

**ENVIRONMENTAL POLLUTION IN NIGERIA: THE NEED FOR AWARENESS
CREATION FOR SUSTAINABLE DEVELOPMENT.**

By

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Abstract

The paper set out to examine the issue of environmental pollution and its attendant consequences on the Nigerian society. In doing so, the paper has on the basis of personal observation and secondary sources examined the effects of environmental pollution in Nigeria. The findings show that environmental problems in Nigeria generally are many, diverse in nature, and are caused by man's interaction with nature (environment) for exploits in a number of ways-both in the cities; where industrial activities predominate, and rural areas; where agriculture thrives. The paper posits that man utilizes air for survival, harnesses land and water resources for domestic, commercial, industrial, agricultural and other purposes. Through these activities; man directly and/or indirectly create problems which are detrimental to his health/survival, well being, natural existence and stability. The paper observes that these problems are a consequence of environmental pollution which also degenerates into environmental degradation and several other hazards such as widespread epidemics, depletion of natural habitats, and thus; impede the socio-economic development of Nigeria as a nation. The paper recommends awareness creation and change in attitudes for effective environmental and resources management strategies as a way forward.

Introduction

It has been observed in recent times that the role the environment play to a nation's development process can not be relegated to the background. Apart from being the physical surrounding for natural habitats, the environment provide the basis for human exploits for agricultural, industrial, commercial, technological and tourism development of a society. For this and several other reasons, environmental issues now occupy a centre stage in academic discourse and other public fora both at the national and international levels. Recorded evidence has also shown that the environment represents a wide range of the external circumstances, conditions and the things that affect the existence and development of an individual, organism, group (Isaichei 1999) and/or society.

In Nigeria for instance, environmental issues did not gain official prominence until the 1988 Koko toxic waste dumping saga which also brought to the fore the exigent need to establish the Nigeria Federal Environmental Protection Agency (FEPA), Federal Ministry of Environment and other relevant agencies, ostensibly to tackle environmentally related issues, in the country. These include issues such as environmental pollution, sanitation, depletion of ozone layer, desertification, flooding, erosion, poverty, bush burning, deforestation, soil

conservation etc. All these mentioned above are a pointer to the fact that issues of environment and infact environmental pollution which forms the basis of this paper has taken a centre stage in the nation's (Nigeria's) development process.

Environmentally minded scholars: Ocheri (2003:174), Gbehe (2004), and Aja (2005:114) have associated environmental pollution with human activities and albeit persistent human interaction with the environment. Research has also shown that as the population of a country grows/increases with attendant pressure on the environment especially in the wake of improved technologies, environmental abuse and pollution is nevertheless heightened with corresponding effects on lives of people and other living organisms, (Ocheri, 2003: 175 and Hausers, 1971). It has been observed further that man through industrial, agricultural and the ever increasing urbanization process, security and terrorist activities tend to directly and/or indirectly pollute the environment. Jande (2005) and Aja (2005:114) in their separate observations, also in tandem with the foregoing agree that unrestricted use of pesticides, insecticides, herbicides and indiscriminate dumping of refuse, excreta and animal dung as well as spillages from refineries, large scale bush

burning etc are perceived as some of the leading factors of environmental pollution in Nigeria. Structurally therefore, the paper is divided into sections. Following this section (introduction) is section 2, and it dwells on conceptual clarification of environmental pollution. Section 3 discusses the theoretical framework, section 4 is environmental pollution in Nigeria and its attendant consequences on humans life, organisms and the country Nigeria, and section 5 is the need for awareness creation for sustainable development.

Conceptual clarification

Environment: There have been different definitions of the concept of 'environment' proffered by different scholars and organized bodies/agencies. However, from whatever angle one perceives the term; 'environment', it simply depicts what surrounds us. To Hagget (1975), cited in Anijah – Obi (2001), environment refers to the "sum total of all conditions that surround man at any point in time on the earth's surface". According to Miller (1975), the term 'environment' could be perceived as "the aggregate of external conditions that influence the life of an individual or population, specifically the life of man and other living organisms on the earth's surface". The Federal

Environmental protection Agency (FEPA) Act of 1990, under section 38 also gave a very lucid definition of environment, thus;

Environment includes water, air, land and all plants and human beings and/or animals living there in and the inter-relationships which exist among these or any of them.

From the above definitions, the term 'environment' comprises land, air, water and all the physical structures surrounding us. In this paper therefore, the concept 'environment' refers to the 'totality of space, time and socio-cultural settings of man and other living organisms therein.

Pollution: the term pollution is a derivation of the word pollute-which means, to make something dirty or no longer pure, especially by adding harmful or unpleasant substances to it.

In another development; the committee on pollution of the United States National Research Council (1965) defined pollution as; an undesirable change in physical, chemical or biological characteristics of our air, land and water that may or will harmfully affect human life or that of other

desirable species, our industrial processes, living conditions cultural assets that may or will waste or deteriorate our raw material resources.

Pollution according to the above definition is a disorder within an environment and is a by-product of energy conversion and the use of resources. Ekuri and Eze (1999) accordingly, defined pollution as “a contamination, a defilement, mischief, perturbation and reduction in the value of an object or thing”. Relatedly, Jande (2005:4) describes the term – Pollution’ to mean “to make something dirty or no longer pure, especially by adding harmful or unpleasant substances to it”. In this paper therefore, the concept, “Pollution’ is used to refer to a situation where waste-materials and/or harmful substances which can deplete, wear/tear away and affect the entire environment and cause disorderliness to all living organisms.

Furthermore, environmentally minded persons are of the opinion that human activities as well as natural disasters on the environment can pollute the environment beyond reasonable doubts. Recorded evidence has also shown that

continuous pollution of the environment leads to environmental regression and/or diminution (Anijah Obi, 2001, Gbehe 2004 & Ocheri 2003:175).

In this paper therefore, environmental pollution is used to mean “an undesirable change in the environment through harmful substances; waste materials and resources, caused by man’s activity or natural disaster which also results to the degradation of the environment with its attendant consequences on biodiversity.

Theoretical Framework: An ecological perspective of change and development:

The perspective is associated with the works of Wilkinson and Boulding (1973). The theory is concerned with issues of change and development in contemporary societies, especially as they relate to environmental changes and/or ecologically related trends of population growth and the need to devise and sort out techniques of tackling development problems. The theory states that, as the population of a society increases in size, individual members of the society exert more pressure on scarce available resources such as land and other natural endowments for survival. They directly or indirectly carryout socio-economic activities that pollute the environment/society, and further cause harm (degradation) to the environment/society. The socio-economic activities, according to these theorists include subsistence agricultural

activities of people in agrarian societies of Africa, Latin America etc and the commercial and industrial activities of people in Urban-industrialized societies of the western-Europe and North America.

The perspective further argued that development is needed when a society out grow its resource base and productive system. The perspective therefore posits that as the established economic system of a given environment/society is proved inadequate and productive system becomes more problematic, societies are therefore driven to change their methods. For instance, as the population of a society outgrows the available resources, especially in agrarian societies, people are forced to migrate to urban centres/cities in search of job opportunities. Some sell their labour, whereas some engage in several other commercial and agricultural investments such as livestock; some still carryout some technical and entrepreneurial businesses – all for survival.

The urban and city dwellers establish and carryout industrial activities that equally pollute the society. Wilkinson and Boulding conclude that these activities directly and/or indirectly pollute the environment with its attendant consequences on biodiversity.

Consequences of Environmental Pollution in Nigeria

Environmental pollution is a challenge in most developed societies of the world; contemporary societies of Africa and Nigeria in particular also grapple with and or/tackle this menace in recent times. Our analysis of the negative impact of environmental pollution in contemporary Nigeria society would focus specifically on; agricultural and Hunting activities of the agrarian people, industrial activities of the urban based, Noise pollution, Housing, conflict and warfare.

Agricultural and Hunting Activities

The agricultural and hunting activities of farmers in Nigeria have far reaching effects on the environment and human health. The farmers do this by altering the lithospheric and atmospheric pathways of the hydrologic cycle, thus impacting negatively on the air, soil and water substances mostly used by man/biodiversity. Empirical evidence has shown that primitive farmers use fire to clear parcels of farm land, modify the soil by ploughing, alter the drainage by irrigation and introduce or breed new animals and crops. These activities no doubt alter the natural vegetation of the environment. Kelvin and Lewis (1994) posit that “in recent times, humans have destroyed enormous tracts of natural vegetation, excavated large areas of land, greatly modified the landscape, and even created

new lands. The economic importance of vegetation to mankind can not be underestimated. Apart from the fact that it serves as a primary source of food to man, its provision of resource base to the building, manufacturing and pharmaceutical industries and as a fuel is inexhaustive.

Relatedly, the use and misuse of fire to clear land which sometimes could be used to help improve the quality of the soil in arid regions through adding fresh organic materials, experts noted, causes a reduction in natural vegetation. It also threatens wildlife, human's life and property as well (Ayia, 2009).

The use of fire to clear land either for farming and/or hunting activities produces secondary problems associated with the clearance of vegetation, such as erosions by wind and water and flooding. Continuous and frequent burning often reduces the capability of an area to regenerate itself and to replenish its natural vegetation, inflict the atmosphere with severe pollutants, thus endangering life and property as well as threatening the very survival of the environment, (Idris, 2008) in Ayia (2009:74). The simple fact is, what ever reason one may

adduce for indulging in the act of bush burning and/or farming or hunting activities, it is submitted that the practice/act is most unacceptable in contemporary times and must be discouraged with all vehemence. More so, that its consequences far out weighs its advantages. This practice is mostly common among the rural farmers in the Northern and North-central region of Nigeria.

Livestock farming, popularly referred to as domestication of animals which is commonly practiced in the Northern and North central regions of Nigeria also has a major polluting impact on the land surface. Heavy grazing of cattle leads to trampling and compaction of the soil, thus reducing its capacity to hold water and alters its structure at the same time. This leads to soil erosion by wind and water. Although, grazing may have positive effects on the land because the animals provides feaces, a natural fertilizer rich in nitrates and several other nutrients. These feaces are sometimes washed into the streams and rivers during rainy seasons which serve as sources of drinking water for most farmers in the rural areas and thus, constitute health hazards-outbreaks of cholera, etc.

Similarly, the rate at which our forests resources are depleting is alarming. This deliberate removal of forest to create new agricultural land and/or for other purposes deprive us of the wealth of diversity and the potential use of many of their unique biological compounds often of great medical value. This act

also upsets the nutrient cycles, especially the oxygen and carbon dioxide cycles of which trees form an important component. It also scare wildlife. Deforestation may increase water flow over the land's surface, as rain will fall directly to the ground, no longer being impeded by the vegetational cover. This practice may lead to an increase in the magnitude and frequency of flooding, soil erosion increased sediment loads in rivers, slopes instability, and degradation of adjacent lands. Examples include forest clearing in southern, western and eastern Nigeria, clearing of tropical rainforest in Colombia, the destruction of rain forest in Madagascar etc. Forest clearing leads to vegetational removal which increases infertility of land and subsequently desertification (Raven et al, 1998).

Rural farmers sometimes out of ignorance over fertilize their farms because they are not aware of the nutrient content of the soil upon which they farm. This practice also damage the soil tops and result to poor yields. In another development, indiscriminate use of profilegate pesticide against pests and mosquitoes by farmers and households has caused serious

problems. Many pesticides move through the air, water and soil and bio accumulate or bio concentrate in food chains leading to serious ecological and human health problems.

Hunting is also one of the human activities that often result to bush burning and the use of chemicals in our streams, rivers and seas in search of game. In most general sense, hunting is the pursuit of a target. It is commonly applied to the practice of pursuing animals to capture or kill them for sports, food, or trade in their products. Animals so hunted are referred to as game animals. Hunting is also done to control varmint populations or a wild life management to reduce animal population which have exceeded the capacity of their range or when individual animals have become a danger to humans. Some times they are captured and kept in zoos and wildlife parks for tourist activities and cultural carnivals. Various devices are used to capture and kill the animals. Many hunters use dogs, traps, spears, arrows, guns, knives etc. Plants, animals, including fish and birds are hunted for by man. The methods employed create a lot of negative impacts on the environment. For instance, bush burning which is common in the tropics – is a device used by hunters to drive animals to advantage locations. The rural Tiv people of North central Nigeria use this device to hunt for rats and other animals. The result of this is that sometimes it destroys lives and property, especially when the fire is out of control. Smokes from the fire (bush burning) also contaminates the air, land and water. Many

habitats are also destroyed. Moreover as plants and animals are destroyed the ecosystem is generally upset. Fish hunting has made the water-streams, rivers and sea environments to be heavily polluted, due to the use of dangerous chemicals.

Industrial activities

Just as Gbehe (2004) pointed out, the causes of most environmental challenges take their origins in the developmental process or in its failure and inadequacies. As human societies continue to change from traditionalism to modernism with rapid technological advancement and increasing industrial production to satisfy growing human needs and comforts to improve civilization, new life styles and increased production activities have created unexpected industrial pollution.

The environment is highly polluted in the process of execution, processing and disposal of minerals. Mining is a process which involves the selective recovery of specific minerals from the earth crust for the benefit of mankind. Two basic methods are used. They are surface and underground mining which cause damage to the land and, the processing and disposal of minerals pollute the soil and water. In Nigerian cities;

such as Lagos, Enugu, Ibadan, Kano, Port Harcourt, Benin, Warri, Kaduna, Yandev-Gboko-where these activities dominate, industries inject into the air pollutants that deplete the ozone layer. In the Niger Delta area to be specific, most oil spills come from vessels or involves pipelines, oil terminal and bulk storage facilities which are sometimes caused by accidental or deliberate sabotage.

The blow out of offshore oil and gas wells, the dumping of drilling muds and oil soaked waste, the destruction of frilling rigs are major sources of water pollution in these areas. Water pollution kill fishes and other aquatic animals/organisms (Raven et al, 1998).

Different water borne diseases also occur. Others are epidemic, dysentery, typhoid etc. Corporation fumes, such as carbon dioxide, sulphur oxide, hydrocarbon, nitrogen oxide etc are emitted as a result of incomplete combustion of fuel and other carbon containing substances in exhausts pipes and plants. The adverse effect of the plants and machines produces objectable odour, causes impairment of mental function and foetal development and aggravation of cardiovascular diseases. Gas flaring in the oil exploitation zones reduces the quality of the air in the environment.

Dynamite used for mining causes pollution as it produces noxious fumes that cause inhaled can cause suffocation and lung diseases (Nobel, 1990).

Animal health may also be in danger when they feed on plants covered by toxic particles such as fluorine. Air pollution affects vegetation when sulphur dioxide enter the plants through stomata pores leading to the destruction of chlorophyll and disruption of photosynthesis in plants. Gases, like carbondioxide, methane, nitrous oxide etc cause green house effect.

Noise pollution

Noise pollution can best be described as unwanted sound caused by human activities in our societies. Simply put; noise could be any loud sound. It becomes a pollutant when it is unpleasant, and could be disturbing to humans and the public. In contemporary times, industrial activities of people in construction industries, recording studios, air and sea ports, transportation firms, in towns and cities specifically-Makurdi, Jos, Kaduna, Enugu, Kano, Lagos, Port Harcourt, Benin, Ibadan etc have not just caused noise pollution but have worsened the bad case of the already polluted environment in affected areas.

Similarly the proliferation of religious houses and places of worship with amplified loud speakers produce unpleasant noise

sensation and irritation to the eyes, and when

especially when they are shouting at their loudest voices to the discomfort of every resident within 2km radius. Sometimes as early as 3 – 4 am, 4 – 5am when most residents are still sleeping – worshipers disturb the public in the name of prayers. These acts are mostly common in mosques and the new generational churches.

Relatedly, the use of loud horns of motorists/vehicles, heavy duty, trains, etc at their loudest level in towns and cities is another disturbing issue of noise pollution. In a similar vein, due to the challenges faced from the public power supply-generating sets from individual residents and business firms make a hell of noise, thus, causing disturbance to the public.

Irrespective of the devastations caused by noise pollution, the subject matter has not been given scholarly attention. Nyakuma (2002) pointed out that the world seem to ignore the effects, to the extent that when issues of pollution are discussed at world environmental conferences and seminars, noise pollution is given very little cognizance.

Research has however shown that the World Health Organization (WHO) recommends an industrial noise limit of 75 Decibels (dB) so, much that any sound level above 75 dB is already a pollutant. Nevertheless in dance halls, recording centres, air ports, rail terminals etc. noise is normally heard above 115 dB sound level that must be avoided. This has to be avoided because, at this level, short or long term effects alike that can cause damage to the tympanic membrane – the ear drum is likely to

occur. This may either be injurious to the ear or lead to lost of hearing ability – which may result to deafness to the affected members of the society.

Housing

Housing is one of the basic needs of humans. Like food and clothing, housing is a basic human requirement, (Onokerhoraye & Omuta, 1994). These scholars have accordingly, stated that the provision of good housing not only have profound influence on the health, efficiency and well being of members of a community and/or society but the entire community and society at large. It has been observed therefore that unplanned housing projects with inadequate sewage system constitute a major source of water pollution in Nigeria, especially in urban environments. Emphasis is on urban areas because, urban centres have a greater concentration of people in one area. Gbehe (2004:6), citing Inyang (1978) stated that “the greater the concentration of people, the greater the amount of pollution; and the greater the sophistication of a society the more intricate and poignant its pollution”.

It is on record that sewage and waste products are discharged into water bodies, scientific evidence has also shown that residents

in many instances delight in defecating on the ground surface, sometimes directly into nearby streams (Gbehe 2004:7) and/or water channels. They also litter the environment with polythene bags, empties of caned foods and drinks, sachet-water bags and so on. This development combined with solid waters generated in households which are also dumped in water channels, streams and rivers in some cases blocked the courses of these channels, streams and rivers resulting to flooding. In the early month (2012) flooding in Lagos rendered most residents in some parts of Victoria Island Ajegunle etc in Lagos-homeless. Similarly, in Taraba State, a suspension bridge had to be stretched across river Donga for commuters to pass through, following the destruction of the bridge by flood in September 2011. also in Benin city Okafor (1983), Onokerhoraye (1994) cited by Gbehe (2004) observed that the Ikpoba River which flows along the fringe of the city was so polluted in certain portions of it that it may be mistaken for a cesspool. In Benue State, flooding is said to be a perennial problem that is prevalent in the lower plains of the Benue – Makurdi and Katsina-Ala rivers. Empirical evidence has also shown that land use along these flood plains has increased in recent times and floods tend to have

destructive effects on both farms as well as houses particularly in Makurdi town (Lyam mostly rural farmers who depend on subsistence agriculture. The destructive effects on both farms and houses render the farmers into pernicious situations of poverty and acute want. Similarly, the flooding also results to increased siltation by the flood waters. This tends to affect much of the aquatic life which gives a livelihood to the riverine communities. Whereas flood prone areas in most cases are completely cut-off from towns outside flood plains. In the flood plains of River Katsina-Ala especially along the plains of Yoryor river in shikaan district of Shitile, apart from the destruction of farms and causing inaccessibility to residential houses, School children in the locality are completely denied access to the only L.G.E.A. School, and Mbagena comprehensive college Shikaan. Moreso, that there has been no bridge across the river. They only come to school during the off seasons of rain.

In most cities and towns in Nigeria, solid wastes generated by residents where not properly disposed constitute health hazards to inhabitants and an obstruction to traffic by way of garbage heaps taking up large portions of streets. These wastes also emit foul ordour to residents.

2002). The situation sometimes is pathetic as the affected population in the flooding plains is

Conflicts, Wars and the Environment

War and conflict, impact negatively on the environment because they both cause a lot of destruction to lives and property. The production of goods and services is usually thwarted in situations of war and conflict. It also disrupt peace and security which are the basic components of democracy and good governance (Tyav, 2012). Moreover in localities where the environment is highly polluted as a result of industrial waste, pollution and the emission of gases into the air, the dumping of drilling muds/laterilitic sand and oil soaked waste etc farm land/the soil is equally polluted and thus, become a scarce commodity especially in agrarian societies where farming activities predominate. The continuous search for farmland some times result to conflict and war among members of the host communities. In Nigeria the Niger-Delta crisis and land conflict among members of the host communities in Yandev-Gboko, where Benue Cement Plc is located may serve as very good examples. In this way, different communities engage in wars and human lives, animals and plants are destroyed.

Furthermore, wars and conflicts expose our environments to grave threats of wide nuclear explosions and radio active

contamination and the use of biological and chemical weapons. The civil war in Nigeria, the war in Liberia, Sudan, Angola, Sierra-Leone, Rwanda-Burundi and the gulf-wars are some. Attempts have been made to examine the phenomenon of environmental pollution and its impact on human and biodiversity. To achieve this objective, the paper clarifies key concepts such as: “environment”, “pollution” and the phrase; “environmental pollution”. The paper adopts the ecological perspective of change and development for understanding the phenomenon of environmental pollution in Nigeria and its negative impact on people and society (human beings and the ecosystem). It has been observed therefore that environmental pollution in Nigeria is closely related to the productive activities of people in both the urban and rural centres. As they carry out these activities, they directly or indirectly pollute the society and/or environment with its attendant consequences on biodiversity.

The paper in view of the foregoing therefore, recommends awareness creation as the way forward. Milligan (1997:121) had however observed that; environmental awareness arises primarily to enable the individual understand how to relate and apply the knowledge of environment to their actions and to the world around him, and stated further that environmental awareness can be inhibited by the

examples, the destruction of Hiroshima and Nagasaki in Japan by America in 1943 during the second world, is also a memorable example.

Conclusions and Recommendations

norms established by the capitalist educational system and society at large. Nevertheless, in dependent capitalist societies such as Nigeria, creating environmental awareness to the teeming rural based population with low literacy levels is the best option to curbing problems of environmental pollution. This will be achieved by mounting and organizing workshops, conferences, seminars etc to educate the public on how to manage, and improve on the relationship between human society and the environment in an integrated and sustainable manner. Emphasis should be laid on why we need to sustain the environment. Pointing out too that human existence is predicated and as well, supported by the environment. It is a two way approach, as we fail to sustain the environment, the environment too will not sustain us.

- Through radio, television and other electronic media, the public should be informed on why it is important to redeem the environment by replacing a felled tree with at least other 10 stakes of trees.
- Religions leaders and heads of institution in our churches, mosques and institutions

of learning should admonish the faithful and the students on the need to redeem the environment and possibly replace vegetation to man kind and thus created Adam and Eve and kept them in His Garden – Gen. 2:15 – 16.

- Urban development planners and related agencies of government should continue to sponsor jingles on radio and television houses on why it is not proper to build houses on flood areas.
- Sanitary and bush burning laws should be reinforced to apprehend and prosecute offenders.
- A prompt legislative framework should be put in place to make laws that would tackle headlong issues of noise pollution in Nigerian.
- Rural farmer education on how to apply fertilizer and other related inputs should be reemphasized to reduce health hazards involved.

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felled trees with several. It is important to understand at this juncture that God Almighty knew the importance of

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