environmental stewardship: giving adequate attention to the waste and materials used in the factory; consider reducing the wastes and emissions; how by-products can be re-used; how energy can be saved; and making sure that operations always run at maximum efficiency. An increasing number of businesses and corporate organizations now widely recognize that good environmental sense makes good business sense. Environmental stewardship helps them to increase their market share because many customers and suppliers are gradually shifting their attitude for green products and services. In today’s businesses scenario, firms need to show they are serious about environmental issues and sustainable development in order to be accepted as a legitimate activity by society. Environmental audit is a management tool that helps to achieve the environmental stewardship which in turn ensured the business stability.

2.1 OBJECTIVES

After reading this unit you should be able to:

- understand the concept and purpose of environmental audit;
- explain the evolution of audit;
- classify types of audit and its purpose;
- examine and formulate the audit protocol; and
- bring out the benefits of audit.

2.2 WHAT IS ENVIRONMENTAL AUDITING?

In the introductory part, through the case analyses, we realized the relationship between the organizational activities and its impact on the environment. A number of environmental management practices have been adopted by the corporate organizations to minimize such environmental impacts. In brief,

Environmental Management Systems (EMS) is a comprehensive protocol which comprises various activities within a firm to achieve environmental betterment and protection. Accomplishment of the environmental stewardship lies in strength and vision of the environmental policy of the firm. In this pursuit, environmental auditing is a process whereby an organization's environmental performance is tested against its environmental policies and objectives. These policies and objectives need to be clearly defined and documented. However, in practice, first time environmental audits are often done less rigorously, because of the absence of appropriate documentation at this stage. Eventually, environmental audit helps to revamp the environmental policy continually to meet the global green economy.

Let us begin with the most familiar term "audit" which generally means the financial audit. Auditing, in general, refers to on-site verification activity, such as inspection or methodical examination, of a process or quality system, to ensure compliance to requirements. Environmental auditing is essentially an environmental management tool for measuring the effects of certain activities on the environment against set criteria or standards.

The International Chamber of Commerce (ICC) produced a definition in 1989 which is along the same lines.

"A management tool comprising 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 control of practices and assessing compliance with company policies, which would include regulatory requirements and standards applicable."

The key concepts are:

- **Verification:** audits evaluate compliance to regulations or other set criteria.
- **Systematic:** audits are carried out in a planned and methodical manner.
- **Periodic:** audits are conducted to an established schedule.
- **Objective:** information gained from the audit is reported free of opinions.
- **Documented:** notes are taken during the audit and the findings recorded.
- **Management tool:** audits can be integrated into the management system (such as a quality management system or environmental management system).

2.3 EVOLUTION OF ENVIRONMENTAL AUDIT

You may be delighted to know that certain practices similar to environmental auditing started as early in 1930's by some private firms in the USA. Notably SC Johnson, a family-owned company, undertook social and ecological audits as a part of internal management operations in the 1930's although it was not widely publicized. At the same time, environmental issues gained its importance after promulgation of the US National Environmental Protection Act (NEPA) in 1969. Also the creation of Environmental Protection Agency (EPA) in December 2, 1970 was a great milestone in global initiatives towards

Environmental Protection. Birth of USEPA is in turn linked to the publication of Rachel Carson's *Silent Spring* (Box 1).

In the early 1970s, some of the industries independently started working on environmental auditing programs as an internal management tool to review and check the industrial operations compliance with i) local environmental laws and regulations ii) national environmental laws and regulations and iii) corporate policies. Later in 1979, US Environmental Protection Agency directed the US regulators through a draft report to initiate independent, certified third party environmental "auditors" who would visit plants, collect samples, perform analyses and report back results to government authorities. Although the draft report was not adopted, it emerged as a major impetus to debate on government policies and the private sector. As a result, environmental auditing began to appear in the mid 1980s and many firms undertook environmental audits as a means of quantifying their environmental liabilities and prepare environmental compliance reports.

Subsequently, environmental audit spread to rest of the world, largely influenced by the initiatives of USA subsidiary companies operating abroad. American operations in Europe and their interactions with European companies motivated the concept of environmental auditing in chemical and petrochemical industries, although they were involved in a similar kind of exercise in which they use to document the intrinsic environmental hazards of their businesses. In the late 1980s, environmental auditing was widely recognized as a common environmental management tool by industry in developed countries, and is increasingly being applied in developing countries by both foreign and local industry. With the advent of World Commission on Environment and Development (WCED) in its report *Our Common Future* (otherwise known as the Brundtland Report) in 1987 (WCED 1987), the concept of "**Sustainable Development - SD**" was introduced; SD concept further emphasized the need of industrial sector to minimize the extraction of earth's resources and environmental degradation.

"Sustainable development" later became a jargon in the developing economies too putting pressure on individual businesses. As a consequence, among the wide range of market conditions, environmental performance also emerged as a competitive edge. Meanwhile, the emergence of the ISO 14000 series on Environmental Management Systems (EMS) has resulted in many international corporations seeking ISO 14001 certification. In order to improve the environmental policy of an organization and to effectively implement EMS, the environmental audit has become the integral part of the process. Today, no businesses organization can neglect environmental issues in their operations. Thus environmental audit as a tool provides information and facilitate management control of the environmental aspects of the operation.

Rachel Carson's Silent Spring and the Environmental Protection Movement

Rachel Louise Carson (May 27, 1907 – April 14, 1964) was an American biologist, whose book "Silent Spring" and other contributions instigated global environmental movement. Carson began her career as an aquatic biologist in the U.S. Bureau of Fisheries, and became a full-time nature writer in the 1950s. As a bird-watcher, Carson feared that less and lesser

number of birds would be singing each spring unless pesticide poisoning was stopped. She portrayed the real-life story of how bird populations across the country were suffering as a result of the widespread application of the synthetic pesticide DDT (dichlorodiphenyltrichloroethane), which was being used widely to control mosquitoes and other insects. Carson reported that birds ingesting DDT tended to lay thin-shelled eggs which would in turn break prematurely in the nest, resulting in marked population declines. The problem drove bald eagles, our national symbol, not to mention peregrine falcons and other bird populations, to the brink of extinction, with populations plummeting more than 80 percent. Carson believed that more and more birds were poisoned were caused by synthetic pesticides. Silent Spring was met with fierce opposition by chemical companies, it spurred a reversal in national pesticide policy, which led to a nationwide ban on DDT and other pesticides. It also inspired a grassroots environmental movement that led to the creation of the U.S. Environmental Protection Agency. She was posthumously awarded the Presidential Medal of Freedom by Jimmy Carter.

Source: <https://blog.epa.gov/blog/tag/rachel-carson/>

<https://www.scientificamerican.com/article/rachel-carson-silent-spring-1972-ddt-ban-birds-thrive/>

2.4 TYPE AND SCOPE OF AUDITS

After reading the last two sections you may be clear how environmental audit evolved as an important tool for environmental management. Now let us understand different types audit and its scope. As discussed earlier, the type of environmental audit mainly depends on the focus of the organization and the activity. An environmental auditor will study an organization's environmental aspects and impacts in a systematic and documented manner and will produce an environmental audit report. For example, if an organization needs know whether the pollutants released by them into the environment are within the limit prescribed by the government, then the auditor can choose the compliance audit, which can reveal to what extent it has exceeded the safe limits.

2.4.1 Environmental Management Systems (EMS) Audits

The success of EMS depends on the effective implementation of EMS policies and protocol. An EMS audit is the one which is specifically designed to check and evaluate the effectiveness of environmental management systems (ISO 14001). An EMS audit examines several aspects beyond compliance. For example, EMS audit assesses the robustness of environmental management by analyzing procedural framework, work instructions, guidelines, specification, training needs and monitoring systems being implemented by the employees of the organization operating on the site. If these employees are not given adequate instructions/training about EMS procedures, 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. Ultimately EMS audit can give inputs to policies, training needs and procedures, flaws in the implementation stage and even the requirement of additional technology and man power.

2.4.2 Environmental Compliance Audits

As discussed earlier Environmental compliance (or performance) audits are more focused on the legal and corporate compliance. This kind of audit checks the 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 licenses.

2.4.3 Environmental Impact Assessment (EIA) Audit

EIA audit is similar to compliance audit, where in focus is to ensure mitigatory measures and management plan suggested by Environmental Impact Assessment authority is adequately implemented and do complies with the minimum legal requirements This kind of audit is in practice in many countries for EIA quality control and to reduce unnecessary costs and inconvenience should the EIA be appealed against.

2.4.4 Environmental Due Diligence Audits

Environmental due diligence audits 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 cleanup costs. It is important, when purchasing property, to ensure that the new owner is not taking over someone else's hidden environmental liabilities.

2.4.5 Waste Management Audits

Waste audits typically focus on waste management component of an operation or site. The boundary audit involves solid, liquid and gaseous waste/emissions. In the audit protocol, various aspects of waste management will be reviewed like the methods adopted, waste treatment procedures, systems function and finally verification will be carried out. In certain cases where site management are reluctant to undertake full site environmental audits, specialized waste audit may be carried out to generate ready data for immediate actions which can save money/penal actions.

A waste audit helps an organization to be better prepared to efficiently and responsibly dispose of the waste that it generates every day. By designing a more efficient waste disposal program through a waste audit, the organization increases the recycling capability of paper, plastic, and metals that are being used. This, in turn, decreases the amount of air and water pollution, which helps curb global warming and conserves natural resources.

2.4.6 Environment, Health and Safety (Ehs) Audits

EHS audit is a tool for assessing regulatory compliance, identifying risk and finding opportunities for process improvement. EHS audit process provides

the company with a roadmap for taking advantage of the biggest opportunities, correcting issues and proactively managing ongoing risk at each site. In addition, an educational follow-up visit gave both on-site personnel and the corporate EHS team a deeper understanding of the risks present in their respective facilities.

Many companies have made the decision to combine non-financial audits such as health, safety, environment and quality in an effort to reduce costs, disruption and inconvenience in the workplace. This approach has both advantages and disadvantages. The advantages include the fact that there are fewer audits and less likelihood of reduced productivity in the workplace. A disadvantage would be that by combining a number of audits, this could dilute the focus on the individual components. If this were balanced by increasing the length of time of the audit, this would then begin to increase the disruptive element of the audit which may affect productivity. The negative effect of the audits could be reduced if companies were to be able to utilise the “added value” from the audits which normally result in reduced wastage, reduced risk, improved performance and reduced incidents. It is not always possible to financially quantify these benefits and so the perception still remains that audits are time consuming and interfere with production.

2.4.7 Energy Audit

The energy audit is performed to implement an effective energy management program primarily improve the energy efficiency and reduce the costs in energy utilization of a facility. An energy audit examines following kinds of issues

- How a facility uses energy?
- What kind of fuel is used for heating?
- Is there a thermostat? Is it set to the correct temperature?
- Are there any draughts coming in from windows or doors?
- Are lights switched off where necessary?
- Are incandescent or large diameter fluorescent lights used?
- Are lamps, fitting and roof lights clean?
- Are light switches easy to find? Are they labelled with reminders to turn off?
- Are exterior lights turned off when not needed?
- Do computers have built-in energy saving features? Are they activated?
- Are computers left on overnight?
- Are monitors switched off when not in use?
- Are photocopiers energy efficient?
- Are printers and photocopiers left on overnight / weekends?
- Are water coolers left on permanently?

After examination auditors will recommend program for changes in operating practices or energy consuming equipment that will cost effectively save money

on energy bills. The audit process starts by collecting information about a facility’s operation and about its past record of utility bills. This data is then analyzed to get a picture of how the facility uses – and possibly wastes – energy, as well as to help the auditor learn what areas to examine to reduce energy costs. Finally, an Energy Action Plan is created where certain ECM’s are selected for implementation, and the actual process of saving energy and money begins.

Check Your Progress 1

- Note:** a) Write your answer in about 50 words.
 b) Check your progress with possible answers given at the end of the unit.

1. What is environmental auditing?

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2.5 THE AUDIT PROTOCOL

2.5.1 Planning of Audit

Planning and logistics is the crucial part of an audit to ensure the success of the audit. Foremost step in planning is to identify the appropriate staff and necessary people to answer audit questions. Next important step is to list out the logistics requirement to carry out the full fledged audit (Figure 1). Meeting with the top management and discussing the audit plan and protocol will enable to express the seriousness of the audit. An assurance by the top management will also ascertain the commitment of staff and facilitates an effective audit.

2.5.2 Pre-Audit Meeting

A pre-audit meeting is an important prerequisite for the audit because it is the first opportunity to meet the auditee and deal with any concerns. Careful planning at this stage will help to ensure success of audit exercise. Information required at this stage includes detailed information regarding activities carried at the site, the legal status of the facility including permits & monitoring data, management structure and the scope of the organization or activity to be audited. Pre-audit activities also include the selection of the audit protocol team and the financing for the audit program. The meeting also presents the opportunity to reinforce the scope and objectives of the audit and discuss practicalities associated with the audit (e.g. access to key staff, photographs on site, site tour, access to documentation, etc.).

Briefly Pre-audit includes following tasks

- Getting commitment from top management
- Defining audit scope, objectives and format
- Communication to the employees
- Choosing audit team
- Prioritizing the objectives

- Issue pre-audit questionnaire
- Gather the additional information

Sometimes, if necessary second pre-audit meeting may be organized to clarify the concerns, doubts and uncertainties.

2.5.3 On-site Audit

Before initiating audit, a meeting between the audit team and the management of the organization or activity to review the purpose of the audit, the procedure and the time schedule is an important task. This meeting would also enable to refine the scope and allocate specific assignments to auditors and confirm details and deadlines. Initial site inspection should follow the meeting. The audit team will receive an overview of the organization and the operations and on this basis can then focus on specific areas or processes that require attention. In carrying out the site inspection, the audit team may discover matters which are relevant to the audit but which were not identified at the planning stage. The core work of the audit is working through the audit protocol, asking questions, checking answers against site documentation (manuals, reports, monitoring data, work instructions, procedures, training schedules etc.), reviewing documentation against standards, policies and action plans and gathering evidence to support the answers to the questions.

During on-site audit, following types of activities are carried out by audit team.

- **Fill-In Forms**- The simplest form of an audit uses fill-in forms based on reports, which will be produced as an audit guide.
- **Check List**- This type of protocol is commonly used, providing a detailed listing of all issues to be covered.
- **Questionnaires**- Questionnaires are used as an auditing protocol and the list of questionnaires shall be completely replied by the auditor. In general an auditor prepares a standardized format for conducting an audit compiling the final report.
- **Photographs** - Photographs are taken to support findings and to highlight good practices; remember to obtain the permission of the site management and respect any safety requirements (e.g. use appropriate equipment in flammable zones etc).

In brief, data and information collected during the environmental audit will consist of the audit protocol, documentation provided by the owner of the organization or activity, auditor's notes and observation, the sampling and monitoring results, photos, plans, maps, diagrams, working papers and other related items. This information must be well documented to facilitate easy retrieval. The prime purpose of data collection is to support the audit findings and provide the basis for verification. An exit meeting should be organized by the lead auditor to obtain feedback, elucidate primary findings, flaws need to be addressed and the additional information necessary to prepare the audit report.

2.5.4 Post Audit Activities

The information gathered by the audit team is consolidated and written up as a draft audit report. The format, content and the extent of details contained in

the audit report will vary according to the scope of the audit, the requirements of the client and the context of the audit. The reports may be prepared as simple and as readable as possible for better understanding of all groups of people in the firm. The most basic of audit reports consists of two columns headed "Findings" and "Recommendations" and each finding is linked to a specific question or heading taken from the audit protocol. Initially, this draft report will then be circulated to the audit team and those directly concerned with the audit. The purpose is to check the report for accuracy. After incorporating the corrections the final audit report containing the findings and recommendations of the audit will be communicated to the management. It will also form one of the bases of future audits because the information it contains informs some of the tests and analyses that need to be performed in the future. Since the environmental audits gives input to the process of continuous improvement, periodical auditing schedule should also be communicated to the management and audit team to enable the efficiency of successive audits. For this reason, follow up work in the form of analyses of recommendations and action plans is a crucial part of an audit.

2.6 BENEFITS OF ENVIRONMENTAL AUDIT

2.6.1 Money Savings

Cost savings are one among significant benefits of an environmental audit. During the audit, opportunities for continuous improvements are constantly being carried out and targets are set for savings in spending. For example, waste management audit emphasizes the concept of reduce, recover and reuse that results in new opportunities for waste management and ultimately saves money. In many countries, companies are charged for disposing of waste into licensed landfill facilities, particularly in the case of hazardous waste a special treatment may be required before disposal. In such circumstances, reducing the amount of waste produced can therefore lead to savings, if the organization has to dispose only a smaller quantity. An obvious way of minimizing the amount of waste generated is to minimize inputs. Adopting a more efficient process could mean that fewer raw materials are required, and that the overall cost of raw materials is therefore reduced. Reductions in the amount of water required can also lead to savings, as organizations are almost always charged for their water usage.

Waste management audit can identify the potential ways in which the by-products of one process can be used in another. In many water-intensive industries, the recycling of water, which may involve treating/cleaning/cooling can also lead to a reduction in wastewater disposal costs. An issue audit will often highlight the need for an ongoing programme of improvements. A waste audit can lead to the implementation of a waste reduction programme, which may feature the major redesign of products, or simply minor changes to working practices. Organizations that carry out an environmental audit on regular basis to establish compliance with environmental legislation, can benefit financially in another way. Failing environmental compliance in India often invites penalty and in many business have even suffered temporary closure of operations. Huge financial loses can thus be avoided if an organizations has robust audit practices.

2.6.2 Corporate Image and Marketing Opportunities

The careful and responsible management of the earth's natural resources by promoting environmental stewardship activities improves the organizations image in the society. Very recently 41% of businesses say they will embed Sustainable Development Goals (SDGs) into strategy and way they do business within 5 years; many citizens say it is important to incorporate SDGs in business. Environmental audit finds new ways and strategies to improve the environmental stewardship in line with the global sustainability goals. Nowadays more and more organizations are realizing that there is real value in presenting a responsible stance towards the environment. Increasing public awareness of environmental issues and resulting consumer pressure means that companies which present an „environmentally friendly image may be able to obtain a market advantage. In an economic climate where any favourable publicity is beneficial, a new competitive element has entered the marketplace. As part of overall environmental management, environmental audits are an important tool for any companies taking a proactive stance towards environmental issues.

2.6.3 Environmental Liabilities and Insurance Costs

Business operations tend to cause significant hazards to natural environmental. Insurance coverage can help them to protect with cost of environmental claims. Organizations pay a premium to insure themselves against the potential costs of environmental damage arising from their operations, for example, the costs of remediation from pollution incidents such as oil spills. Insurance policies can be a critical asset to protect against the increasingly expensive costs of defending against, those claims and paying any resulting settlements or judgments. A periodical environmental audit report may facilitate obtaining the environmental claims from the insurance companies.

Insurers are in the business of assessing risks and, as the potential size and scope of environmental risks have been recognized by insurers, it has become increasingly difficult to obtain worthwhile insurance cover at an acceptable cost. While it is still possible to find insurance cover for pollution, which is sudden, accidental, and unforeseen, there are very few insurance companies that will provide comprehensive general pollution cover. Environmental audits are an important tool that can bring out the periodical compliance and performance report that can help for insurance companies in the claim assessment process.

AHMEDABAD: The Gujarat Pollution Control Board (GPCB) issued fresh guidelines for chemical industries and common effluent treatment plants (CETPs). The new guidelines have made it mandatory for industries and CETPs to get an environment audit done by none else but members of an audit team approved by the GPCB. Under the new GPCB policy, the environment auditors should be approved by the Environment Audit Committee of the board. It has further stated that the auditor in the case of hazardous and chemical industries and also CETPs should hold a degree in related disciplines such as microbiology, biochemistry, chemistry, biotechnology, zoology, environment science, climate change, forensic science or life science. The pollution control board's new policy says that the auditor should have experience of working in an analytical laboratory

or a chemical laboratory. The CETPs, treatment, storage and disposal facilities (TSDF), common incinerator plant, common biomedical waste treatment facility (CBWTF) and industries shall have to submit Environment Audit Reports (EARs). The report has to be submitted even if the industry or the plants have undertaken production on a trial basis. According to the policy, the audit has to be done by auditors decided for the specific industry.

Source: <https://timesofindia.indiatimes.com/home/environment/pollution/Gujarat-issues-new-environment-audit-guidelines/articleshow/45896574.cms>

2.6.4 Environmental Concerns

Employees of an organization are bound to have increased awareness on environmental policies and responsibilities if they carry out periodical audit. It does inculcate environmental ethics to employees and gradually feel uncomfortable polluting the environment; employees do reflect eco-friendly behavior in the society. Increasing awareness of the public people on the impacts global warming, acid rain and air/water pollution also demands more tangible actions from the government and corporate sector. Now many companies ask themselves whether their way of operating is in line with the strong environmental concern by the public (and the market). In this context, environmental audit is very useful.

Check Your Progress 2

- Note:** a) Write your answer in about 50 words.
 b) Check your progress with possible answers given at the end of the unit.

1. What are the benefits of environmental auditing?

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2.7 LET US SUM UP

In this unit you have studied about environmental auditing and why it is of importance. You have also learnt about the evolution of audit, audit protocol and benefits of environmental audits. Environmental audit as a management tool provides adequate knowledge to reduce emissions and necessary actions to improve resource and energy efficiency.

2.8 KEY WORDS

Audit Protocol : A management tool comprising 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.

Compliance/Legislative Audit	: An audit which determines the degree of company compliance with current or prospective legislation or standards.
Environmental Impact Assessment	: The systematic identification and evaluation of the potential impacts (effects) of proposed projects plans, programmes or legislative actions relative to the physical – chemical, biological, cultural and socioeconomic components of the total environment.
Environmental Management Systems	: A mechanism for systematically managing the environmental effects of an organization.
Sustainable Development Goals	: The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.

2.9 REFERENCES & SUGGESTED FURTHER READINGS

DEAT, Environmental Auditing, Integrated Environmental Management, Information Series 14, Department of Environmental Affairs and Tourism (DEAT), Pretoria, 2004.

ENVIRONMENTAL AUDITING: A PANACEA FOR ENVIRONMENTAL SUSTAINABILITY IN NIGERIA International Academy of Business Review, Volume 3, Number 1, 2016

Marc J. Epstein Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts by Published by Berrett-Koehler Publishers

http://www.business-standard.com/article/companies/sterlite-s-pollution-problem-113041801267_1.html

<https://unearthed.greenpeace.org/2017/10/30/china-starts-the-biggest-shutdown-of-steel-factories-in-history/>

2.10 ANSWERS TO CHECK YOUR PROGRESS

Answers to Check Your Progress 1

- 1) Your answers must include the following points:
 - Environmental auditing is a process whereby an organization's environmental performance is tested against its environmental policies and objectives. These policies and objectives need to be clearly defined and documented. However, in practice, first time environmental audits are often done less rigorously, because of the absence of appropriate documentation at this stage. Eventually, environmental audit helps to revamp the environmental policy continually to meet the global green economy.

- The key concepts are: Verification, Systematic, Periodic, Objective, Documented, Management tool.

Answers to Check Your Progress 2

2) Your answers must include the following points:

The benefits include:

- Money Savings
- Corporate Image and Marketing Opportunities
- Environmental Liabilities and Insurance Costs
- Environmental Concerns

