

ENVIRONMENTAL PROBLEMS IN NIGERIA - A REVIEW

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Abstract

People's attempts to adjust their endless wants and desires for food, shelter, recreation, infrastructural facilities and others to the land and other resources available to them has resulted in the deterioration of urban and rural environmental quality in Nigeria, which is characterized by water shortages and floods that play a major role in the transmission of communicable diseases. The review is an attempt to x-rays some of the resultant impacts of man's interaction with his environment with a view to outlining their contribution to environmental problems and how far the environmental policies have been implemented to control the negative impacts by man on the environment. Suggestions are made for re-designing the objectives and strategies of the Federal Environmental Protection Agency (FEPA). Environmental protection techniques need to be cultured, home-grown and the framework should be "bottom-up". A number of communities should be grouped together from the (political) ward level to local government level. Environmental protection agencies at the local government level should be empowered to punish offenders.

Introduction

The environment provides all life support systems with air, water and land as well as the materials for fulfilling all developmental aspirations of man. As in most other countries of the world, the Nigerian environment today presents a grim litany of woes. The unwise use of

the natural environment due to ignorance, poverty, overpopulation and greed, amongst others, has led to the degradation of the environment. These negative impacts are referred to as environmental degradation, which implies “abuse of the environment” due to improper resources management. In Nigeria, the environmental problems are characterized by soil erosion, high population pressure and increasing congestion in urban centres, which are further compounded by unplanned growth, and increasing problems of domestic and industrial wastes disposal and pollution. Human related activities since 1980s, especially in the development projects of the oil and gas sector, have led to the acceleration in the loss of the topsoil and deforestation; loss of habitat, species and biodiversity; and degradation of wetlands (NEST, 1992).

Environmental degradation has resulted in the deterioration of Nigeria’s urban and rural environmental quality, which is characterized by water shortages and floods that play a major role in the transmission of communicable diseases. These worsen the condition of the poor. Also, drought and desertification threaten food security and nation’s ecological integrity, and are drivers of population displacements (Nwafor, 2006).

Nigerian population is more than 140 million with an average density of more than 120 persons per square kilometer. Although, this density may vary from one region to another, it is obvious that Nigeria is already experiencing high population density. The interaction of these millions of Nigerians with their respective environment has left indelible mark on the landscape. The manifestation of these impacts includes urbanization, deforestation, desertification, overpopulation and all kinds of pollution. These impacts of man’s activities have both positive and negative effects on the natural environment.

This paper x-rays some of the resultant impacts of man’s interaction with his environment with a view to outlining their contributions to environmental problems and how far the environmental policies have been implemented to control the negative impact by man on the environment. Suggestions are made for re-

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designing the objectives and strategies of the Federal Environmental Protection Agency (FEPA).

Since, environmental problems have caused a lot of concern to both individuals and Governments, locally and internationally, the review will enable the concerned groups know how to tackle these problems in order to have a green environment. The study will also enable policy makers, project proponents, environmental authorities and other stakeholders to fully appreciate environmental concerns and give them due weight. It will also provide up-dates for policy makers regarding environmental problems, policies and policy implementation.

Conceptual and theoretical framework

The concept of environment has been viewed from diverse perspectives and defined in various ways (Singh, 2003). The variety of definitions and conceptions of environment is closely linked to the fact that the study of environment is multi-disciplinary, and thus each discipline tends to develop and adopt definition(s) in line with its interest. This multiplicity of definitions, concepts and usage of terms in various disciplines was clearly captured by Porteous (1977: 99) in the statement:

The multiplicity of the usage and concept of the term environment have resulted in a variety of adjectival forms which include social environment, molar environment, physical environment, home environment, psychological environment, behavioural environment, geographical environment.

For instance, a sociologist, Bain (1973), defined environment as all the external and non-personal conditions and influences that determine the welfare of a people in a given area. On the other hand, a geographer, Hagget, defined environment as the sum total of all conditions that surround man at any point on the earth's surface (Efobi, 1994). Nigeria's Federal Environmental Protection Agency (FEPA, 1989)

states that the environment includes water, air, land, plants, animals, and human beings living therein, and the inter-relationships that exist among them. However, a more comprehensive and all-embracing definition of the environment was offered by Keller in Efobi (1994: 67) as the:

Total set of circumstances that surrounds an individual or a community, these circumstances are made up of physical conditions such as air, water, and climate and landforms; the social and cultural aspects such as ethics, economics, esthetics and such circumstances which affects the behaviour of an individual or a community/”

According to these definitions, environment can be viewed as all physical, non-physical, external, living and non-living situations surrounding an organism that determine its existence, development and survival at a particular time. It encompasses constantly interacting sets of physical (natural and man made) elements and non-physical, living and non-living (e.g. social, cultural, religious, political, economic) systems, which determine the characteristic features, growth and sustainability of both the component elements of the environment and the environment itself (Johnson,1992, Muoghalu, 2004). Hence, sustainability in this context relates to the ability of the ecological, economic and socio-cultural systems in a manner that does not limit the possibility of meeting the present and future needs of the various components and aspects of the environment. It can also be viewed as the carrying capacity of the supporting ecosystems (Marcuse, 1998).

Evidences suggest that the prevailing global environmental degradation poses serious threat to sustenance of capacity of the ecosystem. Therefore, environmental sustainability has taken priority position in housing, infrastructure provision, planning, land use and urban development among others (Marcus, 1998; Aribigbola, 2008).

Urban areas are centres of arts, culture, education, entertainment, technological innovations, specialized services and

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“economic engines” (Kadir, 2006; Kjellstrom and Mercado, 2008). The products of urbanization come with far reaching economic, and socio-spatial and health implications. The ecological and sociological “footprint” of cities has spread over wider areas and fewer places on the planet earth are unaffected by this phenomenon. Changes in the ecology of urban environment occasioned by increasing population, overcrowded habitations and uncontrolled exploitation of natural resources may have accounted for this wide ecological footprint of urban areas which is not peculiar to developing countries (Acho, 1998: 7; Marmot, 2006; Hales, 2000).

Agbola and Agbola (1997) and Areola (2001) clearly indicate that the spatial structure of Nigerian cities evolved before, during and after the colonial rule in the country made the introduction of modern infrastructural facilities very difficult and expensive, especially when dealing with areas having the bulk of ancestral homes of indigenous people. It is also opined by demographic experts that the high rate of urbanization put at 5.3 % in Nigeria, which is among the highest in the world, has the tendency of spurring up environmental degradation (Goldein, 1990).

Closely related to this is the fact that most urban areas in Nigeria have grown beyond their environmental carrying capacities and existing infrastructure (National Population Commission, NPC, 1998). For instance, the 2006 Nigeria’s national population census data (FRN, 2007) revealed that most of the urban areas in Nigeria with small land mass have their capacity to take further population increase already exhausted or extremely limited. With a population figure of more than 140 million and land mass of about 924, 000 km², current estimates indicate that 10% of the land areas accommodated 28% of the country’s total population (Taylor, 2000). The implication of this is that there is disequilibrium between the population and the environment, and this has adversely affected the carrying capacity of the urban areas in the country, hence the increasing poor quality of the living conditions and the low livability index of urban areas in Nigeria.

Causes of environmental degradation in Nigeria

Several studies (see Nduka, 2004; Mba, 2004; Bulama, 2005; UN-Habitat, 2005; Agukoronye, 2004; Agbola & Agbola, 1997 and Areola, 2001) have identified many of the environmental problems in Nigeria. These problems include the high rate of urbanization, psychological orientation of urban residents on the environment as well as poor environmental management practices.

The true cost to the Nigerian economy arising from environmental degradation and the depletion of natural resources is unknown. World Bank estimate conveys an idea of the magnitude. A decade ago, the bank put the annual loss of Nigerian natural resources to environmental degradation, assuming that no form of remedial action is taken, at US\$5 billion (World Bank, 1995). An understanding of the true cost of environmental degradation and the depletion of resources in Nigeria is important. Policies are made in order to solve environmental problems, but effective implementation is yet lacking and policy aims and objectives are yet to be achieved.

Every State of Nigerian federation suffers from one form of environmental problem or the other in varying degrees. The northern part of the country is being literally “blown away” by wind erosion, while the southern part is being washed away into the ocean, according to the description of Mr. McNamara, former President of the World Bank. Wind erosion could be quite severe in States such as Sokoto, Zamfara, Kebbi, Katsina, Kano, Jigawa, Borno and Yobe. Farmlands become inundated by drifting sands which bury young crops. Roads and sometimes huts and public buildings may be completely buried by active sand dunes rising sometimes up to 12 metres high.

The major environmental problems and their causes in Nigeria are highlighted here-under.

Urbanization:

This is caused by high population growth rate and rural-urban migration. In Nigeria, it is characterized by city slums with serious environmental consequences. The problem is acute and exemplifies

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the inability of development measures to keep pace with the rate of population growth. Environmental conditions in cities have gradually deteriorated due to the rapid growth of the cities and the attendance inability of social services and infrastructures to keep pace with the rate of growth. The problem of the disposal of refuse is quite serious because of the rapid rate of generation of non-biodegradable materials, such as plastics. Inadequate storm drains, dumping of refuse in drainage lines and construction of houses close to or even on the natural water channels have been shown to be responsible in that order for the increasing cases of flood in the urban centers. Environment problems associated with the increasing growth of urban slums, including overcrowding in squalid housing conditions, poor quality or unavailability of basic infrastructures and social services, such as water sewage facilities, and even lack of access routes (NEST, 1992).

Overpopulation

Population is a major factor in all environment-related issues. Overpopulation causes stress on the environment. Environmental problems, such as overpopulation, degradation, erosion, desertification, etc. are caused by man's misuse of environmental resources (Abumere, 2002). Until very recently, Nigerians regard their "large population size" as a symbol of greatness, power and prestige and tend to resist attempts to reduce it drastically. It is only just becoming clear, that over population is forcing traditional societies to abandon age-old production systems and resources management techniques that allowed them to produce enough food for themselves at minimal impacts on the environment. There are evidences everywhere of rapid decline in environmental quality and human living conditions by rapid increase in human numbers. Under such stressful situation, "it will be easy for people to become so exigent, worrying only about what to get out of the environment for their own immediate needs and uses, without caring very much for the consequence, especially, for succeeding generations (Mabogunje, 1985: 13).

Nigeria's National Policy on Population for Development also made the observation that "the present high rate of our population growth is already contributing substantially to the degradation of the ecology of the country. It observes that land fragmentation, over-farming and over-grazing have led to soil erosion and desertification and that overcrowding has led to the spread of shanty towns and urban slums, all of which would worsen if the present population growth continues (FGN, 1988; NEST,1992).

Deforestation

A forest is a large area of land with trees and noticeable in area with sub-equatorial and monsoon types of climate. The importance of the forest to man cannot be over emphasized. They act as sanctuary for rare and /or endangered animals. Forests act as storm breaks, thereby protecting the towns and villages from destruction. They provide useful products, such as wood and charcoal for fuel, fibre for paper and textiles, and medicine from the bark and leaves of some plants. Forests are breeding ground for animals, erosion checks, and sources of food and materials for building houses.

Deforestation is a process whereby trees are felled for several purposes, but without replanting to replace the ones felled. Deforestation is dangerous to man, animals and properties. It leads to erosion of the soil and storm, which can cause destruction of properties, crops and animals. When forests are cleared, the soil are exposed to erosion devastation, floods occur, and rivers and lakes are filled up with silt. The water becomes dirty and impure for mankind. The removal of tree canopy (particularly the leaves) has effect on the rainfall of that area, as there is less leaf surface area for the transpiration of water, which in turn affects the relative humidity of the atmosphere. The repeated cultivation of crops on cleared area of plants tends to exhaust the soil of its mineral content.

Deforestation in general - for agricultural development, urban growth, industrial expansion and pressure from an increasing population - has reduced the extent, diversity and stability of the

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Nigerian forest. The Food and Agricultural Organization (FAO) estimated that Nigerians destroy about 600,000 hectares of her forest every year through careless exploitation and husbandry. This has been implicated for a number of worsening environmental problems in the country, including soil erosion and infertility, desertification and flooding.

Desertification

Desert is a barren, waterless, treeless and often sand-covered land, such as Sahara, which spreads across Africa continent. Desertification is, therefore, the encroachment of the desert on the land that was once fertile. Desertification can be induced either by natural process or by the action of man. Natural hazards, such as drought and deposit by winds, are prime factors in the desertification process. Desertification is more pronounced in the northern part of the country, where the Saharah desert has eaten deep into the once fertile land. The Lake Chad basin which is situated in the area is not left out of desertification. The lake basin has 24,000 km² in 1963 to about 3,000 km² in 1984. This is due to natural hazards (drought and sand particles transported by winds to the area) and man's unwise use of the lake environment.

Desertification is dangerous to man. It leads to famine, diseases, and destruction of crops, livestock and man. It can be controlled through irrigation, terrace ploughing and planting of trees and grasses.

Pollution

Environmental pollution can be categorized into three groups. These are air or atmospheric pollution, aquatic or water pollution and land or surface area pollution. The World Health Organization (WHO, 1990) defined air pollution as "limited to situation in which the outer ambient atmosphere contains materials in concentrations which are harmful to man and his environment". Man's activity on the earth surface has largely degraded the quality of the lower atmosphere. The growth and

development of industries and urbanization has contributed greatly to the excess carbon monoxide produced by combustion and other human activities. Carbon monoxide reacts with the blood vessel and prevents it from taking up oxygen and the people are suffocated. In Nigeria, several rural towns that had in the past enjoyed fresh and dry air are currently experiencing air pollution problems due to industrialization process and expansion in human activities (Obajimi, 1998).

Aquatic or water pollution is the discharge of unwanted biological, chemical and physical materials into water bodies from man's environment. The pollutants are usually chemical, physical and biological substances that affect the natural condition of water. This incidence is responsible for the wide spread water contamination in most Nigerian cities. Also, solid wastes have equally flooded the water ways in these urban centres.

Land surface pollution is the occurrence of unwanted materials or waste on land. The commonest pollutant on land is the waste products that are often scattered on land area in the cities. According to Onwioduokit (1998), most environmental problems are due to the production or consumption of goods whose waste products translate easily into pollutant. It is believed that the emergence of urbanization is responsible for the rapid accumulation of solid waste. However, it would appear that the growth of urbanization and industrial development coupled with improper waste management control have added a great dimension to land area pollution in Nigeria.

How far has Nigeria fared in it's policy?

The environmental policy is the foundation of the environmental management system (EMS) through the provision of a framework for action and the setting of environmental objectives and targets. Maintaining the quality of the environment is of high priority in Nigeria. Commitment to safeguarding the environment and the prevention of pollution through effective implementation of environmental policies is crucial for the protection of the environment.

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According to Nwafor (2006), the generic process of project-level environmental impact assessment (EIA) was institutionalized in the United States (US) as a requirement of the country's National Environmental Policy Act of 1969 (NEPA), which was signed into law at the beginning of 1970. In the three and half decades of its existence, project-level EIA has evolved considerably in scope, tools, techniques and methodology. However, the generic aspects which characterize all impact assessment work, such as public participation or involvement, screening and scoping, impact identification, prediction, monitoring and evaluation, have persisted. By the 1970s, the environmental movement that began in the 1960s had built up public awareness about the interactions between the environment and development. As a result, a tide was created which few elected office holders would dare to miss or oppose. First, President Richard Nixon responded to the movement in May, 1969, by establishing a President's Council on Environmental Quality (CEQ), with himself as Chairman, to implement environmental policy decisions. Then, the Congress, which would not accept to be outdone in this environmental enterprise, decided to set in motion the legislative machinery to make the relevant law.

Congress passed the National Environmental Policy Act (NEPA) to ensure that environmental concerns would be considered in all federal agency decisions which were in any way related to resource management. Oversight of this expansive mission was assigned by NEPA to the newly formed CEQ, which was to reside within the Executive Office of the President. With CEQ oversight, a regulatory infrastructure began to take shape after NEPA. Congress formed the U.S Environmental Protection Agency (EPA) and passed important legislation underlying the current US system of environmental laws.

The Federal Government Protection Agency (FEPA) Decree 58 was passed on 1988 in Nigeria. This was to work out rules on how to handle the environment. But, before this, there were other laws and acts of Government relating to environmental protection. These include the Mineral Act of 1969, 1973 and 1984, the Oil in Navigable

Water Decree of 1968, Associated Gas Injection Act of 1969, and Chad Basin Development Act of 1973, to mention but a few (Schmidt, 2003).

These Laws and/or Acts were promulgated to address specific and identified environmental problems. They were narrow in scope and spatially restricted. Decree No. 58 of 1988, as amended by Decree 59 of 1992, which gave birth to FEPA (Now Ministry of Environment) empowers the agency (now inistry) to have control overall issues relating to Nigeria Environment, its resources, exploitation and management (Eneh & Agbazue, 2011).

Despite the legal backing and funding, which FEPA enjoys from the Federal Government of Nigeria, the level of success so far recoded by FEPA is a far cry from her set objectives and goals. This is because the rate at which the environment is being degraded is growing worse than what it was before the establishment of FEPA. For example, urbanization, deforestation, desertification, and pollution are now more remarkable than ever before. If appropriate techniques and technology of environmental protection and management are not put in place, Nigeria may become a difficult country to live in the next 15 years.

FEPA, as an institution or agency, is foreign to the people of Nigeria. It is not indigenous. The concept or idea did not evolve from the people's tradition or way of life. FEPA is very far from the people and the environment. Its officials are like tax collectors of the olden days. As a development strategy, FEPA is "top-down" and not "bottom-up", which is more popular. For FEPA to succeed, certain basic ideas about environmental management have to be conceptualized.

Before modernization came our people were tied too close to their environment. They have the technology of utilizing the resources within the environment, and protecting same from despoliation. In this regard the concept of FEPA should be community-based. In the dissemination of modern and scientific methods of agriculture, the agency creates what is called "Agric cell". Agricultural officer

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attached to each cell goes to educate the people about modern methods of crop cultivation. In a similar vein, environmental protection officers should be sent to one or group of communities to enlighten them on modern methods and techniques of environmental protection. The framework, which should be community-based, will be organized at the following levels:

1. Ward (a group of communities, or streets in the case of urban centres);
2. At the Local Government level there should be some power to punish erring offenders;
3. State level; and
4. Federal level.

Community participation is very important and where ever it is adapted, remarkable success has been achieved.

Recommendations

Environmental protection techniques need to be cultured, home-grown and the framework should be “bottom-up”. It should be community based. The framework should be organized at the village or community level. A number of communities should be grouped together from the (political) Ward level to Local Government level. Environmental protection agencies at the local government level should be empowered to punish offenders.

The environmental protection officers should be fluent in the local language(s) of the area of their jurisdiction. This is because a majority of those who are engaged in tilling and ploughing the soil do not have the western education (Omofonmwan, 2000). When the people become aware of the effects of their unwise use of the environment, the goals of the National Policy on Environment will be easy to achieve. The addition of environmental awareness education courses to the curricula of primary and post-primary schools is important.

From the evaluation of the country's past programmes on policy on environmental problems, policy discontinuities and weak institutional capacity have impacted more adversely on the poor than physical developments and their biophysical impacts. The mandate of the Federal Ministry of Environment (FMENV) could be upgraded to promote and support poverty alleviation as an integral part of the environmental management.

Conclusion

The environmental problems in Nigeria are acute, pervasive and increase rapidly. This should be a source of great and justifiable concern for all today. The effect of pollution on air, aquatic or water and on land has adverse impacts on health and economic activities. The increasing population pressure, the decline levels of water tables and more airborne and water-borne pollution from industries and domestic waste. Underpinning all these problems are poor management capabilities and corruption which hinder effective government policies. Allied to these is the fact that in Nigeria the environment has so far not been seen as an important matter by the politicians, companies and individuals. The re-examination of the environmental problems provides the avenue for the EIA to be seriously involved in all the issues concerning the environment in order to make and implement policies to tackle the various environmental problems.

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