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UNDERSTANDING THE CONCEPT OF ENVIRONMENT FOR SUSTAINABLE DEVELOPMENT IN NIGERIA

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ABSTRACT

Environment is considered the life support system given by the creator to mankind. Unfortunately, the environment over the years has been treated as a free resource rather than a composite asset. The environment is expected to be a highly preserved resource despite the strong need of man to exploit what nature has providedfor his socio-economic development. It is against this background that this paper focuses on "Understanding the Concept of Environment for Sustainable Development in Nigeria" . To achieve this goal, the paper fIrst and foremost defIned the concept of environment and also examined the spheres of the environment. Basic components of the environment such as land, air and water were discussed. Furthermore, the paper examined the concept of sustainable development and sustainability in Nigeria, environmental problems and policies in Nigeria and the challenges of environmental sustainability in Nigeria. It was concluded that protecting the environment is a task that must be done by mankind at the local, national, international and global levels. Amongst other recommendations, massive mobilization of mankind and adequate environmental education for citizens was advocated.

KEYWORDS: Understanding, Concept, Environment, Sustainable development

INTRODUCTION

Environment plays a vital role of life support system to mankind, hence the growing interest among scientists, the general public and politicians globally in the subject in

recent years. This interest stems from the realization that all human activities take place on the environment and affect it positively or negatively. The environment is man's basic life support; it provides the air we breathe, the water we drink, the food we eat and above all the land we live on. Awareness of the need to better manage and protect the environment and preserve same for future generations has gained wide acceptability in the world hence the concept sustainable development. However, science and best practices are usually neglected when it comes to policy implementation.

Pressure on the environment is increasing mainly due to the activity of man in his quest for economic development. This has brought about challenges in the areas of urbanization, population growth, increased living standards; pollution (which incidentally is the greatest threat to the much talked about sustainable development). Various activities of man in his quest to exploit what nature has provided for his socio-economic development has left us with an environment that has today become foul, contaminated and harmful for the health of living organisms including man. It is therefore hoped that through this paper, adequate knowledge and understanding of environmental concepts will once again remind mankind of the need to maintain and preserve the environment for sustainable development.

THE CONCEPT OF ENVIRONMENT

According to www business dictionary, environment is the sum total of all surroundings of a living organism, including natural forces and other things that provide conditions for development and growth as well as of danger and damage. In the same vein, Iwena (2012) and Peter (2003) opined that environment is the total surrounding or medium of any organism in a given area. The environment is considered the life support system given by the creator to mankind.

In the past, the three components of the environment which are air, soil and water, were pure, virgin, undistutbed, uncontaminated and basically hosk)itable. But today, the reverse is the case because progress in science and technology is also leading to environmental degradation and serious ecological imbalance, which in the long run may prove disastrous for mankind (Sharma, 2002).

Spheres of the Environment

The earth was formed 4,000 million years ago out of a whirling mass of cosmic gas and dust in the solar system (Miller, 1993). Through time, the dust and the gas coalesced into solid forms and became the earth and other plahets'– Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. The earth is the fifth largest planet of the solar system and it consists of four great realms or spheres namely,

Atmosphere, Lithosphere, Hydrosphere and Biosphere.

1. The Atmosphere: is a gaseous layer that surrounds the earth. It contains vital elements- carbon dioxide, hydrogen, oxygen and nitrogen that are needed to sustain life–forms on earth
2. The Lithosphere: This forms the platform for the life layer. The solid rock of the Lithosphere bears a shallow layer of soil in which nutrients become available to organisms. The lithosphere is fashioned into land forms–hills,inselbergs, mountains, gorges and canyons, features which provide varied habitats for plants, animals and humans. This is simply referred to as the solid portion of the earth.

iii. The Hydrosphere: Refers to water in all forms, particularly the world oceans. It is the liquid part ofthe environment.

iv. The Biosphere: Encompasses all living organisms of the earth. Life forms on earth utilize the gases ofthe atmosphere, the water of the hydrosphere and the nutrients of the lithosphere, and so the biosphere is dependent on all three of the other great realms.

This goes to show that the environment is the unique skill of soil, water, gaseous atmosphere, mineral nutrients and organisms that cover the planet earth

Components of Environment

The basic components of environment are air, soil (land) and water.

a. **Air** : Air is a wonderful and precious natural resource given by the Almighty. It is the main natural source which helps all life to be sustained on mother earth. The composition of air in the atmosphere is nitrogen- 78%, oxygen-20. 94%, argon - 0.03%, carbon dioxide- 0.03%, water vapor, helium, krypton, and xenon. etc. The air on the land and in communities is called “ambient” air. It mostly contains nitrogen and oxygen, with a small amount of carbon dioxide and water vapor. It also contains trace of amounts of contaminants such as gaseous chemicals and particulate water (dust).

   The release or discharge of pollutants into the air that are harmful to man and animals results to air pollution, the causes of which are: i) Odour as a result of improper waste disposal/management due to rapid urbanization, ii) emission of smoke from domestic sources, iii) fumes from mineral works, iv) industrial wastes and fbmes, v) dust from exploration of mineral resources, vi) volcanic eruption and vii) chlorofluorocarbons (CFC) from cooling systems and sprays. When air is said to be polluted it may have a number of effects including general discomfort, irritation of the eyes which may cause smog which leads to poor visibility, causes lung diseases and asthma,

destruction of the ozone layer, increase or decrease in temperature destllu,.tion of soil) plants and animals and causes acid rain which corrodes materials and burn green plants.

Air pollution could be controlled through education on waste disposal, government legislation on air pollution, improved technologY e.g. waste recycling> monitoring of air pollution, reduction in the use of coal, firewood, lignite as hrel9 use of anti- pollution devices in factories and vehicles and building of chimneys.

b. **Land**: Land resources refer to the land available for exploitation, like non agricultural lands for building, developing townships, etc. Land resources (natural resources economically refered to as land or raw materials) occur naturally within environments that exist relatively undisturbed by mankind in a natural form. Land is a finite resource. It is a subject to competing pressure &om urbanization, infrastructure, increased food, fibre and fuel production and the provision of key ecosystem services, According to Food and Agricultural Organization/United Nations Environmental Pro©amme (FAO/UNEP) (1997), land and land resources refer to a delineable area of the earth's terrestrial surface, encompassing all attributes of the biosphere immediately above or below this surface, including those of the near-surface climate, the soil and terrain forms, the surface hydrology (including shallow lakes, rivers, marshes and swamps), the near-surface sedimentary layers and associated ground water and geo-hydrologicalreserve, plant and animal populations, the human settlement pattern and physical results of past and present human activity (terracing, water storage or drainage structures, roads, buildings, etc).

Land as a resource performs the following functions in supporting human and other terrestrial ecosystems :

i. Storeofwealth for individuals, groups or communities.
ii. Production of food, fibre, fuel or other biotic materials for human use.
iii. Provision of biological habitats for plants, animals and micro-organisms.
iv. Co-determinant in the global energy balance and the global hydrological cycle, which provides both a source and a sink for greenhouse gases.
v. Regulation of the storage and flow of surface water and ground water.
vi. Store house ofminerals and raw materials for human use.
vii. Abuffer, filter or modifier for chemical pollutants.
viii. Provision ofphysical space for settlements, industry and recreation. ix. Storage and protection of evidence from historical or pre-historical record

(fossils, evidence ofpast climates, archaeologica1 remains, etc).

x. Enabling or hampering movement of animals, plants and people from one area to another.

C. **Water**: Water resources refer to materials derived from water bodies and are of great importance to man, plants and animals within the environment (Peter, 2003; Iwena, 2012). According to Oyegun (2007), water is one of the most important resources of the earth. It plays a critical function in all spheres of life. In fact water is life as nothing on earth can possibly be done without water. Water resources are considered as sources of water that are potentially useful. Water can be gotten from sources such as rain, wells, springs, streams, rivers, lakes, oceans and seas, boreholes (both surface and underground). Transportation, hydro-electric power, minerals, employment, recreation and tourism, industrial use, domestic use, fishing and climate modification are some of the importance of water to man.

However, water is often degraded by the activities of man which cause severe consequences such as destruction of aquatic life, water poisoning, inadequate fresh and pure water for domestic purpose, inadequate fresh and pure water for industrial use, unemployment amongst fishermen, scarcity of sea foods and high cost ofwater treatment.

The Concept of Sustainable Development

There have been researches for more sustainable ways of using the earth's resources. This stems from the recognition that the future of the earth and its people is ultimately tied to ability to maintain and preserve the life-support system that nature provides. A lot goes wrong if environmental resources are over – used or used in ways that create environmental damage or instability (Simmons, 1991).

Sustainability as viewed by Park (1997) is an in-built feature of all natural environmental systems provided that human interference is absent or minimized. It
relates to the capacity of a system to maintain a continuous flow of whatever each part of that system needs for a healthy existence. Human use of environmental resources and interference with environmental systems disturb this in-built capacity which can make it unsustainable. Indeed the concept emphasizes growth in quality of life rather than the quantity of economic goods that do not use up or degrade earth's natural capital for future generations. Adams (2006) observed that sustainable development translates to a pattern of resource use that aims at meeting human needs at the same time preserving the environment such that these needs can be met not only in the present but in the future. Similarly, Vinceta (2014) noted that sustainable

development means attaining a balance between environmental protection and human economic development and between present and future needs. Conservationists and ecologists have long been aware of the significance of sustainability within natural environmental systems. However, it was not until the late 1980s that the broader concept of sustainable development was formerly introduced by the World Commission on Environment and Development (WCED, 1987). In its 1987 report popularly known as the Brundland Report, titled "Our Common Future", the WCED posited that sustainable development is:

> Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. A process of change in which exploitation of resources, the direction of investment, the orientation of technology development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations. (p.43-46)

LTvanga (2005) equally demonstrated that sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. However, he added that it contains within it the concepts of 'need', in particular the essential needs of the world's poor to which overriding priority should be given and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and fbture needs. It is a generally accepted that development can be sustainable only if it is based on sound ecological principles and practices, but beyond that, there is little real consensus. In a similar vein, Konrad (2000) observed that humanity's future will only be secured if man's inter course with nature becomes more respectful, sparing and sustainable. The whole concept of sustainable development aimed to encourage people to reflect on the harm economic development was having on both the environment and society. Building upon this, the Rio Earth Summit of 1992represented a major step forward towards the goal of achieving sustainability with international agreement made on climate change, forests and biodiversity. Out ofthe Rio Summit came Agenda 21 representing a blue print for sustainability in the21st century by championing the cause of sustainable development. Agenda 21provides a frame work for tackling today's social and environmental problems, including air pollution, deforestation, biodiversity loss, health, over population, poverty, energy consumption, waste production and transport issues. Agenda 21 requires each country to draw up a national strategy for sustainable development.

According to Uyanga (2005), the whole concept of sustainable development is a process of change in which the exploitation of resources, the direction of

investments, the orientation of technological development, environmental and institutional change are all in harmony to enhance both current and future potential to meet human needs and aspirations.

Sustainable Development in Nigeria

The concept of sustainable development in Nigeria is an illusion. This is because Nigerian leaders do not believe in environmental protection (Jonathan, 2004). Nigeria is blessed with abundant natural resources, but its model of economic development that is based on intensive exploitation and export destroys the ecosystem. The strong desire for man to exploit what nature provides for his socioeconomic development has over the years caused great damage to the environment leading to environmental degradation. Economic activities are often carried out in a haphazard manner without due consideration and regard for the environment. The environment according to Erhun (2015), is an essential part of man's existence and human beings are at the centre of concern for environmental sustainability. According to WCED (1987), sustainable development is "development that meets the need of the present without compromising the ability of future generations to meet their own needs". Also, Erhun (2015) posited that sustainable development is the process of judicious use and conservation of natural resources for overall improvement in the quality of life present and future generations on a long term basis. Human activities in Nigeria have exposed the environment to the serious danger of environmental degradation. This shows that Nigeria is yet to take the path of development in such limits that nature allows and until Nigeria begins to take this path, the much talked about sustainable development will always remain an illusion.

Environmental Problems in Nigeria

The major environmental problems bedeviling Nigeria as identified by Norwegian Society for the Conservation of Nature (2017) are oil spillage, biodiversity and desertification

a) Oil Spillage: The Exxon Valdez spills in Alaska in 1989 remains the major oil spill in history. In the Niger Delta area ofNigeria however, it is on record that there has been an Exxon Valdez spill every year for 50 years (Norwigian Society for the Conservation of Nature (NSCN, 2017). This phenomenon gives the Niger Delta region the honour of being one of the most polluted places on earTh
More than 70 percent of the people of the Niger Delta rely on natural resources; they are fishermen and farmers. The United Nations Environmental Programme (UNEP) (2011) documented that the consequences of oil pollution in C)goni land in the Niger Delta is severe. UNEP further noted that the people ofOgoni land have lived with chronic

pollution all their lives. They found benzene levels 900 times higher than the World Health Organization recommendations.

b) Biodiversity: More than 65 percent ofNigerians live off nature and its goods. Farming, fisheries, logging and manufacturing are all examples of this. It is on record that 70-80 percent of Nigeria's original forests have disappeared through logging, agriculture, and city expansion, expansion ofroads and building of industries. This has led to loss of plants and animals that depend on these forests. With the expected consequences of climate change, these losses are expected to increase

c) Desertification: This is equally a major problem in Nigeria as far as environment is concerned. Desserts are barren lands, waterless and treeless and often sand covered such as Sahara deserts which spread across the African continent (Omofonmwan & Osa-Edoh, 2008). Desertification is therefore the encroachment of the desert on land that was once fertile or originally not desert before (Iwena, 2012). Desertification is made worse by massive water impoundment and irrigation schemes. Estimates show that Nigeria is losing 0.6 kilometers of land to this menace annually (NSCN, 2017)

Desertification could be caused by both natural processes and the actions of man. Desertification is known to be more pronounced in Northern Nigeria. It leads to famine, diseases, and destruction of crops, livestock and man. Desertification could be controlled through irrigation, terrace ploughing and planting of trees and grasses.

Nigeria's Environmental Policy

Nigeria's environmental policy is aimed at achieving sustainable development in the country and in particular, at securing for all Nigerians a quality environment adequate for their health and well-being. Nigeria’s envirionmental policy to restore, maintain and enhance ecosystems and ecological processes essential for the functioning of the biosphere and for the preservation of biological diversity. It also aims to adopt the principle of optimum sustainable yield in the use of living natural resources and ecosystems, raise public awareness and promote understanding of essential linkages between environment and development. Furthermore, it aims to encourage individual and community participation in environmental improvement efforts, and cooperate in good faith with other countries, international organizations and agencies to achieve optimum use of trans- boundary natural resources and effective prevention or abatement of trans-boundary environmental pollution (Anukam, 1997). But the question is do these laudable policy statements translate into action in creating sustainable environment for Nigerians?

Challenges of Environmental Sustainability in Nigeria

As good and laudable as the environmental objectives and policy statements are, sustainability in Nigeria is still an issue which is still millions of miles away from being achieved. Even though some measure of environmental protection policy have been put in place, protection of Nigeria's environment leaves much to be desired. For instance, water pollution in Nigeria occurs in both rural and urban areas; drinking water from natural sources, such as rivers and streams, is usually polluted by organic substances upstream applied to the stream water for agricultural purposes. Forestry activities upstream increase concentration of soil particles washed into the stream by land substance. The large particles sink to the bottom and increase the bed load, while depending on the stream velocity, smaller particles remain in suspension. Similarly, accidental oil spillage in the Niger Delta region ofNigeria occurs from the petroleum industries which often endanger local sources of water supply and fresh water living resources. This level of environmental degradation would create water borne diseases due to consumption of unsafe drinking water, as well as place fisheries and land resources at risk. The exploitation of Nigeria's petroleum and gas reserves has immediate and proximate environmental consequences, such as oil spills, land and water pollution, and flaring that can cause global warming.

One of the cornerstones of environmental conservation and sustainable development in a nation is enforceable environmental law and proactive agency for the protection and management of the environment. Nigeria has some existing environmental laws put in place by the federal government for environmental management. Some of such laws include the Harmful Wastes (Special Criminal Provision) Act 1988 Cap 165 LFN 1990, Federal Environmental Protection Agency (FEPA) Act 1988 Cap 131 LFN 1990, Environmental Impact Assessment (EIA) Act 1992 and Nigeria Urban and Regional Planning Act.

Similarly, national laws derived from international conventions to which Nigeria is a signatory all aimed at protecting the Nigerian environment include Mineral Oil (Safety) Regulations Act 1963, Petroleum Regulations Act 1967, Oil in Navigable Waters Act 1968, Petroleum (Drilling and Production) Regulations Act 1969, Oil Terminal Dues Act 1968, Associate Gas Reinjection Act 1979, Petroleum Amendment Act 1973, Harmful Wastes (Criminal Provisions) Act No. 42 of 1988 and National Environment Standards and Regulations Environment Agency Act (NESREA) (Eneh, 2010; Anukam, 1997).

A close look at these laws shows that they are actually obsolete and therefore need major reviews to make them more relevant to the course of environmenta management in Nigeria. For instance, a look at some sections of Nationa

Environment Standards and Regulations Environment Agency Act (NESREA Act) u'ill expose flaws and clauses that literally obstruct environmental protection and sustainable developmeht. The present NESREA Act as it is presently excludes the Nigerian oil and gas sector (the greatest environmental threat to Nigeria) from regulation. Section 8 (g) of the Act mandating the agency to conduct investigation of pollution and degradation ofnatural resources, except investigation on oil spillage, is unimaginable. Since the Act is not empowered to enforce compliance and environment regulation in the oil and gas sector, it is right to say that the concept of sustainable development is an illusion in Nigeria. Aside government inactivity towards sustaining the environment, Nwafor (2006) pointed out that inadequate knowledge ofthe environment by the Nigeria people towards policy formulation and the lack of mass mobilization towards environmental education and awareness creation regarding sustainable environment also poses another great challenge towards sustainability in Nigeria.

Despite the legal backing and funding which the various agencies of government responsible for environmental management in Nigeria, particularly, Federal Environmental Protection Agency (FEPA) and National Environmental Standards and Regulations Environment Agency (NESREA) enjoys from the Federal
Government, the level of success recorded has not been commensurate with the set objectives and goals establishing them. This is because the level of environmental degradation is rather on the increase as urbanization, deforestation, desertification and even pollution are now more pronounced than what used to be (Omofonmwan & Osa-Edoh, 2008).

CONCLUSION

Sustainable development requires meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life. Environmental sustainability in Nigeria however, has remained an illusion. This is largely due to lack of political will towards the implementation of environmental protection and management policies in the country. FEPA and NESREA have failed to fulfill the objectives and goals establishing them, Also, several other national and international laws relating to environmental management in Nigeria are either obsolete or not gIven the desired attention. Therefore, until appropriate techniques and the right technology of environmental protection and management are put in place, it would be difficult for Nigeria to achieve environmental sustainability. Nevertheless7 protectIng the environment should be a collective responsibility and indeed a task that must be done by mankind at the local, national, international and global levels.

RECOMMENDATIONS

It is recommended therefore, that:

1 Massive mobilization of mankind and adequate environmental education for the citizens should be vigorously pursued.

ii. Review ofNESREA Act and other relevant environmental la\\'s which are obsolete and against the regulation and enforcement in oil and gas sector in Nigeria should be speedily done.

iii. Government at all levels should demonstrate political will in tackling the problems of environmental degradation.

iv. Government should create stake holders forum of environmental experts across Civil Society Organizations (CSOs) and Non Governmental Organizations (NGOs).

v. Promotion of citizen participation in the planning and implementation of government's environmental policies and programmes should be encouraged

VI Government at all levels should be pro-active and sincere towards issues on environmental protection and management in Nigeria

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