COURSE GUIDE

PUL322
ENVIRONMENTAL LAW II

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CONTENTS

Introduction

Environment law is a recent academic innovation in Nigeria. However, the idea of protecting our environment began in pre-colonial era when African's protected their environment through observation of culture, norms and customs. The second phase was the period of the imperialist, when common law and English statutes were introduced to curb or prevent pollution of our environment.

The emergence of the third era was marked by the toxic waste dumped in Koko, a riverine town in Delta State (former Bendel State) in 1988, Nigeria for the first time got hints of the Harmful Toxic Waste Cargo from some Nigerian students studying in Italy through letters they sent to some media houses alerting them that the lethal cages carrying wastes rejected in Europe were being cosigned to Nigeria under false inscriptions. The rest of this incident is now history, but it opened the eye of Nigerians and the government of the need to put environmental law and enforcement in proper shape.

This third era marked the beginning of Nigeria's seriousness towards protecting her surroundings
Course Learning Outcomes

At the end of the study, you should be able to
1) Understand the basic concepts of environmental law
2) Explain the meaning and nature of environmental law
3) Discuss The Legal Control Mechanism of Pollution
4) Discuss public health in relation to environmental protection

Working Through This Course

To complete this course, you are advised to read the study units, recommended books, relevant cases and other materials provided by NOUN. Each unit contains a Self-Assessment Exercise,and at points in the course you are required to submit assignments for assessment purposes. Bythe end of the course there is a final examination. The course should take you about 11 weeks to complete. You will find all the components of the course listed below. You need to makeout time for each unit in order to complete the course successfully and on time.

Course Materials

The major components of the course are.
a) Course guide.
b) Study Units.
c) Textbooks
d) Self-Assessment Exercises
e) Presentation schedule.

Study Units

The discussion in this course is broken down to 24 (twenty-four) study units that are broadly dividedinto FOUR modules as follows:

Module 1 Basic Concepts of Environmental Law

Unit 1 Nature and Meaning of Environment
Unit 2 Environmental Law Defined
Unit 3 Concept of Environmental Law
Unit 4 Theories of Environmental Protection
Unit 5 Challenges of Environmental Law in Nigeria

Module 2 Public Health Rights and Environmental Law: Nigerian Citizens' Rights to Environmental Quality

Unit1 Rights of Citizens to Clean Environment
Unit 2 International Recognition of Environmental Rights
Unit 3 Rights of Citizens to Life and Property
Unit 4 Right to Good Health, Safety and Welfare
Unit 5 Human Rights and Environment Law I
Unit 6 Human Rights and Environment Law II

Module 3 Concept of Environmental Law and Legal Control Mechanism of Pollution

Unit 1 Case Studies in Environmental Pollution Law in some Selected Areas and Their Implications
Unit 2 Oil Pollution and Other Chemical
Unit 3 Industrial Waste Management and Control I
Unit 4 Industrial Waste Management and Control II
Unit 5 Industrial Waste Management and Control III
Unit 6 Industrial Waste Management and Control IV
Unit 7 (i) Water Pollution Control Laws
(ii) Water Qualities Management
Unit 8 The Economic Approach to Pollution Control

Module 4 Public Health and Environmental Protection

Unit 1 Public Health and Environmental Issues I
Unit 2 Public Health and Environmental Issues II
Unit 3 Factory legislation
Unit 4 Public Health and Hazardous Waste
Unit 5 Highlights of the Environmental Protection Laws in Nigeria and International Treaties, Conventional and Instruments

All these Units are demanding. They also deal with basic principles and values, which merit your attention and thought. Tackle them in separate study periods. You may require several hours for each.

We suggest that the Modules be studied one after the other, since they are linked by a commontheme. You will gain more from them if you have first carried out work on the law of sea. You will then have a clearer picture into which to paint these topics. Subsequent units are written on the assumption that you have completed previous units.

Each study unit consists of one week's work and includes specific Learning Outcomes, directions for study, reading materials and Self-Assessment Exercises *(SAE).* Together, these exercises will assist you in achieving the stated Learning Outcomes of the individual units andof the course.

References / Further Reading

Certain books have been recommended in the course. You should read them where so directed before attempting the exercise.

Assessment

There are two aspects of the assessment of this course, the Tutor Marked Assignments and a written examination. In doing these assignments you are expected to apply knowledge acquired during the course. The assignments must be submitted to your tutor for formal assessment in accordance with the deadlines stated in the presentation schedule and the Assignment file. Thework that you submit to your tutor for assessment will count for 30% of your total score.

Self-Assessment Exercises

There is a self-assessment exercise at the end for every unit. You are required to attempt all theassignments. You will be assessed on all of them, but the best three performances will be usedfor assessment. The assignments carry 10% each. Extensions will not be granted after the due date unless under exceptional circumstances.

Final Examination and Grading

The duration of the final examination for this course is three hours and will carry 70% of the total course grade. The examination will consist of questions, which reflect the kinds of self- assessment exercises and the tutor marked problems you have previously encountered. All aspects of the course will be assessed. You should use the time between completing the last unit and taking the examination to revise the entire course. You may find it useful to review yourself assessment exercises and tutor marked assignments before the examination.

How To Get the Most from This Course

In distance learning, the study units replace the lecturer. The advantage is that you can read and work through the study materials at your pace, and at a time and place that suits you best.Think of it as reading the lecture instead of listening to a lecturer. Just as a lecturer might giveyou in-class exercise, you study units provide exercises for you to do at appropriate times. Each of the study units follows the same format. The first item is an introduction to the subjectmatter of the unit and how a particular unit is integrated with other units and the course as a whole. Next is a set of learning objectives. These objectives let you know what you should be able to do by the time you have completed the unit. You should use these objectives to guide your study. When you have finished the unit, you should go back and check whether you haveachieved the objectives. If you make a habit of doing this, you will significantly improve your chances of passing the course.

Self-Assessment Exercises are interspersed throughout the units. Working through these tests will help you to achieve the objectives of the unit and prepare you for the assignments and the examination. You should do each Self-Assessment Exercise as you come to it in the study unit. Examples are given in the study units. Work through these when you have come to them.

Online Facilitation

There will be about 8 hours of online facilitation provided in support of this course. You will be notified of the dates, times and location of the facilitations, together with the name and phone number of your facilitator, as soon as you are allocated a facilitator who will take you through the course. He will Keep a close watch on your progress and on any difficulties you might encounter.Your facilitator may help and provide assistance to you during the course.

Summary

Please do not hesitate to contact your facilitator by telephone or e-mail if:

- You do not understand any part of the study units or the assigned readings.
- You have difficulty with the self-assessment exercises.
- You have a question or a problem with an assignment, with your facilitator's comments onan assignment or with the grading of an assignment.

You should try your best to attend the online facilitation classes. This is the only chance to have face to face contact with your facilitator and ask questions which are answered instantly. You can raise any problem encountered in the course of your study. To gain the maximum benefit from the facilitations, prepare a question list before attending them. You will gain a lot from participating actively.

MAIN COURSE

CONTENTS

MODULE 1 BASIC CONCEPTS OF ENVIRONMENTAL LAW

UNIT 1 NATURE AND MEANING OF ENVIRONMENT

Unit Structure

1.1 Introduction

Environment law is a recent academic innovation in Nigeria. However, the idea of protecting our environment began in pre-colonial era when African's protected their environment through observation of culture, norms and customs. The second phase was the period of the imperialist, when common law and English statutes were introduced to curb or prevent pollution of our environment.

The emergence of the third era was marked by the toxic waste dumped in Koko, a riverine town in Delta State (former Bendel State) in 1988, Nigeria for the first time got hints of the Harmful Toxic Waste Cargo from some Nigerian students studying in Italy through letters they sent to some media houses alerting them that the lethal cages carrying wastes rejected in Europe were being cosigned to Nigeria under false inscriptions. The rest of this incident is now history, but it opened the eye of Nigerians and the government of the need to put environmental law and enforcement in proper shape.

This third era marked the beginning of Nigeria's seriousness towards protecting her surroundings (G. Oludayo 2004:3).

 1.2 Learning Outcomes

By the end of this unit, you should able to:

- Know the meaning and importance of environment.

 1.3 The Concept of Environment

1.3.1 Nature of Environment

The natural environment or natural world encompasses all living and non-living things occurring naturally, meaning in this case not artificial. The term is most often applied to the Earth or some parts of Earth. This environment encompasses the interaction of all living species, climate, weather and natural resources that affect human survival and economic activity. The concept of the natural environment can be distinguished as components:

- Complete ecological units that function as natural systems without massive civilized human intervention, including all vegetation, microorganisms, soil, rocks, atmosphere, and natural phenomena that occur within their boundaries and their nature.
- Universal natural resources and physical phenomena that lack clear-cut boundaries, such as air, water, and climate, as well as energy, radiation, electric charge, and magnetism, not originating from civilized human actions.

History reveals that human race was once afraid of nature and natural forces; human beings considered natural environment as superior to human race. Man is part of the environment where he finds himself and environment on the other hand houses and accommodates him. He can only survive in an environment based on his compliance with the dictates or ability to acclimatize and adapt to the nature of the environment, otherwise, his survival would be very slim.

Thus, degradation of land, water and/or air generate conflicts among various communities in various regions because their survival depends on the sustainable use of the environment. (Oramunwa, J.N., 2022). This could be seen in the case of the Niger Delta region of Nigeria where agricultural practices have grounded over the years as a result of effluents/gaseous discharges released into the environment from oil and gas industries operating within the region. The Niger Delta Development Commission (NDDC) Act, Section 7 (1) (b) empowers the commission to liaise with oil and gas companies and advise stakeholders on the control of oil spillages, gas flaring and other related environmental pollution.

It becomes expedient that we should prevent and reverse desertification, manage our forest, wildlife and natural resources and combat floods and inland and coastal erosion and manage natural and artificial disasters especially those brought about as a result of industrialization by the use of law as a vehicle in the regulation, management and protection of the environment. (Oramunwa, J.N., 2022).

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Environment is the totality of man and other organism", Do you agree?
2. Environment plays an important role in healthy living and the existence of life on planet earth. TRUE or FALSE

1.3.2 Meaning of Environment?

The word environment is derived from the French word "environment" means to encircle or surround. It is a composite word for the conditions/surroundings in which organism or group of organisms live. The environment is a very wide term. It includes total physical and biotic word, in which biological beings live, grow, get nourished and develop their natural characteristics.

In other words, it concerns with the "Biosphere" which include all biotic parts of hydrosphere, lithosphere and atmosphere. The environment consists of both biotic and abiotic substances, i.e., consists of air water, food, sunlight, temperature, electricity, etc. Thus, environment can be defined in a number of ways.

'Environment' has been given different definitions with different connotations. Some authors have defined it in relation to the biosphere, others on the aggregate of socio-economic and cultural conditions that influence the life of an individual or community. This definitional dilemma was well articulated by Kiss and Shelton who observed that 'environment' can signify any point on a continuum between the entire biosphere and the immediate physical surroundings of a person or a group.

Thus, it is not easy to arrive at a universal and generally acceptable definition of the concept.

Generally, the environment is not an abstraction, but represents the living space, the quality of life, and the very health of human being, including generations unborn.

The United Nation Stockholm Conference on Human Development asserts 'man is both creature and moulder' of his environment, which

gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth (See Preamble to the Report of the United Nations Conference on Human Development and Environment, 1972 particularly paragraph 1).

The UN General Assembly, in adopting the environment ideals in the world Charter for Nature 1982, emphasized the centrality of man in environment. It further stated man is part of nature and his life depends on the uninterrupted functioning of natural system which ensures the supply of energy and nutrients. Although these definitions have been criticized as anthropocentric in nature. This is so because, other organisms that inhabits the environment were relegated to the background.

The term 'environment' to the layman can be loosely defined as the location in place where he is at any given point in time. It is the surroundings, the condition that you live or work in and the way that they influence how you feel or how effectively you work' (see the Cambridge International Dictionary, Cambridge University press, 1995.

Environment is the quality of air, water and land in or on which people, animals and plants live. The maintenance of nature's delicate balance is the central focus of environmental protection. Man, therefore needs to protect his immediate environment, territorial waters high seas, air and forest.

To this extent, the Black Law Dictionary defines environment as
"The totality of physical, economic, cultural, aesthetic, and social circumstances and factors which surround and affect the desirability and value of property and which also affect the quality of people's lives. The surrounding conditions, influences or forces which influence or modify."

Though, this definition seems broader in outlook it is deficient in material respect. The National Environmental Standard and Regulations Enforcement Agency (Establishment) Act, 2007 provides thus "environment includes water, air, land, and all plants and human beings or animals living therein and the inter- relationships, which exist among these or any of them".

Section 20 of the 1999 Constitution of the Federal Republic of Nigeria defines environment as

(a) The water
(b) Forest and wildlife
(c) All layers of the atmosphere
(d) All organic and in-organic matter and living organisms, and
(e) The interacting nature system that includes the component referred to in paragraphs (a) – (d).

These definitions cover the broader concept of environment. In that respect, they embrace everything within and around man that may have effect on or be affected by man.

1.3.3 The Importance of Environment

Environment plays an important role in healthy living and the existence of life on planet earth. Earth is a home for different living species and we all are dependent on the environment for food, air, water, and other needs. Therefore, it is important for every individual to save and protect our environment.

One of the important aspects of living a long healthy life is to protect the environment from harmful gases, chemicals and wastes that we use every day. Anything surrounding us is a part of our environment. The relationship between nature and living beings is known as ecology; when the environmental cycle is maintained, it is easy to live a healthy life. Laws are incorporated for better public response and awareness. Earlier, humans could not cause much damage to the environment and if they did, it was on a small area of land.

The environment is a source of natural resources**:** apart from food, the environment provides several other natural resources necessary for the survival of human beings. The environment is the source of clean water, medicines, clothing, biofuels, wood and fossil fuels. These natural resources not only promote human survival on Earth, but they also enhance the living standards of people.

Furthermore, the environment supports most economic activities in the world. Economic activities, such as fishing, agriculture, manufacturing and tourism, depend largely on the environment for sustenance. For example, agriculture is dependent on adequate rainfall and fertile soils. In this regard, lack of care for the environment may affect employment, food security and production from such industries negatively.

The environment is important to enhance air quality and disaster control. The environment assists in the purification of air from the atmosphere. Plants release oxygen during the process of photosynthesis while using up carbon dioxide from the atmosphere. The removal of carbon dioxide and other toxic gases from the environment ensures maintenance of the quality of air. In addition, the regulation of carbon dioxide levels in the atmosphere helps to reduce effects of global warming and climate change.

Moreover, undisturbed natural ecosystems can moderate severe weather phenomena and limit their damage. For example, coastal swamps slow water flow and hold water during severe sea storms. In addition, trees help to reduce wind speeds hence making them less destructive to settlement areas.

Environment is natural beauty. The environment provides natural beauty for the amusement and relaxation of human beings. Environmental features like waterfalls, rivers, lakes, oceans, wildlife and forests offer soothing relaxation to the human psyche. In this regard, nature's beauty is essential for human health. For example, beautiful landscapes and a relaxed, cool atmosphere offer a conducive environment for the treatment of mental illness and post-traumatic stress disorders.

It supports biodiversity. The environment provides resources which support plants and animals. Resources, such as water, air and nutrients, ensure the survival of biodiversity. In return, biodiversity affects the natural cycle of elements like carbon and nitrogen, soil fertility, water purification, pest and disease cycles. This mutual dependability is essential for the sustenance of the ecosystem.

It is home to human beings. All goods and services used by humanity come directly or indirectly from the Earth and its environment. The environment helps to sustain human life by providing food, breathable air and natural resources. In addition, human beings live and thrive within Earth's environment. As a result, Earth's environment is humanity's only home where people can freely live without restrictions.

The importance of the environment to humankind, the consumer of the environment cannot be over emphasized. In view of the fact that the environment is a major source of national and international development, it must be protected from pollution, degradation or damage. Since a pollution of the environment could result in its decay, which will ultimately affect meaningful social and economic development as well as the quality of life of humankind and other species of biodiversity, environmental law prescribes litigation to protect and preserve the environment from misuse, abuse or destruction.

However, today, the human population is constantly increasing with various technological advancement. They are thus resulting in a complete disruption and imbalance in our ecosystem. Without realizing the long-term consequences, modern people are continuously using different means of hazardous elements that adversely affect our nature. The trade and commerce, industries and other factories paved the way for humans to leave the agricultural field and step into the technological world. The air, water and soil pollution are affecting the environment, and it is

damaging rapidly. Harmful greenhouse gases are causing greenhouse effect, the protective ozone layer is depleting, causing the sun's direct ultra-violet rays to enter the earth and cause the snow to melt and produce serious skin diseases and infections among animals and humans.

In 1987, countries alarmed by the discovery of a huge hole in the ozone layer over Antarctica signed a treaty known as the Montreal Protocol to eventually end the use of chlorofluorocarbons, which at the time were used in refrigerators and aerosols such as hair spray. HFCs were introduced to replace them, and scientists realized only later that while they don't harm the ozone layer, they have a strong effect on global warming. Their ability to trap the heat radiating off the Earth is hundreds or thousands of times more potent than that of carbon dioxide. HFCs, which are used in air conditioners, refrigerators and insulating foams, have become the latest target as the world tries to reduce global warming. They have been called the world's fastest-growing climate pollutants, though less plentiful than carbon dioxide, as more people in developing countries buy appliances. Little wonder nearly 200 nations have reached a deal to limit the use of greenhouse gasses in a major effort to fight climate change.

Humans must be responsible and use nature efficiently in a way that will cause less damage as various animals are going into extinction and 13 human lives are lost every minute because of lack of trees, increased pollution, use of electronic gadgets and waves. This imbalance of nature is causing serious complications and danger for a long-lasting life on earth.

Because of the important nature of the environment, it is prudent to protect the environment from environmental degradation, pollution or any other harmful effects. This can be done through water conservation, proper waste disposal and preservation of biodiversity. Through these and similar measures, protection of the environment prevents the depletion of natural resources thereby ensuring the stability of the ecosystem. It's also ethical to preserve the environment for future generations.

Therefore, in a broad sense, the benefits of environmental protection include: it minimizes decay of natural and social environment, it aims to reduce poverty and it reduces disharmony in communities. It becomes necessary to strike a balance between development and sustainable development.

This unit discussed the nature, general concept and importance of the environment. It is the totality of man and his interaction with other living organisms.

1.4 Summary

There is no way issue of environmental law will be thoroughly discussed in academic without mentioning and exposing the tenet of environment. Environment naturally is the abode of all organisms and all none-living things that sustain man in any place he found himself. The essence of man in any place is not a condition for defying such a place 'an environment'.

1.5 References/Further Readings/Web Sources

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1.6 Possible Answers to Self-Assessment Exercises

SAE 1. YES 2. TRUE

UNIT 2 MEANING OF ENVIRONMENTAL LAW

Unit Structure

2.1 Introduction

Laws are rules set about by authority, society and custom e.g., administrative regulations. Environmental laws are not recent phenomena. It can be traced far back as 1306, when London adopted an ordinance limiting the burning of coal because of degradation of local air quality. Such laws became more common as industrialization created many sources of air and water pollution throughout the world.

This unit deals with another very important aspect of this course. That is, the meaning of the environmental law and its historical background to African concept of environment and environmental protection. The idea of environmental protection is not alien to Africans, people who lived in peace and harmony with nature and there was rapour in ensuring a balance between the people and their environment. There was a strong environmental protection mechanism through rudimentary measures, in order to ensure a cleaner environment.

2.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the meaning of the term, environmental law
- Discuss African model of environmental protection during the pre-colonial days.

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Define environmental law
2. Identify the three classes of landmass

2.3 Meaning of Environmental Law

It is important to note that environmental law is among those concepts that is not easy at all to define. The coin of the concept has more than two sides. On one side, it may mean pollution control law; at the other side, it is everything that isn't me (Einstein). To many people, an acceptable compromise as to the meaning of environmental law can be found between these positions. Environmental law according to Amokaye G. O. represents the body of rules, both from the national and international perspectives, for the sustainable utilisation of resources for the social and economic development of the society. It is a way of protecting all those things we share and are inevitable part of human existence, including all classes of organisms and plants such as the air, water, land, forest and wildlife.

In a nutshell, environmental law is the transformation of those moral principles into legally enforceable norms. Environmental law means any applicable Law, and any Governmental Order or binding agreement with any Governmental Authority: (a) relating to pollution (or the cleanup thereof) or the protection of natural resources, endangered or threatened species, human health or safety, or the environment (including ambient air, soil, surface water or groundwater, or subsurface strata); or (b) concerning the presence of, exposure to, or the management, manufacture, use, containment, storage, recycling, reclamation, reuse, treatment, generation, discharge, transportation, processing, production, disposal or remediation of any Hazardous Materials.

It is also defined further as the law governing the control of the effects of human activity on the physical environment in the overall interest of the public/society.

The term encompasses the subject matters of many important international agreements and municipal laws, regulations, standards and institutional framework for the equitable and sustainable use of the natural resources (Amokaye G. O. 2004: 3).

To Ola C. S. (1984) environmental law covers the whole universe including not only human beings but also plants, animals, forests shrubs, refuse, bacteria and insects. He went further to assert that, like other laws,

it is a system of rules of socials control aimed at achieving certain goals relating to the environment and the universe and securing obedience to them. From Rodgers analogy, "environmental law cannot repeal the rain and the wind nor can it repeal the laws of ecology. What it can do is to attempt to create order out of chaos as law cannot alter the environment".

This is the aspect of law that constitutes a special body of official rules, decisions and actions concerning environmental quality, natural resources and ecological sustainability.

To enforce is to endure with force or to bring into operation that which has a force of its own. The law relating to environment is derived from two principal sources, namely common law developed by courts through judicial precedents and the statutory law with regulations or by-laws. The driving force for change has been the product of lessons learnt from experience in the application of procedures as well as response to mounting new environmental changes.

2.3.1 African Concept of Environment and Environment Protection

The traditional people of African lived with and recognised nature. Apart from the fact that they lived in perpetual harmony with nature, they equally made use of nature around them.

In our traditional relationship with nature, man and women recognize the importance of water, land and air management. To our traditional communities the ethics of not taking more than you need from nature is a moral code. Perhaps this explains why earth, forests, rivers and wind and other natural objects are traditionally believed to be both natural and divine. The philosophy behind this belief may not necessarily be religious, but a natural means by which the human environment can be preserved. The ethics of care is essential to traditional understanding of environmental protection and conservation (Ogungbemi, 1997: 204).

No wonder they provided means of protecting their environment by way of protecting, preserving and sustaining nature within their means, ability and knowledge of environmental management, through rudimentary but very effective methods.

The people were very cooperative with one another. The land was owned and managed cooperatively. Traditional method was practiced and strictly land was own collectively. It is not divisible. The environmental sanitation and ecology of the era, surpass the contemporary effort.

Though, the ecology knowledge of that era was attached to the belief of the people about nature; land, air and water and their entire environment. The people believed that is more important than any other natural phenomena because it symbolizes economic and cultural survival: Misuse or destruction of it in any form, may lead to collapse of the society. Elias corroborating this fact posited that the relation between group and the land they held is inevitably complex since the rights of individuals and the group with respect to the same piece of land often co-exist within the same social context.

Land among other constituents of the environment is highly placed and valued, not to be abused but a material protected from generation to generation. For instance, the Yorubas in the southwest of Nigeria believe strictly in the fact that 'land is preserved for the living and the dead'. This is a result of the fact that the land here on earth belong to the living beings and the dead. The testimony of Elesi of Odogbolu before the West African Land Committee where he said among other things that "I conceived that land belongs to a vast family of which many are dead, few are living and many are yet unborn".

The importance attached to the land by the African people informed the development of diverse but integrated agricultural, religious and socials norms and values systems. All these beliefs; lifestyles, practices and land-tenure system, though not modernized in nature and wholly to meet fast growing modern environmental challenges, at least served the major purposes of the period under discussion.
Despite the crudity or rudimentary nature of the traditional practices, it improved the living standards of the people and their living well within their environment.

2.3.2 History of Environmental Protection in Nigeria

Environmental protection is a practice of protecting the environment, an individual, or organization from harm or degradation**.** Due to the increased pressures of population and technological advancement, industrial revolution, the physical environment and the biological life are being degraded i.e., the built environment and the natural environment.

There is no nation under the hemisphere today without its own historical background to environmental protection. Nigeria is not exempted among the nations of the world with rudimentary ways of preserving and protecting her environment. The indigenous peoples from time immemorial had adopted different traditional methods directed at protecting and sustaining development such as the bush fallowing, crop rotation, shifting cultivation of farm lands were methods adopted at protection of their land from being over used.

In the pre-colonial era, regulations aimed at protecting the environment were through the customary law which was basically unwritten and tradition based. Customary law and practices in various parts of Nigeria made elaborate provisions to uphold environmental balance and preserve natural resources. In addition, they guaranteed that the inhabitants of the villages would enjoy a healthy or wholesome environment. Certain customary practices ensure preservation of animals, forests management and preservation, water resources management, regulation of fishing activities, land preservation, water resources management, regulation of fishing activities, land preservation and environment-friendly agricultural practices, pest control and soil preservation.

These results in the prevention of water pollution, air pollution and land pollution as well as noise pollution. Some of these practices include declaring certain parts of the river as sacred, declaration of certain habits/practices in the river as taboos e.g., walking into the river with shoes, selective use for security or religious reasons, prohibition por restriction of bush burning, prohibition of eating of certain animals, creation of forest reserve for special purposes like hunting, performance of religious rites or rituals or as grooves etc.

These ensures forest preservation and ecological balance, biodiversity of plants and animals, there is also protection of endangered species.

2.3.3 Classes of Landmass

During the pre-colonial era, the indigenous people classify and zone their landmass into three major parts, thick, lower forests and grooves.

(i) The lower forests are meant for fencing, building of houses and equally served the purposes of social needs.

(ii) The thick forests unlike the lower forest are not utilized for cultivation or used for any economic purposes. But “serve as buffer for variety of purposes and constitute significant harbingers for useful medicinal plants and herbs” (Amokaye G. O. 2004: 70

The non-cultivation of thick forests connecting preservation of the forests, as a result, the issue of deforestation cannot be addressed. The thick forests are left uncultivated. Among the Yorubas, most of these forests were reserved for various functions. Some were preserved for hunting of games. That is, some forests were meant for very big animals that are wild and difficult to hunt, while others were reserved for ordinary hunters, who are specialists in the area of hunting games. At interval, any hunter who is looking for a number of dreadful or wild animals would be directed to the specialized forest to hunt for them. It is the belief of Yorubas that any hunter who is not sure of himself must risk going into any of these thick

forests. Regardless of the hunter tactics in the field of hunting, he must arm himself with trusted and efficacious traditional medicine before attempting to enter the thick forests to hunt wild animals such as buffalo forests, elephant forests, tiger and lion.

(iii) Grooves- This is a well-preserved forest for the observance of customs and religious rituals, where some sacred plants, sacred animals are kept. It is forbidden for anybody to attempt to destroy them.

The sacred trees are regarded as possessing one spirit or god. These plants that possess spirits cannot be felled except as directed by the gods after due consultation and approval with the spiritual realm. For example, iroko tree among the Yoruba's. These forests are preserved for diverse use, it protects the people and served a useful defence in the time of war during the pre-colonial era.

On a gross scale, the land areas of the earth are classified first of all into *continents*, seven in number: North and South America, Europe, Asia, Africa, Australia and Antarctica (for statistics see *Continents and Oceans*). In the past, there has been some discussion as to the justification for separating Europe and Asia along the line of the Urals and the Caspian Sea. Curiously enough, recent paleomagnetic dating by Russian and Chinese geologists on the two sides of this barrier suggests that, in fact, these two continental areas were formerly up to 3000 km apart and, by approaching each other, have closed an old Ural waterway once wider than the Mediterranean, so perhaps the boundary is not a bad one after all. A little attention to the form of the earth's surface shows that it has two parts—oceans and continents. Of the earth's surface, an area of 148 million square km, i.e., 2/7th part, is covered by land and the remaining 361 million sq km, i.e., 5/7th part is covered by oceans. Nigeria is currently undergoing rapid and wide–range changes in its land due to climate change, the practice of slash–and–burn or shifting cultivation and rapid infrastructural development.

This unit contained three major sub-topics and has been thoroughly discussed to satisfy the student's yearnings. That is, the meaning of the basic concepts of environmental law, the African and Nigerian concept of environment and environmental protection. Apart from the fact that there is no universal definition of the term; the African indigenous people had their own way of preserving their own environment.

2.4 Summary

It is worthy of note that African traditional people and Nigerian indigenous people have their own very unique way of preserving natural life around them for the betterment of their unborn generation, preservation of natural life. The indigenous people in their own world in those days were civilized in dealing with their environment.

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2.6 Possible Answers to Self-Assessment Exercises

SAE

1. Environmental law means any applicable Law, and any Governmental Order or binding agreement with any Governmental Authority: (a) relating to pollution (or the cleanup thereof) or the protection of natural resources, endangered or threatened species, human health or safety, or the environment (including ambient air, soil, surface water or groundwater, or subsurface strata); or (b) concerning the presence of, exposure to, or the management, manufacture, use, containment, storage, recycling, reclamation, reuse, treatment, generation, discharge, transportation, processing, production, disposal or remediation of any Hazardous Materials.

2. Classes of landmass include:
i. The lower forests
ii. The thick forests, and
iii. The grooves

UNIT 3 CONCEPT OF ENVIRONMENTAL LAW IN NIGERIA

Unit Structure

3.1 Introduction

Environmental law has been variously defined by various environmental scholars. This is well discussed in Unit 2 of this Module. The evolution and development of legal tools, machineries and strategies to maintain a balance between man's perpetual occupation and the ecosystem is no doubt apposite. Therefore, environmental law has been described as comprising "legal strategies and procedures designed to combat the pollution, abuse and neglect of air, earth, and water resources" (see Encyclopedia Americana, 1995). Environmental law in Nigeria shall be looked into from two angles, pre-1988 and the post 1988 respectively.

3.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the concept of environmental law in Nigeria,
- Discuss the pre-colonial/colonial and post-independence to 1988 and beyond (till date).
- Explain pollution and the environment.

3.3 Concept of Environmental Law in Nigeria

It was not the colonial regime in most African countries that introduced environmental law or protection. Thus, it will be unfair to Nigerian in particular or Africans in general to categorically state that the history of sanitation and protection of our environment started during the colonial era.

However, the concept of environmental law as witnessed during the colonial administration was generally characterized by political and economic gains of the colonial leaders. No wonder a learned scholar stated that "laws which would have in any way restricted economic activities or imposed additional responsibilities on them (colonial Administrator) by way of environmental requirement would probably have been considered counterproductive if not repugnant, this resulting in a situation where there were hardly any laws deliberately directed at protecting the environment or the natives from the polluting effects of their activities" (Nwadozie, K. C. 1994: 2).

In the Criminal Code, there are certain provisions which sanctions on the pains of punishment the flouting of water, air, land, well tanks, reservoir; the burial of corpses within certain yards of a dwelling house. At this time, there was no sanction or the punishment was too mild for some of the violations. In this wise, the development requirement of Nigeria as a young economy justified the turning of a blind eye on some of these problems. Atsegbua et al, stated that the period between independence and 1980 actually witnessed a combination of political and social economic factors which began to enhance the development of environmental law in Nigeria. It was during this time that the concept of environmental law changed. The changes were as a result of sudden growth and development of local industries and foreign companies' which led to problems connected with industrial waste management. It was this upsurge in the industries that brought about various forms of hazardous waste and pollutants into the formerly quiet environment. Similarly, the discovery of crude oil in the Niger Delta Region shortly after independence, and the attendant oil boom equally exposed Nigeria ill-preparedness for the problems usually associated with individual development. The government is only after the resource that comes out of the boom and later the boom burst into various pollutions which were highly injurious to human health. (Ademola A. Taiwo 2010; NOUN, Environmental Law I) Due to the new impact brought by industrialization and oil discovery on the environmental policy in the country (Nigeria), a new concept of environmental law had to be developed and articulated. In other to bridge the gap, the then Federal Military Government promulgated the Factories Act, Oil in Navigable Waters Regulation 1968; Petroleum Act, 1969; Petroleum (Drilling and Production) Regulations 1969; Petroleum Drilling and Production (Amendment) Regulation 1973; Petroleum Refining Regulation 1974; and the Oil Pipeline Act, 1956.

The sudden development in environmental protection policy and the concept of environmental law some years after independence shows that the government was more conscious of the environment than what was obtainable during the period of colonial lords. The change in environment

law concept as a result of prevalence of these laws majorly to protect the citizen's health, the balancing of ecosystem, management of natural resources, problems of socio-economic and political consideration and the problem of inadequate or adequate compensation of pollution victims are the key problem encountered by the current of concept environmental law.

The above argument was corroborated by a learned legal scholar that:
The range of topics under the general heading of environmental law is extensive. It could include planning law, the law relating to the quality of air, and water, the disposal and transport of waste, control of the nuclear industry and statutory nuisances. (See Atsegbua et al, supra).

Before independence in 1960, most legislation that can be called environmental laws in Nigeria were resource specific or sector specific and were piecemeal and not coordinated. Prior to 1988, very limited attention was given to environmental protection. There was no national policy on environmental control. Environmental protection was the responsibility of each government department which was expected to deal with environmental problems as it affects her mandate. Environmental protection was only incidental to the performance of the primary duties of ministries and departments. Inter-ministerial committees dealt with environmental matters of inter-ministerial concern on ad hoc basis. There was no clear legal framework for environmental protection in Nigeria until 1988 when as part of coordinated approach to the emerging environmental issues, the Federal Environmental Protection Agency (FEPA) was established due to the discovery of an Italian ship in May, 1988 of about 4000 tons of imported toxic chemical waste illegally dumped in Koko. This no doubt led to the real legislation on environmental protection which was promulgated in 1988 titled Federal Environmental Protection Agency Act (FEPA) Cap 113, LFN 1990 (as amended in 2004).

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. The government showed no interests in the development in environmental protection policy and the concept of environmental law even some years after independence. TRUE or FALSE.

3.3.1 Concept of Environmental Law in Post 1988

In some countries, legislations protecting the environment are embodied under a code of what can be referred to as umbrella legislation. For many others, national environmental legislation had to be made after the United Nations Environment Conference in Rio de Janeiro, Brazil, 1992. In

Nigeria, environmental protection provisions are generally embedded in different pieces of legislation (pre- and post-independence) and not under one main legislation (Babsal and Co., 1998). Some of these include Forestry Regulations 1943, Forestry Law (Exclusion) Notice 1943, The Forestry law of 1963, The Water Resources Control Law1963, Wild Animals Law, 1963, Endangered Species Act 1985, Harmful Waste (Special Provisions etc.) Decree of 1988 (Ayuba, 2005). The 1980s may be said to be the starting decade of environmental consciousness in Nigeria. The Federal Military Government which came to power between December 1983 to August 1985, was very vocal about environmental protection. That Government made maximum use of the media to instill a strong environmental consciousness in the minds of Nigerians. The Federal Military Government set the pace with massive environmental propaganda while the State military Governors had to implement the policy guidelines by translating propaganda into legal reality. The States thus look the initiative to enact environmental laws (Uchegbu, 1988). Following the Koko Port Toxic dumping incident in June 1988, Nigerians became seriously aware of the need to protect their environment through proper law, coordinated policies and central authority (Idowu, 2000). Thus, the Federal Environmental Protection Agency of Nigeria (FEPA) was created by Decree 58 of December 30, 1988, with the statutory responsibility for the protection and development of the environment in general. Since the establishment of FEPA, some legislations, many guidelines and regulations have been passed to control pollution, hazardous wastes, and effluents and to put development projects under environmental impact assessments.

The Federal Government on 30th December 1988 promulgated Decree No. 58 of 1988 establishing the Federal Environmental Protection Agency (FEPA) as the apex organization for all matters relating to environmental protection in the country. FEPA (it was later replaced by the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act, 2007 [NESREA]) was established to protect and preserve the ecosystem. Thus, the Purpose of Act was to prescribe standard for:

(a) Water quality;
(b) Influent limitation;
(c) Air quality;
(d) Atmospheric protection;
(e) Ozone protection;
(f) Noise control; and
(g) Control of hazardous substances and removal control methods

There was delay in post 1988 concept of environmental legislation as a result of subsequent administrations in Nigeria who regarded and reduced

environmental protection issue to the level of domestic wastes as such dissipated a lot of energy in the direction of environmental sanitation. How to deal with bigger environmental factors and its protection were not envisaged.

This fact was supported by Aina and Salau:
"This Environmental Sanitation Syndrome has been responsible to some extent for the obviously low priority given to institution building for the environmental management. This same definition has given rise to the tendency to reduce the failure of environmental sanitation efforts to the lack of discipline among the populace and a preference for ad hoc compulsion to enforce sanitation".

Another factor that may be responsible for the late response to the call for fight to protect the environment is the instability of government in Nigeria. The regular change in government usually impeded development and environment protection framework development which would have been put in place was impeded. Subsequent governments did not see it as a priority to develop environmental protection alongside with Economic planning.

In the third National Development Plan, no correlation between economic and physical planning, it therefore underscored the need and expectation of the citizenry in respect of environmental protection. (Ikhide Eghighehu 2007:6).

For the first time after Koko in 1988, a deliberate and pragmatic conceptual approach was made in formulating a realistic policy. It is instructive to note that:

Since the health and welfare of all Nigerian depend on making the transition to sustainable development as rapidly and possibly, this national policy or the environment provides the concepts and strategies which will lead to the procedures and other concrete actions required for launching Nigeria into an era of social justice, self-reliance and sustainable development as we enter into the 21st century.

With the above factor, there is the need to establish an administrative and enforcement body that will overseas all environmental related problems in water, air and land – forests, and wild animals: A body in the nature of FEPA was proposed and eventually established. It equally established at state levels bodies called State Environmental Protection Agency (SEPA). This is because environmental issue is under the concurrent list. That is, the federal government and states have right to legislate on it.

Nigeria policy on environmental protection since then is in tune with international requirement and standards. Upper Brink (a German Environmentalist) contributing to the need for environmental protection through law, posited *inter-alia*:

"The protection of man and the environment from harmful effects resulting from all substances introduced into the atmosphere, water or soil requires the formulation of a comprehensive and interdisciplinary concept... to comprise general objective and principles of protective actions"

This idea cannot be effective without instrument of law deliberately put in place to protect the environment.

To this extent, it is worthy of note that Nigeria has arrived in terms of laws to combat environmental hazards and pay adequate compensation to the victims of the pollution.

It was included in the 1999 Constitution of FRN particularly Section 20. A Ministry has been created – Ministry of Environment at both national and state level respectively to deal with environmental protection. FEPA with more responsibilities changed nomenclature to become National Environmental Standards and Regulations Enforcement Agency Act (NESREA), 2007. It has branches in all the states of the Federation. It areas of coverage includes, monitoring, reduction and possible prevention of environmental pollution (Atsegbua et al).

Also, the move on environmental protection activism is key because in environmental field, well known problems of achieving environmental protection in the face of short term economic costs, as well as scientific uncertainty or the perception thereof, make reliance on procedure alone insufficient to ensure a safe, healthy or economically sound environment.

In this unit, the concept of environmental law in Nigeria in pre-1988 and Post 1988 was discussed. Nigeria has become more aware of international treaties, conventions and collaborations relevant to environmental protection in its efforts to forestall permanently a repeat of the Koko Toxic Waste incident. Nevertheless, environmental law should not be confined to areas of sustainable development of the environment only, but include right of man to live in healthy, hygienic and safe environment. It should be part of third generation rights which should without hesitation be inserted in the Constitution.

3.4 Summary

It is worthy of note that for a proper sustainable environment to be achieved there must be adequate law on ground and enforcement body as we have in NESREA. All the laws put in place before 1988 were toothless, and dealt with matters of environmental sanitation. But the incident of 1988 made the government of Nigeria look beyond her shoulders and promulgated FEPA. Since FEPA has metamorphosed into Ministry of Environment in 1999 and NESREA in 2007, as an institution it has been doing well in performing her own bit. More performances are expected in the area environmental protection and human health as a right.

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3.6 Possible Answers to Self-Assessment Exercises

SAE
1. FALSE

UNIT 4 THEORIES OF ENVIRONMENTAL LAW

Unit Structure

4.1 Introduction

Theory is a concept or ideas, principles and methods used to explain a wide set of observed facts. Environmental law is a concept that has many ideas, principles about human, animals, wildlife and various species of plants. It deals with how living organisms can sustain, protect and develop their environment where they find themselves. It is all about economic development; deep ecology; sustainable development; and the challenges.

4.2 Learning Outcomes

By the end of this unit, you should be able to:

- Environmental law is a multi-dimensional course;
- Environmental law is a concept related course and it is associated with variety of theories;
- Environmental law is promulgated to address challenges facing the environment.

4.3 Theories of Environmental Law

Environmental protection is a concept associated with a variety of theories about mankind and the environment. These theories on environmental protection can be summed up into three schools namely;

(a) the school of economic growth
(b) the school of "deep" ecology and
(c) the school of sustainable development.

4.3.1 Economic Growth (Development)

The school of economic growth is otherwise regarded as school or theory of "development".

The theory of economic growth according to Amokaye G. O. (2004:10) is anthropocentric in nature and has its root in the biblical concept of human dominion over nature and its exploitation for exclusively human ends. That is, Genesis 1 verses 27 – 30 and Psalm 115 verse 16 stated that "heaven belongs to the Lord alone, but He gave the earth to human race". These Christian injunctions provide the moral legitimacy for human dominance over nature which becomes the accepted goal of human endeavour. This concept which was coined and popularized by the duo political theorist Immanuel Kant and St. Thomas Aquinas is traceable to Plato, who posited that "man is the measure of all things".

The anthropocentricism believed that man is the central unit in the environment and the key actor among other inhabitants of the environment. This dominion concept was later articulated and transplanted to mechanistic view to advance the course of industrial revolution by the earlier theorists.

In furtherance of this principle, Francis Bacon who lived between 1561 – 1626 postulates that 'all creation had meaning only in relation to humanity; "man, if we look to find causes, may be regarded as the centre of the world in as much that if man were taken away from the world, the rest would seem to be all astray, without aim or purpose". Beacon perception of the earth as a very fertile gift of nature ready to unlock through scientific means.

Thomas Hobbes, a seventeenth century political philosopher (who lived between 1588 – 1679) believed in the validity and supremacy of individual human interest over and above general interests in a society or environment. He sees the human life as "short, nasty, brutish and melancholic)". He stressed further those human beings usually fight one another to gain one advantage or the other over themselves. He concluded by advocating to prioritization of available resources instead of even distributing the resources, so that it will drastically reduce fighting and hatred among the people.

To an economic theorist, and father of modern economics (who lived between 1723 – 1790) propounded the theory that objective laws control economic life, as Isaac Newton in his Newtonian physics coined the laws of nature. In his view, the economic freedom of people in self-interested pursuit would automatically contribute to common good. Man is more

egocentric and thinks much about his own interest than the common interest of the environment.

As a result of man exploits to satisfy his interest perpetually exercise his domain over the earth through daily exploitation of environment and its natural endowments (resources) to himself and for himself only; even though his sustenance depends solely on the degree to which he can exploit this environmental physical nature in his surroundings.

The following four basic components of the physical environment are subject to the influence of human being in the process and means of economic growth and development. As a result, the perspectival views were formulated:

- Man, who also comes from nature is entitled as dominant constructor to transform the lithosphere and biosphere at will into a man-made world that promises an abundance of material goods;
- There is no natural obstacle to this, although, the population will stabilize in times to come, it can meanwhile multiply without fear because the earth can support an unlimited number of people;
- These sufficient natural resources and in any case, technology will discover new ones if the existing ones runs out;
- There are no environment crises and the alleged dangers are scientific myths; all environmental problems will be dealt with successfully with the aid of technology; and;
- Consequently, production and consumption can increase indefinitely and there is no good reason to restrict them.

The advocates of this theory are concerned with

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Those who advocate for return to simple ways of managing nature are classified under what theory?

2. The first two schools of Economic Growth and Deep Ecology are balanced in application. TRUE or FALSE

Critiques of Economic Growth Theory

(a) Be that as it may, the economic growth theory has been criticized as too anthropocentric and equally extreme in approach. And its developmental position has been debunked scientifically.

(b) However, the ecologist school of thought in a similar vein argued that man does dominate nature as postulated by the economic growth theorists instead the relation is interdependent with it so far

as the man's intervention has special feedback within the man-made systems; which in turn affects their stability.

(c) The resources are finite and measurable and unlimited consumption cannot last for a long time.

(d) Human population explosion must be seen as an acknowledge problem; although it is under management by the United Nations.

(e) The global environment crisis is a proven fact and its main manifestations – climatic change; ozone layer legislation global warnings are already the major objects of action plans.

4.3.2 "Deep" Ecology Theory

The second school of environmental law theories is that of "deep" ecology theory. The advocates of this theory are concerned with return to simple ways of managing nature. The theorists are egocentric in approach. They are primarily and traditionally concerned about non-human nature and the totality of ecosystem, as oppose to humans as its purpose. To the ecologists, theorist, human beings are morally obliged to respect plants, animals and all nature, which have a right to existence and good human treatment. The Eco centrists posits that the entire world are living and self-regulating organisms and rejects the dualist view of human and nature as separate and distinct. The propounder of this theory perceived man and his natural environment as partners in progress rather than nature existing for satisfaction of man's selfishness interests. Man, and nature co-exist to help regulate and balance the planet. The main focus and the interest of the theorists are evolutions, ecosystem and the conservation of specie, without placing any burden on man. The school emphasizes the right of man, plants, animals and natural inorganic elements as well. As a result, man owes his existence and respect to nature and all other creatures.

Critiques of the theory:

(a) The school of ecology was too extreme because it is one sided.

(b) Despite the numerous contributions, they were in the error of market autonomy.

(c) The value of this school is not in the extreme conclusion that it advocates but, in its highlighting, the very important role played by ecosystems as the irreplaceable bases for man-made systems

(d) The man-made environment and nature are far apart. Man-made systems are one thing and ecosystems another.

4.3.3 Sustainable Development Theory

The first two schools of Economic Growth and Deep Ecology are seen as too extreme due to the fact that they regarded as one sided. The school of Economic Growth believed in isolations of man from his environment,

while the second, Deep Ecology Theory focus on holistic and concentrate on ecosystem. It ignored the unique qualities that distinguish mankind from all other living organism. The ecology theorist rejects human uniqueness qualities and promotes uniqueness of the ecosystem; and forgot the necessity to harmonizing ecosystem and man-made systems; that is corporation existence of nature and cultural development. As a result, man must survive and his survival is based on technological development characterized by the building of industries/factories, smelters, oil refineries machinery, mining and blasting; even though at times at the expenses of other elements in the vicinity of his occupation.

The sustainable theory came to address the differences between two former theories. Development thinkers primarily recognized as the process by which a state or nation provides for its entire population, all the essentials by life such as health, housing, economic opportunity, nutrition and create enabling atmosphere to allow every adult to participate and contribute his own quota through gainful employment. The theory promotes and encourage the national government authority facilitate the construction and maintenance of the infrastructure and mechanism which perpetuate the production and its base of the nation for the present and future times.

The above is in accordance with the United Nations Declaration on the Right to Development and all right of all people to enjoy the Right of Self-determination and an individual's right to enjoy a minimum quality of life (See 1986, Declaration on the right to Development; United General Assembly (UNGA) Res 41/128 Annex); J. C. Dembach, analysis the nexus between development and sustainable development and calling for integration into national government.

The declaration defined development as a comprehensive process that involves political freedom and equality of opportunity for all to basic resources, education, health services, food, housing, employment and the fair distribution of income. The Declaration states that all human beings are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized (Amokaye G. O. supra).

The Development theory covered a broader international level with four concepts; peace and security; and national governance that secure peace and development. Sustainable development can be defined as follows; it is an increase in a country's wealth production, that is, the gross income, which does not entail parallel reduction or degradation of its natural capital.

In 1987, the United Nations released the Brundtland Report, which included what is now one of the most widely recognized definitions: "Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (from the World Commission on Environment and Development's (the Brundtland Commission) Report 'Our Common Future'. According to the same Report, the above definition contains within it two key concepts:

(a) the concept of 'needs', in particular the essential needs of the world's poor; and
(b) the idea of limitations imposed by the state on technology and social organization on the environment's ability to meet present and future needs.

This means we have to meet the needs of all sections of society particularly the underprivileged. While meeting the needs we have to make sure that what we take from nature does not increase the degradation of the earth's natural resources and threatens biodiversity. Nature is finite and we need to set a limit to our consumption of natural resources. There is a need for a strategic approach to maintaining a balance between social, economic and environmental challenges.

The various components of sustainability can be included under three headings– economy, society and environment. In order to attain 'Sustainable Development' the government has to ensure that there are institutional mechanisms in place to achieve sustainable development in all three areas. These institutional mechanisms make certain that there is a sustained, organized and coordinated effort at all levels to bring about socio economic development and environmental sustainability. These include the various ministries and departments at the central as well as state level.

Global inter-governmental action began with the United Nations Conference on the Human Environment in Stockholm in 1972. This led to the 'Stockholm Declaration' and an action plan with over 100 recommendations on environmental assessment, management, and support measures. The Stockholm slogan was "Only One Earth". The environmental debate centred around the Club of Rome Report on the "Limits to Growth", and talk of economic development (the precursor of Sustainable Development). The Report highlights the consequences of unrestrained growth and the linkages between several global problems.

Post Stockholm concerns for the environment continued to grow. There was widespread deforestation, industrial pollution and environmental degradation. The ozone hole, the warming of the earth, increased carbon dioxide in the environment all added to the growing environmental

concerns. A need was felt to link environmental concerns with industrial development and growth. With this in mind, the United Nations, in 1983, established the "World Commission on the Environment and Development" or as it is commonly referred to as the "Brundtland Commission". The Brundtland Commission Report – 'Our Common Future' in 1987 defined 'Sustainable Development'.

Twenty years after Stockholm, the United Nations Conference on Environment and Development was held in Rio de Janeiro in 1992. 'The Earth Summit', as it was called adopted the 'Rio Declaration' and an action plan of 40 chapters called Agenda 21 was adopted by over 100 Nations. Agenda 21 was geared towards achieving Sustainable Development in the 21st century.

The Rio Summit was followed by several other Conferences to focus on 'Sustainable Development'. These include conferences like the "Global Conference on Sustainable Development of Small Island Developing States" in Barbados in 1994: "The World Summit on Social Development" in Copenhagen in 1995: "The Fourth World Conference on Women", Beijing 1995; and the "Second UN Conference on Human Settlements, Habitat II", Istanbul in 1996.

The focus was on following the path of 'Sustainable Development' in all countries in all parts of the ecosystem whether on land, water or air. The effort has also been an all-inclusive development that reaches all sections of the population with a special focus on the vulnerable sections like women, children or the marginalized. A five-year review of the progress of the 'Earth Summit' was held in 1997 by the United Nations General Assembly. This was followed by a ten-year review in 2002 by the World Summit on Sustainable Development (WSSD). The WSSD was held in Johannesburg, South Africa. It urged the Nations to make progress in the formulation and implementation of strategies for sustainable development and to begin implementing them by 2005.

In 2000, the largest-ever gathering of world leaders agreed to a set of timebound and measurable goals for combating poverty, hunger, disease, illiteracy, environmental degradation and discrimination against women, to be achieved by 2015. These are called the Millennium Development Goals.

Critique of the Sustainable Development Theory

1. Several authors suggest that the term "sustainable development" is ill-suited for goal-definition.

2. Since ecological systems have limits in providing resources and take-up capacities leads to the fundamental insight that nature has

limits for human emissions, a sustained growth cannot exist. Hence a conception of sustainable development claiming sustained growth is paradox in its aims.

3. Also, it will not be possible to collect all data and information about a specific ecosystem. Therefore, only incomplete management of nature is possible.

In this unit, we have attempted to discuss the theories of environment law and environmental protection. These theories are economic theory, 'deep' ecology theory and sustainable development theory. These theories are germane to the understanding of environmental protection.

4.4 Summary

It is observed from the above outline of the theories there is no one without its criticism. The totality and emphasis were laid on the organisms and environment particularly, the role of human being in maintaining, protecting and sustaining the environment. Man's survival equally depends on the quality, uniqueness of the environment he finds himself.

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4.6 Possible Answers to Self-Assessment Exercises

SAE

1. Deep" Ecology Theory

2. FALSE

UNIT 5 CHALLENGES OF ENVIRONMENTAL LAW IN NIGERIA

Unit Structure

5.1 Introduction

In Africa like in most developing countries, the major preoccupation of government for many years has been the provision of basic social amenities. Environmental protection was synonymous with conservation of natural resources, while concerns for industrial pollution control and hazardous waste management were treated as both esoteric and an attempt to slow down the pace of industrialization. Under such a state of lethargy in environmental protection, a strong catalyst is needed to wake up both government and the populace to their responsibilities. For Nigeria this much needed catalyst for environmental enforcement came in 1988 in the form of an illegal dumping of toxic wastes of Italian origin.

5.2 Learning Outcomes

By the end of this unit, you should be able to:

- Discuss the challenges Nigeria is facing some in its bid to develop environmental legislation.

 5.3 The Challenges of Environmental Law in Nigeria

The challenges of environmental law include the following:

5.3.1 Establishment of the Enforcement Department and Considerations for the Evolution of Effective Enforcement Strategies

Building an industrial facility in Nigeria, most often, carries with it the added burden of constructing your own road and providing your own water supply and electricity. With the national economic recession, the majority of industries were operating well below capacity and they paid no attention to environmental problems. FEPA as a young agency was also striving very hard to develop capacity for pollution monitoring, abatement and enforcement both in terms of technical facilities and manpower development. There were no functional analytical laboratories. All these notwithstanding, the increasingly environmentally conscious Nigerian populace (smartening from the agonies of toxic waste dump incident) expected the Agency to exercise its full authority particularly with respect to sanctions and penalties to control industrial pollution and hazardous waste in Nigeria. Recognizing the establishment of other departments especially those of Environmental Quality and Environmental Technology whose functions should normally compliment and support the enforcement Department, and in order to avoid overlap in function, the Inspectorate and Enforcement Department identified, and limited itself to the following in the order of priority listed: • Review and Development of the Guidelines and Standards for Pollution Control. • Development of appropriate regulations for pollution control and waste management. • Inspection and Compliance Monitoring of Industrial facilities. • Hazardous Chemicals Inspection, Registration and Tracking; and Toxic Waste Dump Watch. • Establishment of a Permit System for: – Construction and Operation of Landfills. – Importation of hazardous chemicals. – Transportation, storage, treatment and disposal of hazardous wastes. – Waste Discharge by Industrial Facilities.

5.3.2 Funding

At the launching of the National Policy on the Environment in 1989, the President of the Federal Republic pledge that government would provide the Agency “an extra budgetary take off grant of #500 Million Naira (USD 80 Million) for each of the first two years”. Meanwhile, government had established an Ecological Fund into which it makes a mandatory statutory allocation of 1% of the Gross National Revenue to take care of ecological problems including natural disasters. Unfortunately, the period of the establishment of the Agency and its early

years coincided with the peak of global economic recession, and the declining fortunes of government due to falling commodity prices in international market. For a country which depends on a single commodity (petroleum) for over 80% of its foreign exchange earnings and a country which commits over 30% of its GNP on debts servicing, the financial pledge of government borne out of enthusiasm and genuine desires for environmental protection became a mirage. The approach of the Agency in meeting the challenge of financial constraint was several folds. First it sought assistance from the US EPA, the British ODA, Japan JICA, Canada and the Netherlands. Second, it sought and obtained in an amendment Decree 59 of 1992 an approval earmarking 0.5% of the Gross National Revenue as a statutory grant to the Agency.

5.3.3 Technical Assistance

The Agency received some assistance in the form of mobile pollution monitoring equipment from Japan. The Memorandum of Understanding (MOU) signed with the US EPA did not yield results because it was at the outset, a loose one, directed at no specific programme or project. By the time FEPA was able to order its priorities, the US EPA was unable to secure the financial assistance to meet FEPA's request. One lesson from this is that requests for assistance must not be ambiguous but clear and specific in both technical and financial terms.

5.3.4 Powerful Individuals and Groups

One of the greatest challenges of an enforcement department in a developing country comes in form of threats from powerful individuals and groups. When such individuals and/or groups own industries which in turn form themselves into associations, they become extremely formidable. Perhaps two cases might serve as good illustrations: (Degoroye, Adegoke) In 1991 during one of the early widely publicized inspections of highly polluting industrial facilities in Nigeria, the Chief Executive of FEPA personally led a team to a Detergent factory which was discharging its effluents into an open drain. The drain in turn empties into a river used as drinking water some 600 meters downstream. The facility was given a maximum of 90 days to correct the situation and the news about the inspection which was to serve as a warning to other polluting facilities, was meant to be carried out that night on the National Television Networks see Functional organization charts of technical departments 1991-93. But the unusual happened. First twenty minutes later as we proceeded to the next town, my boss' car in the middle of our convoy of cars suddenly veered off the road, hit a rock embankment and summersaulted! (Unseen forces at play you might say?) Second, the owner of the facilities ensured that news of the inspection was blacked out. He followed with a telephone call two days later to confirm that he

was responsible for the news black-out and to warn that he was going to report the Agency to the President of the Federal Republic for (a) daring to embarrass him by saying that his facility was polluting and (b) trying to frustrate his efforts at providing jobs for his people. I seized the opportunity of his telephone call to calm him down and to re-assure and enlighten him. The second example relates to a power play between FEPA and the Manufacturers Association of Nigeria (MAN) who were resisting the imported Hazardous Chemicals Compulsory Inspection Procedure which the Agency introduced as a part of the strategy to prevent the importation of toxic wastes. The MAN had written a letter to the Secretary to the Government imploring him to force FEPA to stop the inspection procedure. Somehow FEPA was made to suspend the procedure until it presents some facts to the Government for reconsideration of the case. While this tussle was still on, the President of MAN was appointed a cabinet minister. However, it must be pointed out that MAN was merely catching in on an opportunity. The real problem had been the dispute between the Federal Ministry of Health and FEPA as to who had the authority to inspect chemicals. (See section 4.6, ***NAFDAC vs FEPA*** for details).

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Identify the two major types of role conflicts in the emerging trends in environmental protection in Nigeria.
2. In the past, Nigeria had several robust and functional analytical laboratories. TRUE or FALSE

5.3.5 FEPA - Industry Relations

The initial media promotion activities of FEPA including the exposition of the enforcement powers of the Agency and the series of inspections of highly polluting facilities achieved the desired objectives of sensitizing the public and industry about the hazards of pollution and hazardous waste and the enforcement powers of the Agency to deal with the problems. However, this approach also created certain problems for the Agency. Some of these problems include: • A general fear of FEPA among owners and operators of facilities and a determination to fight back using blackmail and/or intimidation. • A tendency by certain individuals to pose as officers of the Agency to harass and threaten owners/operators of facilities with the aim of extorting money from them in exchange for lenient sanctions or waiver of penalties. • An increase in the number of industries who were wrongly advised in the choice, design and installation of pollution abatement technologies by sub-standard “consultants”. The Federal Environmental Protection Agency dealt with these issues in a number of ways. First, FEPA ensured that representatives of

Manufacturers Association of Nigeria (MAN) were members of major advisory committees of the Agency, including the Committee that reviewed the National Guidelines and Standards for Pollution Control; The National Advisory Committee on the Control of Hazardous Chemicals etc. The FEPA soon discovered though, that decisions taken at these National Committees of which MAN is a member were not passed down to the Sectoral Groups of the MAN. The FEPA therefore had to institute additional lines of communication by inviting the representatives of the Sectoral groups of MAN e.g., Textiles; Cement; Paints; etc. to dialogue with FEPA and also by attending meetings of their Environment Committees. This method has been very effective in enlightening operators of facilities about what is expected of them. The MAN and FEPA now have a standing agreement to co-sponsor a series of National Seminars on Industrial Pollution Control for members of MAN on a yearly basis. The programme started in 1993. In addition, FEPA has worked out, on facility-by-facility basis, compliance schedules, audit requirements and moratorium based on an evaluation of each facility's pollution control efforts. While industries that belong to organized groups and associations such as the MAN are easier to communicate with, small scale industries that operate as one-man or family business have posed the greatest headache for enforcement. Many of such industries operate illegally and are often located in residential areas in the backyard or as an extension to the main apartment building housing other tenants. They display no sign posts and their products sometimes carry identification labels of more reputable industries. The Agency relies heavily on complaints from co-residents to track down this category of operators. With regard to the harassment of operators of facilities by fraudsters, FEPA has put in a widely publicized FEEDBACK REPORTING ALERT procedure which stipulates that entry should be granted for inspection and enforcement only upon presentation of an AUTHORIZATION TO INSPECT paper duly signed by the chief Executive or Head of Department of the Agency. Except in cases of surprise inspection, facilities would have been prior informed of the proposed inspection by the Agency. The procedure also stipulates that owners/operator of facilities must, at the conclusion of an inspection exercise, write their own report, stating their evaluation of the exercise, including what may have been prescribed for their facilities as requirements towards meeting compliance. The facility operators' reports are to be forwarded to the Chief Executive or Head of Enforcement of the Agency who in turn will reply to confirm whether the inspection was indeed authorized. The Agency now has enforcement uniforms, patches and badges which will confer instant recognition and respectability on its officers. The problems of sub-standard consultants and the dangers they pose were solved by instituting an Environmental Consultant/Contractor Accreditation Procedure which evaluates qualifications, experience and technical facilities at the disposal of the consultants for performing their task.

Qualified consultants now have yearly renewable ACCREDITATION CERTIFICATES OF FEPA to enable them perform a variety of functions, including audit, EIA, site remediation etc. FEPA also employs the services of these consultants from time to time.

5.3.6 Role of conflicts and their resolution

In the emerging trends in environmental protection in Nigeria, two types of role conflicts can be identified:

- Conflicts in Federal/States/Local Government relations.
- Conflicts in Environmental-Line Ministries/Agencies relations: e.g., PIDPR vs FEPA; NAFDAC vs FEPA; NARESLON vs FEPA.

The first deals with line of authority and delineation of designated responsibilities. The second relates largely to the apparent overlap in functions of Federal Ministries/Agencies dealing with environment resources and/or issues. By the Nigerian constitution, municipal waste disposal and sanitation are the responsibility of local governments (LGs) who also have powers to pass By-laws. On this there is no dispute. (The failure of the LGs is their continued insistence on treating municipal waste disposal as more or less a free social service.) What is not so clear is the responsibility of the States on industrial pollution control especially in the many situations where industrial waste is mixed with municipal waste. This is because industry is a federal concern even though states have the responsibility to designate areas as industrial estates. Similarly, although State Governments can enact environmental pollution edicts, they derive their powers to prescribe and enforce standards from the Federal Environmental Laws vested in the FEPA. A statutory arrangement therefore had to be put in place to enable FEPA share its enormous powers with the State EPAs or to designate State EPAs to perform certain functions for which states have developed capacity on its behalf. This has worked fairly well especially under the auspices of the National Council on Environment (NCE), the consultative forum where policies implementation processes are harmonized and conflicts resolved. For the financial year (FY) 1994, FEPA tried to infuse the FEPA officers operating in States into a State EPA administrative structure in advisory and operational capacity. That will remove the direct inspection and enforcement schedules of FEPA which tend to undermine the authority of the State EPAs to enforce. FEPA envisages that by such an arrangement State EPAs will develop capacity to monitor and enforce in the shortest time possible. In regard to other Federal Ministries/Agencies that perform environment related functions, FEPA has set up several inter-ministerial committees which regularly deliberate upon specific issues to harmonize functions and remove overlaps. However, there are three of these Agencies whose disputes have shaken the Agency. The first is the

Petroleum Inspectorate Department of the Ministry of Petroleum Resources (PIDPR). Prior to the creation of FEPA, the Department had been responsible for monitoring pollution in the petroleum sector. Apart from the usual inter-ministerial committees on environment in which FEPA ensures that PIDPR is represented, the Department co-sponsors with FEPA a Biennial International Seminar on Petroleum Industry and the Nigerian Environment which has over the years produced far-reaching recommendations influencing government policies. Two controversial issues have emerged: • Who should set the Guidelines and standards for Pollution Control in the Oil industry? • Who is to enforce those standards? After two years of strained relationship, FEPA finally resolved the issue as follows: • PIDPR can set Guidelines and Standards on Operational Safety and Environmental Pollution Control in the Petroleum Sector. However, such standards cannot be weaker than and must be subordinate to, the National Standards that would be set by FEPA for the Petroleum Sector. • PIDPR would continue to monitor pollution and enforce compliance in the Petroleum Sector but on behalf of FEPA who reserves the right to carry out check inspections to determine how effective PIDPR is carrying out those functions. The second case is the dispute between the National Agency for Food and Drug Administration and Control (NAFDAC) of the Federal Ministry of Health and FEPA on which Agency has responsibility for the control of hazardous chemicals. Prior to the establishment of FEPA, NAFDAC used to grant permits to industries for the importation of chemicals along with narcotics, foods and drugs. NAFDAC granted the permits by a special arrangement with the Pharmacist's Registration Board of Nigeria (PBN) which issues the permits on behalf of NAFDAC under the provisions of the Poisons and Pharmacy Act cap 152 Section 40 (5)1. It was one of such permits, IMPORT PERMIT NO 676 granted to Iruekpen Construction Company of 126A Nnebisi Road, Asaba for the importation of "industrial and Laboratory chemicals" that was used to import toxic waste into Nigeria in 1988. The report of the Ministerial task Force set up to evacuate the toxic wastes recommended that authority to issue permit for importation of chemicals should be withdrawn from the Pharmacist Board. The President-in Council approved the recommendation among others. Shortly after FEPA was created, Government also created the National Drug Law Enforcement Agency (NDLEA) to handle narcotics. In setting up the National Chemical Tracking Programme for the control of hazardous chemicals especially in order to implement the London Guidelines under the Prior Informed Consent (PIC) procedure, the Enforcement Department considered the following: • The lapses inherent in the permit granting procedure of the Pharmacist Registration Board. • The weakness of the Poison and Pharmacy Act which provides the Pharmacy Board the legal cover to issue permit by equating "chemicals" with "poisons" without any mention of the chemicals by name. • The added loophole in the Act which states that the Permits are to be granted

for the importation of the chemicals for "Laboratory and research use" only. The propriety of a Pharmacy Board (a non-governmental organization) granting permit for chemicals while there exists the Chemical Society of Nigeria. • The need to restrict the PBN to Foods and Drugs control in view of the fact that while drugs are chemicals, most chemicals are not drugs. • The provisions of Schedules 11 and 13 of the Management of Solid and Hazardous wastes Regulations S.I.15 of 1991 of FEPA which provides a full list of hazardous chemicals by toxicity category. • The international norm which vests the control of hazardous chemicals and wastes in environmental agencies. Convinced of having the historical, procedural and legal bases, FEPA set up a National Committee for Chemical Tracking with both NAFDAC and PBN as members. Thereafter the Inspectorate and Enforcement Department established a procedure of compulsory inspection and confirmation of imported hazardous chemical for which no Prior Informed Consent was obtained. There were hues and cries from both the NAFDAC and PBN. PBN being a sectoral member of MAN got the backing of MAN to protest to the highest quarters in government. Within six months, NAFDAC decree was amended and among other things, the word "poison" was changed to "chemicals". In other words, NAFDAC had powers to control "food, drugs, cosmetics and chemicals". With the backing of MAN, FEPA which had received an earlier support from government on the programme received a letter from the same quarters asking it to suspend the programme. However, three weeks later at a meeting on Ports Security with the Vice President, FEPA was requested to re-present the case to Government for reconsideration. The third and final case is the overlap in functions between the Natural Resources Conservation Council (NARESCON) and FEPA. To remove the overlap, Government repealed the Decree establishing NARESCON and merged its functions with FEPA's. This merger led to a period of leadership struggle and instability in the Agency.

5.3.7 Political instability

Political instability has often been confirmed as the greatest bane of development in developing countries; and Nigeria was a perfect case for such illustration in 1993. In the wake of the change in the country's leadership which took the nation through three Presidents between August and November 1993, a new Director General was appointed for the Agency. The new Director-General, hitherto the Head of the rival agency responsible for wildlife conservation, NARESCON, scrapped the structure and replaced it with another which has the following Departments; • Ecological Services. • Biological Resources Development. • Land Erosion Control. • Environmental Education and Extension. • Planning Research and Statistics. • Environmental Quality. • Environmental Impact Assessment (EIA). The greatest surprise of the

proposed structure was the dissolution of the Inspectorate and Enforcement Department and the creation of a whole Department for EIA! After much criticism, he decided to transfer the functions of the Inspectorate and Enforcement Department to the Department of EIA! Luckily the situation did not last. On January 25, 1994 Government redeployed the Director-General and re-appointed the pioneer Director-General removed 5 months earlier. But the enforcement programme had suffered some set back with staff on the programme passed to other schedules.

Establishing an effective enforcement programme in Africa requires a firm commitment on the part of government and a stable leadership in the Enforcement Agency in its formative years. The mandate for enforcement must be clear and the roles of line agencies distinct to avoid inter-agency conflicts that could be capitalized upon by powerful target groups to frustrate enforcement programmes. Requests for technical assistance from developed countries for capacity building should be unambiguous to avoid delay, but a lot can be achieved by mobilizing internal resources.

5.4 Summary

The absence of pollution waste management laws, the lack of tradition of enforcement, the expectations of a restive press and a populace sensitive to toxic waste scares have all compounded the challenges of environmental enforcement in Nigeria.

5.5 References/Further Readings/Web Sources

Adegoroye, A., available at THE CHALLENGES OF ENVIRONMENTAL ENFORCEMENT IN AFRICA, THE NIGERIAN EXPERIENCE.pdf (nigerianlawguru.com) last accessed 25th January, 2022.

5.6 Possible Answers to Self-Assessment Exercises

SAE

1. These are:

i. The conflicts in Federal/States/Local Government relations and

ii. Conflicts in Environmental-Line Ministries/Agencies relations

2. FALSE

MODULE 2 PUBLIC HEALTH RIGHTS AND ENVIRONMENTAL LAW: NIGERIAN CITIZENS' RIGHTS TO ENVIRONMENTAL QUALITY

UNIT 1 RIGHTS OF CITIZENS TO CLEAN ENVIRONMENT AND CITIZEN'S RIGHTS TO ENVIRONMENTAL QUALITY

1.1 Introduction

It has only been in the past few decades that man has begun to realize that the pollution on the environment has become so intense that the natural assimilation, sustaining and self-cleansing capacity of the environment, though tremendous, has a limit. And this has started showing signs of strong stress to human and animal's health which is indirectly affecting people's rights to good environmental quality (Boljeet, S. Kapoor, 2001:1).

Environmental pollution is a serious challenge in Nigeria as it affects the human health and well-being. Efforts geared towards environmental protection in Nigeria has not been effective. The myriad of legislations

and policy to curb environmental pollutions including the traditional common law rules of negligence, nuisance and the rule in ***Ryland v Fletcher*** have proved to be inadequate in solving the Nigerian environmental challenges. The strict liability rule has been sparingly applied while most of the legislations lack criminal sanctions and enforcement. Also, most of the civil liabilities are marred with frivolous defences that make it impossible to sustain any claim or conviction.

As a result, most legal mechanisms to combat the menace of pollutions are grossly inadequate. The inadequacy of these existing legal mechanisms to protect man and the environment from the excesses of modern technology propelled the call for environmental rights as a separate and distinct right to address this incursion. (Okanmah, P. D. 1997: 61).

Environmental pollution is not limited to Nigeria alone, it is a global challenge. Thus, many efforts to curb the menace have been a global concern. Recent efforts tend towards the adoption of human right approaches for the protection of the environment. These approaches are:

1. the interpretation of existing human rights such as the right to life and the right to dignity of human person to include the right to a healthy environment;
2. mobilizing the existing rights to grant environmental protection;
3. human right to a healthy environment i.e., making environmental protection as part of the constitutional objectives and directive principle of the state policy or as a fundamental right in the constitution;
4. the last of the approaches which has not enjoyed much international support and generated lots of debate among scholars is 'the right of the environment itself' i.e., the right of mother earth, the right of non-human entities or the right of nature, mountains, plants and animals.

What is right? A right is an interest or an entitlement to something recognized and protected by the law, respect for which is a duty and disregard of which is wrong (Osborn's Concise 1993: 293). "Rights refer to that which is first or correct truth, fairness, justice, just and legal claim. To this extent, it connotes an entitlement to a clean and healthy environment.

However, Atsegbua *et. al.,* posited that a right to a clean and healthy environment is the right of everyone to the conservation of his/her environment, free from the degrading effects of pollution and other human activities. To give recognition to human survival depends upon a safe, secured and healthy environment. To achieve this goal of a clean

healthy and sustainable environment can be found now in the Human Rights provisions (Okanmah, P. D.; Atsegbua *et. al.,* (supra)).

1.2 Learning Outcomes

By the end of this unit, you should be able to:

- Define the term 'rights' and 'human rights
- Discuss environmental right to quality environment
- Explain environmental rights to man and animals.

1.3 Principle of Human Rights

Human Rights as principle means the freedom, humanities and benefits that according to modern values, all human beings should be able to claim as a matter of right in the society in which they live. It is quite regarded as natural law on every human being. These are not the particular privileges of citizens of certain states but something to which every human being, everywhere, was entitled by virtue of simple fact of being human or rational.

Dakas C. J. noted that when he re-echoed Arnold Lien definition that Human right are universal rights attaching to the human being whenever he appears without regard to time, place, colour, sex, parentage or environment. Atsegbu *et. al.,* concluded, that, human rights are derived from the inherent dignity of the human persons. They are rights accruing to an individual because he is a human being.

The question may be asked whether environmental pollution is a violation of human rights. Environmental pollution is a violation of human right to live in a clean and healthy environment. Man as a living being is entitled to live in a clean and healthy environment devoid of contamination and pollution. Pollution threatens human existence. When pollution occurs there is health hazard and threat to human life as well as destruction of natural amenities upon which the economic and social well-being of the individuals are based. A case in hand is ***SERAC v Nigeria*** (the Ogoni case), a case in which people of the Niger-Delta sought to put an end to human rights abuses and environmental degradation caused by exploitation of local oil reserves, alleging harm to human health and the environment due to the joint petroleum development activities of the Nigerian State and Shell Oil. The African Commission found in favour of Ogoni, citing that, while Nigeria had a right to produce oil, the state failed to offer adequate protection to local inhabitants in accordance with sustainable development and human and environmental rights.

Though Human Rights is a relatively new term in the Nigerian Lexicon. However, the 1999 Constitution recognized the Fundamental Human Rights through the provisions in Chapter 4, sections 33 to 46 of 1999 Constitution of Federal Republic of Nigeria (as amended in 2011). Other varieties of rights are also enshrined in the constitution for benefit of the people (Damian Ugwu (2004: 1)).

Thus, human rights protection is a feature of constitutionalism. Human rights in this perspective are a modern and universal term. It involves principles that are as old as humanity; these basic principles are to be found not only in Christianity, Confucianism, Buddhism, Islamism, Idolism and Judaism but also found in various local cultures and systems. (Polis A. and Schwab P. 1980).

Self-Assessment Exercise

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Environmental Rights are quite separate from the general human rights. Do you agree?
2. Human Rights are a relative concept and never an international concept. TRUE or FALSE?

1.3.1 Why is Human Right an international principle?

As rightly claimed, the concept is an international principle. Indeed, most, if not all world ideologies espouse it. The evolution of the principle cuts across civilizations. It was introduced in 1689 by the British Constitution: Bill of Right of that year. The United States Declaration of Independence of 1776 corroborated this fact. This was adopted by congress on 4th July 1776 and *inter alia* said "we hold these truths to be self-evident that all men created equal, that they are endowed by their creator with inalienable rights that among these are life, liberty and pursuit of happiness".

The gross abuse of human rights committed against Jew by Nazi Germany led to a repulsion and a denomination to ensure their protection and promotion as a fundamental aspect of post-war governance for all peoples without discrimination. The United Nations Declaration of January 1942 signed by Britain, China, USA, USSR and twenty-one others states recognized the obligation of members to preserve human rights and justice in their own as well as in other lands. It is interesting to include that the ground was well-prepared for the inclusion of human rights in the UN Charter ratified in 1945 (Umezurike U. O. (2007)).

The preamble of the charter reaffirms "Faith to fundamental human rights, in the dignity and worth of the human person, the equal rights of men and

women and of nations large and small". The development of infrastructural human rights law is generally related to the Second World War. The UN was established to "save succeeding generations from the scourge of war … and to reaffirm faith in fundamental human rights" (See Preamble of the United Nations Charter).

In addition, the US Charter, which represents the constitution of the organization is also an international treaty. The UN Charter of 26 June 1945, 59 state, 1031, TS. 993, 3 Bevaus 1153; made a certain number of references to human rights. The preamble of the Charter stated: "We the people of the United Nations, determined … to reaffirm faith in fundamental human rights, in the dignity and worth of human person, in the equal rights of men and women and of nations large and small … have resolve to combine our effects to accomplish these aims".

1.3.2 International Convention (Treaties, Agreements, and Protocols)

After the inception of this principle, several conventions have concluded to" protect particular human rights. The reference in Article 38 (1) (a) is directed to international treaties, which are also varying described as covenants, charters, pacts, protocols and conventions
Examples of treaties are:

i. International Covenant on civil and political rights 1966, 999 UNTS, 171;
ii. ii. International Covenant on Economic, Social and Cultural Rights 1966, 993 UNTS, 3;
iii. iii. International Convention on the Elimination of All forms of Discrimination 1966 UN, Treaty Series, vol. 660 p. 195;
iv. Convention on the Elimination of All Forms of Discrimination against women 1979; UN, Treaty Series
v. Vienna Convention on the Law of Treaties 1969;
vi. Convention on the Prevention and Punishment of the Crime of Genocide 2002;
vii. The European Convention for the Protection of Human Rights and Fundamental Freedom (1950);
viii. The Inter-America Convention on Human Rights (1970); and
ix. The African Charter on Human and Peoples Rights (1981)

From the afore discussion, it is crystal clear that the evolution of human rights is collective reasoning, plus natural endowment and implementation over many centuries. Establishment of Human Rights surpasses human history and Biblical Age. In this wise, it is no doubt, human beings are the major beneficiaries of the principle of human rights which are both natural and artificial.

1.3.3 What is Rights?

At this junction, what is the concept "right"? It is an interest recognised and protected by the law, respect for which is a duty and disregard of which is wrong (Salmond). A capacity residing in one man of controlling, with the assent and assistance of the state, the actions of others (Holland). See further Osborn's Concise Law Dictionary 1993: 293. Atsegbua *et al.,* typologised the meaning of 'Rights' into two special moral importance; that is, "it may refer to something that is normally correct or demanded by the fact that it is a right". Secondly, 'it may refer to the entitlement of a person; the special title one has to a good or opportunity'. The first and second meanings especially the first one, refers to moral standards, righteousness and moral rectitude.

Human Rights according to Professor Osita Eze, "Human Rights represent demands or claims which individuals or group make on society, some of which are protected by law, while others remain aspirations to be attained in future".

Human rights are naturally inherent in man as a result of the fact that man is a social animal and man has contributed little or nothing to bring it to being rather protect it and ensure its manifestation. It is the rights which all human beings enjoy by virtue of their beingness (humanity) regardless colour, race, regions or continent, the deviation, deprivation and neglect of which would constitute a grave affront to one's natural sense of justice and government must not negligent in protecting the rights.

1.3.4 Generation Concept of Rights

Human Rights Experts have classified Rights under three concepts of generation. Karel Vasak introduced the concept of generations in 1997 into the corpus of human rights discourse. Since then, the debate has taken many forms and shapes. The researcher traced the genealogy of human rights. The term 'generations' has been customarily used to differentiate different types of rights. At the end of these three basic generations of rights, according to Vasak, the first generations are called *Liberte* (Liberty). This refers to traditional civil and political rights.

1.3.4.1 First Generation Concept of Rights include freedom of speech, freedom of religion, freedom of press, freedom of torture, freedom of assembly, security of person and right to life. These rights are inviolable by government against individuals either within or without. These basic and fundamental human rights are found in

many bills of rights of the constitutions of many nations across the world.

The first generational concept, they relate to the sanctity of the individual and his rights within the socio-political perspective in which he finds himself.

1.3.4.2 Second Generation Concepts of Rights was termed by Vasak as *egalite* (equality). This requires the affirmation of governments for its realization. These rights are Economic, Social and cultural rights. These in turn are equally referred to as "Collective rights" or group rights. These are positive rights in that they enhance the power of government to do something to the people to enable them or him in some ways. These rights are generally interpreted as pragmatic clauses, obligating government and legislation to pursue social policies, but do not create individual claims.

1.3.4.3 Third Generation Concept of Rights. This aspect focuses largely on individuals. These rights include the right of people and groups. This is the most recently recognized class. These include, the right to peace, and right to a healthy environment (Atsegbua et al).

In accordance with the human rights experts, this category has received increasing rhetorical affirmation at the international level through "only the disposal of natural wealth, included in the international covenants have received authoritative acceptance in international law". These rights include "the right to development, the right to peace, the right to environment, the right to ownership of the common heritage of mankind, and the right to communication".

Self-Assessment Exercise

- Define Human Rights?
- Discuss the concept of generation of rights.

1.3.2 Environmental Rights to Quality Environment

A right has been defined above in paragraph 3.1. In that wise, environment means the air, water, and land, forest and wildlife of Nigeria. The Cambridge International Dictionary of English defines the environment as follows;

"Surroundings, the condition that you live or work in and the way that they influence how you feel or how effectively you can work". This definition fits the perception of a lawyer. However, for purpose of

environmental protection, the question of man and his surroundings do not play as prominent a role as they do in the definition given above. To the best of many writers' knowledge, 'environment' has a lot more to do than with the situations that we live in and work in.

In addition, the Cambridge Dictionary went further to give second definition of the environment as follows:

Nature, the environment, the quality of air, water or land in or on which people, animals and plants live.

This definition is a little bit broader in its description of what are the constituents of environment instead of focusing on people and his natural habitat.

The Black's Law Dictionary defines environment as "the totality of physical, economic and cultural, aesthetic and social circumstances and facts which surround and affects the desirability and value of property and which also affects the quality of people's lives". The surroundings conditions, influences or forces which influence or modify. This definition is not total, though it takes the subject matter on a very broad base but is deficient in a material respect because it refers to social circumstances and factors which affect desirability of property and also the quality of people's lives. It concerns much on the sustainability of man in the environment than the sustainability of the environment itself. (Ikhide Ehighelua 2007:2).

The NESREA defines 'environment' under Section 37. Also, Section 20, 1999 Federal Constitution of Nigeria, defines environment to mean:

(a) The water
(b) Forest and wildlife
(c) All layers of the atmosphere
(d) All organisms' and inorganic matter and his organisms, and
(e) Interacting nature system that includes the components referred to in paragraph (a)-(d). To this extent, it is very clear that the concept environment means no more than the air, water, land, forest and wildlife of Nigeria or other nations. All these definitions regard the environment as a state of affairs which is based upon the activities of man in his natural habitat and the interaction within his immediate environment in terms of water, air, animals, forest, land and so forth.

The main focus of these definitions shows the need to protect human health, safety and interest. It requires the maintenance of certain level of environment either collectively or individually. This is as a result of the way the environment is to be taking care of. Therefore, healthy, hygienic and clean environment becomes Human Rights.

The rights to environment complete the other rights guaranteed to each human being (Atsegbua *et al*). For a healthy and balanced

environment and environmentally sound management of natural resources which is the condition requisite for the implementation of other fundamental right, man has to put his weight behind sustaining the environment and keeping it healthy all times. Such rights would include powers to sue in civil courts for damages caused by pollution and to initiate private suit or claim for pollution where government has refused bluntly to act.

Human Rights is a universal concept. It is a concept which no law can invalidate or erase. This unit discussed the meaning and the different struggles by all community and groups to make environmental right a universal phenomenal.

1.4 Summary

In this unit, we learnt about the following:

(1) Brief history or origin of human rights and its definitions
(2) Identify and discuss the classes of human rights
(3) Establishment of rights to quality environment.

1.5 References/Further Readings/Web Source

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1.6 Possible Answers to Self-Assessment Exercises

SAE

1. NO
2. FALSE

UNIT 2 INTERNATIONAL RECOGNITION OF ENVIRONMENTAL RIGHTS

Unit Structure

2.1 Introduction

The spread or advocacy of environmental rights protection is given recognition at international level than any other existing levels where the gospel of Environmental rights protection is being spread or advocated. That is, there is international recognition between the environmental rights and human rights. No wonder Stockholm Conference posited that man has a fundamental right to freedom, equality and adequate conditions of life, in environment of quality that permits a life of dignity and well-being.

2.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain environmental rights at international level
- Whether environmental pollution constitutes a violation of human rights?
- Some rights that are salient to environment.

2.3 International Recognition of Environmental Rights

There is an international and worldwide acknowledgement of the link between human rights and environmental rights protection. There is no doubt about it that good healthy and secured environment determines to a large extent survival of all living organisms residing in it. As a result, the Stockholm conference particularly under Principle 1 states that; man has a fundamental right to freedom equality and adequate conditions of life, in environment of quality that permits a life of dignity and wellbeing (see Rio De Janerio 1992). In the similar vein, the Hague Declaration of 1989 has also stated “the right to live in a viable global environment’, (see

Declaration of Hague March 11, 1989). United Nations Organization (UNO) is not left out in the campaign and recognition for environmental protection. In that wise, a right to a good healthy environment is included in the UN Environmental Programme 1993 which determines basic law on environmental protection and the promotion of sustainable development. The governing principles provides for the right of present and future generation to enjoy a healthy environment and decent quality of life for both man and animals.

In furtherance of this, the United Nations, Sub-Commission on Prevention of Discrimination and Protection of Minorities, 1994 published a report on the relationship between human rights and specifically the environment (See UN Sub-Commission First Progress Report, UN Dec. E/CN. 4/Sub. 2/1992/7,428. The UN Sub-Commission conducted research where over sixty nations constitution across the globe were studied; specifically, the provision relating to environmental protection and human health, it was discovered that all these constitutions studied recognize and place the state under a duty to protect the human right to a satisfactory environment.

In the final report of research of the Sub-commission revealed that an acceptance of environmental rights at national and international levels concluding that there had been right to "a shift from environmental law to the right to a healthy and decent environment" and since this right was part of existing international law. However, the substantive elements of the right, it seems, include the right to development, life and health. The right also implies a right to the due process of law, to public participation in environmental decision-making and to have access to effective material remedies (Atsegbua 2010: 171 – 172).

On September 14, 2020, in a letter to the United Nations, a group of experts called for the recognition of the right to a healthy environment. Among the signatories are the UN Special Rapporteur for Human Rights and the Environment, David R. Boyd, and his predecessor, John Knox.

On September 24, 2020, the Core Group of States for Human Rights and the Environment announced the start of consultations to pave the way for universal recognition of the right to a healthy environment. This Group is an informal coalition of States working for the recognition of the right to a healthy environment. It brings together Costa Rica, the Maldives, Morocco, Slovenia and Switzerland.

Following this call, the Universal Rights Group, an influential think tank in the human rights arena, invited States to submit the necessary resolutions for the recognition of this right by the 50th anniversary of the Stockholm Conference in 2022.

From a legal point of view, the right to a healthy environment has procedural and substantial implications. Taking as a reference the implementation of the right to a healthy environment by national jurisdictions, a majority of States have enacted legislation identifying procedural and substantive elements enabling for the effective implementation of this right.

On the one hand, recognizing a right to a healthy environment often implies upholding procedural rights such as the rights to receive information, to participate in decision-making about environmental matters, and to obtain access to the justice system. For instance, the Philippines have enacted specific rules regarding environmental litigation to facilitate the protection of the right to a healthy environment.

Alongside procedural rights, the right to a healthy environment also contains a substantive component. By definition, the right to a healthy environment, regardless of its precise formulation, protects the elements of the natural environment that enable a dignified life. It englobes the preservation of basic human rights such as the right to life, clean water, food, etc. For instance, the French Environmental Code recognizes the "*right of all to breathe air which is not harmful to their health*". In the same vein, the South African Constitution states that "*everyone has a right: (a) To an environment that is not harmful to their health or well-being*".

Moreover, this substantive component has allowed national and regional courts to impose duties on States to effectively implement the right to a healthy environment. In its landmark decision of 2020, the Inter-American Court of Human Rights held that Argentina had violated the right of the Lhaka Honhat indigenous groups to a healthy environment due to the lack of effective measures to stop activities harmful to them. Thus, Courts have recognized that States can have an obligation to prevent violations of the right to a healthy environment.

Nonetheless, the implementation of this right remains patchy due to sizeable challenges. At the international level, it is recognized only in regional conventions and in soft law instruments. In other words, it is yet to be recognized in a global and legally binding convention akin to the 1966 human rights international covenants. Such a convention would encounter significant difficulties as major world powers, such as the USA and China, are still reluctant to recognize this right for the moment.

At the national level, a recognition of the right to a healthy environment should entail the enactment of "implementation laws". Yet, States that recognize this right constitutionally or through regional treaties do not always implement it legislatively. Without effective integration in

national laws and procedures, the right to a healthy environment is barred from realizing its full potential. To this day, many States fail to uphold their obligations in a way that effectively respects, protects, and fulfills the right to a healthy environment.

Controlling the implementation of this right is not an easy ordeal either. So far, no official international mechanism monitors its application. One could argue that this gap could be filled by an implementation control mechanism at the international level. This mechanism could, minimally, take the shape of a compliance committee but whose referral should be open not only to States but also to citizens and NGOs on the model of the Aarhus Convention. Better still, an international jurisdictional organ could have as its object to ensure the respect by States of the right to a healthy environment.

In the absence of such international mechanisms, the line of first defense remains the national judge. Internal judges ought to be the first guarantors of the respect of the right to a healthy environment by taking into account the extra-territorial impact of a state's activities, including outside its borders. In other words, the national judge must ensure that the State respects not the right of its citizens to a healthy environment, but also that of all the inhabitants of the planet.

Notwithstanding, the evidence extracted from decades of implementation is encouraging. The recognition of the right to a healthy environment usually leads governments to bolster their environmental laws and policies and to provide for greater public participation. A wide array of studies has indeed concluded that the inclusion of constitutional environmental rights is positively related to a better environmental performance.

In conclusion, the adoption of Human Rights Council resolution is a resounding first step that could have far-reaching implications for human rights and the environment. If carried before the General Assembly, this resolution may well be the catalyst for an even more global international recognition, and perhaps even an international covenant on the right to a healthy environment. On October 8, 2021, the United Nations Human Rights Council adopted a resolution recognizing the human right to a clean, healthy and sustainable environment as an important human right. While this right is already recognized in more than 150 national jurisdictions, its international recognition paves the way for its effective integration in international law and stronger implementation domestically.

 Briefly discuss international recognition of environmental rights

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Identify any three human rights which environmental pollution can affect.
2. Everyone has the right to an adequate environment except prisoners. Do you agree?

2.3.1 Environmental Pollution: A Violation of Human Rights?

Ordinarily, Environmental Pollution according to Hodge is "the introduction by man into the environment of substances or energy liable to cause hazard to human health, harm to living resources and ecological system, damage to structure or amenities or interference with legitimate use of the environment".

In 1974 the World Health Organization limiting the guide-lines for determining whether environment is polluted noted that:

The environment is polluted when it is altered in composition or condition directly or indirectly as a result of the activities of man so that it becomes less suitable for all or some of the uses for which it was naturally suitable.

From legal perspective, pollution is the wrongful contamination of the atmosphere or of water or of soil, to the material injury or damage to the rights or property of people. Environmental Pollution is breach of man sight to live in a clean-healthy environment caused by manmade or man aided alteration of chemical or physical or biological quality of the environment to the extent that is detrimental to it. Man deserves to live in an environment that is devoid of all these contaminants/pollutants.

Pollution therefore occurs in relation to activities of man on land, water and air which include mining, road uses/vehicular movement, exploration and use of petroleum and its by-products. As a result of these activities, damages were inevitably done to marine life, wildlife habitats, farmlands, shrines, recreational breaches, property and other social amenities. The pollution of environment through various polluting agents may indeed show the relationship between development, pollution and environmental protection.

However, UN Conference on Human Environment held at Stockholm declared that in developing countries, most of the environmental problems are caused by underdevelopment, millions of people continue to live far below the minimum levels required for a decent human existence, deprived of adequate food and clothing, shelter and education, health and sanitation. A situation where a particular activity alters the

environment and radically affects the way of life and economic well-being of these who live within its vicinity, or poses danger to their health and life, is the threshold at which the right to a clean environment is breached.

These rights which environmental pollution affects are numerous that is;

- Right of life
- Economic, Social and Cultural Rights
- Right to Health
- Right to dignity of human person
- Right to personal liberty
- Right to private and family life
- Right to peaceful assembly and associate
- Right to freedom of movement
- Right to protection from compulsory acquisition of primate property

All these rights and others are recognized both internationally and in the most nations' constitutions.

Human rights cannot be secured in a degraded or polluted environment. The fundamental right to life is threatened by soil degradation and deforestation and by exposures to toxic chemicals, hazardous wastes and contaminated drinking water. An environmental violation occurs when an activity or an existing condition does not comply with an environmental law or regulation.

The reason is since right to life embraces a right to a healthy environment, it includes prevention of environmental damage. In the effort to have a creative jurisprudence on the rights to a healthy environment, the Indian courts used several principles on environmental protection. Article 21 of the Indian Constitution states: 'No person shall be deprived of his life or personal liberty except according to procedures established by law. It is by this second method that the Supreme Court interpreted the right to life and personal liberty to include the right to a clean environment.

Environmental problems, notably pollution and climate change, implicate economic, social, and cultural rights, including the rights to health and water. Procedural rights, such as the rights to assembly, expression, and information, are critical to environmental protection.

For decades, governments have treated air pollution as an environmental issue. However, air pollution is also a human rights issue. Air pollution on today's scale clearly violates the rights to life and health, the rights of the child, and the right to live in a safe, clean, healthy and sustainable environment.

Examples of environmental crimes include illegal wildlife trade; smuggling ozone-depleting substances; illicit trade in hazardous waste and pollution; illegal mining; illegal, unregulated and unreported fishing; and illegal logging and associated trade in stolen timber etc.

The definition of a violation is a breach of a law or of a code of behavior. When you drive your car faster than the speed limit, this is an example of a violation of the law. An offence against the public welfare.

In many countries, the right to a healthy environment has been recognized as a human right. The right to a healthy environment is referred to in legislation in more than 100 countries (Boyd, "Elements" at 203). Boyd notes that: "94 percent of UN nations (181 out of 193) recognize this right" (Boyd, "Elements" at 203).

Everyone has the right to an adequate environment. An adequate environment is considered a precondition for the realization of other human rights including rights to life, food, health and an adequate standard of living. Everyone should be able to live in an environment conducive for their health and well-being.

The right to a pollution free environment become a right at the United Nations Conference on the Human Environment, Stockholm, 1972 in which the Declaration on the Human environment was devised. Enjoyment of a pollution-free environment is directly in relation to the quality of life. As the environment, which includes natural resources, are essential for a healthy life, any pollution or damage to the environment could have adverse effects on human beings.

In this Unit, the issue of environmental rights and human rights are very vital matter and very germane to healthy and sustaining human beings and his environment. It is well recognized in international comity of nations as an important concept. On the other hand, environmental pollution is a violation of Human Rights. This was as a result of human activities and uses of natural gifts in his surroundings. The area of rights affected by the pollution shall be discussed in the next unit.

2.4 Summary

From the above perspective, the following aspects of environmental law have been discussed:

(i) Environmental rights;
(ii) Recognition of environmental rights worldwide and;

(iii) Violation of human rights as a result of activities of man which results into environmental pollution and highlights of those rights affected by environmental pollution.

2.5 References/Further Readings/Web Sources

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Identify some rights usually violated by the environmental pollution due to activities
of man.

2.6 Possible Answers to Self-Assessment Exercises

SAE

1.

i. Right of life
ii. Economic, Social and Cultural Rights
iii. Right to Health
iv. Right to dignity of human person
v. Right to personal liberty
vi. Right to private and family life, etc

2. NO

UNIT 3 RIGHTS OF CITIZENS TO LIFE, PROPERTY RIGHTS, ECONOMIC, SOCIAL AND CULTURAL RIGHTS

Unit Structure

3.1 Introduction

The right to life is the fulfillment of the most fundamental human needs and is dependent on various variables of the environment. It is the most essential among all other rights.

The other elements of the right to life are air to breath, water to drink, food to eat and shelter for protection and quality of the duty to protect life rests squarely on the state. It is therefore the responsibility of the state to protect and prevents the action that will cause degradation. The 1776 the United State of America Declaration of Independence and War posited that "life" is one of the inalienable rights (and must be protected by the state). See Chapter 4, sections 33 to 46 of 1999 (and 2011 as amended) corroborated this fact as regards the importance of right to life.

However, shelter is very important to human life as right to life is to every individual. This is subject to the provisions of this condition; every citizen of Nigeria shall have the rights to acquire and own immovable property anywhere in Nigeria.

3.2 Learning Outcomes

By the end of this unit, you should be able to:

- Identify the fundamental human right provisions that concern this unit and
- Explain the relationship of these rights with environmental studies.

3.3 Rights of Citizens to Life, Property Rights, Economic, Social and Cultural Rights Right to Life.

Apart from various sections of the constitution, the African Charter on Human and People's Rights 1981 links rights to environment and development, particularly Article 24 which states that "All peoples shall have the right to a general satisfactory environment favourable to their development and states shall have the duty, individually or collectively to ensure the exercise of the rights to development".

It can be deduced from the analysis that the international recognition of the right to environment entails beneficial rights for all and sundry.

The European Convention on Human Rights, Article 2, discussed right to life in line with convention that:
Everyone's right to life should be protected by law. No one shall be deprived of his life intentionally save in the execution of a sentence of a court following his conviction of a crime for which the penalty is provided by law.

Article 2 of the Convention protects the most fundamental of human rights, the right to life. The right cannot be derogated from even in times of war and other public emergency, except in request of deaths resulting from lawful acts of war, but under Article 2(2) the taking of a person's life can be justified when it results from the use of force which is more than absolutely necessary, in order, for example, to effect a lawful arrest See ***Pretty v. United Kingdom*** **(2002) 35 EHER 1,** where it was held that the right to life under Article 2 did not guarantee the right to die, and in ***Vo v*** **France (2005) 40 EHRR 2** it was held that Article 2 did not guarantee the right to life of the unborn child.

It is worthy of note that, though the death penalty is expressly provided for in the first sentence of Article 2, although optional protocol No 6 of the European Convention provides that the death penalty shall be abolished and that no one shall be condemned to such penalty or executed, and "protocol No 13, abolishes the death penalty in all circumstances. Both protocols have been ratified by the United Kingdom. In addition, it is arguable that the death penalty is contrary to Article 3 of the Convention, prohibiting inhuman treatment" See ***Ocalam v Turkey*** **(2005) 45 EHRR 1**.

One of the rights frequently infringed by incidents of oil pollution is the right to life. Every other right would be meaningless if the key right; the right to life is violated. All constitutions of modern states provides/made provision for it as protection. For instance, Constitution of the Federal

Republic of Nigeria 1999 is not exempted, where Section 33(1) stipulates that "every person has a right to life and no one shall be sentence of a court in respect of a criminal offence of which he has been found guilty in Nigeria". This is most superior right.

Due to the sacredness of human life, nearly all the democratic constitutions of the world recognize the duty and importance of preserving human life.

As a result, environmental degradation poses a lot of threat to human endeavours. The worst life-threatening hazard is pollution of the different levels of environment. This usually have far reaching effects on the lives of the people generally.

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Environmental pollution ca barely affect the rights to life beyond the right to a healthy environment. Do you agree?
2. Another name for public property is__

According to Atsegbua *et al.,* (2007: 13), the affirmation duty of states to protect the right to life should logically apply to circumstances in which a state's activity poses life-threatening environment risks. Threats to the environment or serious environmental hazards may have far-reaching effects on the lives of large groups of people directly or indirectly, and the connection between the right to life and the environment is an obvious one (See Ksentini, "Human Rights and the Environment", cited in Okanmah, (1997), J.A.L. p 53).

The right to life is amply provided for in the 1999 Constitution of Nigeria (as amended) in Sec 33, which clearly states that every person has a right to life and no one shall be deprived intentionally of his life, save in execution of the sentence of a court in respect of a criminal offence of which he has been found guilty in Nigeria. Likewise, Section 14 (2b) states that the welfare and security of the citizens shall be the primary purpose of government. But irrespective of all the above provisions, Nigerians continue to witness cases of gross violation of human rights.
From the fore going, it can be deduced that the State has the responsibility to develop a practical framework to promote, protect and fulfill the right to life of its citizens and must be seen to take practical steps to prevent arbitrary deprivations of life and further conduct prompt, thorough and transparent investigations into any such deprivations that may have occurred, holding perpetrators accountable and providing effective remedy for the victims.

Section 14 (2b) of 1999 Nigeria Constitution as amended, states that the welfare and security of the citizens shall be the primary purpose of the government. Thus, government at all levels owes the people a constitutional duty to protect their lives and properties, irrespective of their ethnic, religious and political affiliations.

This, however, is not the case in Nigeria, where human beings are massacred with impunity and properties wasted almost on a daily basis.

- In what ways can the hazardous environment affect the right to life of any citizen?

3.3.1 Property Rights

"Property actually refers to the right to a stream of benefits from a given set of resources. In the U.S., access to those benefits is controlled in four basic ways: private ownership plus three forms of public ownership – open access, closed access, and state." (Neil Meyer). Property rights only matter when a number of people start forming a community. An individual living in total isolation, for example, in a remote part of Northern Australia during the early 19th century, was not in the least concerned about property rights. On the other note, it did matter in Southern Australia where the population was denser.

When people start gathering, and hamlets turn into villages, and those become small towns, the need for specific arrangements regarding property ownership becomes more urgent. Below is a list of some types of property as mentioned above:

Private Property: is excludable; the owner can prevent others from using or entering it. The private owner controls its use, exclusion, and management. Private property may belong to a group of legal owners, in which case the group controls what happens to it.

Private property includes all things tangible and intangible that a private individual or entity owns, and over which the owners have absolute property rights. Examples include buildings, land, copyrights, patents, money, etc.

Private property is not the same as *Personal Property*, which is property for personal use and consumption. Private property is a legal concept that a country's political system defines and enforces.

The home you live in is your personal property. However, if you own a second home but do not live in it – you do not use the property personally

– it is your private property but not personal property. Followers of communism say they believe in personal but not private property.

Public Property: also called *state property*, is property that we all own – it belongs to all of us.

However, access to it and its use are controlled by the community (government, local authority, etc.). State-owned enterprises and national parks are examples of public property.

Open-Access Property: nobody 'owns' the property. Nobody can exclude anybody else from using it – it is non-excludable. This type of property is not managed by anybody, and nobody controls access to it. Examples of open-access property are navigable waterways (ocean fisheries) or the upper atmosphere.

Common Property: also known as *collective property*, is property that a group of people owns. The joint-owners control access to it, as well as its use and exclusion.

In Nigeria, the right to property can be found in sections 43 and 44 of the Constitution of the Federal Republic of Nigeria 1999 which stipulated as follows:
"Subject to the provision of this constitution, every citizen of Nigeria shall have the right to acquire and own immovable property anywhere in Nigeria".

Another corollary point to the above is the "Additional Protocols to the convention, Article 1 of the First protocol – Protection of property, that; every natural or legal person is entitled to the peaceful enjoyment of his possessions. This article guarantees the right to peaceful enjoyment of possessions, which includes all property rights and states that no one shall be deprived of their possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law. This was further emphasized in ***Nerval and others V United Kingdom*** **(2005) 36 EHRR 4** where it was held that waiters' tip came within the term 'possessions'.

However, must be noted that, the article states that the right does not in any way impair the right of a state to enforce such impair the right of a state to enforce such laws as it deems necessary to control the use of property in accordance with the general interest or to secure the payment of taxes or other contributions or penalties (for further analysis of the case law under Article 1 of the First Protocol, See Monbray, Cases and Materials on the European Convention on Human Rights, Butterworth's 2007, Chapter 16 (Steve Foster 2008: 80 – 1)

The Article made a remarkable landmark by dividing it into three rules; the principle of peaceful enjoyment of property; the deprivation of possessing; and the rights of states to control the use of property in the public interest. This article can be used in conjunction with other convention rights, such as the right to private and family life (See Section 37 of the 1999 Constitutions of Nigeria as amended in 2011).

Therefore, in ***Gillow v United Kingdom*** **(1987) 13 EHRR 393,** where it was held by a learned judge that the law of Guernsey prohibiting the applicants from residing in their own house because they failed to satisfy residence criteria was a disproportionate interference with their right to private life and family life. (Here Article of the first protocol could not be relied upon because Guernsey was not bound by that protocol). This right can be threatening by the town planning enforcement laws where a citizen fails to take into cognizance planning laws into consideration while building his house. In Lagos, some houses built near the canal have to be demolished to save people/residents of danger of flood disaster, especially the havoc of July 2011 rain caused to many Lagosian. Most of these canals are already blocked due to dumping of domestic wastes into it by the carefree people and some wicked industrialists who dumped illegal industrial waste into it.

3.3.2 Economic, Social and Cultural Rights

This is second most important right; it is next to absolute right to life since they affect his opportunity to engage in economic activity for the purpose of survival. The continuity of existence of right to life depends wholly in the prosperous economic activities. In accordance with to Feinberg view (1373:73), life is meaningless without the necessity to labour which nature has imposed on man in order to sustain himself.

Hitherto, Niger Delta region oil extraction activities which culminate into the pollution of their environment remain to the detriment of individual economic rights. No doubt of the fact that, the activities of individuals led to the pollution of atmosphere, accentuated land scarcity and threatened the conditions of existence of the people around the area. This condition tends to affect the social-cultural rights of the people around the polluted environment by displacing them from their natural habitats; People's and social economic base is therefore changed as a result.

At the end of this unit, right of citizens to life, property rights and economic, social and cultural rights was thoroughly examined. It is interesting to note that right to life is inviolable; likewise, the next to this absolute right is right of economic, social and cultural.
These rights have affected Nigerian writers and research students, one way or the other.

3.4 Summary

In this unit students have learnt about the three-sub subject discussed above.

These are very germane to individual existence. The best right is right to life and the anchor to this is the right to life, and every other right owe its existence to the continue survival of the right to life Economic right on the other hand is the back bone of the right to life; social and cultural rights which are cohorts of right to life.

3.5 References/Further Readings/Web Sources

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3.6 Possible Answers to Self-Assessment Exercises

SAE
1. No
2. State property

UNIT 4 RIGHT TO HEALTH, SAFETY AND WELFARE

Unit Structure

4.1 Introduction

Health, Safety and Welfare law are very vital to maintaining healthy living. The issue of safety, welfare and health right derives its important and severity through the activities of the human race.

However, the health factor of environmental pollutions – air, noise, water and waste are major contributions to lung and bladder cancers. Statistics show that lung cancer rate is higher generally in cities where increased high industries and automobile traffic produce high amounts of carbon monoxide. It is now law in Australia, that the emission of carbon monoxide of any magnitude attracts fine in form of tax. This is part of safety law to prevent pollution through this means.

4.2 Learning Outcomes

By the end of this unit, you should be able to:

- Discuss the relevance of Right to health, safety and welfare to all workers, not only in Nigeria but all over the world
- Explain the statutory regulations that back up the health, welfare and safety.

4.3 Right to Health, Safety and Welfare

3.3.1 Sources of Law relating to Health and Safety of Job Environment

It is a fact to note that, the activity of man in his environment causes pollution that are injurious to human health. For instance, some people use carcinogenic chemical which include benzene, asbestos, arsenic and vinyl chloride. The most significant health problem caused by noise pollution is deafness. It is crystal clear that any noise which appears to be louder than talking can damage the delicate hair cells in the cochlea.

As a result, health, welfare and safety law has been formulated to combat the menace of various hazards. The three key principal elements applicable to English law are legislation or statutory law. Common Law and Contract Law. Nigeria is a strong member of Commonwealth of Nations therefore as these laws are applicable to all, who were formerly under British colonialist, Nigeria is not exempted.

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Statutory instruments have no relations whatsoever, with subordinate legislation. Do you agree?
2. In the doctrine of judicial precedent, we have two types of precedents which are

4.3.1.1 Statute Law

This consists of Acts of Parliaments such as Health and Safety at work etc. Act 1974 (HSWA), which an enabling Act, together with a large number of statutory instruments (Sis) made under the Acts of Parliaments. Statutory instruments are known as 'subordinate legislation' or 'delegated legislation'. It is relating to the Health and Safety which consists of statutory instruments proposed by Health and Safety.

The main Laws on Occupational Safety and Health in Nigeria are as follows:

1. The Factories Act, CAP F1, Laws of the Federation of Nigeria (L.F.N) 2004
2. Employees‟ Compensation Act, 2010
3. The Nigerian Minerals and Mining Act, 2011
4. The Nuclear Safety and Radiation Protection Act CAP N142, LFN 2004
5. Lagos State Safety Commission Law, 2011

6. Nigerian Basic Ionising Radiation Regulations, 2003
7. Nigerian Radiation Safety in Nuclear Medicine Regulations, 2006
8. Mineral Oils (Safety) Regulations, 1962
9. Petroleum (Drilling and Petroleum) Regulations, 1969
10. National Environmental Standards and Regulations Enforcement Agency (Establishment) Act
11. Ratified ILO Conventions
    a. Convention 155 (Occupational Safety and Health), 1981, Ratified in 1994
    b. Convention 032 (Protection against Accidents (Dockers), 1932
    c. Convention 019 (Equality of Treatment (Accident Compensation), 1925
12. Other ratified ILO Conventions related to working conditions
    a. Technical Standards, Codes of Practice and Guidelines on OSH
    c. Nigeria Country Profile on Occupational Safety and Health 2016
    d. OSH Technical Standard Codes of Practice
    e. OSH Guidelines
    f. OSH Management Systems.
    g. OSH Management Systems at the Enterprise Level
    h. International and Regional Guidelines on Occupational Safety and Health
13. Federal Ministry of Labour and Employment
14. National Policy on Occupational Safety and Health (2006)
15. National Workplace Policy on HIV and AIDS (Revised 2013)

The 1999 Constitution of the Federal Republic of Nigeria in Section 17 subsection 3, specifically made mention that the State shall direct its policy towards ensuring that the health, safety and welfare of all persons in employment are safeguarded and not endangered or abused. Major legislations that have been enacted to provide for the safety and health of workforce include: ♣ The Factories Act, CAP F1, Laws of the Federation of Nigeria (LFN), 2004 ♣ Employees‟ Compensation Act, 2010 ♣ Nigerian Minerals and Mining Act, 2007 ♣ Nigerian Nuclear Safety and Radiation Act, 1995 Other identified related Laws that seek to give guidance to the implementation of occupational safety and health in the country are: ♣ Nigeria Basic Ionising Radiation Regulations, 2003 ♣ Nigerian Radiation Safety in Nuclear Regulations, 2006 ♣ Minerals Oils (Safety) Regulations, 1962 ♣ Petroleum (Drilling and Petroleum) Regulations, 1967 ♣ National Environmental Standards and Regulations Enforcement Agency (Establishment) Act, 2007 ♣ Lagos State Safety Commission Law, 2011. Nigeria became a member of the ILO upon gaining independence in 1960. Nigeria has ratified forty (40) ILO Conventions till date, out of which ten (10) has been automatically

denounced. The country has presently three (3) core occupational safety and health Conventions in place, namely: C155 – Occupational Safety and Health, 1981; C032 – Protection against Accidents (Dockers) 1932; and C019 – Equality of Treatment (Accident Compensation) 1925. The country has in place a National Policy on Occupational Safety and Health developed in 2006, the goal of which is to facilitate the improvement of occupational safety and health performance in all sectors of the economy and ensure harmonization of workers‟ rights protection with regional and international standards. There is no national Occupational Safety and Health Board in place. The functions of such Board have been taken up by the Department of Occupational Safety and Health of the Federal Ministry of Labour and Employment. The National Industrial Safety Council of Nigeria is the tripartite consultative labour council established in May 1964 by a cabinet decision under the sponsorship of the Federal Ministry of Labour and Employment. The Council's main objective is the prevention of industrial accidents and hazards and the promotion of occupational health and welfare in industrial establishments. Nigeria Country Profile on Occupational Safety and Health 2016. There is, however, no formal National OSH Management Systems that has been developed by OSH authorities in place at the moment, but the country adopts the ILO – OSH 2001 as a guide. The main national Competent Authority charged with the responsibility of promoting and enforcing OSH in the country is the Department of Occupational Safety and Health of the Federal Ministry of Labour and Employment, which started in 1955 as the Factory Inspectorate Division. Other regulatory authorities identified are the Occupational Health and Safety Division of the Federal Ministry of Health and the Lagos State Safety Commission.

The Board of the Nigerian Social Insurance Trust Fund (NSITF) is the main public social security institution responsible for compensation of workers with regards to disablement caused by occupational accidents or diseases, or death arising from such accidents or diseases. The Department of Environmental Health Services and the Centre for Occupational Health, Safety and Environmental Studies of the Universities‟ of Ibadan and Port Harcourt currently offer Master's Degree and PHD in Safety, Health and Environment; and Occupational Health, Safety and Environment respectively. The ILO designated the Factory Inspectorate Department of the Federal Ministry of Labour and Employment, now the OSH Department as the Hazard Alert Centre in 1986 and further designated the same Department as the CIS Centre in the year 1991. The role of the CIS Centre is the collection, collation and dissemination of OSH data and information to relevant stakeholders in the country. The key Associations, Organisations and Non-Governmental Organisations involved in OSH arrangements and issues in the country are: Institute of Safety Professionals (ISPON); and Society of Occupational and Environmental Health Physicians of Nigeria

(SOEHPON). Other professional bodies and international affiliated Organisations identified are: Safety Advocacy and Empowerment Foundation (SAEF); OSH Association; American Society of Safety Engineers (ASSE); International Institute of Risk and Safety Management (IIRSM); World Safety Organisation (WSO); International Association of Safety Professionals (IASP); and the Institute of Occupational Safety and Health (IOSH Informal Network). The main institution responsible for the collection and compilation of data on occupational accidents and diseases is the OSH Department of the Federal Ministry of Labour and Employment. The HSE Department of the Nigerian Social Insurance Trust Fund also provides collaborative data collated as a result of its role in the Employees‟ Compensation Scheme. Gross underreporting of workplace accidents and diseases was however observed across board. Though the Nigeria Employers‟ Consultative Association (NECA) does not have a formal policy on OSH, it however provides some guidance for her members through the implementation of her Safe Workplace Intervention Project (SWIP). Similarly, the Nigeria Labour Congress (NLC) through its OSH committee coordinated by the OSH Department provides guidance to her coalition members. Nigeria is currently implementing the ILO funded project on "Improving Safety and Health at Work through a Decent Work Agenda".

Statutory instruments are known as 'subordinate legislation' or 'delegated legislation'. It is relating to the Health and Safety which consists of statutory instruments proposed by Health and Safety Commission (HSC), after due consultation with industry, local authorities and other relevant groups, to the Secretary of State for Employment and, thereafter to be laid before Parliament Statutory Instruments take the form of regulations, that is, the Management of Health and Safety at Work Regulations 1992 (MHSWR), the Control of Substances, Hazardous to Health Regulations 1994 (COSHHR), and Electricity at Work Regulations 1989. Till date, since 1974, in England when the HSWA was introduced, all regulations concerning workplace health, safety and welfare have been passed in furtherance of HSWA.

Thus, in Nigeria, we have the Factories Act Cap F1 LFN 2004 which promotes the safety of workers and professionals exposed to occupational hazards. Section 13 allows an inspector take emergency measures or request that emergency measures be taken by a person qualified to do so in cases of pollution or any nuisance. There are a number of statutes that provides for the welfare of workers, some of these statutes include the Factories Act, the 2010 Employee Compensation Act, which repealed the Workers Compensation Act of 1987, the Labour Act Cap L1 LFN, 2004, and the Nigerian Social Insurance Trust Fund Act, 1993 among others as listed above. The laws recognize the need to compensate employees who

have suffered occupational hazards in the course of their employment, hence the Employee Compensation Act makes provision for this.

4.3.1.2 Common Law

Common law is an area of law that has developed since the eleventh century and is based on the decisions of the courts whereby precedents are established. Common law is the body of case law that is universally, or commonly applied or generally acceptable as a result of judgments of the courts. Each decision of the court contains the judge's enunciation of the facts, a statement of the law applicable to the cause and their ratio decided, or legal reasoning, for the findings that have arrived at.

Most of these final decisions of court of record are recorded in the various law reports. All these judgments have developed over time into the body of decided case law. In this wise, common law can equally be regarded as accumulated case law, recorded in the Law Reports, underpinned by the principle of precedent. The judicial precedent is a must apply concept by the courts. Courts are duty bound to follow previous decision of superior courts but decisions of court of its own level or jurisdiction can be applied on principle of persuasions.

4.3.1.3 Judicial Precedents

The doctrine can be defined as 'a decision of a tribunal to which some authority is attached'. The doctrines have tremendously influenced the development of law but are in themselves, one of the major material sources of the law. One can say that, a case is a binding decision of precedent, that is, the principle on which the decision was made will be binding in subsequent cases which are founded on similar facts. Therefore, a precedent may be authoritative or persuasive.

a. Authoritative Precedents are earlier decision which courts/judges must follow. The lower courts have no choice in the matter, rather they are bound by a previous decision of a higher court. This is a practise which judges must adhere to strictly.

b. Persuasive Precedents: The decisions that falls under this category are not binding on a courts/judge, through a court may attach some importance; for example, the superior courts in commonwealth countries will be treated with respect in the English High Court. To this extent, judge is not expressly bond or under a duty to apply a persuasive precedent.

 Examine the sources of Health and Safety Law in your country.

4.3.2 Nigerian 1999 Constitutional provisions (as amended in 2011)

Nigerian Constitution contains provisions relating to the right to Health, Safety and Welfare Nigerian government at all levels (the three tiers) are not unconcerned about the health and safety of the environment for all her citizens. Chapter II, Fundamental Objectives and Directive Principles of State Policy, particularly Section 17 (3) (s) of the 1999 Constitution of Federal Republic of Nigeria (as amended in 2011) which states that:

The state shall direct its policy towards ensuring that:
(c) The healthy, safety and welfare of all persons in employments are safeguarded and not endangered or abused.
(d) There are adequate medical and health facilities for all persons.
This section and its subsections (c) and (d) captured the entire discussion in this unit, as par constitutional safeguards to the right to health.
However, the regional and inter-regional organizations are not left out in providing international and regional instruments for the right to health to which Nigeria is a stakeholders/signatory to the conventions, including the African Charter, with reference to Articles 6 which essentially implies a feasible protection of the citizens from natural hazards and from pollution.

Furthermore, it is trite that the emission of toxic pollutants into the atmosphere which endanger all living organisms will be injurious to health. There is no need emphasizing that the Nigeria Constitution does not expressly provide for an enforceable right to health and safety; as far as there is provision for right to life that will affected if a person's or organism's health is put in jeopardy by activities unauthorized by the state.

World Health Organization posited in a recent report that "Human health is essential for sustainable development since without health, human beings would not be able to engage in development, combat poverty and care for their environment". (See WHO, paper prepared for the commission on sustainable development; March 1994).

In other word, the main theme of protecting the environment is to ensure the health of the people (See Principle I of Rio Declaration Environments and Development)

Be that as it may, it is necessary to remind ourselves that the occupation of the oil producing companies in Nigeria is on how profits can be maximized rather than sustaining and protecting the environment for health, safety and welfare of lives and property of the inhabitants around Niger Delta region.

It is unfortunate that the people around the region are not even after the welfare of the people. But the major problem of the people is how to share from the oil wealth. In addition, most of the companies around the region do not have pollution control instrument to get rid of the pollution within time limit.

In conclusion, from above discussion, relating to sources of law, health and safety of job environment; and the Nigerian 1999 Constitutions provision (as amended in 2011) shows that Government worldwide has interest in their environment. The international and regional instruments were made to address the menace of health hindrances in our environment.

4.4 Summary

Our environment particularly, the work environment needs to be properly protected against any unhealthy elements in the various company surroundings. To remain healthy, we have to remain clean always. The companies have been enjoined to make their job environment health safe for their employees/workers, and visitors to their company environment.

4.5 References/Further Readings/Web Sources

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4.6 Possible Answers to Self-Assessment Exercises.

SAE

1. NO

2. i. Authoritative precedent and

ii. Persuasive precedent

UNIT 5 HUMAN RIGHTS AND ENVIRONMENTAL RIGHTS I

Unit Structure

5.1 Introduction

Various definitions have been provided for Human rights by many environmentalists, environmental lawyers, Human rights activists, Constitutionalists and other scholars; though no unifying definition has been agreed upon. In this unit we are not going into this area of divergence views, but to define Human Right within the general scope of Environmental Right/Environmental law. Therefore, environment is defined as the totality of our surroundings, especially material and spirituality influences which affect the growth, development and existence of a living being (that is human sustainability depend largely on his environment). Human Rights, on other hand means the liberties/freedoms, benefits and immunities in accordance with modern values. Viewed from these definitions, it is trite to state that Environmental Right plus Human Rights connote those human beings have unperturbed rights to claim as a matter of natural right in the society/environment which they find themselves. In the modern day, most of the nations of the world, have enshrined this doctrine of 'Rights' in their various constitutions; the regional, continental and international organizations are not left out by emphasizing protection and sustainability of environment and its rights for human development either as 'Bills of Rights' or as 'Fundamental Human Rights'.

5.2 Learning Outcomes

By the end of this unit, you should be able to:

- Discuss human right within the environment
- Discuss the impact of constitutions of nations; regions, continental and international organizations in sustaining environmental needs.

5.3 Human Rights and Environmental Rights

Human rights are natural gifts and their existence surpassed creation of environment. Living organisms /creatures were created into the environment to enjoy to the fullest the endowment of the surroundings where they find themselves without hindrances to their rights of uses. This notion was corroborated by Atsegbua *et al* that, 'Pre-colonial Nigeria was politically and culturally heterogeneous in its set up, yet, nations of human rights still exist, predicted essentially the communalistic ethos of the era. Consequently, human rights were collectivized.

Colonialism is largely abridged rather than enhanced human rights. 'One of the glaring indexes of the colonial period was the denial of the fundamental rights of the colonized peoples. It is in this context that the agreement of civilizing mission can be floored. While the colonizers propounded notions of human rights or natural rights, they paradoxically never saw the necessity for the enjoyment of these rights by the colonized peoples. Of course, the logic was that colonialism was incapable of allowing the full effect of the rights; otherwise, colonialism would have ceased to be relevant. Additionally, the derogation from the rights had also affected the development and articulation of an African human rights dispensation and perspectives (Dr. Onje-Gye-Wado as cited in Dakas), "The Implementation of the African Charter on Human and Peoples Rights in Nigeria": 1986 – 1990 p.43.

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. African Charter of 1981 was subsequently included in the Constitutions of the Federal Republic of Nigeria. TRUE or FALSE
2. Environmental rights are composed of two types of rights. Name them.

Dr. Onje-Gye-Wado was right to accuse the colonialists as pretenders and wicked, they know the essence of these rights but deliberately deprived the colonized people of those rights which were freely enjoyed in their home countries. To buttress this fact, Nigeria was under the colonial siege for 100 years (1861 – 1960). It is no more good news to know that no African (Nigerian) enjoys 'a pinch of salt-like' freedom throughout their 100 years of retrogressive colonial administration. It was at the twilights of the imperialist's era in Nigeria that the fundamental human rights, they had denied Nigerians for so long years, a century was technically slotted into the Willink's Minorities Commission set up in1958; purportedly to looked into Minorities agitations viz fear of domination by the majority tribes in the country. It was this commission that smuggled into its report

'Fundamental Rights clauses' and were embodied into the Independence Constitution of the Federal Republic of Nigeria particularly Chapter III of both 1960 and 1963 Republican Constitution. It was Chapter IV of Second Republic Constitution of 1979, 1989 and the present 1999, Forth Republic Federal Constitution (and its amendment in 2011) of Nigeria. Although there were no clear changes from pre-1999 (post-independence) till the present-day Nigeria. It has been and still remains Military Administration transformation. No spectacular amendment has taken place all the while. It is worth to acknowledge the 1999 Constitution which provides in Section 20 that: "states shall protect and improve the environment and safeguard the water, air, land, forest and wildlife of Nigeria."

This clause is unfortunately not justifiable as it is not part of Cap IV of the Constitution. It would have been accorded enforcement but it is now, regrettable, a mere integral part of the fundamental objective principles of Nigeria state policy with a known fact that it is not justifiable.

Furthermore, it is disheartening that most provisions of Nigeria laws, regulations and rules on pollutions control are not elaborate enough or made in such a way to cope with complex, and sophisticated subject matters which are main bane of environmental sustainability and development. Nigeria is still up till today relying on common law remedies to deal with the civil liability in tort. It is crystal clear that, these remedies are not capable of dealing with the rate of technology advancement particular in the oil industry.
(Atsegbua I 1992: 57).

The rule in ***Rylands v Fletcher*** (1866) L.R.Ex. 265 which has been the main reference for the tort of negligence and nuisance is outdated, and cannot meet the claim of the victims of oil spillage which currently taking place in the Delta Region. In the similar veins, the criminal liabilities under the Oil in Navigable Water Act also fall short of adequacy and reliability in the present state of technology sophistication in Nigeria today.

At this juncture, these issues raised in this paper need to be urgently addressed by the law makers in Nigeria, particularly all tiers of government, because the Environmental matter falls within the purview of concurrent list of the constitution. States therefore have a constitutional right to make laws in this regard to address the environmental rights lapses.

Human rights and the environment are intertwined; human rights cannot be enjoyed without a safe, clean and healthy environment; and sustainable environmental governance cannot exist without the

establishment of and respect for human rights. This relationship is increasingly recognized, as the right to a healthy environment is enshrined in over 100 constitutions.

There are several established human rights related to the environment. Environmental rights are composed of substantive rights (fundamental rights) and procedural rights (tools used to achieve substantial rights).

Substantive Rights
Substantive are those in which the environment has a direct effect on the existence or the enjoyment of the right itself. Substantive rights comprise of: *civil and political rights*, such as the rights to life, freedom of association and freedom from discrimination; *economic and social rights* such as rights to health, food and an adequate standard of living; *cultural rights* such as rights to access religious sites; and *collective rights* affected by environmental degradation, such as the rights of indigenous peoples.

Procedural Rights
Procedural rights prescribe formal steps to be taken in enforcing legal rights. Procedural rights include 3 fundamental access rights: access to information, public participation, and access to justice.
"Environmental Rights and human rights are synonymous" Discuss.

5.3.1 Contribution of African Charter

When it comes to protecting the environment, African countries perform very poorly. The unsustainable use of biodiversity, pollution of water resources and failures to mitigate against the effects of climate change are three examples.

Much of the blame for this can be laid at the door of governments and organisations such as the African Union (AU), as well as the legacy of colonial rule. But another key factor is a legal framework that has failed to keep pace with current environmental challenges.

Africa and Africans are not too conscious of what to do exactly to improve and better the lots of their environment not until 1980s and early 1990s.

The African Charter on Human and Peoples Rights came into being on the 19th January 1981 through the then Organization of African Unity (OAU) and now African Unity. Majority of African countries reduce economic and social rights to the level of "fundamental objective of state" separate from civil and political rights which are regarded as core rights. Nigeria is a key signatory to the African Charter of 1980s which became part of Nigerian law.

Since the end of colonial rule, there have been a number of attempts to introduce a pan-African approach to conservation. The African Charter on Human and Peoples' Rights and the Africa Convention set the parameters for conservation efforts on the continent.

Article 24 of the African Charter on Human and Peoples' Rights, introduced in 1981, contains an "environmental right" that states:
All peoples shall have the right to a general satisfactory environment favourable to their development.

At the time it was introduced in 1981, Article 24 was seen as a pioneering development in international environmental law. The African Commission on Human and Peoples' Rights interpreted it as placing a duty on countries to "secure ecologically sustainable development and use of natural resources."

However, Article 24 has been superseded by the 1968 African Convention on Nature and Natural Resources. The 1968 African Convention is the current applicable framework governing environmental conservation. It prescribes and guides countries as to what is expected of them in terms of conservation.

The Charter on Human and Peoples Rights (Application and Enforcement) Act Cap 10, 1983 makes provisions for the three generations of human rights by making provisions for certain political and civil rights, collective social and economic rights, and the right to development which include rights to a general satisfaction acceptable/conducive environment. In Article 24, the African Charter provides that "All people shall have the rights to a general satisfactory environment favourable to their development".

Nigeria's adoption of the African Charter into her arrays of laws makes the charter part of Nigeria legal system with full force of law and enforcement. Section 1 of the Act makes the Charter enforceable in Nigerian courts. Hence, the rights embodied in the charter are legal rights; the alleged breach of which any High Courts has jurisdiction to entertain under Section 255 of the Constitution of Nigeria.

See ***General Abacha v Gani Fawehinmi*** (2000) 77, LRCN 12554 – 1401 where the appellant/respondents filed an application at the Federal High Court, Lagos to challenge his arrest and detention for four days. The action was brought under the fundamental right (Enforcement Procedure) Rules 1979. Part of the relief sought include two declarations, one of which is that his arrest and detention constitute a violation of his fundamental rights guaranteed under the 1979 Constitution and the

African Charter on Human and Peoples' Rights (Ratification and Enforcement) Act, Cap 10, Laws of the Federation of Nigeria, 1990 (as amended in 2004). On appeal to the Supreme Court the court allowed the cross-appeal in favour of the respondents and upheld the letter and spirit of the African Charter.

The Supreme Court stated:
That an international treaty become, binding when enacted into law by the National Assembly in that Section 12(1) 1979 Constitution provides "No treaty between the Federation and any other country shall have the force of law except to the extent to which such treaty has been enacted into law by the National Assembly".

This shows the effectiveness of the application of the Human Rights as enshrined in the African Charter in the domestic/Municipal Superior Courts in Nigeria. See also ***Gbemre v. Shell Petroleum Development Company***, Unreported Suit No. FHC/B/CS/53/05.

In conclusion, this unit discusses the environmental rights and human right; impact of African Charter. The right of Nigeria municipal court in handling matters in relation to the charter as a result of adoption of the charter into her constitution is also discussed.

Environmental rights mean access to the unspoiled natural resources that enable survival, including land, shelter, food, water and air. They also include more purely ecological rights, including the right for a certain beetle to survive or the right for an individual to enjoy an unspoiled landscape.

Many of these rights, particularly the political ones, are well-established and enshrined in various conventions and agreements. We can credit the establishment of some of these rights, as well as the acceptance of others that are not yet legally recognised, to the ongoing struggles of communities and indigenous peoples around the world.

Other 'new' rights, including rights for climate refugees, have arisen over recent years due to the acceleration of economic globalization and the accompanying environmental destruction and social disruption. Still others, like the right to claim ecological debt, have emerged as the result of years of campaigning by Friends of the Earth and others for the recognition of the impacts of northern resource depletion and natural destruction in southern countries.

All of these rights are equally important, and they are all interdependent. Environmental rights are human rights, as people's livelihoods, their health, and sometimes their very existence depend upon the quality of and their access to the surrounding environment as well as the recognition of their rights to information, participation, security and redress.

Rights can be asserted in a variety of ways: for example, by appealing directly to the violating government, international financial institution or corporation; through international, regional and national courts; by applying public and media pressure; and by building coalitions with others seeking similar rights.

5.4 Summary

From the above explanation, it is clear that Environmental Right and Human Right are inevitable concomitant in our society. The African Charter in no small measure contributed to the enforcement of human rights in the continent.

5.5 References/Further Readings/Web Sources

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5.6 Possible Answers to Self-Assessment Exercises

SAE

1. TRUE

2. i. Substantive rights
ii. Procedural rights

UNIT 6 HUMAN RIGHTS AND ENVIRONMENTAL LAW II

Unit Structure

6.1 Introduction

In the previous unit which served as first part of this unit, we learnt about Human Rights and Environmental right and the contribution of the African Charter on Human and People's Rights. This unit introduces us into Environmental Right in the other countries, referred to here as Other Jurisdictions and the second stanza is on the effectiveness of the Constitutional Provisions and Measures. The way and manner these rights in relations to environmental rights are protected in other jurisdictions are center point of this unit.

6.2 Learning Outcomes

By the end of this unit, you should be able to:

- Know the issues concerning environmental right in other jurisdiction apart from Nigeria
- Know sustainable development and environmental rights; and preservation of natural resources for the benefit of humanity.

6.3 Human Rights and Environmental Law II

6.3.1 Environmental Right in Other Jurisdictions

The issue of environmental right is a worldwide concept. It has moved from domestic level to international level. It is not only an African affair, but a universal problem which need contribution of everybody to protect and savage.

In India, the well-being of a person and the environment where he lives are highly correlated. The catena of gas leaks latest of Visakhapatnam, Delhi's air quality, and prevailing water scarcity in the majority of Indian cities has become the environmental hot potato. The same is the warning signs of possible harmful contingencies. Since the lucrative mindset of several individuals has surpassed their environmental stewardship, the Indian constitution has mandated environmental preservation with the essence of fundamental rights and obligations. A person is believed to lead a healthy lifestyle if he/she has not been deprived of any of the fundamental rights and has not been denied any form of healthy means of livelihood.

To ensure same, Indian constitution is one among the few global constitutions, which has separate provisions to address nature conservancy. Though it is quite clear that the lawmakers have not given any importance to the concept of environmental protection, or pollution control, or Rights relating to a healthy environment while drafting the constitution, but later, when the society demanded it, the same was included by the amendment of 1976 (42nd amendment).

At present, the Indian constitution has explicit provisions for environmental protection and preservation under the DPSP (Directive Principles of State Policy) and Fundamental Duties. It is a well-known fact that fundamental rights are the cornerstone on which the Indian constitution has been framed. The broader judicial interpretations on Part III of the constitution have contributed to the notion of the Right to a wholesome environment. Indeed, the former environment union minister Jayanthi Natarajan in the year 2012 had recommended considering the right to a wholesome environment as a fundamental right and its protection.

The judicial act of identifying the right to a wholesome environment as a fundamental right is the reflection of socio-economic justice promised in the preamble of the Indian constitution. According to Einstein, "the environment is everything that isn't me". Further, Section 2 of the environmental (protection) Act, 1986 provides that the basic environmental element includes air, water, land, humans and all other creatures. Besides, the term wholesome environment connotes the healthy and harmless standard of human habitat. The magnitude of the problem of water pollution and the growing concern for remedial action, has led to legislative intervention. As a result, the environment (protection) Act of 1986 thereafter referred to as Environment Act was a giant stride in this direction. The Act defined environment which includes water and the relationship that exists among and between water and human beings, other creatures, plants, microorganism and property (See Section 2 (9) of the Environment (Protection) Act 1986). The Act empowered the Central

Government of India to establish standards for the quality lays down the standards for discharge of environmental pollutants from various sources. Dharmendra S. Sengor 92997:43.

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. The issue of environmental rights is a universal phenomenon. Do you agree?
2. Relate your answer in 1 above to Canada and the United States

In 1985, the first liberal judicial interpretation of Article 21 in relation to establishing the Right to a wholesome environment as an integral part of the right to life and personal liberty was observed and upheld by the Apex court in the case of ***Rural Litigation and Entitlement Kendra and Ors. v. State of UP***.

Advanced clarity of approaching the Right to a wholesome environment as a component of Article 21 was elucidated in the case of ***Subhash Kumar v. State of Bihar***. In which, the word **'life'** given in the stated Article was interpreted in a broad perspective, and the court held that it would expand its ambit to include environmental protection with it.

As far as India is concerned, the catchall legislation, which meant to tackle the environmental challenges, was the Environmental (protection) Act, 1986. Apart from the Act there are multiple legislations in India to conserve the ecology and to address environmental problems; some of the notable legislations are as follows:

1. The Wildlife Protection Act 1972
2. The Forest (Conservation) Act, 1980
3. The National Green Tribunal Act, 2010
4. The Air (Prevention and Control of Pollution) Act, 1981
5. The Hazardous Waste Management Regulations
6. Public Liability Insurance Act, 1991
7. The Water (Prevention and Control of Pollution) Act, 1974
8. The Biological Diversity Act, 2002, etc.

The National Green Tribunal Act of 2010 was enacted as an outcome of the 1992 Rio de Janeiro conference, which empowers the National Green Tribunal to hear environmental-related civil cases.

In the Federation of Canada, Canada, unfortunately, is a holdout. Its Constitution does not mention the environment, and Canada is one of a dwindling number of countries that refuse to recognize the right to a

healthy environment. There are six compelling reasons why Canada needs to modernize its Constitution to include this fundamental human right.

However, the Province of Ontario has enacted an Environmental Bill of Rights which particularly provides for the right to a clean and healthful environment (See K. Webbs "Taking matters into their own Hands" (1991) 36 Mc Gill L. J. 771as cited by Patrick D. Okonmah supra).

Although Canada's Constitution is silent on environmental protection, the right to a healthy environment is recognized in five provinces and territories. Quebec put the right into its Environmental Quality Act in 1978 and added it to its provincial Charter of Human Rights and Freedoms in 2006. Ontario enacted a comprehensive Environmental Bill of Rights in 1993. The Yukon, NWT, and Nunavut have modest environmental rights legislation. In 2011, with the unanimous support of the opposition parties, Parliament came very close to passing Bill C-469, the Canadian Environmental Bill of Rights.

While these laws are better than nothing, they are far weaker legally, politically, and symbolically than constitutional recognition of the right to a healthy environment. The Constitution is the highest and strongest law, as all laws, regulations, and policies must be consistent with it. On a deeper level, constitutions reflect the most deeply held and cherished values of a society. As a judge once stated, "a constitution is a mirror of a nation's soul."

There are three ways that the right to a healthy environment could gain constitutional recognition in Canada:

- direct amendment of the Constitution, requiring Parliament's approval and the support of seven of the ten provinces, secured within a three-year period;
- litigation resulting in a court decision that there is an implicit right to a healthy environment in section 7 of the Charter (the right to life, liberty, and security of the person); and
- a judicial reference resulting in a court decision that there is an implicit right to a healthy environment in section 7 of the Charter.

United States of America is not left out in the enactment of laws that protects her citizens from hazardous environment. In USA, there is statutory rule specially created for strict liability for oil pollution under the Federal Water Pollution Control Act 1972 (as amended in 1977) and under the Comprehensive Responses' Compensation and Liability Act, 1989, also the Oil Pollution Act 1990, all of which make liability strict whether or not the defendant was negligent.

The UNO is equally part of the task to rid of the environmental pollution and degradation. The right to a clean environment as enshrined in the United Nation Commission on Human Rights has been judicially recognised/applied in India. It was applied in the ***Pakistan case Shela Zia v Water and Power Development Authority PLD*** 1994 S.A 16. In this case, a group of citizens sued and obtained a Supreme Court judgemenet stating that, "The right to life included a right to live in a clean environment".

Based on this decision of Indian/Pakistan court, everybody, individuals and communities in Nigeria should exercise the right to a clean and healthy surrounding under the Chapter IV, sections 33 to 46, titled Fundamental Rights of the Nigeria Federal Constriction (Atsegbua supra, p. 143). In a similar vein, Alfred O. Okukpon relying on section 20 emphasized that "our reasoning is anchored on the fact that a right to life implies a right to live in an environment devoid of any injurious degradation" and nothing injurious to human life.

In Spain, the Spanish Constitution of December 29, 1978 specifically provided that, "everyone has the right to enjoy an environment sustainable for the development of the person as well as the duty to preserve it" (See the Constitution of Spain, December 29 1978, Article 45, paragraph 1 and 2).

In Peru, the Peruvian Constitution of 1979 similarly stated therein that: "the right to everyone to live in a healthy environment, ecologically balanced and adequate for the development of life and preservation of the countryside and nature" (See also Peru Constitution of July, 1978 Article 23).

In Uganda, the Uganda Constitution in its chapter on protecting and promotion of fundamental right include a right to environment. Specifically, Article 39 of the
Constitution provides that "every Ugandan has a right to clean and healthy environment".

South African Constitution contained similar provision which stipulates that "every person shall have the right to the environment which is not detriment to his health or well-being".

The main statutory provision relating to the environment is section 24 of the Constitution of the Republic of South Africa Act (Constitution) (No. 106 of 1996) (environmental right), which is stated as the right to an environment that is not harmful to health or well-being. To achieve this right the Constitution also provides that government must take reasonable legislative and other measures to (section 24(b), Constitution):

- Prevent pollution and ecological degradation.
- Promote conservation.
- Secure ecologically sustainable development.
- Use natural resources while promoting justifiable economic and social development.

A number of statutes focusing on dealing with environmental issues have developed over the last 14 years, principally the National Environmental Management Act (No. 107 of 1998) (NEMA), which is a framework statute that:

- Provides for co-operative governance and decision making in matters affecting the environment.
- Is based on the international environmental law principles of sustainable development and integrated environmental management.
- Provides for listed activities that trigger the requirement for prior environmental authorisation for which an environmental impact assessment (EIA) is required, which includes specific public participation procedures.
- Is the origin of the enforcement and compliance mandate of the environmental management inspectorate (EMIs).
- Imposes a general duty of care for the environment (that is, every person has the duty to avoid pollution and environmental degradation) (*section 28, NEMA*). Both civil parties and the government rely on this duty when enforcing environmental obligations. The duty of care has retrospective effect, meaning that the duty is imposed on anyone who causes, has caused or may cause significant pollution or degradation of the environment.

The following statutes, among others, fall under the NEMA framework legislation:

- Environment Conservation Act (No. 73 of 1989).
- National Water Act (No. 36 of 1998) and National Environmental Management (NEM) legislation, including:
  - NEM: Air Quality Act (No. 39 of 2004) (NEM: AQA);
  - NEM: Protected Areas Act (No. 57 of 2003) (NEM: PA);
  - NEM: Biodiversity Act (No. 10 of 2004) (NEM: BA);
  - NEM: Integrated Coastal Management Act (No. 24 of 2008) (NEM: ICMA);
  - NEM: Waste Act (No. 59 of 2008) (NEM: WA).

The Ministry of Water and Environmental Affairs administers this legislation through the Department of Water Affairs (DWA) and the Department of Environmental Affairs (DEA). The Constitution also provides for the following three spheres of government responsibility:

- Functional areas of concurrent national and provincial legislative competence.
- Functional areas of exclusive provincial competence.
- Certain executive and administrative authority at municipal level.

A number of aspects of environmental management span these three spheres of responsibility. For example, depending on the listed activity for which an EIA must be undertaken, the competent authority to which the application for environmental authorization must be submitted is either at the provincial or national level. However, applications for atmospheric emissions licences (AELs) are dealt with at the municipal level, unless the municipal authority has been subsumed by or delegated up to the provincial level. Consequently, when dealing with issues related to the environment it is essential to determine which sphere of government is relevant to a particular environmental enquiry or application for authorization to undertake an activity that may impact on the environment.

Highlight the contribution of other nations to the provisions of clean environment as a human right.

6.3.2 Effectiveness of the Constitutional Provisions and Measures

In the case of Yaomani, an Indian for instance, was able to rely on the fundamental human right to life as stated in the South American Constitution, where the Inter-American Commission on Human Rights found that environmental degradation violates the right to life.

However, the Latin American countries indicted the Brazilian government of flagrantly violating the human right of its citizens. This was as a result of inability of the government to take or adopt timely and effective measure to curb environmental hazard leading to the loss, injuring of many cultural identity and property (See Case No 7615, Inter-America CHR 24, 28, 33 OEA/L/V/II, 66, doc. 10 rev, 1 (1985) cited in Okonmah, supra p. 16 . (Atsegbua, 2007: 143 – 4).

UN Human Right Committee equally supported victims of environmental pollution where it observes that "a nuclear disposal site in Port Hope, Canada affected the lives of nearby inhabitants and raised very vital issues in relation to obligation of states to a nuclear site in Port Hope, located in Canada. This incident generated a serious debate on the obligation of states to protect the major rights to man.

Moreover, the African Commission on Human Rights which is Africa's equivalent of the European Court of Human Rights Courts, does not give

binding decision, its jurisdiction and competence is limited to promotional activities and making recommendations to the Assembly of Heads of States. The membership of this group comprises of the worst violators of human rights in Africa.

In this unit, environmental Rights in other jurisdiction were discussed apart from Africa; and environmental rights as it relates to effectiveness of the Constitutional Provisions and Measures.

6.4 Summary

The role of Africa Charter on Human and People Rights in preserving Environmental Rights though African countries started lately but the degree of attention they are now directing towards environmental rights is remarkable. The other countries in far Europe, America, Canada, Indian and Asian were equally emphasized their impact in building and sustaining environmental right of their people.

6.5 References/Further Readings/Web Sources

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6.6 Possible Answers to Self-Assessment Exercises

SAE 1.YES

MODULE 3 CONCEPT OF ENVIRONMENTAL LAW AND LEGAL CONTROL MECHANISM OF POLLUTION

UNIT 1 CASE STUDIES IN ENVIRONMENTAL POLLUTION IN SOME SELECTED AREAS AND THEIR IMPLICATIONS

Unit Structure

1.1 Introduction

Pollution of water by oils is worth an important discussion, since our modern society raises the energy from fossils fuel, in fact, oil pollution is likely to be an increasing threat to marine ecosystem as exploration for new off shore wells are stepped up.

Oil spilled into water environment is an ugly form of pollution. It kills aquatic plants and animals in different ways; it may be folic, some petroleum constituents, such as phenol, are water soluble, so that they

spread rapidly through the ambient environment; oil spillage can affect organisms' respiration, causing suffocation.

Pollution is "causing environmental damage on a global scale and widespread pollution disrupt the ecosystem". If present trends continue, "the natural environment will be increasingly stressed" – ("Global Environmental Outlook, 2000" United Nations Environment Programme). It is no gainsaying that pollutants generally have detractive impact or harm on all living things (especially carbon-dioxide). The position of C. S. Ola on "Industrial and Oil pollution" (1984) captured this development where he defined 'environment' to includes the introduction of new materials into the environment by technology. Generally, the presence of matter or energy in its nature, location or quality produces undesired environmental effects. Under the Clean Water Act (see US Federal Water Pollution Control Act Amendment 1972 on the definition of pollution) defined the term as the manmade, or man-induced alteration of the physical, biological and radiological integrity of water.

According to World Health Organization (W.H.O 1974); the environmental is considered polluted when it is altered in composition or condition directly or indirectly as a result of the introduction of pollutants. "Water pollution is thus the down grading of water quality to the point where it affects unreasonably water use for domestic, industrial, agricultural or other uses. Pollution exists only when the impurity concentration is high enough to harm water usage adversely and unreasonably, water pollution is reduced by dilution and self-purification in rivers and lakes. But when their effectiveness in this respect is exceeded, problem develops cumulatively.

In this Module and its Units, Oil and other chemical pollution shall be discussed.

1.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the meaning of oil pollution/spillage
- Discuss other chemical pollutants
- Explain the impact of oil and other chemical pollution

1.3 Case Studies in Environmental Pollution in Some Selected Areas and Their Implications

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. What are the causes of oil pollution?
2. What are the resultant effect of oil pollution?

1.3.1 Oil Pollution

Pollution of every kind is harmful to nature. The most damaging type of pollution to the environment is caused by oil. Oil pollution is most common in large water bodies like seas and oceans and land. Oil spill occurs due to the release of a liquid petroleum hydrocarbon into the aquatic environment. Marine water is especially affected by this form of pollution. Oil pollution is primarily a man-made pollution and is a result of human irresponsible activities.

The various causes of oil pollution are *drilling activities, breakage of oil tankers (oil ships), oil pipe leakage, failing to check failures, unskilled manpower, human transport or recreational activities, natural causes beyond human control, operational oil spills, run offs from land pollution and leaking of tanks:*

The effects of oil pollution are *damage to ecosystem, economic loss, damaging on marine biodiversity, effect on coastal areas, alters the water temperature, degrades water quality, affects tourism industry and* ***i*ndustry problems**. The attitudes of the oil companies involved are not encouraging. It is generally agreed that environment pollution, caused mainly by oil spillages and indiscriminate disposal of oil industry waste and cuttings are common place in the various oil region.

There is no doubt that crude oil is the major mineral resources in Nigeria which generate a lot of money amounting to 80% of total revenue accruing to the federal government. The crude oil is obtained from deep down the soil and it varies widely in composition, colour, factors which are based on the area from which it is obtained. Natural gas occurs on the layer above the oil in the soil, so that to get the oil, they have to first get the gas. The gas is burnt continuously day and night. Both federal government of Nigeria and the oil companies have made plans to stop gas flaring. The plan is already on the way to collect the gas for wealth generation. Nigeria is known as Second Largest producer of gas in the world than crude oil production. This fact was posited by an expert.

Nigeria suffered losses amounting to 21,291.673 barrels of oil, an equivalent of 3,364,084.375 litres, due to spill in 2020, according to the latest data obtained from the National Oil Spill Detection and Response Agency, NOSDRA. This showed a 50 per cent decline, compared to 2019, when 42,076.492 barrels of oil (6,648,085.706 litres) were spilled. NOSDRA, while noting that the spill could be attributed to several factors, explained that the bulk of the spill was caused by sabotage and theft.

The Niger Delta has a complex and extensive system of pipelines running across the region and large amounts of oil spill incidences have occurred through the pipelines and storage facility failures, these failures could be caused by material defect, pipeline corrosion, ground erosion but the oil companies blame most of the spills on sabotage. The Department of Petroleum Resources contends that 88%of the oil spill incidences are traceable to equipment failure, main causes of oil spills in the Niger Delta are vandalism, oil blowouts from the flow stations, accidental and deliberate releases and oil tankers at sea (Nwilo and Badejo 2004, 2005a).

The World Bank estimates that oil companies in Rivers and Delta States spill over 2,300m^3 of oil in 300 major accidents yearly. On its part, Shell says it spilled an average of 7,350 barrels of oil a year between 1989 and 1996 and that a total of 221 spills occurred in the course of its operation. It is not unlikely that he figures above are grossly under estimated. Grevy (1995) notes that oil companies tend to under-estimate the incidents of oil spillage and the total spillage might be ten times as high.

Prospecting for crude oil usually result in crops and forest destruction. When laying the pipe lines in collecting the crude oil, there are times accident happens, and a lot of crude oil leaks from joint in the pipe lines. It equally occurs through the handy work of the oil pipe line saboteur who vandalizes the pipe lines in order to siphon the crude oil. When this occurs, it is called oil spillage.

The pipe lines are laid on land or in water. The areas covered by the oil spillage depend on the extent of the leakage and this normally causes enormous damage to the crops and land fertility. Although, Nigeria oil is said to contain low level of sulphur. Sulphur (iv) oxide is very harmful to plants and animals. Any area that oil spillages touches, nothing grows on the land and animals living within such an area will die off. The same thing applicable to water, all the living organism in the water dies. It damages the aquatic life. On the other hand, gas is burnt both in the day and night, its flames are usually seen very bright but it has very sad adverse effect which is that, it reduces the yield of agricultural products. The gas flame can also harm human health. The temperatures in these

areas are also generally higher than usual. The people living in the area of the oil spill are uncomfortable. Oil spillage contaminates rivers and seas and makes water in rivers, oceans and seas unfit for human uses – drinking, cooking, damming, fishing and even difficult to navigate. For well over four decades, the oil majors have been prospecting for oil in the Niger Delta region, they have not only radically disputed the ecological balance of the area, but have also, through negligence and cyclical indifference, orchestrated various ecological war. There has been no effective effort on the part of Government and the oil operating companies to control the environmental problem associated with the oil industry (Green Peace International, 1994; Greenpeace Netherland, 1996).

Drilling for oil is also a potential source of environmental pollution. Oil drilling operations are in four stages: Preparing site, exploring drilling, production testing and transportation. These stages impact on the environment, through channels are dredged using barges. Dredging is particularly harmful to the environment as dredged materials dumped on either sides of the canal turn acidic and overtime contaminates the ground (Van Dessel, 1995).

We need to emphasize here the point that the contamination of ground water is a very serious environmental problem in the Niger Delta. Ibiebele (1986) reported high concentration of dissolved petroleum hydrocarbon in waste water from refineries and oil exporting terminals in the Niger Delta. In 1993, a Shell environmental impact study also found an average hydrocarbon on content of about 62.7mgl in the Olama Creek, near the Bonny Terminal (Orubu 2002, Ndkwere and Ezehe 1990).

In a similar vein, underground project led a team of local and international observers to Luawi, one of the villages in Ogoni land in 1997. The team analysed samples taken from streams and as a result discovered that the total petroleum hydrocarbon tested at 18 parts per millions (ppm) which was 360 times higher than levels deemed acceptable in European countries (Human Rights Watch 1999).

The most alarming is the changing of the mangrove and rainforest vegetation with its attendant loss of numerous trees and plants with potential economic and pharmaceutical values. The mangrove of the Niger Delta is said to be the third largest in the world and the largest in the continent of Africa. Not less than 60 percent or 60,000sq^2 kilometers is found in the Niger Delta. The Niger Delta has high biodiversity characteristics of extensive swamp and forest areas and animals (World Bank 1995; Jones 1998). The inevitable loss of biodiversity has been well documented and recommended cautionary measures should not be delayed (NNPC/AAPW 2004).

To some extent, the beginning of discovery of oil, oil industry and its subsequent boom in Nigeria up to 1986 could be regarded as the era of innocence and ignorance of law can be seen as excuse. The level of the deleterious impact of oil business was low. But the discernible impact of oil is the rapid transformation of Nigeria into an industralised country, in relative terms.

The products of industries are found everywhere and ecological systems are being destroyed. Oil is produced on shore and mainstream particularly Niger Delta Basin and offshore and so vegetation and farmland are destroyed (C. S. Ola).

However, from the 1990s, this gave room for proper articulation of several issues bothering on the oil industry (Odoegwu, 1981). Foremost, in this respect was environmental justice and equity. This course was given ideological underpinning by Ken Sarowiwa and his group. Over time, the oil majors came to realize that it could no longer be business as usual.

Thus, there was a resemblance of a prodded response to the environmental challenges in the oil-bearing enclave of the Niger-Delta.

1.3.2 Oil Spills in the Delta Region

As stated above, there have been a high number of incidents and volumes of oil spills in the Niger delta region. Based on official statistics, Fekumah found that from May 1980 – May 1990, approximately 433,076 barrels of crude oil were released and wasted into the Nigerian environment from the Eastern operations alone. Oil operations are divided into two in Nigeria eastern and western operations.

In addition to the spills that were directly reported, research shows the comprehension study by factoring in the number and volume that is unreported and therefore not included in the official data collected. The analysis further shows that based on oil industry sources, more than 1.07 million barrels, and equivalent of US 45 million gallons of oil were spilled in Nigeria from 1960 to 1997. The largest spill was an offshore well blowout in January 1990, where not less 200,000 barrels of oil, about US 8.4 million gallons was spilled and wasted into the Atlantic Ocean from a Texaco facility alone and destroyed 500 hectares of mangroves. This is according to oil industry sources. The Department of Research which is the regulatory agency for the oil industry in Nigeria estimates that more than 400,000 barrels about US 16.8 million gallons were spill in this incident.

However, various studies of oil spillages account between 1989 and 2001 confirm similar high figures as earlier studies emphasized above. In fact, of a total of about 526,679 barrels of oil was spilled between 1989 and 1999, over 95% was lost to the environment.

This figure was confirmed by the Punch Newspaper Energy Correspondent in the Thursday, July 29, 2010 publication that "a total of 3,203 oil spills have been recorded in the Niger Delta region in the last four years". This is contained in the report on oil spills in Nigeria, prepared by the National Oil Spill Detection and Response Agency (NOSDRA). Out of this figure, 859 of the 2,203 oil spills sites have been remediated and verified by NOSDRA. The NOSDRA document entitled "Oil Spill Reports" stated that," for the period of January 2006 – June 2010, the Federal Government has received 3,203 oil spill report from oil companies with accompanying 9,256 barrels of oils spilled into the environment.

In this case, however, the number of sites remediated by oil companies and certificates issued by NOSDRA include Nigeria Agip Oil Company (NAOC) 53; Shell Petroleum Development Limited, 75; Total Exploration and Production, 34; and Chevron Nigeria Limited, 14. As part of their remediation plan for the year 2010, SPDC and NAOC have respectively identified 268 and 1555 number of past impacted sites for remediation. The issue of oil spillages was emphasized by the former Minister of Environment, Mr. John Odey, while meeting with Chief Executives of Oil companies in Abuja, he said that "oil spill had caused severe environmental degradation and dislocation of social livelihood of oil communities". He further said, "in view of the recent US oil spill and government's response to the explosion of the deep horizon oil rig, as well as the June 16, 2010 spill in Xingang Port in the Dalian Province of China, questions have arisen over the vulnerability of their (oil firms) operations and our environment to similar situation".

In a similar remark, The Guardian newspapers Energy Correspondent of Wednesday July 28, 2010 reported that oil firms face tougher challenges in tackling oil spillage in Niger delta. It was stated that International Oil Companies (IOC's) in Nigeria to end oil spillages and totally clean up the affected sites may take larger time than anticipated.

Host communities and settlements where oil pipelines and other industry infrastructure are sited have documented the impact of these spills on their land and livelihoods. The problem is severe: according to the Nigerian

National Oil Spill Detection and Response Agency (NOSDRA), nearly 37,000 barrels (approximately 5.8 million litres) of crude oil were spilled in Nigeria in 2019. This is a huge amount, by any standard, and is likely to be an underestimate.

The NOSDRA, former DG, Mrs. Uche Okwechime attributed the perpetual oil spillage to
"third party interference" and that they contributed substantially to menace of oil spills in the Niger delta. Therefore, oil thieves in the oil region of the country have intensified efforts in making a living through this means of vandalizing the oil pipelines. No wonder, Niger Delta has been declared one of the most oil-polluted places on the planet with more than 6,800 recorded oil spills, accounting for a loss of nine million to thirteen million barrels.

Although, the communities around the oil region had always held the IOCs responsible for the pollution of their environment, with no concrete measures of addressing the menace. In defence of this allegation, the Manager Environmental and Regulatory organ of Exxon Mobil oil company, Mrs. Carol Attah said that "it was unthinkable for the oil multinational to deliberately cause spillage in their operating environment. Every single spill is a loss to our company."

The new DG, Musa Idris, explained that since inception of NOSDRA, they have done a lot on the upstream sector. "We have made a lot of sanctions and oil companies have known us for what we stand for but we have not really gone down to the other side; we are absent completely in the downstream."

A collaboration with both the affected communities and oil companies to ensure complete remediate and equally appropriate machinery should be put in place for reviewing various organs from oil regions of Delta communities with a view to ensuring that appropriate remediation and compensation were adequately carried out.

1.3.3 Gas Flaring

Gas flaring is the burning of natural gas associated with oil extraction. The practice has persisted from the beginning of oil production over 160 years ago and takes place due to a range of issues, from market and economic constraints, to a lack of appropriate regulation and political will. Flaring is a monumental waste of a valuable natural resource that should either be used for productive purposes, such as generating power, or conserved. For instance, the amount of gas that is currently flared each

year – about 142 billion cubic meters – could power the whole of sub-Saharan Africa.

Flaring persists to this day because it is a relatively safe (though wasteful and polluting), method of disposing of the associated gas that comes from oil production. Utilizing associated gas often requires economically viable markets for companies to make the investments necessary to capture, transport, process, and sell the gas.

Associated and non-associated natural gas are part of the process of production and development of oil since inception of oil production in 1957. There has been continuous flaring of gas in Nigeria which was estimated about 704,461.6 million cubic metres (m^3) of associated gas was produced between 1961 and 1998 of which 577,830.1 m^3 representing an average of 82.2 percent of total production was flared. "For instance, after a spill in Bayelsa state by the Shell Oil Company, (in 2004), (the local contractor was called for an independent investigation as he alleges that the claim of sabotage is unproven and the volume of spill declared by shell is far less than it actually is". Shell report oil spill in Bayelsa as reported by Onwuka Nzeshi in This Day Newspaper, February 18, 2004.

In addition, most of Nigerian's oil facilities were built in the 1960's and 1970's. During this period, gas was not a particular energy source as it was more difficult to produce and transport than crude oil, on which many of the world's economics were based. There were few markets for gas in Nigeria and at the same time there was little environmental awareness of the consequences of gas flaring. It was said by an expert that Nigeria is known for gas wasting/burning than production of crude oil.

Hitherto, little was done to find or develop gas reserves and no facilities built to collect the associated gas, which was and remains one of the most difficult and expensive gas sources to harness. It is produced at low pressure and has to be compressed and treated in purpose bullies' facilities before it can be used. In addition, individual fields do not produce enough associated gas to be economic on their own so an expensive network of compression facilities and pipelines is needed to link these scattered fields to collect enough gas for a typical industry.

Today's commercial demand for gas in Nigeria is just 330 million scf/d, many times smaller than the large volumes of associated gas being flared. However, the best opinions to conserve or harness this flared gas was to reinjection into oil reservoirs underground, or export. SPDC was the first company to re-injects gas as far back as 1978 at Ogunta. Unfortunately, most reservoirs are unsuitable for large-scale injection.

In addition, the country's first plans for a Liquefied Natural Gas [LNG] plant date back more than 30 years and several schemes failed for various reasons until 1995 when the partners of the Nigeria LNG Project decided to go ahead.

Although, a large number of these flare are close to local communities and farmlands, with an average of about 75 – 90% of produced gas being of flares. It is not suppressing that Nigeria is alleged of flaring more gas than any other oil producing country, with highest next country, Libya flaring just 21% (Okoh 2001). The sum total of the volumes of gas flared would be sufficient to meet the entire gas needs of the whole of the West Africa. In other words, it is expected that there will be greater utilization of gas owing to the various gas projects being developed in the country, there is no evidence as yet that this has impacted the volume of gas currently being flared.

Thousands of gas flares at oil production sites worldwide burned approximately 142 billion cubic meters of gas in 2020. Each cubic meter of associated gas flared results in about 2.5 kilograms of CO_2 equivalent emissions, resulting in about 400 million tons of CO_2 equivalent emissions annually. However, since flaring does not burn all the associated gas sent to a flare, significant amounts of methane are also emitted. These methane emissions contribute significantly to global warming, particularly in the short to medium term, because according to the Intergovernmental Panel on Climate Change methane is over 80 times more powerful than carbon dioxide as a warming gas on a 20-year timeframe.

Oil pollution as discussed in this Units covers a substantial ground in the study of Environmental Law in Nigeria, although, it cannot be concluded in this unit. The way some real issues were handled shall be discussed in the next unit.

1.4 Summary

Students will benefit a lot from this unit that have introduced the oil pollution and gas flaring to them.

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1.6 Possible Answers to Self-Assessment Exercises

SAE

1. The causes of oil pollutioninclude:
i. *drilling activities,*
ii. *breakage of oil tankers (oil ships),*
iii. *oil pipe leakage,*
iv. *failing to check failures,*
v. *unskilled manpower,*
vi. *human transport or recreational activities,*
vii. ***some*** *natural occurences beyond human control,*
viii. *operational oil spills,*
ix. *run offs from land pollution and*
x. *leaking of tanks:*
2. It can:
i. contaminate water
ii. Endanger aquatic life
iii. Destroy farmland

UNIT 2 OTHER CHEMICAL POLLUTANTS

Unit Structure

2.1 Introduction

Apart from the direct oil spills that causes a large percentage of oil pollution in Niger Delta region, there are other chemical sourced pollution of water which make water unsafe to the people who live around such areas, among these other chemical pollutants are, nutrient pollution, pesticides, petroleum chemicals, mercury, PCB, Toxins and other POPS, acid mine drainage, maintain top renewal mining, thermal pollution, marine debris; all these shall be discussed fully in this unit.

2.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the types of chemical pollutants and
- Discuss the effects of pollution and the effect of burning natural; gas.

2.3 Other Chemical Pollutants

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. the addition or appearance of chemical substances in inappropriate places, including the workplace, home, food, and environment is best known as

2. What is Marine Debris?

2.3.1 Other chemical pollutants and its effects

The degree to which a chemical pollutant can cause hazardous effects to humans is defined as toxicity which is determined by the reactions and interactions between the pollutant and the human body and by the dose of the chemical entering the body. Certain pollutants only produce an effect above a specific dose and can be harmless or even benefit at low doses. Dose–response assessments are used to determine critical levels of exposure to a pollutant which when surpassed can potentially be associated with unacceptable health risks. The other chemical pollutants are as follows:

(a) Nutrient Pollution:
The Woods Hole Oceanic Graphic Institution calls nutrient pollution the most widespread, chronic environmental problem in the coastal ocean. The emissions of nitrogen, phosphorus and other nutrients came from agriculture, waste disposal, coastal development and fossil fuel use. The moment nutrient pollution reaches the coastal zone, it stimulates harmful overgrowth of algae, which can in turn have direct toxic effects and ultimately result in low oxygen conditions.

However, the research has revealed that certain types of algae are toxic. As such, overgrowths of these ALGAE result in “harmful algal blooms” which are more colloquially referred to as “red tides” or “brown tides”. Zooplankton eat the toxic and begin passing the toxins up the food chain, affecting edibles like clams, and ultimately working their way up to seabirds, marine manuals and humans. The resultant effect of this can be serious illness and most times death.

With the above development, developed nations have started monitoring for toxic algal bloom, closing fisheries as necessary. This step has drastically reduced the occurrence of related human illness and death, although; has had the obvious economic cost of lousy income for fishers and related business does nothing to solve the problem for the marine life stock in the middle of the brown tide.

In addition, research has shown that nutrient-pollution-driven blooms of non-toxic algae and seaweed can also cause problem by reducing water to find food and blocking the sunlight needed by sea grasses which serve as nurseries for many important fish species. At the demise of the overgrowths algal sink to the bottom of the river and start decomposing. The decomposing algal uses sizeable oxygen from the surrounding water and the decomposition process takes enough oxygen out of the water and the level fall too low to support normal aquatic life and the region becomes a coastal dead zone.

At the end of the day, the nutrient pollution eventually triggers usual outbreaks of fish deceases. For example, scientists have found that Pfiesteria, a tiny marine pathogen can thrive in nutrient-polled water. To confirm this fact further, in 1991, one million menhaden fish in North Carolina's Neuse River were killed in Pfiesteria outbreak; in 1997, several tidal creeks in the Chesapeake Bay watershed experienced Pfiesteria outbreaks, and many fish deaths occurred. All these cases were causes by a combination of nutrient pollution.

(b) Chemical Contamination

Chemical contamination refers to the addition or appearance of chemical substances in inappropriate places, including the workplace, home, food, and environment. It can also mean that the chemicals present are normally there or should be found there but they are present at a higher concentration than usual or at a concentration that is considered to be unhealthy.

This chemical substance may sometimes pose little danger but in other instances can lead to acute (sudden and severe) poisoning or, in chronic (long-term) cases, it can damage organs or even lead to cancer.

In many years past, many varieties of chemical have found its way into waterways and they continue to do so today more than before, chemical water pollution usually/typically occurs because of the following occurrences:

(i) as a result of deliberate or intentional dumping of chemicals into the water
(ii) as a result of failing pipes or storage tanks the chemicals seeped into ground water, streams or rivers
(iii) as a result of industrial accidents, the chemical catastrophically contaminated waterways.
(iv) as a result of the pollution settled out of polluted air or was precipitated out of polluted air.
(v) Chemical leached out of contaminated soil.

The above-mentioned chemical contaminations are regarded as "point sources" of water pollution. In other words, non-point-source chemical pollution also occurs via pesticides runoff farm fields and homeowners' lawns, as well as runoff of automotive fluids and other chemicals from roads, parking lots, driveways and other surfaces. Some of the effects of chemicals that has over polluted water are:

(1) Severe chemical spills and leaks into surfaces waters usually have an immediate effect on aquatic life e.g., fishes are killed etc.

(2) Chronic lower-level chemical pollution has more subtle effects with problems manifesting over a long period of time and sometimes being difficult to tie directly to the water pollution.
(3) The human effects of chemical pollution in water can generally be viewed the same as any other form of chemical contaminating pollutant; water is just the delivery mechanism.

(c) Pesticides

A pesticide is any substance used to kill, repel, or control certain forms of plant or animal life that are considered to be pests. Pesticides include herbicides for destroying weeds and other unwanted vegetation, insecticides for controlling a wide variety of insects, fungicides used to prevent the growth of molds and mildew, disinfectants for preventing the spread of bacteria, and compounds used to control mice and rats. Because of the widespread use of agricultural chemicals in food production, people are exposed to low levels of pesticide residues through their diets.

Pesticides are carried in rain water runoff from farm fields, suburban lawns, or road side embankment into waterways as part of a pest control effort. Pesticides also have its effect as a type of water pollution.

(1) The United States of America EPA has found widespread contamination of water ways by Atrazine, the second most commonly used herbicides in the USA. Atrazine causes feminization of male frogs even at concentrations in water as low as 0.1 parts per billion. Atrazine chemical water pollution has been noted in many centuries, including South Africa, Germany and Denmark. To this extent, the Natural Resources Defense Council notes that studies indicate the chemical may be linked to a number of human cancers including prostrate cancer and non-Hodgkin's Lymphoma. A university of California San Francisco study found that Atrazine can affect human reproductive and developmental processes by disrupting human hormone activity.
(2) The second effect is glyphosphate (Roundup) another of the world's most common herbicides was found to cause a 70% decline in frog biodiversity and an 86% decline in the total mass of tadpoles when the glyphosphate got into water.
(3) The effect of pesticides has been found in well water in countries such as India, Netherlands, Israel, Australia, Italy, Japan, U.S and Canada. Nigeria is not left out, for instance the Cocoa Research Institute of Nigeria (CRIN) has the mandate to screen and recommend potential cocoa pesticides and spraying equipment in Nigeria. The Institute has screened and recommended many of these pesticides and equipment in the past. However, with the new European Union (EU) Legislation on MRLs (Legislation on

Maximum Residue Levels) allowed on cocoa beans and products, some of the pesticides still undergoing screening and the previously recommended pesticides were banned. This new regulation, which came into effect September 1, 2008, has left very few pesticides for use on cocoa both on farm and post farm activities in Nigeria. The chemical pesticide pollution is contamination of drinking water is a particular problem in rural agricultural areas where this type of chemical use is very heavy and drinking water supplies some directly from groundwater or surface water.

(4) Pesticides can migrate via water into the food chain as well. There were series of food contamination through water source which had migrated into it during the processing of such food unknown to the farmer/ the manufacturing firms.

(5) Where the pesticides are indiscriminately used, it usually results in infamous cases of pesticides pollution, widespread use of insecticides DDT (Dichloro-diphenyl-trichloroethane) polluted waterways, contaminating fish and ultimately poisoning bald eagles and other animals that ate or consume the fish. DDE (Dichloro-diphenyl-dichloroethylene), the principal breakdown product of DDT, built up in the fatty tissues of female eagle eggs and prevented sufficient calcium, being released to produce strong egg shells. The thin shells would break when the parents sit on the eggs to keep them warm. DDT affected many other species also. The case against DDT and other pesticides first came into the lime light in the classic book, entitled ***'Silent Spring'*** authored by Racel Carson (in addition there were many related articles about the potentials un-burning of DDT and malaria)

(6) Generally speaking, in terms of effects on human health aside from the aquatic lives, pesticides can affect the following organs of human body

- affect and/damage the nervous system;
- cause liver damage;
- damage DNA and cause a variety of cancers in most of the sensitive organs;
- cause reproductive and endocrine damage;
- cause other acutely toxic or chronic effects.

(d) Oil and Petroleum Chemicals

When water is polluted by oil and petroleum chemicals, its components are degraded and dispersed by evaporation, photochemical reactions or bacterial degradation, where others are more resistant and may persist for many years particularly in shallow waters with widdy sediments.

However, much scientific work remains to be done on the effect that petroleum pollution has on plants and animals, we do know a few things:

- Exposure to oil or its constituent's chemicals can alter the ecology of aquatic habitats and the physiology of marine organisms.
- Scientists know that oil can seep into marsh and sub-tidal sediments and hide there for decades, negatively affecting marsh gasses, marine worms, and other aquatic life forms that live in, on, or wear the sediments. Furthermore, evidence strongly shows that components of crude oil called polycyclic aromatic hydrocarbons (PAHs) persist in the marine environment for years and are no doubt toxic to marine life at concentrations in the low part-per-billion range. Chronic exposure to PAHs can affect development of marine organisms; increase acceptability to decrease and jeopardize normal reproductive cycles in many marine specie. Before the Exxon Valdez oil spill, the effects of the pollution were thought to be relatively short-terma-year or two. The effect of the Valdez, however lasted up to 8 or 9 years, and in same ways still persists today. Research has shown that marine mammals, sea ducks and some fish species suffered high mortality for years after the spill because they are invertebrates contaminated by the hidden oil or ate oil directly while feeding.

(e) Mercury

This substance called mercury finds its way into water primarily through air pollution from coal-fired power plants and some other industrial processes. The element mercury in the water is converted to methyl-mercury by certain bacteria, after which its moves up the food chain of fish gobbling each other up. In the end, the big fish may end up on your dinner table or plate – sea bass, malign, swordfish, tuna or habitat, for example. The effect of this substance on humans and the hazards that mercury constitutes to human health are already pretty well understood. To this extend the more we study, the worse the news turn to be. In a similar vein, the USEPA keeps lowering its "safe exposure level". Young children and feteouses are most at risk because their systems are still developing. Research has shown that, exposure to mercury in the womb can cause neurological problems, including sewer reflexes, leaving deficits, delayed or incomplete mental development ,autism and brain damage, mercury in adults is also a problem, causing:

(i) central nervous system effect, like Parkinson's disease, multiple sclerosis and Alzheimer's diseases;
(ii) heart disease and
(iii) In several cases, causing death or irreversibly damaging areas of the brain

In that respect, animals in any part of the food chain affected by the bioaccumulation of mercury can suffer the effects of mercury pollution possible effects include death, reduced production, slower/retarding growth and development and abnormal behavior.

(f) Other Chemicals:
Tens of thousands of chemicals are used in industrial processes and are found in car maintenance products, toiletries, household's cleaners and many other consumer products our correct regimes for controlling whether these chemicals get into the environment are not sufficient for keeping them out of the water and the potential myriad effects are worrisome. From various researches carried, it is crystal clear that many chemicals can have direct toxic effects on aquatic life. Industrial spills into rivers invariably kill fish for miles downstream. However, chronic chemicals pollution in waterways is an even bigger problem. The number of US River miles on which people have been advised to restrict their consumption of fish has risen sharply in the last two decades and most states routinely issue advisories on consumption of fish from rivers and streams.

New research has shown the hormone disrupting character of many chemicals contained in sewage discharges is, chemicals contained in sewage discharges into the waters off the Southern region. For instance, California coast are thought to be responsible for "intersex" fish. In the same vein, chemicals in the water are also thought to be responsible for egg-growing male fish in Maryland's Potomac River – possibly the effect of excreted birth-control chemicals.

The effect of hormone-disrupting chemicals include interrupted sexual development; thyroid system disorders; inability to breed; reduced immune response; and abnormal mating and parenting behaviours. From the human angle, endocrine disruptors are thought to lead to degraded immune function; mental impairment, decrease fertility and increase in some types of cancers are some of the long and short term impact of chemical.

(g) Mining
There is no gainsaying that there are a sizeable number of negative effects of water pollution from mining operations. An example of this, is the acid mine drainage

(g) (i) Acid mine drainage occurs when rain or surface water flows over exposed rock and soil, it can combine with naturally occurring sulfur to form sulfuric acid as a result, the acidified rainwater eventually finds its way to streams and groundwater's, polluting them and impacting local aquatic life. Some streams/small rivers can become so acidic – more acidic than car battery acid – the aquatic ecosystem is completely destroyed. The same leaching process that causes acidic mine drainage can impact heavy-metal pollutants from the soil and rock as well.

(g) (ii) Spills and Leaks

Another form of mining pollution is spills and leaks. This could be as a result of a leak in the system of a cyanide leach heap or a breach in a coal-slurry impoundment dam, the result is the same – pollution of streams, rivers and groundwater, killing aquatic life and poisoning drinking water.

(g) (iii) Mountain Top Removal Mining

In this aspect, the tops of coal-rich mountains are removed and the overburden is dumped into nearby valleys, in burying stream habitats altogether, with the obvious catastrophic effect on whatever life forms lived in or around the stream.

(h) Water pollution Effects of Mining Disasters

In the US State of Tennessee, in 2008, an impoundment dam failed and 5.4 million cubic yards of coal ash spilled into adjacent waterways, killing fish, damaging property and threatening drinking water supplies. Residents now face concerns – about the long-term health effects from the ash which contains numerous harmful contaminants such as arsenic. At this juncture, it should be noted that in this case the spill was not related to coal mining it was stored coal ash, the waste water that results from burning coal in a power plant.

Before this occurrence, in 2000, a tailings dam split open at the Balamare mine in Rumania. This accident sent some more 100,000 tons of waste water and 20,000 tons of fish contaminated with cyanide copper and heavy metals into the Tisza River and eventually into the Danuba destroying 1,240 tons of fish and polluting the drinking water supplies of 2.5 million people.

(i) Marine Debris

Marine debris is trash in the ocean. Trash fouls inland waterways calls marine debris is one of the world's most pervasive marine pollution problems. The marine debris in issue includes escaped inland trash and garbage thrown overboard by ships and beaters – plastic bottles and bags, six-pack rings, cigarette butts, Styrofoam, etc. Marine life's/animals can swallow the trash items which often look similar to prey they would normally eat, or the trash item may have barnacles or other delectable attaché and is inadvertently ingested with the food. For examples, sea turtles will eat a plastic bag believing it to be a jelly-fish. The bags can cause an intestinal blockage and sometimes death.

From the researcher's discovery new and potentially devastating effect of marine debris is emerging. After years of degradation of sea, plastic breaks up. The plastic breaks has not biodegraded but rather has disintegrated into very small pieces. Marine animals near the bottom of

the food chain are now ingesting these teeny-tiny little pieces of plastic pollution. To this level how far up the food chain, the stuff will go is unknown.

Marine debris can also degrade coral reefs, sea grass beds and other aquatic habitats

2.3.2 Thermal Pollution

It is easy enough to see how discharging the heated-up water from a power plant into a river could cause problems for aquatic organisms used to having their water home stay at a firmly specific temperature. Indeed, industrial thermal pollution is a problem for our water ways – fish and other organisms adopted to a particular temperature range can be killed from thermal shock, and the extra heat may disrupt spawning or kill young fish.

Furthermore, warmer water temperatures lower the dissolved oxygen content of the water. That is, a double-whammy to aquatic organisms, since the warmer water also causes them to increase their respiration rates and consumes oxygen faster. In a nutshell all these increase aquatic organism's susceptibility to diseases, parasites and the effect of toxic chemicals.

The latest discovery global warming is impairing extra heat to our oceans which have absorbed about 20 times as much heat as the atmosphere over the past half century. The ocean is a very complex system, and scientists don't know yet what all of the effects of this type of "water pollution" will be but here are some likely ones:

(i) Sea levels will rise, therefore increasing coastal flooding and inundation
(ii) There will be more intense hurricanes as they gather additional strength from water surface of water.

2.3.3 Temperature

Sensitive specie like corals will see tougher times, more than 2 decades, temperature in tropical water have increased nearly one degree Fahrenheit. Although, this may not sound like much, but it is been enough to increase cases of coral bleaching. A further study in science estimated that if carbon dioxide releases continue at the current rate, by Midcentury Ocean conditions will make it impossible for mostly corals to survive.

However, increasing sea- surface temperatures are associated with the northward spread of an oyster pathogen in the eastern United States.

It is not an over statement that the inhabitants of Niger Delta Region and the oil firms equally face tougher challenges in tackling oil spillages in the area. This unit discusses other pollutants apart from oil pollution which include pesticide, acid mine drainage, mercury, PCB, Doxins. Thermal pollution, marine debris, all these are discussed in the concluded unit.

2.4 Summary:

To this extent, other pollutants were discussed in this unit as stated in the concluding part – 4.0 above. Its effects and way out of the menace are equally enumerated; reasons for the occurrence, impact of each chemical pollutant are equally discussed.

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Identify other pollutants

Discuss the economic importance of the various pollutions

2.6 Possible Answers to Self-Assessment Exercises

SAE

1. Chemical contamination

2. Marine debris is trash in the ocean. Trash fouls inland waterways calls marine debris is one of the world's most pervasive marine pollution problems. The marine debris in issue includes escaped inland trash and garbage thrown overboard by ships and beaters – plastic bottles and bags, six-pack rings, cigarette butts, Styrofoam.

UNIT 3 THE INDUSTRIAL WASTE MANAGEMENT AND CONTROL I

Unit Structure

3.1 Introduction

With the vastness of industrial activities across the nooks and crannies of Nigeria, several cases of polluting waste generation doubt changing for the worst on account of increased human activities. Wastes being generated by manufacturing industries constitute huge environmental pollutants (Stanley Opara, 2011).

It is pertinent to note that, industrial waste is produced from the activities of industrial organizations like factories, mills and mines. Historically, industrial waste generation has existed since the outset of the industrial revolution. Despite the use of nonrenewable resources such as fuel, coal, and minerals has not helped matters either as the level of environmental pollution has continued to go up.

The environmental experts posited that industrial waste generation cannot be completely avoided, though their management is critical to the safety of the larger environment.

As a result, “all industrial and manufacturing activities must be well regulated with a view to assisting industries in the management of pollution problems arising from their activities”. This assertion was made by Mr. Adebola, Lagos State Environmental Protection Agency (LASEPA), General Manager. He reiterated further that regulators of the environment must remain as a matter of duty focused in the course of enforcing industrial environmental standards. They must not relent in offering necessary assistance to industries in their capacity and efforts to meet the given discharge standards.

3.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the term 'industrial waste management'
- Discuss the efforts directed towards making adequate control laws to combating the menace of industrial waste management on our environment.

3.3 The Industrial Waste Management and Control I

3.3.1 Industrial Waste Management

Some of the environmental challenges posed by industries include discharge of untreated or partially treated effluent into public drains; air, water, noise and soil pollution; improper social waste management as well as improper spend of oil management.

Controls over the creation, storage and disposal of waste, even though they have a long heritage, have been transformed in the last twenty years particularly in the tail end of 1980s, waste controls have been introduced. This is a response to specific major pollution or contamination incidents. From this time under review till date, accumulations of noxious matter were subjected to powers then duties – of inspection under public health legislation. No wonder WHO declared that waste is the biggest danger to health in Lagos (Punch 15, 2010).

Nigeria being a developing economy is faced with different environmental problems. These problems became compounded due to total and practical lack of effective regulatory policies on hazardous waste management and lack of monitoring system in place on environmental issues in the late seventies to early eighties. This made the country susceptible recipient of surreptiously exported "trans-boundary hazardous waste dump by developed and industrialized nations. This was due largely to the nefarious activities of waste merchants from industrialized nations, a wicked action described as "Trans-boundary Hazardous Waste Dump" (Olanipekun O. *et al*., 2009).

Ibitayo (2006) corroborating this fact on trans-boundary dumping of hazardous waste; he cited hazardous waste as an inevitable by-product of industrial development and several manufacturing processes a situation in which Nigeria is not spared from.

Hitherto, the first recorded incidence was in 1988 when more than 4,000 tons of toxic waste from Italy was dumped in Koko Port in Delta Region of Nigeria. The subsequent events that followed this ugly incident were well elucidated in the Environmental Law I, edited and published by NOUN written by Ademola A. Taiwo (2010).

Despite series of environmental problems and the activities of foreign HW waste merchants faced in the country, the Government of Nigeria through activities of the Federal Ministry of Environment (FMOEWV) has mapped effective strategy on tracking hazardous waste to ensure effective disposal.

This kind of modern human-produced waste must be treated, stored, and disposed of effectively to preserve planet Earth for future generations.

Humans are constantly creating such toxic waste. The amount that's produced is based on the scope of different human activities, including industrial, agricultural, and residential. Today the issue is becoming more serious and affecting not only the entire planet but even individual communities.

This universe of dangerous waste is gigantic and very diverse. For example, it can exist in different forms like gas, liquid, and solid. There are also different types and features of hazardous waste.

However, the central issue of this unit is essentially to discuss how waste or hazardous substances are being processed or managed in some developed countries, second generation countries especially the United Kingdom, India and compare it with waste processes in Africa, particularly in Nigeria.

At this juncture, it is necessary to define the rest of this topic.

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Hazardous materials produced by industrial and technological advances are the main causes of these toxic substances. Do you agree?
2. The United Kingdom is among the first generation countries. TRUE or FALSE

3.3.2 What is waste/hazardous substances?

The term WASTE means "anything or something that is not or no longer useful and is to be thrown away, or disposed of Oxford Advanced Learners' Dictionary 4th Edition). In another perspective, Hutchinson

Encyclopedia (1992) defined waste as materials that are no longer needed and are discarded. Examples are household waste, medical waste (which often contains toxic chemicals, industrial waste (which may contain organisms that cause diseased and nuclear waste (which is radioactive). He posited further that, waste can be recycled; by recycling, some materials in waste can be reclaimed for further use.

It was reported in 1990 by the Organization for Economic Cooperation and Development (OECD) that the industrialized nations generated 2 billion tonnes of wastes. In the USA alone, 40 tonnes of solid waste are generated annually per person.

Purdue M. (1990: 259) defining waste from land Law perspective, that the term waste in land law, means any act or omission which results in a charge in the land for better or for worse e.g., Conversion of arable land into a timber plantation.

The World Health Organization (WHO) defined as something which the owner no longer wants at a given place and time and which has so current or perceived market value.
However, this is the first definition that accorded market value to waste.

Hazardous substance is defined waste substance usually generated by industry, which represents a hazard in the environment or to people living or working nearby. Examples include radioactive wastes, acidic resins, arsenic residues, residual hardening salts, lead, mercury nonferrous sludges, organic solvents and pesticides.

Part 7, S106, of National environmental (Sanitation and Wastes Control) Regulations 2009 under "Interpretations" defined "Hazardous Waste" as: any waste or combination of wastes that exhibits ignitable, corrosive, reactive, or toxic characteristics and poses a substantial danger, now or in future, to human, plant or animal life, and which therefore cannot be handled or disposed of without special precautions; "Industrial Waste" means waste arising from processing and manufacturing industries or trade undertakings and can take the form of liquid, non-liquid, solid and gaseous substances, "Waste Management" means:

(a) Waste management planning, handling, treatment, processing and disposal, including the supervision of these operations as well as the measures for protection during the operation of the facilities, and installations for waste disposal and the care taken after the termination of their operations generations and of its negative impact on the environment and human life and health, including waste handling;
(b) The administrative and operational activities, which are used in handling, packaging, treatment, conditioning, reducing, recycling,

reusing, storage and disposal of waste. Their economic disposal or recycling is the subject of research all over the world. For instance the Environmental export official report shows that the United Kingdom imported 41,000 tonnes of hazardous waste for disposal in 1989 and recently more than 180,000 tonnes of waste. The largest proportion of such hazardous waste which came from Europe and extra America nations.

The world produces more than 13 tons of hazardous waste per second. The report by WHO says that Lagos alone in Nigeria generates 10,000 tonnes of solid waste daily. Solid waste includes garbage, refuse and other industrial materials resulting from human activities. The state has not being able to find a lasting solution to this problem. (The Punch, 2006, in African Regional Health Report).

From the European Union perspectives, waste is defined as "any substance or objects which the producer or the person in possession of it discards or intends or is required to be discarded" (Waste Management Licensing Regulation 1999, Part II Schedule 4).

Dharmendra S. Senghor (2007:13) described the waste/hazardous substances as the
"growing chemicalisation of our life style" It was analysed in the case of tragic Bhopal disaster in Indian that hazardous substances and chemical wastes are anything that is injurious to human health and pollute the general environment (Halter Samuel, 1975: 195 –
6).

The United Kingdom Environmental Protection Act of 1990 defines waste as

(a) any substance which constitutes a scrap material an effluent or other unwanted surplus substance arising from the application of any process (See Section 75(2)) of the Environmental Act of United Kingdom 1990 as amended;
(b) any substance or article, which needs to be disposed of as being broken, worn out contaminated or otherwise spoiled.

In addition, anything which is discarded or otherwise dealt with as otherwise spoiled, if it were waste shall be presumed to be waste unless the contrary is proved.

Although, it worth of note as Professor Lawrence Atsegbua rightly pointed out that the federal Environmental Protection Agency Act of 1988 does not define waste. Some states statutes in Nigeria like Lagos and Oyo States made spirited efforts to define waste as:

(a) wastes of all descriptions (This is in line with Section 32, Lagos Environmental Sanitation Edict of 1985 particularly No 12)
(b) any substance which constitutes scrap material, an effluent, or other application of any process. However, with various attempt by the environment different Acts and environmental bodies to define hazardous waste; it is trite at this juncture to conclude in line with the reasoning of Atsegbua *et al* that 'Waste is any substance or object, whose owner or producer intends, or is required to discard because it is useless, or lacks market value.

3.3.3 Main Causes of Hazardous Waste

Hazardous materials produced by industrial and technological advances are the main causes of these toxic substances. The situation became exponentially worse due to events like the Industrial Revolution, which took place during the 1700s and 1800s.

In recent decades one of the main developments has been nuclear technology. Various nuclear applications have increased in popularity around the globe. This has triggered a spike in the effects of radioactive materials released into the Earth's environment. That, in turn, has caused major problems in Earth's biological systems.

The issue discussed in this unit cannot be concluded, therefore, the discussion still continues in part II of the same topic.

3.4 Summary

Some specific kinds of wastes are defined as hazardous wastes. The first goal is to determine if the waste they are producing is indeed hazardous, and then figure out how to handle it. Developments in industry and technology during the past quarter-millennium or so have caused the creation of hazardous materials to skyrocket.

3.5 References/Further Readings/Web Sources

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The Punch, 2006, in African Regional Health Report

3.6 Possible Answers to Self-Assessment Exercises

SAE

1. YES
2. FALSE

UNIT 4 THE INDUSTRIAL WASTE MANAGEMENT AND CONTROL II

Unit Structure

4.1 Introduction

It is important to discuss these topics under this unit separately for easy understanding of various classes of wastes and its management. The management of wastes cut across the nations of the world. But this unit discusses wastes management in Europe, United States of America and Nigeria.

4.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the various categories of wastes
- Discuss the management procedures in Nigeria and outside Nigeria specifically United Kingdom and America.

4.3 The Industrial Waste Management and Control II

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Food wastes, office wastes, commercial wastes and wastes from stores are examples of
2. What do understand by ‘waste management?

4.3.1 Classifications of Wastes

Hazardous waste can be classified in accordance with;

(i) it sources

(ii) its degree of harmful to human health and the environment where he lives

(iii) the various appropriate forms of control to deal with menace (of hazardous waste).

Wastes can be typologised into

(1) control waste and

(2) harmful/dangerous waste

Control wastes are domestic wastes such as food, office wastes, commercial wastes and wastes from stores. This aspects waste can be treated and disposed of.

The area or aspects that concern this study is the dangerous or special waste. Dangerous because it is difficult to treat or keep or dispose of as in (i) above. Examples of this type of wastes are acid, alkaline and lead, mercury, methyl leakage of oleum carbon dioxide methane, chloroflurocarbonate, acid rain, ozone layer depletion all these are devastating effects all over the world especially the ocean dwelling who may as a result run out of oxygen, the cesspool rivers from industrial cities all around the world may fill the oceans with toxic mercury. All these wastes are dangerous to human life if swallowed direct or taken through aquatics, inhaled or in contact with the skin or eyes (R. Malcolm 1992:9; Goldfarb D. (Ed.) 1983:3; Giddings J. Calvin 1973:226 – 7).

4.3.2 Sources of Wastes Management

At this level, for the purpose of clarification of key issues under discussion in this unit which is, waste management in Nigeria and Europe, it is necessary to elucidate what waste management meant? According to Professor Atsegbua it simply means:

"The collection, keeping, treatment and disposal of waste in such a way as to render them harmless to human life, animal life, the ecology and the environment in general". The author of this piece concurred in totality with definition of the Environmentalist.

4.3.2.1 Sources of Waste Management in the United Kingdom

The United Kingdom is a signatory to various Conventions International agreement, treaties and protocols which form part of her sources of waste management. These are:

(i) Base Convention on the control of Trans-Boundary Movement of Hazardous Waste and Their Disposal
(ii) Vienna Convention for the protection of the Ozone Layer (1985)
(iii) Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
(iv) United Nations Convention on the Law of the Sea (1982)
(v) Various EEC Directives on Waste
(vi) Rio Declaration (United Nations Conference on the Environment and Development Agenda 21)
(vii) Maastricht Tr4aty signed on February 7th 1992 by members of European community of which the U.K is one.
Article 130R (i) of the Maastricht Treaty set out the objective for the community. These objectives includes;
(i) Preserve, protect and improve the quality of the environment
(ii) Ensure a prudent and national utilization of natural resources
(iii) Promote measures at international level, to deal with region or worldwide environmental problems.

4.3.2.2 Sources of Wastes Management in India

The sources of wastes management in India began during the colonial days and the sources includes;

(a) The provision Act 1919
(b) The Dangerous Drugs Act 1930
(c) Inflammable Substances Act 1952
(d) Preventive of Food Adulteration Act 1954 (e) The Insecticides Act 1968
Deposits of poisonous waste Act 1972
(f) Monopolies and Restrictive Trade Practices Act (MRTP) Act 1969
(g) The Water (Prevention and Control of Pollution) Act 1974
Air (Prevention and Control pollution) Act 1981
(h) Statement of Objects and Reasons of environment (Protection) Act 1986
(i) The Manufacture, Storage and Import of Hazardous Chemical Rules (Second Amendment) 1990
(j) Hazardous Wastes (Management and Handling) Rules 1989
(k) The manufacture storage and import of hazardous chemical rules 1989
(l) The manufacture storage and import of hazardous chemical rules 1990

Indian federation is signatory to all the Universal Declaration on Environmental Matters' Conventions, Treaties and Agreements.

4.3.2.3 Sources of Wastes Management in Nigeria

The history of wastes management in Nigeria can be traced to the period of colonization; the ordinance made during the pre- and post-independence laws are encouraged as follows;

(1) Water Works Act 1915
(2) Public Health Act, 1917
(3) Public Sanitation Ordinance 1925
(4) Nigeria Local Statutes enacted after independence including various Acts, Laws, Decrees and Edicts. Major example of these statutes are
    (i) FEPA Act 1988 (Cap 113 as amended by Decree 59 of 1992)
    (ii) Petroleum Act of 1969
    (iii) Oil in Navigable Waters Act of 1968
    (iv) Harmful Waste (Special Criminal Provision) Act of 19888 Cap 165) LFRN
    (v) National Environmental (sanitation and Waste Control) Regulation, 2009
    (vi) Lagos State Environmental Pollution Control Edict of 19991
    (vii) Environmental Impact Assessment (EIA) Decree No 86, 1992
    (viii) Anambra State Environmental Sanitation Authority Edict No 15. The National Environmental Protection (Effluent Limitations) Regulation (S13) 1991.

    Guidelines and Standard for Environmental Pollution Control in Nigeria, 1991
    (ix) Kano State Environmental Protection and Planning Agency Edict of 1990
    (x) Oyo State Environmental Sanitation Edict 1990
    (xi) Criminal Code Act of 1916 (Cap 77) (In addition to all these, see Ilegbume

"Legal Regulations of Industrial Waste Management" in Environmental Law and Sustainable Development in Nigeria; Ajomo and Adewale O. Edition 1994:83); Lawrence Atsegbua *et al* (2003:104) Environmental Law in Nigeria: Theory and Practice Like India, Australia, U.S. and European Union in Nigeria's Obligation on multilateral Environmental Agreement (MEAS) and Regional Conventions, Agreement Treaties and Protocol which Nigeria has ratified related to key global issues such as climate change, biodiversity, toxic chemicals and hazardous waste management to mention a few. These include:

(a) Montreal Protocol on substances that deplete the ozone layer 1987
(b) Vienna Convention on the protection of the ozone layer 1987;

(c) Basel Convention on the control of trans-boundary movement of hazardous wastes, and their disposal 1989;
(d) Stockholm Convention on Persistent Organic Pollutions (POPs)
(e) Rottewan Convention or priolufored consent procedure for certain hazardous chemicals and pesticides in international trade.
(f) Organisation of African Unity (OAU) now Africa Union (AU): Convention, banning outright importation of all forms of toxic wastes into Africa and controlling transboundary movement of such wastes generated in Africa, signed in Bamako, Mali on 30th January, 1991.

4.3.2.4 Sources of Wastes Management in United States

(a) US Statutes and Regulations Standards Applicable to generators of hazardous wastes – Experts of hazardous wastes 40 CFR S26 and subpart 1995.
(b) Notification concerning the Basel Convention's Potentials Implicative for Hazardous Waste Export and Imports S7 Fed. Reg. 20602 (1992)
(c) Foreign Statutes and Regulations
- Council regulation 259/95 of 1st February 1995 on the supervision and control of shipments of waste within, into and out of the European country 1993 OJ (L30)I
- Council regulation 1836/93 of 29 June 1993 Aclaving voluntary community Ecomanagement and Audit Scheme 1995 OJ (L. 168) I
- Council Directive 578/67 of 27 June 1967 on the Approximation of Laws Regulations and Administrative Provisions Relating to the Classification, Packaging and Labelling of Dangerous Substances 1967 O.J. (L196) I particularly as amended by council directive 907/76 1976 OJ (L360)I
- Council Directive 501/82 of 5 August 1982 on the Major Accident Hazards of certain industrial activities 1982 OJ (L230) I. as amended by Council Directive 2/6/87 of 28 March 19887 OJ (L85) 36 and Council directive 610/88 of 7 December 1988 OJ (L336) 14.

4.3.2.5 Treaties and Related Materials

A. 1989 Essel Convention on the control of Transboundary Movements of Hazardous Wastes and their disposal March 22, 1989, reported in 28 ILM649 (1989)
- Decision of the Council concerning the control of Trans-Frontier Movements of Wastes Destined for Recovery Operation, 1992 O.J (C92)93
- Agreement between the United States of America and the United Mexican States on cooperation for the Protection and

Improvement of the Environment in the Border Area, August 14, 1983, US-MEX, T.I.A. S.NO 1082) as amended by Annex III

- Agreement of cooperation between the United States of America and the United Mexican States regarding the Transboundary Shipments of Hazardous Wastes and Hazardous Substances, November 12, 1986, US – Mex T.L.A.S No 11269
- Agreement between the Government of Canada and the Government of the USA concerning the Transboundary Movement of Hazardous Waste October 28, 1986, Can –US, T.I.A.S No 1109
- North American Agreement on Environmental Cooperation between Government of the USA, the Government of Canada and the Government of the Mexican States, September 13, 1993, US – Can-Mex (1993) B. Other Official Documents and Sources

1. The Commission on Environmental Law of IUCN. The World Conservation Union, AGENDA 21: EARTH's ACTION PLAN (Nicholas Robinson ed. (1993).
2. Sources of Information Concerning Environmental Procedures and Guidelines of US Multilateral Financing Institutions.

In this unit, various classes of wastes has been discussed with the rules of managing such wastes in India and America. The discussion continues in the next unit.

4.4 Summary

Environmental challenges arising from improper disposal of solid waste are now major issues in many Nigerian urban cities and rural communities. This is as a result of huge increases in waste generation following the increase in population and urbanization As humans engage in their daily activities to meet up with their basic human needs, a lot of unwanted materials, often referred to as waste, are generated. Wastes generated by homes; industries, organizations, schools and businesses generate wastes that are not properly disposed. Wastes which emanate from industrial and residential activities, generally, consist of unused or leftover food, plastic, metal, paper, textile, glass, among others.

4.5 References/Further Readings/Web Sources

[See the next unit]

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4.6 Possible Answers to Self-Assessment Exercises

SAE

1. Control Waste

2. Waste management means 'the collection, keeping, treatment and disposal of waste in such a way as to render them harmless to human life, animal life, the ecology and the environment in general'

UNIT 5 THE INDUSTRIAL WASTE MANAGEMENT AND CONTROL III

Unit Structure

5.1 Introduction

Wastes management rules in Nigeria is similar to that of United Kingdom by virtue of the facts that Nigeria was colonized by Britain as a result she is a member of Commonwealth of Nations. It is only in the recent times that Nigeria started enacting new environmental laws. In this unit, the wastes management in Nigeria and United Kingdom shall be elucidated.

5.2 Learning Outcomes

The major objectives of this unit are to highlights to the students and readers the management of wastes in both United Kingdom and Nigeria.

5.3 The Industrial Waste Management and Control III

5.3.1 Wastes Management in the United Kingdom and Nigeria

The Environmental Protection Act of 1990 in the United Kingdom is one of the major sources of waste management. Various provisions of this Act provide for waste management in the Kingdom. For instances Section 30 of the UK, EPA provides regulations for collection, disposal and utilization of waste. Section 35 of the EPA equally provides for waste disposal authorities, which are responsible for awarding contracts to waste disposal contractors, who are likely to be companies own by the local council or private companies own by individuals. It is the responsibility of EPA, under Section 35 to issue permit or licenses to various waste management companies. Waste in the UK cannot be

collected, deposited, treated or disposed without EPA's permission through issuances of licenses to that effect.

Similarly, most of the counties in Nigeria have Waste Disposal Management Board like in the UK, Lagos State for example have well empowered Waste Disposal Management Board (WDMB) and Oyo State have Oyo State Waste Management Board (OSWMB) with major responsibility of collection, disposing and prosecution of environmental waste noncompliance elements in these states. In Lagos, most of these wastes collected are disposed into various landfills and larger parts are used as sand fill to regain land from the seas at various locations in the states.

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Generally, wastes are not totally wasteful and only needed to be disposed off. TRUE or FALSE?
2. Identify the two major ways of managing wastes

As a result, Section 33 of the EPA provides that it is an offence to treat, keep/collect and dispose of waste no matter the quantity in such a manner likely to cause pollution to the environment and harmful to human health. In Nigeria, the National Environmental Standards and Regulations Enforcement Agency Act, 2007 provides that it is an offence under the provisions of this ACT (FEPA) to flout standards guidelines set out therein by any individual or group of individuals or cooperation or government establishments. These standards for various environmental mediums must be observed and enforced by the Waste Management administrators.

However, the United Kingdom Environmental Protection Act provides for 'a duty of care' particularly on the part of the producers and waste management administrators. The duty of care emphasized in this regards is not different from that provided for in the decision of the court in Donoghue V. Stevenson (1932) AC 562. Hence, this is a common law doctrine that imposes a duty of care not to injure others by acts or omissions. It is the responsibility of wastes producers for its disposal. That is, taking or giving the waste in question to an official carrier(s) or collection(s) or to appropriate designated place of refuse/waste dumping (See Section 34 of the EPA, UK Act of 1990).

Section 34 stipulated the prevention of concomitance of one of the statutory offences; the escape of waste; that waste is transferred to an

authorized person; and that a written description goes with the waste so that others can comply with the duty (as stipulated in the EPA).

Atsegbua *et al* (2003:107) analysed the provision of this Act succinctly that the provisions focuses on the control of waste prior to it disposal and the steps to be taken on disposal. They posited further that, the only exception to this Act rule on duty of care is in the case of a householder who produces domestic waste from the home. Therefore, he is not a holder of waste under the Act, and is not subject to the duty of care.

From Nigeria's FEPA (now NESREA 2007) perspective, Section 20 (1& 2) is similar to the UK's EPA, Section 34 which provides for a duty of care and liability on the part of any person that discharges substances of harmful quantity on Nigeria lands, waters or the adjoining shorelines which is prohibited. Any person who violates the section of the Act shall upon conviction, be liable to pay the sum not exceeding ₦100,000.00, in the case of corporate bodies, ₦500,000.00 and additional final fine of ₦1,000.00 for every day the offences subsist (See National Environmental Standards and Regulations Enforcement Agency NESREA) motto: … ensuring a cleaner and healthier environment for Nigerians: Act No 58 of 1980 and as amended in 2007); This is in pari material with part v, III. Penalties, Sections 94 to 104 of National Environmental (Sanitation and Wastes Control) Regulations 2009, No 60, Volume 96.

5.3.2 Different Ways of Managing Wastes

There are two major ways by which wastes can be managed to the advantages of the society. That is, recycling and landfill.

3.2.1 Recycling

Recycling is the commonest known way of managing waste in the developed countries and the developing countries equally struggling to manage their hazardous wastes. This is a way of producing a useful material from the wastes products. Although, this will involve at least partly, more demanding and detailed targets for recycling and re-use. This recycling method has been divided into two sub-headings by the Environmental experts as;

(i) The Waste to be reclaimed; and
(ii) Wastes sorted out into various categories

In an attempt to achieve these, the waste managers provide separate dust/waste bins for the different commodities.

Second method is the provision of coloured bags for householders for different types of wastes generated from domestic (home) source. This method has been highly successful in Ghana and Germany because householder responded positively to its application.

U.K and other European nations equally advocate recycling method as one of the means of dealing with the menace of wastes. The method of recycling in U.K can be found in government white paper on the environmental management where a target of 25% of domestic wastes to be recycled by the year 2000. "S106 part 7, of 2009 Act defined waste Recycling as obtaining substances from waste and their utilization as a substitution of primary raw materials, or use if proportion of the substances containing in the waste for their initial purpose, or further purposes excluding the direct use of the energy of the waste.

3.2.2 Land fill

Landfill is not known to most parts of the nations of the world, in fact, it is the most common method of waste management. Nigeria, US, India and UK are not exempted from the application of this method. It requires digging of a hole on the ground, and filling it with hazardous rubbish and where there is existing deep ground; waste can be used to fill it. Section 35 of EPA, UK, authorize the waste managers to licence the companies who specializes in landfill and ensure that the landfill is not done in such a way to injure the neighbours in the area. To ensure compliance, the Act empowered the officers to visit the scene of their landfill and if the organizes – land fillers were not effective in their activities; the licence can be withdrawn or outrightly revoked.

In Nigeria, there are landfills in most of the states, managed by local council body, though subject to various rules of maintaining standards provided by the NESREA on proper management of landfills (See Guide and Standard on Prevention of Environmental Pollution in Nigeria 1991 and NESREA 2007 (as amended); National Environmental (Sanitation and Wastes Control) Regulations 2009, Part 6, S105).

It is disheartening to note that, many states and local governments in Nigeria have not passed any major Laws on waste management, so as to assist NESREA to ensure full compliance with the National Waste Management Regulations 2007 despite the olive branch stretched out by Part 56, S105 of the National Environmental Regulation of 2009 that;
As part of the Agency's Strategic Alliance Programme on Environmental Sanitation and Waste shall ensure that their programmes conform to the Agency's programme on same for proper control, all states and local government areas harmonization and implementation as contained in Schedule 8 to these regulations.

5.3.3 Other Uses of Wastes

A third concern is an anticipated shift from landfill and recycling and towards alternative forms of disposal. It is intended that the proportion of industrial waste going to landfill should be reduced to a reasonable percentage and converted to electricity. The research on this development is ongoing. The substance of waste policy and utilization has undergone a great transformation in this period.

Another development is the basic objectives which are prescribed for the national strategy centered on five basic ideas; proximity and self-sufficiency; the precautionary principle; the polluter pays principle; electricity generation and the 'waste hierarchy'. The implementation of the policies set out in the strategies will depend on a complex interaction between waste minimization, recycling and disposal options, by different authorities under different registries. The hierarchy of waste management options will be considered which has been part of less formal UK waste policy for a number of years (See Circular 11/94 April 1994).
The hierarchy requires that:
(a) Subject to the best practicable environmental option in each case, waste management should be based on a hierarchy in which the order of preference is:

(i) Reduction – by using technology which requires less material in production and produces less waste in manufacture and by producing long-lasting products with lower pollution potentials.
(ii) Re-use for example, returnable bottles and re-useable transit packaging;
(iii) Recovery-finding beneficial uses for waste including
    i. Recycling it to produce a useable product;
    ii. Composing it to create products such as soil conditioners and growing media for plants;
    iii. Recovering energy from it either by burning it or by using landfill gas
    iv. Generation of electricity from the raw wastes
    v. Disposal by incineration or landfill without energy recovery and vi. Each of these options should be managed and where necessary regulated to prevent pollution of the environment or harm to human health

It is worth of note, that, some aspects of this policy are intended to give effect to legal obligations on the UK government.

This Unit discusses the industrial waste management and control law. This topic is elucidated in line with basic contents such as a brief Introduction to hazardous wastes; its importance and all the Acts put in place to curb incessant wastes disposal and its utilisation particularly in U.S, U.K and part of Nigeria. This unit shall be concluded in the next unit.

5.4 Summary

Waste management is discussed with the United Kingdom, United States and Nigeria as a case study. Waste substances are equally defined, classes of hazardous wastes, sources of waste management and it management in United Kingdom, Nigeria and United States of America, treaties, agreement, protocols and related material in relation to environmental issues are also briefly highlighted in this unit. The National Environmental Standards and Regulations Enforcement Agency (NESREA) Act 2007; the main sources of enforcement and penalties for environmental non-compliance in the National Environmental (Sanitation and Wastes Control) Regulations 2009 are also discussed and their immense contribution to the environment hazardous wastes management.

5.5 References/Further Readings/Web Sources

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The Punch, Monday June 6, 2011 p. 55

The Punch, Wednesday November 15, 2006, p. 3

5.6 Possible Answers to Self-Assessment Exercises

SAE

1. FALSE
2. By recycling and landfilling

UNIT 6 THE INDUSTRIAL WASTE MANAGEMENT AND CONTROL IV

Unit Structure

6.1 Introduction

Both natural and synthesized chemical have great impact on a rapidly industrializing and technologically advancing society. Most chemicals are safe or present little danger to the environment of human health when handled properly and with care. In other words, some industrial activities involving certain hazardous chemicals have been the present and potential cause of serious of injuries, death and damage in the immediate vicinity of the site and sometimes beyond it. Therefore, the need for the proper assessment of the risk posed by these chemicals and of regular care during the cause of their manufacture, processing, treatment, packaging, storage, transport, use and sales e.t.c. is more actively felt now. The hazardous waste management in Nigeria, India and UK shall be discussed in this unit.

6.2 Learning Outcomes

By the end of this unit, you should be able to;

- Define the meaning of industrial wastes
- Explain hazardous waste in the three particular referenced countries
- Effect of mismanagement of waste and recommendations.

6.3 The Industrial Waste Management and Control IV

6.3.1 Hazardous Waste Management in Nigeria

Regardless of series of environmental problem and the activities of foreign Hazardous Waste (HW) merchants faced in Nigeria, the Nigerian Environment through various activities of the Federal Ministry of Environmental has mapped effective strategies for tracking hazardous waste to ensure effective and hygienic disposal. The Basel regional coordinating centre located at Ibadan, has achieved in recycling and re-use through innovative research and conversion of hazardous materials. Indigenous companies like Boskel are meeting industrialized standard in the use of smokeless flame technology for treatment and vetiva that is locally grown is of great landmark in remediation of impacted sites (Olanipekun O. *et. al.,* :1).

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. There had been laws on hazardous substance even before the enactment of the Environment (Protection) Act 1986. TRUE or FALSE
2. The effect of wastes on human beings depends on two variables/factors. Identify them.

However, industrial wastes could be toxic or hazardous and some are radioactive. They are regarded as toxic or hazardous, if by their nature, they pose a direct threat to human and animal health, either by ingestion through the food chain, respiration or through skin contact.

As earlier stated, the management of this waste is considered to be extremely critical internationally. Therefore, to reduce the menace of the toxic or hazardous waste, the following Legislation Regulating Hazardous Waste Management both national and international includes:

(i) Basel Convention on the Control of the Trans-boundary Movement of hazardous Matter and their Disposal. This was adopted in 1989, by both the United Kingdom and Nigeria;
(ii) Rotterdam Convention on the prior informed consent procedure (PIP) for certain chemicals and pesticides in international trade.
(iii) Stockholm convention on persistent organic pollution (POPs) Convention etc. and also
(iv) The Harmful Waste Act, Decree 42 which made it a criminal act to import, deal, dump or even trade in hazardous waste in Nigeria and its territory are part of proactive measures dealing with the management and disposal of hazardous waste in the country.

(v) O.A.U Conventions Banning Importation of Toxic Waste into Africa and Transboundary movement of such waste signed in Bamako, Mali in 1999
(vi) National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations 1991 S115 of the EPA 1990
(vii) Harmful Waste Disposal (Special Criminal Provision Act) 1958, Cap 165 (LGN) 1991) and as amended 2004.

Article 9 of Basel Convention, makes it as duty for exporting waste generation countries to re-import such wastes.

NESREA prohibits the discharge of such hazardous wastes in harmful quantities into Nigeria land, waters or the adjoining shore lies (See Section 23 of NESREA, 2007). Any person who violates this prohibition commits an offence, and is liable on conviction to pay a fine not exceeding ₦100,000. But if the offender is a corporate body, the fine is increased to ₦500,000 and an additional ₦10000. For every day the offence subsists (See Section 24(4) NESREA Act.

The dumping of 4,000 tons of toxic from Italy in Koko in Bendel State (now Delta State) Nigeria in 1988 prompted the promulgation of the Harmful Waste (Special Criminal Provision Decree N0 42 and subsequently Management of Solid and Hazardous Waste Regulation of 1991; Sanitation and Waste Control Regulations 2009, No 28. These regulations made it a criminal act, punishable by life imprisonment to carry, deposit, transport/sell, buy, or negotiate in trade of harmful waste as mentioned below:

(a) To identify toxic and extremely hazardous was dangerous to public health and environment
(b) To provide surveillance and monitoring of dangerous waste until they are detoxicated and safely disposed of.
(c) To provide guidelines necessary to establish a system of proper record keeping, sampling and labeling of dangerous and extremely hazardous waste.
(d) To establish and provide suitable and necessary requirements to facilitate the disposal of hazardous waste, and
(e) To research into possible re-use and recycling of hazardous wastes.

 Trace the history of wastes management in Nigeria and highlight the government effort till date.

6.3.2 Hazardous Waste Management in India

The laws relating to hazardous substance were in existence even prior to the enactment of the Environment (Protection) Act 1986 (hereafter called

Environmental Act). The laws put in place were less significant to cope with the degree of the current problem of environmental wastes and human health hazards. Most of the existing laws viz. the Insecticides Act, the Explosives Act, The Factories Act, The Petroleum Act, and The Indian Act touch the safety aspect of only a limited number of hazardous chemicals. A critical look at the previous regulations shows that perhaps it was the Indian Penal Code which first dealt directly with negligent conduct in relation to poisonous substance. It states that:

"whoever does, with any poisonous substances, any act in a manner so rash or negligent as to endanger human life, or to be likely to cause hurt or injury to any person , or knowingly or negligently omits to take such order with any poisonous substances in his possession as is sufficient to guard against any probable danger to human life from such poisonous substance, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both".

Other legislations for the management of hazardous substances are:
(1) The Explosives Act No 4 of 1884
(2) The Explosive Substance Act No 6 of 1908
(3) The Insecticides Act No 46 of 1968
(4) Water (Prevention and Control of Pollution) Act No 6 1974
(5) The Factories, Act No 14 of 1981
(6) Environmental Act No 29 of 1986
(7) Hazardous Wastes (Handling and Management) Rule's, 1989 (hereafter referred to as

Waste Rules under the Environmental Act, Rule 3(11).

The Hazardous Chemical and Wastes Rules made provisions for some general as well as specific requirements to be fulfilled by an occupier handling hazardous chemicals and generating hazardous waste. Where there is a contravention of any of the provisions of these Rules, a notice is served to remedy the contravention with such period which may be specified in the notice. It is therefore suggested that the notice period be limited to 45 days from the date of the receipt of the report, Baljeet S. Kapoor (2001:102 – 3).

In India, the body for the regulation and administration of present environmental hazardous waste and factory legislation and rules ranges from the local body to the District Magistrate. At this level of Indian development, there is need to use technical persons. A more effective and comprehensive approach to the problem of hazardous substances may call for more control measures. Dharmendra S. Senghor (2007: 28 – 30)

6.3.3 Hazardous Waste Management in United Kingdom

The United Kingdom imported 41,000 tonnes of hazardous waste for disposal 1989, according to official estimates; the largest proportions of which came from Europe (Hutchinson, 1992: 438).

However, in the United Kingdom, the Environmental Protection Act (EPA) of 1990 outlines treatment for hazardous waste to include:

1. Reduction of wastes generation
2. Recycling and recovery
3. Incineration
4. Land disposal
5. Toxic chemicals
6. E-wastes

In Denmark, throughout the 1970s, incineration was the preferred disposal alternative, and her hazardous waste treatment incineration is the model for similar facilities in other European countries.

 Analyze the efforts of Indian and UK in managing the hazardous substances.

6.3.4 Effects of Improper Management of Wastes

The effects of wastes on human beings is highly dependant on the nature of the waste in question (whether it is re-useable or dangerous waste) and the proximity of human beings to this waste. The dangers posed by waste that are manageable are the devastating ecological and human disasters, which such occasion. Toxic, radioactive and hazardous wastes are very detrimental to humans, animals and plant life.

NESREA (formerly FEPA) has made a graphical catalogue of 27 examples of human and animals' disasters caused by improper management of waste between 1921 and 2009. Few of these are mentioned below

(a) Minata, Japan 1953 – 1960: Methyl mercury poisoning of people eating fish polluted and mercury. This resulted in 120 deaths; many were injured and thereby hospitalized.

(b) Bhopal Disaster India, December 4th 1984, Accidental release of poisons methly isocyanate gas from the pesticide plant of America multinational company (Union Carbide Corporation) due to a faulty pump and negligent operational policy. This resulted in over 30,000 deaths, 200,000 injured and many with irreversible deformation.

(c) Onne, Port Harcourt, Nigeria: Industrial influent containing a high level of Ammonia from NAFCON, a fertilizer company, was discharged into the Okrika River. This resulted in massive fish killing and socio-economic problems for the fishing industries in the surrounding villages. Over N30m compensation was claimed.

(d) Outbreak of ammonia toxic from poisonous lead in Gusau Zamfara state, Nigeria, 2010: This poisonous lead killed about four hundred people within one week and more than one people around the area were hospitalized.

To this extent, proper management of hazardous wastes offers humans, animals and plants ecological, security and health.

6.3.5 Recommendations to Management of Hazardous Wastes

The main issue that can be deduced from this unit is that here is no problem with sufficient laws and rules for managing hazardous waste but the major key issue is the implementation and enforcement of the laws and rules.

The National Environmental Standard and Regulations Enforcement Agency (NESREA) should intensify efforts through public enlightenment programmes, educate the public on the adequate and result oriented management of wastes particularly chemical and domestic wastes.

The main problems facing hazardous waste management and likely solution in Nigeria are discussed below:

One of the key causes of the various environmental problems is “Man”. Man, no doubt depends on his natural environment for his needs of food, shelter, clothing, all these activities of man have in no small measure resulted in environmental disaster. With this, man is the measure of all things (Plato). As a result of man activities viz his environment must be therefore properly regulated and regularize as not to over exploit his surroundings for unborn generation.

The non-compliance by the industries of the NESREA industrial hazardous wastes stipulations made nonsense of the environmental policies.

To solve this identified problem; the reasons why the industries are not complying must be identified and made the industries complying. All the activities of man must be put in proper check. This action will protect and preserve the environmental hazard which tends to affect land, air, water and different kind of wastes would be reduced to the bearest minimum.

People from various endeavors in life are the cause of various environmental problems; to forestall all these problems, people from all works of life must be educated and enlightened on the dangers of mismanagement of our hazardous wastes from both domestic and industrial usage.

Every home, private organizations and government department in the three tiers should be encouraged to adopt waste management and adopt regulation mechanism that fit into their various methods of waste control.

To this extent, competition that will lead to improvement in the waste administration should be encouraged. Privatization should be adopted, so that many private enterprises would be attracted into the business of waste disposal, waste utilization and its management for the sustainability of human environment.

The various Environmental Acts and Regulations imposes duty on every person and organization responsible for the handling of hazardous substances to comply with the prescribed procedural safeguards. Every person carrying or handling any hazardous substance shall be bound to render all assistance to the person(s) empowered by the three tiers of government for carrying out the statutory functions. Therefore, everybody must be environmental cleaner's compliance to pave way for a healthy living environment.

6.4 Summary

This topic has thoroughly dealt with hazardous waste management in Nigeria, India and United Kingdom. The effect of mismanagement of hazardous wastes was equally elucidated. Finally, basic problems and likely solutions to the management of hazardous wastes or substances were identified.

6.5 References/Further Readings/Web Sources

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Lawrence Atsegbua *et. al.,* (2004) Environmental Law in Nigeria, Theory and Practice, Lagos, Ababa Press Ltd.

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6.6 Possible Answers to Self-Assessment Exercises

SAE

1. TRUE

2. The effects of wastes on human beings depends on:

i. The nature of the waste in question (whether it is re-useable or dangerous waste) and
ii. The proximity of human beings to this waste

UNIT 7 WATER POLLUTION AND CONTROL LAWS: WATER QUALITIES MANAGEMENT

7.1 Introduction

Man, according to Akinade O. (1988: 12) is two-third water (in composition) and the surface of the globe is seven-tenths of water. This is beside 'air', the most important single element (resource) in use in all living ecology, FEPA (1991) in its guideline put it rightly that "it is common place knowledge that apart from air, water is the most essential requirement for all living beings and breathing things". Air and water are indeed the sin important for existence for any living organism (Lawrence Atsegbua *et al.,* 2010). Of all the natural resources in the universe, water is perhaps the most unique. It is present in fixed amount, which circulates from the land to the oceans to the atmosphere and back again (Dharmendra S. Senghor; 2007: 34).

Dharmendra S. Senghor emphasized further that until recently, the pollution of natural water was not much of a problem, but with rapid urbanization and industrialization, this problem is reaching alarming proportions. Water pollution may be termed as "the undesirable adverse in composition of water to such an extent that it becomes unsuitable for the purpose for which it would be suitable in the natural state". In another words, undesirable changes in the characteristics of waste is water pollution. Water pollution is thus the poor quality of water which adversely affects the use of water for agricultural, domestic, industrial and other uses (Ola C.S. p. 55). These changes may be physical, chemical and biological ones (Dharmendra S. Senghor)

The quality of water from rivers, spring or stream is downgraded or polluted by organic substances from those who use the water for bathing, agricultural purposes, washing of bicycles, washing of clothes, etc.

Water pollution is considered not only in terms of public health but also in terms of conservation, aesthetics and the preservation of natural beauty and resources. The most disturbing feature of the mode of disposal of waste water is that those who cause water pollution are seldom the people who suffer from it.

However, the problem now is not the quality of this particular natural resource, but the quality of the resource available to meet the demand of man for water for specific uses. There is no doubt about abundant water and its resources but inadequate, improved and safe water (Okorodudu Fubara 1998: 585 – 6). She admitted that ill-advised and often times, improper use by man and industrial production process – transmitting human feaces, detergents, plant nutrients eroded sediments pesticides, industrial affluent, have largely contributed to the pollution of the nation's rivers, lakes, streams and sea. The question is, how can government, individual and international organizations ensure adequate safe water?

7.2 Learning Outcomes

By the end of this unit, you should be able to:

- Discuss water pollution and its effect on man
- Explain efforts of Nigeria government and international organization in ensure safe quality of water for man's consumption (both for domestic and industrial uses)
- Know the legal control and anti-pollution rules put in place till date

7.3 Water Pollution and Control Laws: Water Qualities Management

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. What is the objective of the River Basin Development Authority?
2. The whole world is within one environment. Do you agree?

7.3.1 Water Pollution

Apart from its menace to health, polluted water reduces the water resources of the nation. Particularly Africa, with the ever-increasing complexity of her socio-economic activities and rapid development,

unlike the limited use to which our forefathers put water usage and limited power of its exploitation, modern man all over the world uses of water are intensive, highly complex and no doubt very extensive (FEPA 1991).

The magnitude of the problem of water pollution caused by industrial affluent and its growing dimensions call for putting necessary curbs and checks so as to regulate the polluting industries. These factors including the accompanying pollution, if left unchecked will lead to the degradation and eventual diminution or exhaustion of the world water resources, resulting in desertification, famine and diseases and decimation of both man and animals.

Historically, in pre-industrial society, the incidents of water pollution were few in number and that too of lesser magnitude. As a result, an action under common law could take adequate care of the problem. From the advent of industries and its continuous growth and the growing water pollution that attends it call for statutory control and stricter regulatory measures focused on checking the hazards of pollution.

With this need at this material time, the Nigerian government has entered a number of treaties and put in place pieces of natural legislation and state legislation to prevent water pollution. The legal framework controlling water pollution extends to cover both common law actions and the statutory rules. Many aspects of public nuisance are covered by the statutory provisions, the common law of nuisance (which is the universal applicable law on Nuisance in all Commonwealth nations) continue to apply to matters which remain outside the domain of statute. This proposition is to identify as a matter of urgency some prominent remedial measures existing in the legal system of nations which possess the efficacy or potential of being applied and rejuvenate as effective legal tools to check the menace of hazardous water pollution.

7.3.1.1 Legal Control of Water Pollution

Ipso facto, the Nigerian government has entered a number of treaties and put in place pieces of national legislation and state legislation to prevent water pollution. The Federal Government of Nigeria in 1993 promulgated the Water Resources Act No 101 (and amended in 1995 and 2009) acting under the enabling power conferred upon it by the 1999 Constitution of Federal Republic of Nigeria and as amended in 2010 particularly Part 1, 2nd Schedule paragraph 62 of Constitution of Federal Republic of Nigeria.

The major objective of promulgating this Act by the government is to vest in the Central or Federal Authority (an autonomous body) the rights to use and control certain categories of water sources in all cases where they

effect more than one state of the Federal Republic. These major objectives of the Act are as stated below:

(a) The promotion of the optimum planning development and use of Nigeria's water resources
(b) The co-ordination of such activities that are likely to influence law, enhance the quality, distribution, use and management of water.
(c) The application of appropriate standards and technologies for the investigation, use, control, protection, management and administration of water resources.
(d) The facilitation of technical assistance and rehabilitation for water supplies.

Under this Act, the Minister of Water Resources is charged with the responsibility of ensuring that proper and adequate provision is made for the environment through the supply of water for the damage drainage, the safe disposal of sewage, effluent and waterborne waste, and the control and prevention (Section 5 (b)), flooding, erosion and damage to the water shed areas (Section 5 (e)), and also the protection of inland fisheries, flora and fauna (Section 5 (c)).

Further attention of the Nigerian Federal Government against pollution of water was the promulgation of the Rivers Basin Development Authorities Act, 1976 (as amended) with S2 (1) of Act specifying the function of each River Basin Authority is:
"the control of pollution in rivers and lakes in the Authority's area in accordance with nationality laid down standards"

The River Basin Development Authority objectives are as stated below:
"The preservation and enhancement of their respective areas of operation, by, for instance undertaking comprehensive development of both surface and subterranean water resources for multipurpose use … undertaking schemes for the control of floods and erosion and for sheds management and similar conservation activities" (S2(1) River Basin Development Authority).

Section 2 of the Chad Basin Authority Act of 1973 empowers the Authority to regulate the navigation and fishing of Lake Chad.

Section 2 of the Sokoto-River Basin Development Authority Act of 1973 empowers the Authority to ensure "the exploitation of underground water resources including the sinking of wells and bore holes for human and livestock consumption", whereas the Sea Fisheries Act of 1971 provides that, no person shall operate or navigate any motor fishing boat within the territorial waters of Nigeria without a licence. The Act forbids the catching or destruction of any fish within the territorial waters of Nigeria by the use of any poisonous matter or by the use of explosive substance

(where a fine of ₦200 or 6 months imprisonment or both is imposed for contraventions).

Section 1(1) of the Territorial Waters (Amendment) Act 1971 No 38 of 1971 states: The Territorial Waters of Nigeria shall for all purposes extend to 30 nautical miles of the coast of Nigeria (measured from low water marking or of the seaward limits of inland water.

Section 1 of Oil in Navigable Waters Act of 1968 forbids the ship from discharging any mixture containing not less than 100 parts of oil into Nigeria Sea. In support of this Act is Section 245 of the Nigerian Criminal Code (NCC) which provides:
Any person who corrupts of fouls the water of any spring, stream, well, tank or place so as to render it less fit for the purpose for which it is ordinarily used is guilty of a misdemeanor and is liable to imprisonment for six months.

The Oil in Navigable Waters Act No 34 of 1968 (S2 (1)) River Basin Development
Authorities) treats:
(a) Discharge of oil into prohibited sea area
(b) Discharge of oil into Nigerian Waters
(c) Failure to install oil pollution equipment on ships
(d) Failure to keep records of oil matters
(e) Failure by harbor authorities to provide oil reception facilities
(f) Failure to report presence of oil in harbour water

Sections 1, 3, 5 and 6 provide penalties for offenders who are guilty of an offence under these sections of this Act. In accordance with the Act, on conviction by a High Court or a superior court on Summary conviction by any court of superior jurisdiction will be liable to fines (See S6 of the Oil in Navigable Water Act Cap 337, LFN 1999 and as amended in 2004 Prosecution under the Act has to be initiated with approval of the Attorney General of the Federation, while offences created by it are subject to concurrent jurisdiction of Magistrate Courts (Section 56 (4) of the Act).

The NESREA Act prohibits the discharge in such harmful quantities of any hazardous substance into the waters of Nigeria or adjoining shore lives except as allowed, permitted or authorized by the law in force in Nigeria (Section 27 of NESREA Act). The Act empowered the “agency shall make recommendations to the President, Commander-in Chief of the Armed Forces for the purpose of establishing water quality standard for the inter-state waters of Nigeria to protect the public health or welfare and enhance the quality of water to serve the purpose of this Act”. These Acts shows the efforts of government to control water hazardous pollution from endangering human health.

7.3.1.2 Water Pollution Laws and Water Quality Standards

Section 7 of the NESREA provides that the Agency shall establish "water quality standards for the inter-state waters of Nigeria"; and that the standards shall be such as "to protect the public health or welfare and enhance the quality of water to serve the purposes of the Decree". The Act specifically stipulates that: "In establishing such standards, the Agency shall take into consideration the use and value for public water supplies, propagation of fish and wildlife, recreational purposes, agricultural, industrial and other legitimate uses".

This statutory provision is directly relevant to the strategy proposed for implementation of the national goal on water resources management based on the "provision of water in adequate quality and acceptable quality to meet domestic, industrial, agricultural and recreational needs" (paragraph 3 (3) (a) of National Environmental Policy 1988, as amended 1992, 1995, 2004 and 2009) and "the conservation and improvement of water quality conditions and ecological systems of the water bodies". (Paragraph 3(3) (a) of National Environmental Policy 1988 as amended).

Under proposed National Water Quality Standards, FEPA (now NESREA, 2007) has responded positively to what it calls an "onerous task" presented by its statutory duty in accordance with S 15 "by reviewing water quality standards/guidelines from developed and developing countries, such as Canada, US, Australia, India, Tanzania, Brazil, World Health Organization (WHO), International Standards, etc. and comparing them with data available on Nigeria' water quality. The harmonization of the two sets of data is used to generate the Interim National Water Quality Guidelines and Standards "(Proposed National Water Quality Standards, (NWQS) 1991).

7.3.1.3 Nigerian States Water Pollution Existing Legislations

All the states in Nigeria have the Water Work Act dealing with water pollution. This Act provides for a water authority that should manage and supervise the water work and state the powers of Water Authorities. The Law also discharges the excessive consumption of water and the wastage of water (See S14 and 15 of Lagos State Water Works Law, Cap 138, Law of Lagos.) Nearly all these Act prohibits pollution of water. There is provision against persons who bath, wash and throw or cause an animal or material to enter the water, works are liable for an offence. In addition to Water Works Act, most state has Water Management Board Law and all the statues deals with water pollution.

a. Edo State

Water pollution is treated as part of Public Health Matter under S3 of the Edo state Environmental Sanitation Edict (See S9 of the Edo State Environmental Sanitation Edict). This Edict imposes a penalty of ₦500.00 or one month imprisonment or both for polluting any stream or river. Such fine and imprisonment or any contravention of S3 of the Edict is too small for the offence of water pollution, which affects human life.

b. Lagos State

Lagos State Environmental Pollution Control Edict, 1989 Section 19 prohibits indiscriminate digging of wells and bore holes for industrial purposes without the written approval of the Ministry of Environment and the Lagos Water Corporation.

c. Abia State

Abia State Environmental Protection Agency Edict of 1994 provides for a water quality effluents limitation standard. The Agency is mandated to set an interim goal to make all state of water safe for marine resources, wild life and human life and all rural and urban towns are required to use secondary sewage treatment for all affluent.

Generally speaking, the earliest form of water pollution law can be found in our Criminal Code of 1916. This code criminalized water pollution. The code was first enacted in 1916 and section 245 provides as follows:
"Any person who fouls the water of any spring, stream, well tank or reservoir, seas to make it less fit for the purposes for which it is ordinarily used is guilty of misdemeanor and is liable to an imprisonment of six months".

A year after the Criminal Code was enacted, there came the Public Health Act, 1917 which states in Section 13(1) that:
"Whenever by act or default causes or suffers to be brought or to flow into any well, stream, tank, reservoir, aqueduct or pond used or intended for supplying water to man or beast or into any conduit communicating these with any deleterious substances or does any act whereby such water is or may be folded shall be liable to a fine of ten pounds (twenty-naira equivalent then) for everyday during which the offence is committed after conviction".

The Public Health Act in this regard is more expansive in scope and stringent in the penalties stipulated in violation of its provisions.

7.3.2 Water Quality Resources International Treaties or Agreement Entered into by Nigeria Concerning Water Pollution

The whole world is within one environment. Different national boundaries which have demarcated the world into district nations are anthropogenic. Nigeria is party to a number of international treaties pertinent to the protection of the water resources. Between 1960 and 1975 six of these treaties came into force in Nigeria; another six between 1976 and 1985 and till date.

(i) International Convention for the Protection of Pollution of Sea by Oil, 1954 (as amended in 1962, 1969, 1985, 1995, 2004) London
(ii) Convention on the continental shelf, 1958 (Geneva)
(iii) Convention on the High Seas, 1958 (Geneva)
(iv) Convention on Fishing Conservation of the Living Resources of the High Seas 1958 (Geneva)
(v) Treaty Banning Nuclear Weapon Test in the Atmosphere, in outer space and Under Water 1963 (Moscow)
(vi) Act Regarding Negotiation and Economic Cooperation Between the States of the Niger Basin, 1963 (Niamey)
(vii) Agreement concerning the River Niger Commission and the Navigation and Transport on the River Niger 1964 (Niamey)
(viii) Convention and Statute Relating to the Development of Chad Basin 1964 (as amended 1972) Fort-Larry, N'djamena: Yaoundé Cameroon
(ix) International Convention on Civil Liability for oil pollution damage, 1969 to 1964 (Brussels; London)
(x) International Convention on the Establishment of International Fund for Compensation for Oil Pollution Damage, 1971 to 1984 (Brussels; London).
(xi) Convention on the Prevention of Marine Pollution by dumping of Wastes and other Matter, 1972 to 1978 (Lauder, Mexico City; Washington D.C; London)
(xii) Convention Creating the Niger Basin Authority and Protocol Relating to the Development Fund of the Niger Basin 1980 (Faranah)
(xiii) Convention for cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region, 1991 (Abidjan)
(xiv) Protocol concerning co-operation in combating pollution in cases of emergency, 1981 (Abidjan)
(xv) United Nations Convention on the Law of Sea 1982 (Montego Bay).

Most of these agreements, treaties, conventions and protocol entered into by the government of Nigeria is to maintain and control through these means all incident of pollution and wastes into the sea by dumping and to encourage regional and international agreements supplementary to various conventions.

7.3.3 Recommendations

Pollution ab initio is a nuisance that posed big treat to the international community; human, animal and entire environment. This has led to regional, bilateral and the world conventions particularly on "Kyoto Protocol" in order find lasting solution to the depletion of ozone layer and to protect it.

With all these protection activities, can be concluded that preventions is better than cure and to a large extent, it is better to protect our environment that witness the devastating effect on the environment through pollution.

However, in line with Professor Atsegbua's conclusion, that the only solution to environmental problems lies not only with our legal rules but also in other social sciences, particularly economics'. To buttress his point, the United State of America have for long been applying 'economic reasoning' as formulae to legal problems (See particularly ***United States vs. Carroll Towing Co; 159 F*** 2d 169 (2nd Cir) 1947 per the Judgment of Judge Learned Hand at p. 173).

It must be said here that, this fact must be recognised, if law is to make or have any future impact in solving the myriad of environmental problems that confronts us on daily basis (Atsegbua, et al 2010).

Man owes the environment where he finds himself a duty to regularly protect it from various pollutions and pollutants elements particular pollution caused by the activities of man. All these protections need to be pursued collectively and severally by the whole nations of the world. Efforts must continue to be intensified by nations, regional organizations and international organizations through meetings to regulate and regularizes the menace of pollution through legal and economic control.

7.4 Summary

Water pollution and control laws to realize water quality management, is the main heading of this unit. It also covers some areas such as water pollution and legal control, within the federation of Nigeria, regional and ex-regional contributions through conventions, agreements, protocols and treaties. The units discuss Water Quality Standards. All these control

mechanisms have contributed in no small measure to the reduction in water pollution.

7.5 References/Further Readings/Web Sources

Akande O. (1981). A Legal Perspective: Water Resources and Environmental Development Policy in Nigeria IJI p. 12

Atsegbua *et al.,* supra pp. 77 - 89

Okorodudu Fubara M.T (1998) Law of Environmental Protection, Ibadan Caltrop Publications (Nig.) Ltd.

Ola C. S (1984) Town and Country Planning and Environmental Laws in Nigeria; Ibadan, UPL. pp. 155 – 8.

Onokhoraye, A. G. (1994). Elements of Man's Physical and Social Environment in Africa. The Benin Social Science Series for Africa p. 122 – 3.

Identify the effort made by the states in Nigeria to combat the menace of water pollution in their various states.

Highlights conventions, treaties, protocols and agreements entered into by the Federal Government of Nigeria in respect of reduction of the menace of water pollution

State the new control mechanism to assist law in realizing its future efforts in pollution control.

7.6 Possible Answers to Self-Assessment Exercises

SAE

1. Pursuant to section 2(1), the objective includes, he preservation and enhancement of their respective areas of operation, by, for instance undertaking comprehensive development of both surface and subterranean water resources for multipurpose use … undertaking schemes for the control of floods and erosion and for sheds management and similar conservation activities.

2. YES

UNIT 8 THE ECONOMIC APPROACH TO POLLUTION CONTROL

Unit Structure

8.1 Introduction

It is generally observed that administrative agencies like FEPA, SEPA and now NESREA can effectively manage the ever-increasing problems of oil pollution. This assumption was debunked by a Canadian Environmental expert that "Regulatory agencies generally have displayed a number of disturbing tendencies (gross incompetency and devoid of ideas to move their countries forward in this regards). They may become entangled in the bureaucratic web created by the particular system of administration. An accord may be reached and maintained through agency officials moving to the industry side, they may fail to strongly enforce their legislation, perhaps on the basis of policy directives from the Minister, but more likely simply through inertia and fear of generating heat" (Atsegbua, et al 2010).

It was reported in 1997 that FEPA and its corollary at state level (SEPA) did not even have the facilities to carry out tests on the hazardous fuel into the country at certain time and incessant of oil spillages into the waters of the Delta Region. A concrete effort has to be channeled towards application of alternative result oriented and effective mechanism to combat the menace of environmental pollution.

8.2 Learning Outcomes

By the end of this unit, you should be able to:

- Discuss the effectiveness of adoption of economic approach to solving emerging hazardous pollution problems
- Explain the effectiveness of the approach in other jurisdictions

8.3 The Economic Approach to Pollution Control

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. The torts of negligence, nuisance and the rule in ***Ryland vs. Fletcher*** (1868) LR 3H L 330, has been of tremendous help to the victims of oil pollution. TRUE or FALSE
2. How do the economic or market-based instruments work?

8.3.1 The Economic Approach to Pollution Control (Historical Background)

It is no more news that the existing legislation could not adequately cater for individuals' rights who suffer the adverse effects of oil pollution. In many instances, the individual is not compensated for his/her rights and interests which may be affected by oil pollution. The traditional approach of dealing with this issue has equally not measure up to expectation (i.e. governmental rules, regulations, tort law remedies and statutes on the issue of failure of common law test remedies, the experts says: The Common Law with its substantive limits apparently tied to the resolution of narrow conflict between individuals, and the capricious incidence of litigations has seem to the environmentally sensitive lawyers to be essentially impotent as the source of a viable response".

The torts of negligence, nuisance and the rule in ***Ryland vs. Fletcher*** (1868) LR 3H L 330, has not been of much aid to the victims of oil pollution. Government intervention by way of legislation and regulation has also had limited success. In respect of these shortcomings, it has been advocates that an alternative approach be put in place; Economics Approach or analysis of the menace of oil pollution of the enact would provide a better perspective for dealing with the problem of oil pollution. (Atsegbua, et al 2010).

The Atsegbua *et al.,* (2010: 128) posited that, among the inter-disciplines that have spring up around the law in this country, the economic approach, although of recent origin, occupies a prominent place.

To this extent, the economic analysis of law adopts a theoretical and functional approach. The economic approach theorists distinguish allocative efficiency from distributional matters. They are concerned with allocative efficiency from distributive issues. Allocation of efficiency is the allocative of economic goods by a competitive market force. This would lead to a "*pareto optimal*" allocation or "equilibrium". This explanation is regarded as "neo-classical model" which means that under

assumptions, reliance on competitive markets will lead to optional for society (Braithwaite, 1982: 481).

Hirsch W. Z. (1988) posited that, companies in unprincipled pursuit of profits can do great social harm. The environment suffers at the hands of companies which put production ahead of environmental protection.

Professor Coase, in his famous research study, where the problem of externality is reciprocal in nature and emphasized that:
"The traditional approach has tended to obscure the nature of the choice that has to be made. The question is commonly thought of as one in which A inflicts harm on B and what has to be decided is how should we restraint A? But this is wrong. We are dealing with a problem of a reciprocal nature. To avoid the harm on B, will inflict harm on A. The real question that has to be decided is: Should A be allowed to harm B or should B be allowed to harm A? The problem is to avoid the more serious harm.

To buttress his point, Coase examined the case of ***Sturges v Bridgman*** (1879) 11 Ch. D. 862 where the court held that the Medical Doctor has the right to prevent the confectioner from using machinery. But of course, it would have been possible to modify the arrangements envisaged in the legal ruling by means of a bargain between the two parties. The doctor would have been willing to waive his right and allow the machinery to continue in operation if the confectioner would have paid him a sum of money which was greater than the loss of income which he would suffer from having to more to a more costly or less convenient location…

The confectioner would have been willing to do this if the amount he would have to pay the medical doctor was less than the full income he would suffer if he had to change his mode of operation at this location … See similar reasoning applied by Professor Coase in the case of ***Bryant vs. Lefever*** (1979) 4 C.P.O 172.

Without prevarication, Professor Coase's work which can be regarded as "classical paper" laid the basis foundation of much economics of law analysis and its importance in given us a new insight into pollution control cannot be over emphasized. The remarkable assumption of the economic analysis of law is that, if transaction between the affected parties is costless, allocative efficiency will be reached without government intervention. However, in the universal world of economics, transaction costs are usually defined to include those costs incurred in communicating with other parties, negotiations leading to a bargain, etc.

It is important to note that:

- with heavy transaction costs, initial assignment of liability would become relevant
- the market would, most likely correct any error in the initial assignment of liability. Despite these problems, the Coase's economics theory provides a basic fundamental analysis for dealing with the problem of polution, if the parties are controllable in size or number.

In a "perfectly competitive market" negotiation between the parties would lead to a "*pareto optimal*" allocation of resources (Atsegbua 2010: 128 – 129).

Cheuna in his own contribution, he emphasized that in so far, all externality situations do not involve the same degree of uncertainty; different internalization mechanisms would be socially most applicable in different externality situations. As a result, the following valuable suggestions were made among several alternatives

i. Imposition of tax on the externally creating activities. The tax levied should equal in proportion to the damaged caused by its pollution
ii. Regulatory mechanisms through the promulgation and enforcement of environmental regulations. This must be backup by civil or criminal penalties
iii. Government induced publicly negotiated settlements among all affected parties involved can be organised by the government agent or by the affected person by the externality creating activity.

8.3.2 The Economic Approach to Pollution Control

Economic or market-based instruments rely on market forces and changes in relative prices to modify the behaviour of public and private polluters in a way that supports environmental protection or improvement. They represent one of the two principle strategic approaches to pollution control. The other main approach is **regulatory, often referred to as "command and control" (CAC)**. Regulatory tools influence environmental outcomes by regulating processes or products, limiting the discharge of specified pollutants, and by restricting certain polluting activities to specific times or areas.

Another means of influencing polluter behaviour is through persuasion. In the case of polluting industries, this approach may involve voluntary agreements to undertake pollution control measures. In the case of consumers, it may involve public education and information campaigns to influence patterns of consumption and waste disposal. This approach is applied in countries such as The Netherlands, Japan and Indonesia.

Since the inception of environmental policy in most industrial countries, governments have tended to use these instruments as their main strategy for controlling pollution. Many countries, however, are becoming aware that regulatory instruments are inefficient for achieving most pollution control objectives, and that the level of expenditure required to comply with increasingly stringent environmental laws and regulation is becoming a major cost of production. In the USA, for example, the US Environmental Protection Agency (EPA) estimates that the proportion of Gross National Product (GNP) devoted to environmental protection can be expected to grow from 1.7 per cent in 1990 to nearly 3 per cent by the year 2000, and that most of these costs will be borne by the private sector (US EPA, 1991).

An increasing number of governments are, therefore, investigating alternative mechanisms to achieve the most cost-effective means for controlling pollution that will not place excessive financial burdens on businesses and individuals, and that will not undermine economic development.

At the end of this unit, students must have learnt about the Economic analysis or approach to pollution control. It is interesting to study Professor Coase theory as it may solve the pollution quagmire.

8.4 Summary

Pollution is very much on the increase in Nigeria particularly around the Niger Delta region. The issue must be critically looked into by the government (at all levels), individuals and non-governmental institutions.

8.5 References/Further Readings/Web Sources

Ola C. S. supra iv. Coase, R. “The problem of Social Cost” (1960) 3 Journal of Law and Economics, 1.

Ryland vs. Fletcher (1868) LR 3H L 330

Sturges v Bridgman (1879) 11 Ch. D. 862

Bryant vs. Lefever (1979) 4 C.P.O 172.

See The Economic Approach to Pollution Control - Bing last accessed 31st January, 2022.

Discuss the Coase theory as a mechanism for curbing pollution ii. Highlight the importance of the two cases mentioned in this unit

8.6 Possible Answers to Self-Assessment Exercises

SAE

1. FALSE

2. They rely on market forces and changes in relative prices to modify the behaviour of public and private polluters in a way that supports environmental protection or improvement

MODULE 4 PUBLIC HEALTH AND ENVIRONMENTAL PROTECTION

UNIT 1 PUBLIC HEALTH AND ENVIRONMENTAL ISSUES

Unit Structure

1.1 Introduction

Those who believe that human beings have prescriptive rights would put living in reasonably healthy conditions and having access to adequate health care on the list of those rights. Reality is far from the ideal. Health is a state of total physical, mental and social well-being and not merely the absence of decease or infirmity extracted from the World

Health Organisation (WHO)'s Constitution.

The issue in this regards is principally the state of medicare, sanitation, access to clean, good water, highly qualitative and affordable health services and other conditions related to health in the hotter parts of the world which are far below a level imaginable by most researchers and international health facilitators and experts.

Hence, the need to provide the healthcare facilities to poor nations and equally to provide health hazard prevention mechanisms particularly in

the diseases prone area of the world by the international bodies (both non-governmental organization inclusive, various countries and other stakeholders).

1.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the relationship between public health and environmental protection
- Explain why it's essential for all the stakeholders in the world to protect human health
- Identify the problems facing the public health and likely solutions.

1.3 Public Health and Environmental Issues

Health, fundamentally is believed to be wealth, as such, the health of people within these countries is an international concern. Generally speaking, a healthy populace is the soul of a country's resources and vital to economic growth because healthy people are regarded as economically production and because unhealthy people often consume more of a society's resources than they produce. This is problem of majority of third world country (TWC).

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Define public health
2. When did the issues of public health and environmental protection begin to take an urgent dimension in Nigeria?

1.3.1 What is Public Health?

This simply means organised efforts of the community to protect its members against diseases. In this wise, good health practices ensures that the water we drink is treated, milk is pasteurized, meats and other food products are inspected to eliminate contamination by pathogenic organism such as *Tuberculosis bavilus*, *Salmonella typhii*, *vibrocholerae* and *shigella* (Amokaye G. O. supra-339). The need to protect the people led to enactment of various Public Health Acts in England. These Act include 1848, 1872, 1875 public health legislation enacted by Parliament in United Kingdom to deal with squanter and diseases and to establish a code of sanitary law. It is worth noting that the first Act, 1848, established

a central board of health which comprised of three members who were responsible to Parliament to impose local boards of health in districts where the health rate was above the national average and made provision for other local boards of health to be established by petition (The Hutchison Encyclopedia 1992: 854).

Public health is the science of protecting and improving the health of people and their communities. This work is achieved by promoting healthy lifestyles, researching disease and injury prevention, and detecting, preventing and responding to infectious diseases. Overall, public health is concerned with protecting the health of entire populations. These populations can be as small as a local neighborhood, or as big as an entire country or region of the world.

1.3.2 Public Health and Environmental Protection in Nigeria

The main problem affecting public health have been the prime indices in environmental protection concerns in Nigeria in the immediate colonial and post-colonial regimes (Atsegbua *et al* supra: 112 – 13). During the colonial era, the main health focus of the administration were personal hygiene and sanitation, food and drink, dealing in deceases, fouling of water bodies, burials in residential houses and the use of white phosphorus (See S243 to 248 of the Nigerian Criminal Code, Cap 77 Laws of the Federation of Nigeria (LFN), 1990 (as amended in 2004) actually sanctions these acts that were perceived primarily as dangerous to public health. It is unfortunate that the present profile of our code of criminal law and its procedure has not changed in any material way since it came into force vide the colonial Ordinance No 15 of 1916. The public health was totally restricted to the more basic and simplistic questions.

The position during the imperial regime has been described by erudite legal luminary and former Judge of International Court of Justice (ICJ in Hague, Switzerland) Prince Judge Bola Ajibola that:

> "Throughout the pre independence era, there was no discernible national policy towards the preservation and protection of the environment … there was little or no legislative activity during this period. Even then the little activity there was, concentrated on the criminalization of pollution…"

However, issues of public health and environmental protection have taken an urgent dimension after the civil war and discovery of crude oil in commercial quantity in the Niger Delta Region. Much attention has ever since been paid to the upstream and downstream sectors of the oil

industry which had in turn increased tremendously the problem of public health environmental degradation arising from industrial effluents and gas flaring and emission, increase in carbon monoxide from automobile, toxic and hazardous waste management with their attendant health dangers.

In the present dispensation, questions of public health, public safety and a clean and healthy environment are very essential fundamentals. This was posited by Hon. Justice S. M. A. Belgore in his contribution to "The Need for Environmental Protection Law in Nigeria".

Environmental health-related risks are becoming a primary concern in Nigeria, with diverse environmental problems such as air pollution, water pollution, oil spillage, deforestation, desertification, erosion, and flooding (due to inadequate drainage systems) caused mostly by anthropogenic activities. Data from the Institute of Health Metric and Evaluation on Global Burden of Disease (GBD) was used to ascertain the causes of Death and Disability-adjusted Life Years (DALYs) in Nigeria from 2007-2017 and published literatures where reviewed.

According to the world health data report, most of the highest-ranked causes of DALYs in Nigeria are related to environmental risk factors. The lower respiratory infection associated with air pollution has advanced from the 4th in 2007 to the highest ranked cause of death in 2017. Other predominant causes of death associated with environmental risk factors include chronic respiratory diseases, cardiovascular diseases, enteric infections, diarrheal diseases, communicable, maternal, neonatal, and nutritional disease, which has resulted in approximately 800 thousand deaths and 26 million people living with DALYs per annum in Nigeria.

Major environmental risk factors include household air pollution, ambient air pollution, water, sanitation, and hygiene (WaSH), which shows a prolonged but progressive decline. In contrast, ambient particulate matter pollution, ambient ozone pollution, and lead exposure show a steady rise associated with death and DALYs in Nigeria, indicating a significant concern in an environmental health-related risk situation. Sustaining a healthy environment is critical in improving the quality of life and the span of a healthy life.

Therefore, environmentally sustainable development policies and practices should be essential to the population and policymakers for a healthy life.

The main issue in environmental protection and public health is the maintenance of social, economic, political and ecological balance and focus must be directed on the survival of man, but the efforts must also be geared towards the survival of his environment or ecosystem.

Therefore, in this Module and its units emphasis shall be laid on environmental regulation with particular reference public health, industrial standards problems waste and occupational safety.

The public health determined the status of health of individual which is a direct function of the status of his/her environment. In this issue, all efforts and all hands must be on deck to ensure that all citizens within their environment live a healthy and well sanitized health.

 Trace the history of public health environmental law in Nigeria.

In this unit, public health was introduced to the students covering the area of public health law in Nigeria and a brief introduction of health law in United Kingdom. Further discussion continues in Unit 2.

1.4 Summary

The importance of public health and environmental protection was discussed in this unit; particularly the epileptic and simplistic attention paid to public health and environmental protection law in Nigeria and the up-to-date role of the government after independence till date.

1.5 References/Further Readings/Web Sources

Amokaye G. O. (supra); p 339 - 40

Atsegbua et al (supra) p. 113 – 14

Jeremy Stranks (1998) Health and Safety Law, Bolton, Financial Times, Prentice Hall p. 1.

Charles Pearson and Anthony Pryor (1951) Environment, North and South, U.S.A. John Wiley & Sons Inc.

CDC Foundation, What is Public Health, available at What is Public Health? | CDC Foundation last accessed 31st January, 2022.

Heliyon (23rd march, 2021) Available at Environmental health situation in Nigeria: current status and future needs (nih.gov) last accessed 31st January, 2022.

1.6 Possible Answers to Self-Assessment Exercises

SAE

1. Public health simply means organised efforts of the community to protect its members against diseases

2. After the civil war and discovery of crude oil

UNIT 2 PUBLIC HEALTH AND ENVIRONMENTAL ISSUES II

Unit Structure

2.1 Introduction

Public health is the domain of environmental law to protect and sustain for humans and other organisms' habitation in their environment. This is to fulfill the general dictum that, the health status of any human being is no doubt direct function of the status of his environment. Therefore, special attention needs to be paid to this core area of human life and other organism. It is legally mandatory to give priority to the sustainability of the environmental concerns for both the present and generation unborn to enjoy clean and healthy environment.

2.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the meaning of public health
- Discuss the relationship between environmental protection and public health.

2.3 Public Health and Environmental Issues II

2.3.1 Connotation of Public Health

Public health according to the Black's Law (Dictionary 9th Edition) means prevailing healthful or sanitary condition of the general body of people or the community and the absence of any general or widespread disease or cause of mortality". It concluded by adding the wholesome

sanitary condition of the community at large. While, public health department or other agency responsible for making the public health; federal law dealing with health are administered by the Department of Health and Human Services. Whereas, public health services, that is the cabined offices and units of the Health and Human Services responsible for promoting the physical and mental health of citizen in their various environment where they find themselves. On the other hand, health law is a statute, ordinance, or code that prescribes sanitary standards and regulation for the purpose of promoting and preserving the community's health.

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. Nigeria has had its share in the menace of environmental hazards. Do you agree?
2. Environment and public health are two non-concomitant terms. TRUE or FALSE

2.3.2 Public Health and Environmental Standards Enforcement

All over the world, questions affecting public health had played an important role in the determination of legislative regulations. For instance, in 2004, the WHO report on World Health and population, states that, it was clearly stated that nearly 70 – 80% of the world's population does not have an access to any health/sanitation facilities and more than 50% do not have access to health care. The preclude to this was in 1981, when WHO, pledged to provide determinants of good health that is, adequate, nutrition, sanitation, safe drinking water and habitable environment.

The scope of these legislative actions remains a question of some doubt particularly in the 3rd world nations of Asia and Africa. We look to Nigeria as one of this third world countries being tormented by the menace of environmental hazards. This quagmire had been the fate of Nigeria as far back as 1916; when the Criminal Code Law was promulgated and the public health provisions were inserted therein. For the purpose of this academic study, the relevant provision of the Criminal Code of 1916 related to public health and environmental standards enforcement are highlighted below for ease references. These provisions in question covers sections 243 – 248 of the Code.

Section 243; (i) Any person who sells, as food or drink, or has in his possession with intent to sell it as food or drink, any article which has been rendered or has become noxious, or is in a state unfit for food or

drink, knowing or having reason to believe the same is noxious as food or drink, or is in a state unfit for food or drink is guilty of a misdemeanors, and is liable to imprisonment for one year.

(ii). Any person who adulterates any article of food or drink, so as to make such article noxious as food or drink, intending to sell such article as food or drink, or knowing it to be likely that the same will be sold as food or drink, is guilty of a misdemeanor, and is liable imprisonment for one year.

Section 244; Any person who

(i) knowingly takes into a slaughter-house used for the slaughter of any animal intended for the food of man the whole or any part of the carcass of any animal which has died of any disease; or
(ii) knowingly sells the whole or part of the carcass of any animal which has died of any disease, or which was diseased when slaughtered; is guilty of a misdemeanor, and is liable to imprisonment for two years.

Section 245; any person who corrupts or fouls the water of any spring stream, well, tank, reservoir, or place, so as to render it less fit for the purpose for which it is ordinarily used, guilty of a misdemeanor, and is liable to imprisonment for six months.

Section 246; any person who without the consent of the President or the Governor buries or attempts to bury any corpse in any house, building, premises, yard, garden, compound, or within a hundred yards of any dwelling-house, or in any open space situated within a township, is guilty of a misdemeanor, and is liable to imprisonment for six months.

Section 247; Any person who

(a) vitiate the atmosphere is any place so a to make it noxious to the health of person in general dwelling or carrying on business in the neigbourhood, or passing along a public way; or
(b) does any act which is; and which he knows or has reason to believe to be, likely to spread the infection of any disease dangerous of life, whether human or animal; is guilty of a misdemeanor, and is liable to imprisonment for six months.

Section 248; Any person who

(a) sells or has in his possession for the purposes of sale any matches made with white (yellow) phosphorus or
(b) uses white (yellow) phosphorus in the manufacture of matches; in guilty of an offence and liable to a fine of Twenty Naira, and any

matches in respect of which the offence shall have been committed shall be forfeited.

These provisions were testimony to how critical and sensitivity of Nigeria subsequent administration to the problem of environmental concerns of public health. This and statute is evidence of the inefficacy of the Criminal Code to attend to the pressing environmental needs of ever challenging Nigeria environment as a result of industrialization, oil pollution and ever increasing uncontrollable population. Though efforts has been on top gear since 1988 Koko toxic waste incidence, such legislative actions as the enactment of the Harmful Waste (Special Criminal Provisions) Act, Cap 165, LFN, 1990 (as amended in 2004), the Federal Environmental Protection Agency Act, cap 131, LFN, 1990 (as amended in 2004), the Environmental Impact Assessment (EIA) Act 1992, were evidence of government seriousness. There are other several legislative regulations reducing industrial effluents and Factories Act Cap 126 LFN 1990 (as amended 2004) to protect and maintain environmental concerns of public health.

2.3.3 Public Health and Environmental Matters

Environmental matters are related to public health concerns and primarily raise fundamental questions of the survival of man in his own world. Environment is an inevitable concomitant to public health. The impact of environment is therefore remarkable and inseparable. At present, there is the need to maintain a healthy environment at home, at work place and at the neighbourhood. This has acquired a new urgency requiring a standard measures and control mechanisms (Kalu V. (2000: 166).

However, the 1992 UNEP report shows that the state of medical care, sanitation and other conditions related to health in some areas of the world is below an acceptable level. This was supported by WHO Commission on Health and the Environment where it was disclosed that 4 million children under age 0 – 5 die every year totaling 4 million, from diarrhea disease, cause by contaminated foods and water.

The fate of children is one way to think about health care. In LDCs, children under age five die at a rate that is 16 times higher than for children in Europe. When compared to children in EDCs, those in LDCs are mere frequently exposed to diseases because of poor sanitation and other factors. They are more vulnerable to diseases because of malnutrition and they more often succumb to decease because basic medical care is not available, where one is available, they do not have access to it in terms of affordability. With this fact, an estimate of 70% of the children under age five in LDCs who die each year perish from infectious and parasite diseases that are under normal condition easily

preventable and claim only 1% of the children in EDCs "where no famine, no flood, no earthquake, no war has ever claimed the lives of this many children a year", the director of UNICEF pointed out.
Adults are not exempted from the menace of health hazards, poor health conditions and lack of adequate care within their reach in the society. Most of births in EDCs are attended by skilled health experts, only 40% or less of the birth in LDCs are. For instance, AIDS is a key factor in the economic struggles of sub-Saharan Africa. It attacks the workforce, overwhelms the meager budgets of countries, creates millions of orphans, and diverts outside funding that could be used for development. In 2005 for example, in Zambia, 40% of the teachers who left that country's already-too-small corps of educators did so as a result of the fact that they had AIDS and could no longer work. According to the World Bank "The epidemic continues to reverse life expectancy gains, erode productivity, decimate the workforce, consume savings and dilute poverty reduction efforts".

It is further revealed in these reports that one billion urban and city dwellers are exposed regularly to levels of air pollution that exceed WHO standards for safety and good health. It is unfortunate that millions of people are presently suffering from various diseases skin cancer, cataract, river related blindness and damage to the body's immune systems caused by depletion of the ozone layer and global warming with a potential to trigger new epidemics.

There are some identified 'secondary and tertiary' problems that related to developmental concerns leading to environmental degradations in the nature of: -

i. Demographic and population problems
ii. Poverty in various land
iii. Resources application and pattern of consumption
iv. Food crops production and agricultural factors and its usage
v. Water quality and water communicable diseases such as typhoid fever, guinea worm infections, river blindness etc.
vi. Solid waste management and industrial waste and their disposal vii. Transboundary pollution issues including global air pollution, marine pollution, ozone depiction, acid rain, climatic change etcetera.

Conclusively, it is therefore recommendable that the problems identified should be addressed through the National Health Policy, National Housing Policy, Agricultural Policy, Pollution Abatement, Effluent Limitation, Hazardous and Solid Wasters Management, Environmental Impact Assessment, Smoking and International Convention: All these identified Policies need to be embodied into our domestic/municipal laws

for the proper management and enhancement of adequate health programs. (Atsegbua et al supra: 118).

Various issues relating to public health and environmental concerns were discussed in this unit, ranging from conception of public health, public health and environmental standards enforcement of public health and environmental matters. Most of the suggestions earmarked in this unit if properly implemented, will better the lots of the people and their environment.

2.4 Summary

Most of the problems hindering the health of people within their environment were discussed and the solutions to the problems were equally identified by the writer. It is unfortunate that millions of people in the third world countries are prone to diseases as a result of human activities. Some of these activities that result to injury are oil pollution cause as a result of exploration of oil, noise pollution generated by industries, air pollution by smoke produced by vehicular engine etc. All these need to be reduced to the barest minimum through government policies and programme to reduce health hazards.

2.5 References/Further Readings/Web Sources

Baljeet S. Kapoor (2001), Environmental Sanitation, New Delhi, S. Chand & company Ltd p 48; 191.

Amokaye G.O (Supra); p 373

Atsegbua et al (supra); pp 114 - 118

2.6 Possible Answers to Self-Assessment Exercises

SAE 1. YES 2. FALSE

UNIT 3 FACTORY LEGISLATION

Unit Structure

3.1 Introduction

The Factory Act is very important. It was enacted as a result of inefficiencies and failure of the Common Law to adequately protect and address the problem of safety. The current law on public health in the workplace in Nigeria is governed by the provisions of the Factories Act Cap 126, LFN, 1990. Other laws include; the National Environmental Protection (Effluent Limitation) Regulations, 1991, the National Environmental Protection (Pollution Abatement in Industrial and Facilities Generating Waste) Regulations, 1991; National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations, 1991. The laws are necessary because the risk index of workers in their work place cannot be over-emphasised.

3.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the meaning of Factories Act
- Discuss the impact of public health and the work environment concerns.

3.3 Factory Legislation

3.3.1 The Factory Act

Why the enactments of Factories Act? The need for a Factories Act became imperative because of the ineffectiveness common law on the subject and its failure to properly address some peculiar questions of industrial safety. The limitations in the application of the common law related to laws such as occupier's liability, negligence and nuisance. The serious questions of environmental safety and health made the government realized the urgent need for legislative action. The reason for new legislation to cover the areas where common is incapacitated is explained as:

> "Prior to the intervention of legislation, this field was regulated by the common law rules relating to contract and torts. Thus, a workman could not claim rights, benefits or protection over and above what was agreed upon between him and his employer as at the time of entering into the contractual obligation. But given the very weak negotiating position of the employee, he could not among other things, negotiate seriously, for a safe and/or healthful work and work environment".

3.3.1.1 Factories Act in Nigeria

The Act defined factory to mean, any premises in which or within the close of cartilage or precincts of which ten or more persons are employed in manual labour in any process for or incidental to any of the following purpose namely:

(a) The making of any article or part of any article; or
(b) The altering, repairing, ornamenting, finishing, clearing, or washing or the breaking up or demolition of any article;
(c) The adapting for sale of any article, being premises in which or within the close of cartilage or precincts of which the work is carried on by way of trade or for purpose of gain and to or over which the employer of the persons employed therein has the rights of access or control.

Professor Atsegbua noted with nostalgia thus; "the difficulty emanating from the above definition is that it makes the Factories Act applicable only to closure or premises exclusively devoted to the above uses.

3.3.1.2 Factory Act Generally

A statute that regulates workers' hours, health, and safety. A Federal law, enacted in 1938 that regulates minimum wages, overtime pay, and the employment of miners. In Britain, an Act of parliament such as the Health and Safety at Work Act 1974, which governs conditions of work, hours of labour, safety, and sanitary provision in factories and workshops. In the 19th century, legislation was progressively introduced to regulate conditions of work, hour of labour, safety, and sanitary provisions in factories and workshops. In present dispensation, all employees are now covered by the Health and Safety at work Act, which is enforced by the health and Safety Executives.

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. What is Factories Act?

2. The 'heat, dust, electric current, falling objects, bad industrial housekeeping and obstruction' fall under which hazards?

3.3.1.3 Key Provisions of the Nigerian Model of Factories Act

The Factories Act was made in such a way that the scope of the Act can be expanded or a separate legislation designed to accommodate matters of public health and workers' safety.

Part V contains well detailed provision regulating protective clothing, removal of dust and the protection of the eyes in certain process. The Factories Act stipulates.

Section 45 (1) – 49 (4).

45. (1) In every factory in which, in connection with any process carried on there is given off any dust or fume or other impurity of such a character and to such extent as to be likely to be injurious or offensive to the persons employed, or any substantial quantity of dust of any kind, all practicable measures shall be taken to protect the persons employed against inhalation of the dust or fume or other impurity and to prevent its accumulating in any workroom, and in particular, where the nature of the process makes it practicable, exhaust appliances shall be provided and maintained, as near as possible to the point of origin of the dust or fume or other impurity as to prevent it from polluting the air of any workroom.

(2) No stationary internal combustion engine shall be used unless provision is made for conducting the exhaust gases from the engine into the open air.

46. Where in any room any poisonous or otherwise injurious substance is so used as to give rise to any dust, or fume, no person shall be permitted to partake of food or drink in that room.
47. Where in any factory workers are employed in any process involving excessive exposure to wet or to injurious or offensive substance, suitable protective clothing and appliances, including, where necessary, suitable gloves, footwear, goggles and head covering, shall be provided and maintained for the use of such workers.
48. (1) In the case of any of the processes specified in the Fourth Schedule to this Act, suitable goggles or effective screens shall .be provided to protect the eyes of the persons employed in the process.
(2) Where in any factory electric arc welding is carried on effective provisions shall be made, by screening or otherwise, to prevent persons employed (other than persons employed in the welding process) from being exposed to the electric arc flash.
49. (1) Where the Minister is satisfied that:
    a) owing to the conditions and circumstances of employment or of the nature of the processes carried on in a factory, provision requires to be made for securing the health, safety and welfare of persons employed or any class of them; or
    b) any manufacture, machinery, plant, equipment or process used in factories is of such nature as to cause risk of bodily injury or be offensive to persons employed or any class of them.

He may, subject to the provisions of this Act and the *Labour Act,* make such regulations as appear to him to be reasonably practicable and to meet the necessity of the case.

2) Regulations so made may apply to all such factories or to any specified class or description of such factories, and may provide for the exemption of any specified class or description of factory either absolutely or subject to conditions.

3) Regulations so made may without prejudice to the generality of the powers conferred in subsection (I) of this section -

    a) Prohibit the employment of or modify or limit the hours of employment of, all persons or any class of persons in connection with any manufacture, machinery, plant, equipment, appliance, process or description of manual labour: or

b) Prohibit, limit or control the use of any material or process; or
c) Modify or extend with respect to any class or description of factory any provisions of Parts II, III, IV or this Part of this Act, being provisions imposing requirements as to health, safety or welfare; or
d) make provision for -
   (i) arrangements, for preparing or heating and taking meals,
   (ii) ambulance and first-aid arrangements,
   (iii) rest rooms,
   (iv) the supply and use of seats in workrooms,
   (v) the supply of protective clothing, and
   (vi) arrangements for the supervision of persons employed, and may impose duties on owners, employed persons and other persons, as well as on occupiers.

4) The Minister may make regulations in connection with the fees to be paid in respect of any matter or thing done under this Act.

Section 71 which provides a fine of ₦5,000.00 or two years imprisonment when such as contravention involves death. The fine is just too megre and highly inconsiderable when it relates to human life. Though, the Act vested in the magistrate court the jurisdiction to try all offences. The sanction regime in particular is inappropriate.

3.4 Public Health and the Work Environment

Formerly the common law was the main law on public health in many Commonwealth Nations. The public health in the workplace is primarily governed by the provisions of the Factories Act (See Introductory Part of this Unit (1.0) for other related laws).

The bordering question is, why low level of reports of industrial disasters or catastrophes in Nigeria against workers? Is it due to ineffectiveness of the legislation or due largely to non-reporting on the part of the victims (workers concern).

The safety of industrial workers in the last 15 years has received a lot boost in respect of legislative action. But the only basic problem is that of setting up a legal framework for occupational safety standards. In recent times, some developing nations across the globe have witnessed one industrial disaster or the other such as the Minimata, Japan mercury poisoning, the Bhopal, Indian Union Carbide factory explosion in1984, oil pollution in the Niger Delta region in Nigeria till date, Chernobyl

nuclear plant explosion in Russia, 1986 and the recent nuclear plant disaster in Japan in 2011.

On the health of workers and the risk indices in their various places of work are remarkable. This fact was supported by an environmental scholar: "workers are at risk and their health threatened or impaired in some cases due to occupational exposure to toxic and hazardous pollution some of which can cause cancer, high abortion, rates, birth defects, deafness and death."

In the light of occurrence of the danger of work place; which constitute environmental risks, to what extent is the adequacy of the protection mechanisms from the health hazard. The laws relating to public health safety law and environmental protection need to be reviewed to meet the challenges of modern day is industrial world and globalization.

3.5 Occupational Health and Safety at Work

The occupational health and safety at work involved provisions of adequate attention, standard and safeguards for protecting the health and safety of workers in the way the work process is organized, designed and managed, to prevents occurrences of accidents, dangers/catastrophes and diseases which are the resultant of exposure to ergonomic hazards.

With the above facts, there are four categories, namely physical, chemical, biological and mechanical. That is,

i. **Physical Hazards:** include the heat, dust, electric current, falling objects, bad industrial house keeping and obstruction
ii. **Biological Hazards:** could arise from viruses and bacteria, toxic material like carcinogens and inflammable substances, for example, hydrocarbons and spirits.
iii. **Mechanical Hazards:** refers to accidents arising from the use of machines, automobiles or mechanically propelled machinery such as conveyer belts.
iv. **Chemical Hazards:** refers to all aspect chemical materials that when touch with naked hand it become injurious to the worker e.g. fertilizers, weeding chemicals and various insecticides are not suitable to human health, application of chemical to blast rocks and stone which loud noise can result into deafness.

3.6 Applicable Statutes to Health and Safety

3.6.1 The major applicable statutes for the protection, manufacturing and enforcement of occupational health and safety work standards is the Factories Act, Cap 126, Laws of the Federation of Nigeria,

1990. The Act is enforced by the Factories Department of the Federal Ministry of Labour and Productivity.

3.6.2 Other sources are statute law which consists of Acts of Parliament such as the Health and Safety at Work Act 1974 (HSWA). Another aspect is Statutory Instruments, which are known as 'subordinate legislation', or, delegated legislation.

3.6.3 Common Law; this is an area of law that has developed since the eleventh century and is based on the decision of the courts where precedents are established. Therefore, common law is the body of law that is universally, or commonly applied as a result of the judgments of the courts.

3.6.4 Judicial precedent is another source of health safety law. Judicial precedent is defined as "a decision of a court to which authority is attached. Precedents not only influence the development of law but are in themselves, one of the material sources of the law. There are two major division of precedents;

A precedent may be authoritative or persuasive

3.6.4.1 Authoritative precedents are the decisions which judges are bound to follow. A lower court is bound by a previous decision of a higher court and court of record.

3.6.4.2 Persuasive precedents are decisions which are not binding on a court, but to which a judge will attach some importance. For instance, decisions given by the superior courts in Commonwealth countries will be treated with respect in the English High Court.

3.6.5.1 Criminal and Civil Law: A crime is an offence against the state. A person commits a crime when he breaches the criminal law. The burden of proving a criminal charge is beyond reasonable doubt and rests with the prosecution.

3.6.5.2 A civil action on the other hand, generally involves individuals. In such actions, a plaintiff sues a defendant for a remedy or remedies that is beneficial to the plaintiff.

Most of civil cases attract damages, as a term of compensation.

This unit discussed the Factories Act, public health and the work environment, occupational health and safety at work and the applicable statutes to health and safety to all industrial workers. Health and

environment are intertwined therefore, there is need to protect the workers within the industries environment.

3.7 Summary

This unit is very important to this course Environmental Law II. The Factories Act has been defined in line with enacted Acts in the other parts of the world, particularly, Britain, common law, judicial precedents, criminal and civil laws, to curb different categories of hazards. The compensation against the committer of health and safety offences usually attracts punishment, remedies and compensation in favour of workers.

3.8 References/Further Readings/Web Sources

Amokaye G.O (supra) p. 375 – 6

Atsegbua et al (supra) p. 119 – 25.

The Hutchison Encyclopedia, New 10th edition, India, Helican Publishing 1992 p. 379

The Black Law Dictionary 9th Edition p. 675

3.9 Possible Answers to Self-Assessment Exercises

SAE

1. This is a statute that regulates workers' hours, health, and safety. It is a Federal law, enacted in that regulates minimum wages, overtime pay, and the employment of workers.

2. Physical Hazards

UNIT 4 PUBLIC HEALTH AND HAZARDOUS WASTE

Unit Structure

4.1 Introduction

It is the activity of industrial and manufacturing processes that create solid and hazardous wastes. Hazardous wastes come in shapes and sizes as a result of various operations and processes related to manufacturing. In this unit, we are concerned with the control of hazardous wastes and other chemical dumping which endangers human health and environment. The disposal of hazardous waste was never seen as an important public health and environmental issue particularly in Africa until the public outcry that greeted the dumping of toxic wastes at the Koko Port in 1988 (in Former Bendel State now Delta state, Nigeria).

4.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain what hazardous toxic/waste is
- Discuss public health and environment: The impacts of irrational dumping of toxic wastes in the territories of 3rd world countries.

4.3 Public Health and Hazardous Waste

4.3.1 What are Hazardous/Toxic Wastes?

Hazardous wastes are wastes that are corrosive, flammable, chemically reactive or toxic and radioactive. However, waste is considered to be

hazardous if it is injurious, poisonous, toxic or noxious including radioactive substances and may expose any person to the risk of death, fatal injury or incurable impairment of physical and mental health See. Harmful Waste (Special Criminal Provisions… Act S15 (as amended in 2004) where the word "Toxic" means "poisonous". A poison is an agent that chemically destroys life or health upon contracts with or absorption by an organism. It is harmful to human life and engenders the environment. Wastes are these things or substances which originally useful to man and his environment but are at certain material time not useful or serving any purpose again. These things or substances include things left over as excess materials or by-products and no more needed or required for the work at hand.

Hutchinson defines Hazardous substances as waste substance, usually generated by industry, which represents a hazard to the environment or to people living or working nearby. Examples include radioactive wastes, acidic resins, arsenic residues, residual hardening salts, lead, mercury, nonferrous, organic solvents and pesticides. Their economic disposal or recycling is the subject of research. For instance, the United Kingdom imported 41,000 tones of hazardous waste or disposal 1989, according to official estimate, the largest proportion of which came from Europe.

Hazardous, or toxic, waste is the potentially dangerous byproduct of a wide range of activities, including manufacturing, farming, water treatment systems, construction, automotive garages, laboratories, hospitals, and other industries. The waste may be liquid, solid, or sludge and contain chemicals, heavy metals, radiation, pathogens, or other materials. Even households generate hazardous waste, from items such as batteries, used computer equipment, and leftover paints or pesticides. Toxic waste can harm people, animals, and plants, whether it ends up in the ground, in streams, or even in the air. Some toxins, such as mercury and lead, persist in the environment for many years and accumulate over time. Humans or wildlife often absorb these toxic substances when they eat fish or other prey.

In the past, many hazardous wastes were only loosely regulated, allowing substantial contamination of communities and the environment. In the U.S., toxic waste has been overseen by the federal Environmental Protection Agency (EPA) since 1976, as well as state departments of environmental protection. The EPA now requires that hazardous waste be handled with special precautions and be disposed of in designated facilities. Many towns have special collection days for household hazardous waste.

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. When do we say that a waste is hazardous?

2. Define public health

4.3.2 Public Health and Toxic Waste

Health is a state of complete physical, mental and social well-being and not merely the absence of decease or infirmity. It is not only about lack of illness, but fundamentally about access to clean waste, proper sanitation and high-quality affordable health services. Human Rights activists and scholars in support of right to health have invoked the alienable right to life.

Public health refers to the organized efforts of the community to protect its members against diseases. As a result, good public health practices ensures that the water we drink is treated, milk is pasteurized, meat and other food products are inspected to eliminate contamination by pathogenic organism such as *Tuberculosis bacillus*, *Salmonella typhii*, vibro cholerea and shingellar and dwelling places are regularly inspected to ensure proper ventilation and prevents infestation by disease causing pests and vermin. Drugs uses are expected to be regulated by government agencies and children immunized against childhood diseases of whopping cough, diphtheria, tetanus, measles, polio and tuberculosis at early stage of their lives.

The dumping of hazardous – toxic and radioactive waste materials on the waters and upland of African continent which marked the sudden realization of the dangers posed by the uncontrollable industrialization going on in the continent and outside Africa.

Before the pollution of African, contact with toxic wastes was from the economically advanced nations of Europe. The African continent and part of South American countries remained environmentally clean and unpolluted. It was the Koko toxic waste dumped in 1988 that led to the realization by the Nigerian government that the issue of environmental rights and health go beyond monthly sanitation observation and domestic waste management.

The 1989 international Convention on the trans-boundary movement of hazardous wastes held in Basel adopted the American model for the classification of waste. “Waste streams” are wastes from hospitals and clinics; wastes from wood preserving chemicals wastes from heavy metals that is, metal dusts, ignitable wastes and heavy metal solutions, mercury lead and asbestos are also inclusive.

Bassel Convention defined Toxic as any substance that has poisonous effects if breathed in, eaten or absorbed by the skin including carcinogens.

On the other hand, S15 of the Harmful Waste Act provision defines Harmful Waste to mean any injurious poisonous and includes, nuclear wastes emitting any radio-active substance or the waste is such quality….as to subject any person to the risk of death, fatal injury or incurable impairment of physical and mental health.

4.3.3 Impact of Waste on Public Health

The abandonment and neglect of uncollected wastes, poor handling, ineptitude and inadequate disposal safeguards for any kind of waste have no doubt, serious impact on public health.

Among the effects of the hazardous toxic waste are outbreak of epidemic, unhealthy environment; there includes the social reinforcement of poor hygiene habit and practices all of which contribute in no small measure to a vicious cycle.

Therefore, the effect of waste to heath includes

1. Solid waste spreads infectious disease, making workers more vulnerable.
2. Hazardous wastes make children prone to polluting agents such as chemical wastes.
3. Wastes from industries cause negative effects on health. Water from industries causes contamination of water bodies nearby followed by affecting lives such as plants and animals depending on that water-body for their water needs.
4. Medical or hospital waste poses a greater risk to health. Wastes such as syringes, needles, bandages, infectious wastes, etc. are responsible for creating major health hazards.
5. Recycling also causes health issues if not done properly. Workers working with toxic wastes are prone to infections.

The regular and indiscriminate dumping and discharge of chemical in public drains watercourses, gorge and road have also been reported to be responsible for the increasing contamination of water sources. The dumping of hazardous waste and human excreta into the urban waste stream and has been found to be very injurious to the people.

4.3.3.1 Water related Diseases

i. The pathogenic organisms are transmittable from one person to another through their domestic water supply.
ii. Water – washed diseases whose transmission is reduced when the supply of water is more readily available. These diseases include diarrheal diseases, and infections of the skin and eyes which are

reduced when the supply of waste is adequate for personal cleanliness.

iii. Water based diseases transmitted by organism which live in water. That is schistosome worms develop in aquatic snails and the guinea worm parasites develop in minute crustaceans which otherwise live in wells and other bodies of water. These parasites may affect people from the water uses either through drinking, in case of guinea warm or by finding their ways through the skin as it applicable to schistosomiasis.

iv. Insect vectors diseases which relate in some way to water. For instance, mosquitoes have larvae are breed in stagnant water, gutter ponds and filthy environment, causing diseases such as malarial and yellow fever.

Various rules and regulations have been developed to curb the menace of effects of the toxic wastes in Africa and by domestic governments.

The issues discussed in this unit include definitions of Toxic, wastes and hazardous elements; public health and toxic wastes and the impact of waste on the environment.

4.4 Summary

Hazardous waste is defined as very injurious to life, both human and other organisms within the environment. The impact of the wastes on environment is equally elucidated for the student to have proper grasp of the subject matter.

4.5 References/Further Readings/Web Sources

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Atsegbua et al (supra) 126 – 127

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4.6 Possible Answers to Self-Assessment Exercises

SAE

1. Waste is considered to be hazardous if it is injurious, poisonous, toxic or noxious including radioactive substances and may expose any person to the risk of death, fatal injury or incurable impairment of physical and mental health.
2. Public health refers to the organized efforts of the community to protect its members against disease

UNIT 5 HIGHLIGHTS OF THE ENVIRONMENTAL PROTECTION LAWS IN NIGERIA AND INTERNATIONAL TREATIES, CONVENTIONS AND INSTRUMENTS

Unit Structure

5.1 Introduction

The degradation of land, air or water has continued to generate conflicts among various communities in various regions. This could be seen in the case of Niger Delta region of Nigeria where agricultural practices have grounded over the years as a result of effluent/gaseous discharges released into the environment from oil and gas industries operating within the region. Environmental protection can be done through an objective and effective enforcement of environmental protection laws, treaties, conventions and instruments. However, various environmental laws and legislation have become universal instruments for the management of the environment and natural resources. In this wise, the main ways and means of preventing destruction of the environment and reversing pollution menace lies on the enactment of an actionable enforcing policies and programs, backed by appropriate rules/legislations and treaties at all levels (of administration in the entire world).

5.2 Learning Outcomes

By the end of this unit, you should be able to:

- The policy, legal and institutional regulatory framework directed towards making the environment clean and habitable.
- The importance of this legal instruments that cut across all aspects of environmental issues and various pollutions as it affects the environment.
- Statutes both from domestic and international
- All these efforts are geared towards ensuring sustainable environment.

5.3 Highlights of The Environmental Protection Laws in Nigeria and International Treaties, Conventions and Instruments

Self-Assessment Exercises

Attempt these exercises to measure what you have learnt so far. This should not take you more than 5 minutes.

1. The River Basins Development Authorities Act 1976 (No 25f 15 June; 1976) is no longer relevant in Nigeria as far as environmental issue is concerned. Do you agree?

2. The issue of environmental protection is no longer a domestic but requires universal matter involvement. TRUE or FALSE

5.3.1 Highlights of the Environmental Protection Laws in Nigeria

Environmental protection in Nigeria did not start with the establishment of formal regulatory frameworks. It could be traced to traditional Nigerian society. Environmental protection in Nigeria can be divided into three distinct periods. The first was the pre-colonial era when traditional people through culture and customs preserved the environment. This is known as the pre-industrial era. The pre-industrial era is the period in Nigeria history when the economy was at its rudimentary stage. This dated back to pre-colonial era. The second period is colonial era which marked the beginning of introduction of statutory and common laws by the colonial administrations to regulate pollution of the environment. The third period is the emergence of several statutory laws aimed at protecting the environment. This is known as industrial era. Environmental problems were less pronounced in the pre-industrial era. Agricultural activity which was prevalent then exerted less pressure on the environment than oil exploration and industrial activities which characterized the industrial era. Therefore, environmental protection through the instrumentality of law was less pronounced in pre-industrial era as opposed to the diverse regulatory framework witnessed by the industrial era. Laws and regulations are very important tools to combat the hazards of industrial pollution.

Colonialism marked the beginning of industrial era. The advent of colonialism brought about changes in environmental protection practices in Nigeria as written laws were legislated for protection of environment. Environmental protection laws passed by colonial administrators were few and restricted to water pollution, public health, atmospheric pollution and mining of minerals. Some of these laws include Public Health Act 1917, Minerals Act 1951, Water Works Act 1915, Town Improvement

Act 1863, Swamp Improvement Act 1877, Leprosy Act 1916, Destruction of Mosquitoes Act 1952, Animal Disease Act 1956, Dog Act 1943, Criminal Code Section 247, etc. Colonial authority also promulgated laws to regulate specific natural resources such as land, forests, water, minerals, wildlife, fisheries, etc. However, colonial environmental laws were predominantly sectional in scope and 'use-oriented'. The legislators were primarily concerned with allocation and exploitation of the natural resources rather than their management or protection of the environment.

The existing relevant legislations in Nigeria till date are as follows

(1) 1999 Constitution of the Federal Republic of Nigeria (as amended in 2011)
(2) The River Basins Development Authorities Act 1976 (No 25f 15 June; 1976);
(3) The Chad Basin Development Authorities Act, 1973 (Act No 32 of 14 August, 1973).
(4) The Sokoto-Rima Basin Development Authority Act 1973 (Act No 33 of 14 August, 1973);
(5) The Sea Fisheries Act, 1971 (Act No 30 of 10 June, 1971);
(6) The Oil in Navigable Waters Act of 1968 (Act No 34 of 22 April, 1968)
(7) The Nigeria Criminal Code, Cap 42 (which deal specifically with fouling of water) 1958;
(8) The Petroleum Act 1990 which deals with prevention of pollution of water courses and the Regulation under this Act contained in the petroleum (Drilling and Production) Regulations, 1969.
(9) Births, Deaths and Burials Act, 1958 (Cap 23 Laws of the Federation of Nigeria);
(10) Noxious Acts, 1958 (Cap 42, Law of Federation of Nigeria)
(11) Public Health Act, 1958
(12) The Lagos Public Health Bye Laws 1958 (Cap 165 Laws of the Federation
particularly at page 2002)
(13) The Criminal Code Act, 1958 (Cap 42, Laws of the Federation of Nigeria) particularly S246 which deals with matches with phosphorus.
(14) Harmful Waste (Special Criminal Provisions Act Cap 165, Law of Federation of Nigeria, 1990)
(15) The Nigerian Environmental Impact Assessment Act (E 1A) 1992
(16) Management of Solid and Hazardous Waste Regulations Act 1991
(17) The National Guidelines and Standard for Environment Pollution Control in Nigeria 1991 pursuant to section 16(1) of FEPA Act (now Federal Ministry of Environmental (FME) 1999.
(18) National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulations, 1991.
(19) National Environmental Health Practice Regulations 2007 (No 21, vol. 942)

(20) National Environmental (Sanitation and Wastes Control Regulations 2009 (No 60, vol. 96)
(21) Fundamental Rights (Enforcement Procedure) Rules 2009 (No 74. Vol. 96)
(22) Environmental (Wetlands, River Banks and Lake Shores) Regulations 2009 (No 58, vol. 96)
(23) National Environmental Standard and Regulations Enforcement Agency NESREA (2007)
(24) Pollution Abatement in Industries and Facilities Generating Wastes, Regulations S 1 (9)
(25) National Environmental Noise, Standards and Control) Regulations, 2009 No 67, vol. 96.

These are some of the major national environmental laws enacted to protect, maintain and sustain hygienic, healthy and clean environment.

5.3.2 Highlights of the International Law, Treaties, Conventions and Instruments to Protect the Environment.

The issue of environmental protection has moved from domestic or domestic affairs of some states and now a universal matter which call for the attention of all and sundry in such a way that Nigerians can live in a healthy, clean and habitable environment.

International organizations and other stakeholders have contributed in no small measures to the sustainability of our environment. Some of these international laws, conventions and treaties are hereby highlighted viz:

1869 Convention Establishing Uniform Regulation Concerning Fishing in the Rhine between Constance and Basle, 9 December 1869; IX *I.P.E* 4695: 355*)*

1900 Convention Destinee a Assurer la Conservation des Diverses Especes Animates Vivant s 1'Etat Sauvage en Afrique qui sont Utiles a 1'Homme ou Inoffensive (London). Convention for the Protection of Wild animals, Birds and Fish in Africa, London, 19 May 1900, IV I.P.E 1607"

1902 Convention for the Protection of Birds Useful to Agriculture; Paris, 19 March 1902, in force 20th April 1908, I.E.L.M.T 902, 22. Convention for the Protection of Human Rights on the Freedoms, Rome

1911 Convention between United States of America, the United Kingdom of Great Britain and Northern Ireland, and Russia for the Preservation and Protection of Fur Seals, Washington 1911, in force 15 December 1911, in British and foreign State Papers Vol. 102 p 969

1933 Convention Relative to the Preservation of Fauna and Flora in their Natural State; (London) 8 November 1933, in force, 14 January 1936,172 LNTS 241.

1949 Agreement for the Establishment of General Fisheries Council for the Mediterranean, Rome, 24 September 1949, in Force 20 February 1959

1950 International Convention for the Protection of Birds, Paris, 18 October 1950, in force 17 January 1963, 693 UNTS 185

1951 Convention for the Establishment of the European and Mediterranean Plant Protection Organisation, Rome, 18 April 1951, in force 1 November 1953, UKTS 44 (1956)

1951 FAO International Plant Protection Convention, Rome, 6 December 1951, in force 3 April, 1952,150 UKTS 67

1954 International Convention for the Prevention of Pollution of the Sea by Oil; London, 12 May 1954 in force 26 July 1958, 327 UNTS 3 (1954 Oil Pollution Convention) Phyto Sanitary Convention for Africa South of the Sahara, London, 29 July 1954, in force 2 July 1956, 247 UNTS 400

1959 Agreement Concerning Co-operation in the Quarantine of Plants and their Protection Against Pests and Diseases, Sofia, 14 December 1959, in force 19 October 1960, 1 *SM.T.E.* 153

1940 Convention on Nature Protection and Wild life Protection Western Hemisphere; Washington, 12th October 1940; in force, 1st May 1942,161 UNTS, 193

1946 International Convention for the Regulation of Whaling Washington, 2 December 1946, in force 10 November 1948, 161 UNTS 72 Washington Antarctic Treaty Washington, 11 December 1959, in force 23 June

1960 ILO Ionising Radiations Convention

1961 Convention on the Protection of Lake Constance Against pollution, Stockholm Convention Concerning the Protection of Waters of Lake Geneva Against Pollution, Paris, 196

1967 Treaty on Principles Governing the Activities of States in the Exploration & Use of Outer Space including the Moon & other Celestial Bodies, London, Moscow & Washington DC

1962 Protocol Concerning the Constitution of on International Commission for the Protection of the Moses Against pollution, Paris, 940 UNTS 211

1976 Convention on the Game-hunting Formalities Applicable to Tourists Entering Countries in the Conseil Del'Entete, Yomossoukro

1978 International Convention on Standards of Training, Certification and Watch-keeping for Seafarers (STWC)

1963 Agreement on the International Commission for the Protection of the Rhine Against Pollution; Berne, 29 April, 1963 in force 1st May 1965 994 UNTS 3, amended by Convention for the Protection of die Rhine Against Chemical Pollution, Bonn 3 December, 1976 Convention on African Migratory Locusts; Kano, 23 May 1963, entered into force 13 April 1963 Acts Regarding Navigation and Economic Co-operation Between the States of the River Niger, Niamey, 26 October 1963, in force 1st February 1966; 587 UNTS

1964 Agreement Concerning the Niger River Commission and the Navigation and Transport on the River Niger; Niamey, 25th November 1964 in force 12 April, 1966, 587 UNTS 21

Convention and Statute Relating to the Development of the Chad Basin, 22 May 1964, 964 I.E.L.M (amended in 1972 & 1978, 973 IEL 80)

1966 Helsinki Rules on the Use of the Waters of International Rivers 20th August 1966, 52 I.L.M 482 (1967) The Civil and Political Rights Covenant and the Economic & Social Rights Covenants; 16 December 1966, in force March 23 1976, 6 I.L.M (1967) International Convention on Load Lines, London, 5 April 1966, in force 21 July 1968; 604 UNTS 133

1967 Phyto-Sanitary Convention for Africa; Kinshasa, on 13th September 1967

1968 African Convention on the Conservation of Nature and Natural Resources, Algiers, 15 September 1968, in force 9 October 1969; 1001 UNTS 4

1969 International Convention Relating to Intervention on the High Sea, November 29, Brussels, 29 November 1969, in force 6 May 1975; 9 I.L.M. (1970) Convention on the Law of Treaties, Vienna, 1969, in force 27 January 1980 International Health Regulation, 1969. Protocol to the

African Charter on Human & People's Rights on the Establishment of an African Court on Human & People's Rights, June 9,1998

1971 Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Brussels, 18 December 1971, in force 16th October 1978; 11 I.L.M (1972) Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Ramsar, 2 February 1971, in force 21st December 1975 ILO Benzene Convention

1972 Convention Concerning the Status of the Senegal River and Convention establishing the Senegal River Development Organisation; Nouakchott 11 March 1972, in force 1974 amended on 17/12/75 I.E.L.M. 19 & 20. Convention on the Protection of the World Cultural and Natural Resources; Paris, 16 November 1972, in force 17 December 1975_ 1037 UNTS 151 International Convention on the Prevention of Marine Pollution from Dumping of waste and other Matters; 29th December 1972, in force 30th August 1975 UNTS 120 Convention on the International Regulations for Preventing Collisions at sea London, 20 October 1972, in force 15 July 1977 UNTS 77 (1977) London Convention for the Conservation of Atlantic Seals OAU Charter

1958 Geneva Convention on the High Sea

1969 International Convention on Civil Liability for Oil polluting Damages

1973 Convention Establishing a Permanente Inter-State Drought Control Committee for the Sahel; Ouagadougou 12 September 1973. Convention on International Trades on Endangered Species of Wild Fauna and Flora; Washington; 3 March 1973 in force 1 July 1975 93 UNTS 234 International Convention for the Prevention of Pollution by ships (**MARPOL 1973**) not in force, 12 I.L.M 1319; 17 I.L.M 546

1976 International Convention for the Safety of Life at Sea 1974 London 1 November, 1974 in force 25 May 1980, UNTS 2. See Protocol of 1978 London, 17 February 1978 in force 1 May 1981, UKTS 40 (1981) Protocol, London 11 November 1988, not in force Convention on the Protection of the Rhine Pollution by Chlorides, Bonn 3 December 1976, in force 5 July 1985; 16 I.L.M (1977) 25 Convention for the Protection of the Rhine against Chemical Pollution, Bonn, 3rd December 1976, in force 1 February 1979; 1124 UNTS 375

IMO Merchant Shipping (Minimum Standards) Convention, 1976.
Barcelona Convention, Barcelona, 16 February 1976, in force 12 February 1978, 15 I.L.M. (1976) 290 Barcelona Dumping Protocol, 16

February, 1976, in force 12 February, 1978 15 I.L.M 1976 (300) Barcelona Emergency Protocol, 16 February,1976, in force 12 February 1978,15 I.L.M. 1976 (306)

1977 ILO Occupational Hazards Conventions Agreement on die Joint Regulation of Fauna & Flora, Enugu

1978 Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ship, London, 17 February 1978, in force 2 October 1983 17 I.L.M. (1978) 246

1978 Kuwait Region Convention for Co-operation on Protection of the Marine Environment from Pollution, Kuwait, 24 April 1978, in force 1 July, 1979; 1140 UMTS 133

1978 Kuwait Protocol Concerning Co-operation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency, Kuwait, 24 April 1978, in force 1 July, 1979,1.L.M (1978) 526

1979 Convention on Long Range Transboundary Air Pollution; Geneva 13th November in force before 16th March 1983 18 I.L.M (1979) 1442 Convention on Migratory Species of Wild Animals, Bonn, 23 June 1979, in force 1 November 1983; 19 I.L.M (1979) 15 Convention on the Conservation of European Wildlife and their Natural Habitat, Berne, 19 September 1979 in force 1 st June 1982, UNTS No. 56 (1982)

Kuwait Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf, Kuwait, 29 March, 1979, in force 17 February 1990 Convention Creating the Niger Basin Authority and Protocol Relating to dieDevelopment Fund and the Niger Basin; Faranah, Guinea, 21 November 1980, in force on 3 December 1982; I.E.L.M.T. 980

Athens Protocols for the Protection of the Mediterranean Sea Against Pollution from Land Based Sources; Athen, 17 May 1980 in force 17 June 1983, 19 I.L.M. (1980)

1980 Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region; Abidjan, 23 March 1981 in force 5 August 1984, 20 I.L.M 1981 (746)

Protocol Concerning Cooperation in Combating Pollution in Cases of Emergency, Abidjan, 23 March 1981; in force 5 August 1984, 20 I.L.M. (756)

The African Charter on People and Human Rights; Banjul, 27 June 1981 in force 21 October, 1986; 21 I.L.M. (1982) 59

Lima Convention for die Protection of the Marine Environment and Coastal Areas of the South-East Pacific (Lima Convention), Lima 12 November, 1981, in force 19 May 1986, I.E.L.M.T (1981) 85

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1982 Geneva Protocol Concerning Mediterranean Specially Protected Areas, Geneva, 3 April, 1982, in force March, 1986 I.E.L.M.T. 982
Jeddah Regional Convention for the Conservation of die Red Sea and Gulf of Aden Environment, Jeddah 14 February 1982, in force 20 August 1985; EIPL 50 (1982) 982

1982 Jeddah Protocol Concerning Regional Co-operation in Combating Pollution and Other Harmful Substances in Cases of Emergency, Jeddah, 14 February 1982, in force, 20 August 1985, I.E.L.M.T. 982:14 Protocol on the Protection of the Black Sea Marine Environment Against Pollution from Land-Based Source (LBS) Bucharest, 21st April 1982, in force 15th January 1994

1983 FAO International Undertaking on Plant Genetic Resource (FAO Undertaking), Rome, 23 November 1983 Cartagena Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, Cartagena, 24 March 1983 in force 11 October 1986, 22 I.L.M. (1983)221 Cartagena Protocol Concerning Co-operation in Combating Oil Spills, Cartagena, 24 March 1983 in force 11 October 1986, 22 I.L.M. (1983) 240 Quito Supplementary Protocol to the 1981 Lima Agreement, Quito 22 July 1983, in force 20 May 1987, 1.E.L.M.T 983; 55 Agreement for the cooperation & Consultation between Central African States for the conservation of Wild Fauna, Libreville, 1983 Protocol Agreement on the Conservation of Common Natural Resources, Khartoum Quito Protocol for the Protection of the South-East Pacific Against Pollution from Land-Based Sources, Quito, 22 July 1983, in force 23 September 1986, I.E.L.M.T. 983;54

1985 Convention for the Protection of the Ozone Layer, Vienna, 22 March 1985, in force 22 September 1988; 28 I.L.M. (1987), 1529 Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, Nairobi 21 June 1985 entered into force on 30th May, 1996; I.E.L.M.T 985

Protocol Concerning Protected Areas and Wild Fauna and Flora in die East African Region, Nairobi 21 June 1985 entered into force on 30th May, 1996; I.E.L.M.T 985 Protocol Concerning Co-operation in Combating Pollution in Cases of Emergency, Nairobi 21 June 1985 entered into force on 30th May, 1996; I.E.L.M.T 985

1985 ILO Occupational Health Services Convention

1986 Mexico-US Agreement for Co-operation in Environmental Programmes and Transboundary Problems, Washington, 12 November 1986 in force 29th January 1987 26 I.L.M (1987), 25

1986, Noumea Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, Noumea, 25 November 1986, in force 18 August 1990, 26 I.L.M. (1987) 38

1986 Noumea Protocol Concerning Co-operation in Combating Pollution Emergencies, Noumea, 25 November 1986, in force 18 August 1990; I.E.L.M.T 986:878

1986 Noumea Protocol for the Prevention of Pollution of the South Pacific Region By Dumping, Noumea, 25 November 1986, in force, 18 August 1990, IE.L.M.T. 986:87A

1986 ILO Asbestos Convention

1987 Protocol on Substances that Deplete the Ozone Layer, Montreal 16 September 1987 in force 1 January 1989; 26 I.L.M. 1529 (1987) Southern African Development Co-ordination Conference (SADCC) Harare Agreement, 28 May 1987 27 I.L.M (1988) 1 109

1989 The Lome IV Convention, Lome, 15th December 1989 in force 1st September 1991; 29 I.L.M 783 (1990) Basle Convention of Transboundary on Hazardous Wastes and Their Disposal, Basle, 22 March 1989, in force 24 May 1992; 28 I.L.M (1989) 57 Paipa Protocol for the Conservation and Management of the Protected Marine and Coastal Areas of the South-East Pacific, Paipa, 21 September 1989; I.E.L. 989:71 Paipa Protocol for the Protection of the South-East Pacific Against Radioactive Contamination, Paipa 21 September 1989, 1.E.L. 989:70 Convention on the Rights of the Child

1990 International Convention on Oil Pollution Preparedness, Response and Cooperation, London 30 November 1990; not in force (1991) 30 I.L.M 735 Adjustment and Amendment to the 1987 Montreal Protocol, London, 29 June 1990 in force 10 August, 1992; 30 I.L.M. (1991) 537

Kuwait Protocol Concerning Pollution from Land-Based Source, Kuwait, 20 February 1990 Protocol to the Bamako Convention (not yet in force) Kingston Protocol Concerning Specially Protected Areas and Wildlife in the Wider Caribbean Region, Kingston, 18* January 1990 in force 18 June 2000, 1 Yb'k I.E,C, 441; (1990)

1991 Convention on the Ban of Import into Africa and die Control of Transboundary Movement and Management of Hazardous Waste; Bamako, 29th January 1991 not yet in force 30 I.L.M (1991) 775 Convention on Environmental Impact Assessment in a Transboundary Context Espoo, 25th February 1991, not yet in force, 30 I.L.M (1991) Espoo, Convention ILO Code of Practice on the Prevention of Major Industrial Accidents

1992 Convention on Biological Diversity, June 2 1992, Rio De Janeiro, in force 29 December 1993; 31 I.L.M 818 (1992) Convention on the Protection and Use of Transboundary Water Course and international Lakes, Helsinki, 17 March 1992, 31 I.L.M (1992) United Nations Convention on Biological Diversity; 5 June 1992, 31 I.L.M 822, Article 1,8,11, 12, 16, 17 & 18 United Nations Framework Convention on Climate Change, New York, 9 May 1992; in force 24th March 1994, 31 I.L.M (1992) 849 Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, in force 30 May 1996 Convention on the Protection of the Black Sea against Pollution, Bucharest, 2J_ April 1992, in force 15 January 1994, 32 I.L.M. (1993) 1101 Treaty of Maastricht on Social & economic Support for Sustainable Development in Third World Countries Agreement on Conservation of Bats in Europe, London, 1992.

1993 Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environmental, Lugano, June 21,1993, 32 I.L.M 1225 (1993)

1994 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas 33 I.L.M 969 (1994) Agreement on Corporative Enforcement Operation Directed at illegal Trade in Wild Fauna and Flora, Lusaka, 1994 entered into force on 10th December 1996; 1 JIWLP (1998) United Nations Convention to Combat Desertification, June 17, 1994, in force_26 December 26 1996; 33 I.L.M 1328 African-Eurasian Migratory Waterbird Agreement, Hague, June 1995 in force 1 November 1999; 6 Ybk (1995) 907 Protocol for the Protection of the Mediterranean Sea Against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its subsoil (Offshore Protocol) Madrid, 14th October 1994. Not yet in force

1995 Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA & Biodiversity Protocol), Barcelona 10 June 1995, in force 12 December 1999 UN Agreement Relating to *the* Conservation and Management of Straddling Fish Stock and Migratory Fish Stocks, 34 ILM 1542 Global Programme of Action for the Protection of the Marine Environment from LandBased Activities

1996 The Legality of the Threat or Use of Nuclear Weapon; I.L.M 35 (1996) 809 Protocol on the Prevention of Pollution of die Mediterranean Sea by Transboundary Movement of Hazardous Wastes and their Disposal (Hazardous Waste Protocol) Izmir, 1st October 1996, not yet in force Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matters, 1972.

1997 Protocol to the Framework Convention on Climate Change, Kyoto, Japan, 11th December 1997, not yet in force; 37 I.L.M (1 998) 22 United Nations Convention on the Law of Non-Navigational Uses of International Water courses; 36 I.L.M 700 (1997)

1998 Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11th September 1998 not yet in force, 38 ILM (1999) 1 Protocol to the African Charter on Human & Peoples Rights on the Establishment of an African Court on Human & Peoples' Rights (OAU Doc).

1999 Protocol on Liability and Compensation for Damage Resulting from Transboundary Movement of Hazardous Wastes 10 December 1999. Protocol Concerning Pollution from Land Based Sources and Activities in the Wider Caribbean Region (LBS Protocol) Oranjested, 6 October 1999 and came into force 2010.

2000 Protocol on Biosafety to the Convention on Biological Diversity, Cartagena, January 29 2000, in force. 11th September 2003, 39 I.L.M (2000) 1027

2001 Convention on Persistent Organic Pollutants, Stockholm, 15 July 2001, came into force 17th May, 2004; 40 I.L.M. (2001) 532

2002 Protocol on the Biological and Landscape Diversity Protection, Sofia, 14* June, 2002, came into force 22nd May, 2003.

 Justify the importance of all these conventions, treaties and agreements.

5.3.3 Some Important Dates in the History of Environmental Law

Late ‘60s and Early ‘70s September 1973 Drought in Sub-Saharan Africa – over 200,00 people and millions of animals die Inter-State Permanent committee on Drought Control in Sahel (CILSS) established by 9 Sahelian countries

August – September 1977 United Nations Conference on Desertification (UNCOD) held in Nairobi, Kenya – Desertification addressed as a worldwide problem for the first time and a Plan of Action to Combat Desertification (PACD) adopted.

June 1992 United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil – The Earth Summit and Agenda 21 call on the UN General Assembly to set up an inter-governmental committee to prepare for a legally binding instrument that addresses the problem of desertification

June 17, 1994 United Nations Convention to Combat Desertification (UNCCD) adopted in Paris, France – June 17 becomes the world day to combat desertification December 1996 The UNCCD enters into force, 90 days after the 50th ratification is received. October 1997 COP 1 in Rome, Italy – Rules governing the COP and its subsidiary bodies established, the functions of the Global Mechanism set forth and the permanent secretariat designated.

January 1999 Permanent secretariat of the UNCCD established in Bonn, Germany November 1999 COP 3 in Recife, Brazil; - First review of policies, operational modalities and activities of the Global Mechanism Consultations on the “Recife Initiative” to enhance the implementation of the obligation of the UNCCD.

December 2000 COP 4 in Bonn, Germany – Implementation annex for Central and Eastern Europe (Annex V) and the “Recife Initiative” adopted. An ad-hoc working group (AHWG) starts an in-depth review of reports on the implementation of the Convention.

March – April Intersessional meeting of the AHWG in Bonn, Germany – A comprehensive report including conclusions and recommendations on further steps in the implementation of the Convention, is adopted and submitted to COP 5.

October 2001 COP 5 in Geneva, Switzerland – A Committee for the Review of the Implementation of the Convention (CRIC) established as subsidiary body of the COP Reform of the CST, the scientific subsidiary body of the COP, is adopted and a Group of Experts is established.

August – September 2002 World Summit on Sustainable Development (WSSD), Johannesburg, South Africa – Governments call on the Global Environments Facility (GEF) to become a financial mechanism of the UNCCD.

October 2002 Second Assembly of the GEF in Beijing, China adopts a decision to designate land degradation as its fifth focal area ad to establish the GEF as a financial mechanism of the UNCCD.

November 2002 First meeting of the Group of Experts in Hamburg, Germany.

November 2002 CRIC 1 in Rome, Italy – Innovative solutions to combat desertification are identified and shared a report is adopted and will be submitted to COP 6

August – September 2003 COP 6 in Havana, Cuba – The Global Environmental Facility (GEF) designated as a financial mechanism of the Convention; CRIC 2 recommendations on ways to improve the implementation of the Convention endorsed.

May 2005 CRIC 3 in Bonn, Germany, New ways mapped to mainstream desertification.

This seeks to create a legislative framework to promote the rapid expansion of environmental engineering and improve its efficiency in the country. It leads to access to the environmental services, improved land security, increase the diversity of land sources, sustainable development and even address climate change which affect the environment nowadays.

5.4 Summary

This unit brings out the laws that have enhanced environmental protection.

5.5 References/Further Readings/Web Sources

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National Environmental (Sanitation and Wastes Control) Regulations 2009, No 60. Vol. 96

National Environmental Health Practice Regulations 2007 No 24, vol. 94

National Environmental (Noise Standards and Control) Regulations, 2009 No 67 vol. p6

5.6 Possible Answers to Self-Assessment Exercises

SAE 1

1. NO
2. TRUE