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Environmental Problems of Industrialization and Sustainable Development in Nigeria - A Review

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Abstract

The main objective of this paper is to examine the impact of the quest for industrialization on the environment in Nigeria; others include, the identification of the objectives of sustainable development as well as making recommendations that will lead to the much needed sustainable environment both for the present generation and generations yet unborn. The researcher relied principally on secondary sources of data for this paper which is theoretical in approach. Findings revealed the emergence of a host of environmental problems such as air pollution, deforestation, desertification, solid and hazardous waste problems in the wake of the quest for industrialization. The writer recommends the adoption of market based approaches to environmental protection; good regulatory policies; adoption of trade policy in relation to environment and a host of other measures to ensure environmental sustainability in Nigeria.

Keywords: Sustainable Development, degradation, waste, industry, environment

Introduction

It would seem far-fetched to convince a typical Nigerian on the threat that environmental problems poses to life in general. This is to be expected given the grim social realities confronting the average Nigerian. Faced with the menace of poverty, unworkable social services and chaos in government and its bureaucracy, the focus of the average citizen is on making ends meet. However, events across the world and even in Nigeria reveal two facts that pose ominous threat to human life even in Nigeria. In the first place, poverty can be related both in cause and effect terms to the environment. Secondly, the environment by virtue of man's entire dependence on natural resources and land remains the only means of sustaining life on earth. Therefore, even the remotest and darkest end of the globe cannot escape from the threat posed by environmental problems of today.

Obviously, environment in the above context refers to the physical environment –land water, the ozone layer and the resources and lives therein.

The genesis of the environmental problem can be traced to the developed world where the beliefs in the infinite nature of the environment and the ability of technology to overcome environmental limitations led to a carefree attitude to environmental issues and practices. But the emerging reality shows that far from being infinite, the environment is basically finite. In other words, we can hardly increase the environment. Definitely, one can reclaim land from the sea or engage in some other form of changing the basic use pattern of part of the physical environment. But, the reclamation of land from the sea does not in any sense add to the total environment but increases available land space while narrowing the expanse of the sea.

This realization brings us to the myth of the technology as a cure for the environment. The misplaced faith in technology which led to a ferocious attack on the environment is based basically on a misunderstanding of the influence of the technology on the environment and environmental problems. In fact, technology also further compounds the problem. It is beyond argument to state that most problems of environmental depletion nowadays are the direct results of the efforts to expand the frontiers as well as the consequences of high technology consumption in the immediate past.

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The point is that the magnitude of environmental problems has become so great that the eventual survival of the human race on earth is quite uncertain. In developing nations like Nigeria where concern with the environment is at best at the back-burner of public discourse, the challenges of daily living made safe environmental practices largely out of the realm of the worries of the ordinary man. In spite of the existence of environmental protection agencies at both federal and state levels, a meaningful monitoring of environmental practices both at household and industrial levels is almost non-existent.

Rather than calling for economic growth to be reined in, more recent developments turn on the notion of environmental and sustainable development. The concept of sustainable development is of recent origin. The term "sustainable development" was first used by world conservation strategy presented by the international union for the conservation of nature and natural resources in 1980. It was commonly used and defined for the first time by the Brundtland report, entitled "our common future" of The World Commission on Environment and Development in 1987 (Pearce, Barbier and Markandaya, 1990). The authors of the report argued that the use of the earth's resources in the wake of globalization by the present generation was unsustainable. Sustainable development is one of the Millennium Development Goals (MDGs) which have been agreed by 191 states around the world as they aim to reduce many forms of poverty in the coming decades (Giddens, 2006).

There are many definition of sustainable development; the most popular definition is by the Brundtland Report. The report defined sustainable development as "meeting the needs of the present generation without compromising the needs of future generations". Sustainable development means that development should "keep going". It emphasizes the creation of sustainable improvements in the quality of life of all people through increases in real income per capital, improvements in education, health and general quality of life and improvements in quality of natural environmental resources. Thus, sustainable development is closely linked to economic development. It is a situation in which economic development does not decrease over time. Sustainable development is development that is everlasting and contributes to the quality of life through improvements in natural environment. Sustainable development describes a process in which natural resources base is not allowed to

deteriorate. It emphasizes the hitherto unappreciated role of environmental quality and environmental inputs in the process of raising real income and the quality of life (Jhingan, 2003).

The main objective of this paper is to theoretically examine the impact of the quest for industrialization on the environment in Nigeria; identification of the objectives of sustainable development as well as make recommendations that will lead to the much needed sustainable environment both for the present generation and generations yet unborn.

Method of Data Collection and Analysis

The researcher dwelt mainly on the secondary sources of data for this work. Thus in drawing up conclusion for this work, the researcher consulted extensively and made use of literature from research reports, government documents, institutional publications and a host of statistical reports. Consequently, the researcher adopted the content method of data analysis to analyze the information gathered through the earlier mentioned secondary sources of data

Objectives of Sustainable Development

Sustainable development aims at the creation of sustainable improvements in the quality of life for all people as the principal goal of development policy. Accordingly, sustainable development has many objectives. Besides increasing economic growth and meeting basic needs, the aim of lifting standards involves a number of more specific goals such as bettering people's health and education opportunities, giving everyone the chance to participate in public life, helping to ensure a clean environment and promoting intergenerational equity (World Bank, 1992).

Further, sustainable development aims at maximizing the net benefits of economic development, subject to maximizing the stock of all environmental and natural resources assets (physical, human and natural) over time. It also aims at accelerating economic development in order to conserve and enhance the stock of environmental, human and physical capital without making future generations worse off.

Environmental Problems of Nigeria

The environmental problems of a country depend on its stage of development, economic structure, production techniques in use, and the environmental policies. Though Nigeria has been under the scourge of inadequate sanitation and clean drinking water, in the wake of the quest for

industrialization and the concentration of industries in Nigeria by the western developed countries, air and water pollution is now the order of the day (Tyler, 2000).

Urbanization which is the concomitant result of economic development and industrial growth has led to atmospheric pollution. Increasing vehicular traffics is the most important source of air pollution in big cities. Other sources include two stroke engines, old vehicle, traffic congestions, bad roads and obsolete automotive technologies and lack of traffic management system. The problem of industrial pollution is acute in areas where petroleum refineries, chemicals, iron and steel, non-metallic products, pulp and paper and textiles industries are concentrated. Even small scale industries like foundries, chemical manufacturing and brick making are significantly air polluters. Another source of air pollution is thermal power generation plants. Because of the quest for industrialization by African countries and the resultant effect of globalization, air pollution has become a serious environmental problem today. According to Oluwole, et al (2005), in industrialized nations of the West, transport account for roughly 50% of urban air pollution. By comparison, the result of Lagos ambient particulate portrays transportation as accounting for 15% of the particulate while the contribution to gaseous pollutant in Lagos is much higher (>80% in parts of Lagos).

The economic growth to some extent witnessed in Nigeria has also created the problem of water pollution. The main source of water pollution in Nigeria today are the waste flushed down the domestic sewage, industrial affluent containing organic pollutants, and wastes of chemicals, heavy metals and mining activities. The major water polluting industries are refineries, fertilizer, pesticides, chemicals, leather pulp and paper (friends of the earth, 2009). These sewage wastes and industrial affluent flow to lakes, canals, rivers, coastal areas and underground water sources. Since they are untreated, they endanger aquatic resources like fish and other water creatures and commercially important marine flora and fauna (Giddens, 2006). The polluted and untreated water causes water borne diseases like diarrhea, hepatitis, gastro-enteritis, trachoma etc which plague Nigeria today.

The outbreak of cholera in Ohaozara area of Nigeria in 1991-1994 is a case in point here. In the Kano area the filamentous iron bacteria leptothrix and crenothrix were found abundantly in nearly all

the boreholes in the Bompai (Egboka, 1998) area, on the outskirts of Kano municipality. The pollution was traced to the myriads of refuse tips made up of the waste products from sugar, sweets, and biscuits factories in Kano. In the area of oil spill resulting from petroleum exploration, an average of 221 spills per year, involving a total of some 7350 barrels of oil a year is recorded by Shell Petroleum Development Company of Nigeria. This is in addition to 9710m of oil spills as a result of sabotage (SPDC, 2005). According to Igbo and Anugwom (2002), in the Niger Delta region of Nigeria, the activities of oil companies have jeopardized the safety of the waters in the region. Regular oil spillage has meant a disappearing aquatic life and very unsafe water for the inhabitants, a situation that is, a source of constant bickering between the oil firms and the communities in the region. The existence of lead and other dangerous chemicals in drinking water sources should be seen as really health threatening. In fact, exposure to excess lead stunts growth and can lead to a variety of other deformities and illnesses in man.

Deforestation and the resultant desertification pose a grave danger to the environment in Nigeria in the wake of the current development quest. Deforestation leads to felling of tress and of natural plant growth for setting up industries, and building towns, roads, highways and dams etc. This destroys flora and fauna. It leads to localized flooding in hilly and adjoining areas. There is also loss of human and animal life. The green landscape changes into factories, residential and commercial buildings. They produce more heat, noise, and pollution which bring environmental degradation and ultimately result in death of humans and cause of birth defects and genetic mutations (David and Edward, 2007). The extent of desertification in Nigeria has not been fully established neither the rate of its progression properly documented. Nevertheless, it is estimated that the country is currently losing about 351,000 hectares of its landmass to desert conditions annually, and such conditions are estimated to be advancing southwards at the rate of 0.6 per year (Federal Government of Nigeria, 1999).

Globalization and its tactics of concentration of industries in Africa countries has also created the problem of solid and hazardous waste in Africa. As a matter of fact, solid wastes create air and water pollution in urban areas where industries are localized in African countries. As a result of globalization and its so called effect of

urbanization there is the emergence of the problem of unregulated urban growth without such facilities as collection, transportation, treatment and disposal of solid wastes which pollute the atmosphere and water resources. Rotting garbage and block drains that characterized African countries in the present era of globalization spread communicable diseases and pollute ground water resources (Andrew, 2000).

Every country is endowed with unique phytogeographical and agro-ecological diversity comprising of a wide variety of agro climatic zones and plenty of plant and animal species. The biodiversity is found in forest, grasslands, mountains, water lands, deserts and marine ecosystem. With the emphasis on economic and development, there is increasing expansion of agriculture, reckless exploitation of forest and mineral wealth as well as the development of projects in biodiversity areas. This has led to deforestation of habitats. Consequently, there has been extinction of plants, animal and microbiological species and loss of genetic resources (Steve and Woodwards, 2000).

Deforestation leads to felling of trees and of natural plant growth for setting up industries, and building towns, roads, highways and dams etc. Deforestation appears to be a big problem in the rural areas. Deforestation implies the increasing shortening of forest (especially virgin forest) by agricultural activities and the negative effects of exploitation on both the quality and quantity of vegetative cover of the forest. Deforestation results essentially from an increasing demand for more land space by arable agriculture which may result from one or a combination of two factors viz population pressure and/or declining fertility of available agricultural land which calls into need the demand for new land. Also, contributing enormously to the problem is the demand for industry and urbanization on forest land. This point has been succinctly made by Salau, (1992) who posits that about 5% of forests in Nigeria is lost yearly through the above demands

Conclusion and Recommendations

From the discussion so far, it is glaring that Nigeria especially in the present dispensation is facing a lot of environmental problems which do only pose a big threat to the present generation, but generations of Nigerians yet un-born. These problems results from the quest to industrialize; grow economically and be ranked among the leagues of developed countries. To overcome or

minimize the threats posed by this development, the following is recommended.

Firstly, there is the urgent need for adopting market based approaches for the protection of environment. The approaches will point to the consumers and industries about the cost of using natural resources on the environment. These costs are reflected in the prices for paid goods and services so that industries and ultimately the consumers are guided by them to reduce air and water pollution in this era of globalization. The market based instruments (MBIs) approaches should be vigorously pursued by Nigerian authorities. MBIs are of two types; quantity based and price based. They are in the form of environmental taxes that include pollution charges (emission tax/pollution taxes) marketable permits, depositors fund system, input taxes/product charges, differential tax rates and user administrative charges and subsidies for pollution abatement equipment for air and water resources (Jhingan, 2003).

Aside this, good regulatory policies can also help to reduce environmental degradation and so ensure a realistic environmental and sustainable development. Regulators have to make decisions regarding price, quantity and technology. In making decisions, they have to choose between the quantity and the price of pollution or resource use or technologies. The regulating authority has also to decide whether policies should target the environmental problem directly or indirectly. It should lay down technical standards and regulations and charges on air, water and land pollutants. Regulators should be impartial in applying environmental standards to both the public or private sector polluters and resources users (Bill, 1990).

Like regulatory policies, economic incentives relates to price, quantity and technology. Incentives are usually in the form of variable fees to resources users for the quantity of pollutants in air, water and land use. They are to be given rebates if less wastes or pollution is generated than the emission standard laid down.

One other good way through which environmental and sustainable development can be attained in Nigeria in this era is trade policy in relation to environment. This as a matter of fact has two implications first for domestic policy reforms and secondly for international trade policy. Domestic trade policy emphasize on the establishment of less polluting industries away from the cities and

the use of environmental friendly processes for polluting industries by adopting cleaner Technologies. As regards quality, controversy has been going on as to whether liberalized trade, one of the brain child of globalization causes environmental degradation. The controversy leads to the conclusion that overall trade liberalization is likely to produce negative environmental externalities. Cost effective policies that optimize externalities should be adapted. Environmental degradation from free trade should be reduced by strict domestic policy measures based on the polluter pay principle. (David and Edward, 2000).

There are many international conventions and agreements on environmental protection and conservation which every country is expected to follow. They include the Montreal Protocol regarding the phasing out of ozone depleting chemicals; The Basel convention which relates to the control of Trans- boundary movement and disposal of hazardous wastes. Among others, there is the Rio declaration on environment and development and the Agenda 21 which is the operational programme for sustainable development. Not all countries are signatories to the various agreements and conventions. Nigeria should be a signatory to these global environmental efforts.

Lastly, public awareness and participation are highly effective in improving environmental conditions. Conducting formal and informal education programmes relating to environmental management and awareness can go along way in controlling environmental degradation and keeping the environment clean. For instance, the scheme of eco-labeling of products helps consumers identify products that are environment friendly. In Japan, there are consumer co-operatives that popularize green products which are recycle able, biodegradable, rechargeable, ozone friendly and unleaded. As a further step, firms, industries and other establishment in Nigeria have to disclose in their annual report the extent to which they are adopting environmental friendly measures (Giddens, 2006). Nigeria should follow this path if realistic environmental and sustainable development is to be achieved in this era of globalization.

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