

IMPROVING ENVIRONMENTAL MANAGEMENT PRACTICES IN NIGERIA

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Abstract

Housing environment in Nigeria is characterized by increase in soil erosion, flooding, increasing problem of domestic and industrial waste disposal, among others. Hence, the situation poses serious problem in obtaining efficiency in environmental management practices in Nigeria. This paper, therefore reviews the environmental practices in the country and proposes the use of Environmental Impact Assessment, Efficiency in legal framework, flood and erosion prevention and management strategies, Environmental information and technology, centralized techniques, enhanced process of mineral exploitation as well as efficiency in Urban Pollution control to ameliorate the situation.

Keywords: *Environmental management practices*

Introduction

The Nigerian environment is 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 waste disposal and pollution (Nwafor, 2006). Since the 1980s, human related activities, especially development projects in the oil and gas sector, have led to the acceleration in the loss of top soil and deforestation, loss of habitat, loss of species and loss of biodiversity and degradation of wetlands. Environmental degradation has resulted in the deterioration of Nigeria's urban and rural environmental quality, which is characterized by water shortages and floods. Other characteristics of the Nigerian environment are drought and desertification, both of which threaten food security and the nation's ecological integrity and are drivers of population displacements.

There is no doubt that the earth we currently inherit is mainly man-made at the land surface, and to an extent above this surface including parts of the ocean. The fundamental fact still remains that biogeochemical flows and cycles of energy, carbon, and nitrogen are still the basis of the human life-support system. We may have greatly modified nature we have by no means been able to replace it.

It is therefore pertinent that effective and efficient environmental management techniques be adopted in handling our environmental problems. This paper therefore reviews the existing environmental management practices in Nigeria and proffers solutions towards attaining effectiveness.

Genesis of environmental management in Nigeria

Environmental management in Nigeria is as old as Nigeria. However, 1900 has been mentioned as a modern date of its development (Jaja, 1995). Sir Ralph Moore's administration in Southern Nigeria on the 22nd of January 1900 issued a policy circular no. 47 on the management of the environment. The circular was based on conservation and payment of royalties to local leaders in Southern Nigeria. Several rules on forest management were enacted and enforced by forestry inspectors who also became government advisers.

By 1906 the forest reserves system had been formalized. Among the prominent ones were Ilaro Reserve, Ibadan Reserve, Mawa Reserve, Olokemeji Reserve, as well as the Osun River Reserve. In the same year, game reserves were approved, among which were Gwato Game Reserve in Edo, Anambra, Greek Game Reserve in Anambra State and Oban Hills Loame Reserve in cross River State.

However, there are various schools of thought as to when environmental management began in Nigeria. The first school of thought is of the opinion that environmental management in Nigeria began as a novel development. This school of thought is often referred to as the monistic school of thought. They advocate that environmental management in its proper sense, began in Nigeria just recently – the post civil war days (Jaja, 1993). According to this school, any thing done before then in the name of environmental management was considered as waste and devastation of Nigeria's environmental resources only for the benefit of the industrial revolution in Europe.

The second school of thought – the dualistic – emphasizes the relevance of the past for the benefit of the present. Both the past and the present are regarded as complementary in many respects. The dualists are of the view that the problems of environmental management in Nigeria are basically buried in the colonial past. They believe that if meaningful development in environmental management is to be achieved; the past and the present are relevant and must be viewed as such.

The third school of thought is the holistic or three dimensional school of thought, which sees environmental management as existing in three phases of development (Jaja, 1995). These are the early phase, the later phase and the developed phase. The developed phase is currently not obtained in Nigeria but it is being used in developed nations.

Review of environmental management practices in Nigeria

Although environmental management globally has grown to three environmental phases, in Nigeria, it may be grouped under two phases. This is so because Nigeria is currently in the second phase (Jaja 1995). The two that have existed in Nigeria include the classical and neo classical phases.

Classical phase

This phase has three basic developmental stages.

Stage one (1900-1914)

It could be simply said that environmental management was established between 1900 and 1914. The techniques at this time included the use of autocracy, rules extreme de-centralization, imposition of imprisonment with no option of fine at the slightest reach of the rules. Environmental management effort was directed to urban and rural development which included among other things, housing building lines control in European Reservation or Government Reservation Areas, environmental sanitation in the urban and rural areas, control of open spaces, control and management of industrial sites, mining sites and other areas.

Stage two (1914-1936).

Environmental management was neither focused on any planned development programme nor on a systematic management processes during this period. It was centralized and controlled from Lagos following the amalgamation of Northern and Southern protectorates in 1914. Four sectors were identified and controlled centrally, and they include, agriculture, works services and general administration, industrial, and social and environmental education.

In the agricultural sector, forest reserve establishment became a national programme. Others include forest conservation, forest regeneration and soil conservation projects. Also entailed in this area were projects such as management of parts and gardens including village plantations through local chiefs, and native Administrators. Wildlife conservation and preservation, irrigation and dams were also inclusive.

The works services and general administration sector assisted in the direction of environmental management to ensure efficiency in road construction, building drains and bridges in a form that assures safety to traffic and reduced the incidence of flooding. Drainage camps were constructed at considerable distances and every labourer was assigned a minimum of three miles to maintain on the road by cutting of tufts, grasses on both sides of the road and by earth-filling of pot-holes or coal tarring of minor breaches on roads. The works department also cleared and maintained all water ways either directly or through the native administration or local chides. Sea and river banks were protected by means of breaks in Calabar, Lagos and Port-Harcourt. Dredging of seas and rivers particularly in major port towns were carried out to ensure navigable waterways, free access to port services and less danger to slipping.

Industrial pollution on the sea, air and land at this time was apparently uncontrollable. Little to no attention was almost given to management of effluents into the seas, rivers, lakes and other water bodies. Indeed, the period marked the spring up of environmental management institutions which included forestry school Ibadan as well as the forest school, Zaria. Distribution of Chlorinated water was popular only in large cities with few communities benefiting from it. Noise pollution was unchecked in the non-European areas but was totally banned in the government Reserved Areas.

Stage Three (1937-1950)

This stage marked a period of consolidation for environmental management integrating planning for effective environmental management. Isolated planning was notably employed and of note was the planned forested development scheme of 1937. Forestry programmes and environmental management were closely planned and integrated to a considerable extent to achieve better success. A policy was formulated that 25% of total land area should be constituted into forest researches throughout Nigeria.

Within this period, the forestry Action plan for Nigeria became the most important single organ for implementation and management of Nigeria's environment. This blue print divided Nigeria into three main belts of reserves and pointed out the strategies for environmental management in a micro sense in the three zones; the Southern, the midland and the northern zones. In the Southern zone, all mangrove forests, timber concessions, forests of hilltops and steep slopes were reserved as long as the approval percentage was not exceeded. Forests were classified into forest reserve and subsumed in the environmental management schemes. Village plantations were established through the efforts of the local chiefs. In the northern zone, all the Geza and Fakakaya lanes were constituted into forest reserves. All farmers were mandated to separate their farmlands with hedges and drought resistant trees. Every individual was mandated to plant economic and shade trees along boundary lands, frontiers and erosion and shade trees along boundary lands, frontiers and erosion prone zones.

Besides, the period also saw the approval and implementation of the first limbs of the 10 year plan of development and welfare for Nigeria. Nigeria was lunched into to phase of planned development and environmental management. The four identified sectors formed the important components of the 24 major schemes in the action plan (Jaja, 1985).

Non-Classical Phase

This is the period of environmental management in Nigeria from 1951 to date. This phase possesses some features which include:

- Change from classical management procedure to human relation approach;
- Employment of human relations strategies;
- Medium term planning strategies;
- Popularization education and environmental education;
- Emphasis on environmental management on a wider framework;
- Introduction of the War Against indiscipline;
- The birth of the federal environmental protection Agency, which later led to the establishment of other environmental protection Agencies in the country.

Within this period former structures for environmental management remained basically in place except that departments became ministries and new corporations were established to replace civil service functions. Between 1960 and 1988 there were four development plans that influenced environmental management after independence. The first (1962-1968) has the federal and state government placing emphasis on environmental management. Industries were beginning to emerge but little or no attention was paid to pollution control, deforestation, soil erosion control flooding and control of slum. The second National development plan assisted financially while the third (1975-1980) provided more funds for sanitation, water supply, sewage, flood management. The fifth development plan (1981-1985) added environmental planning and protection. This eventually formed the background to several major developments which touch and concern environmental management in Nigeria. Among the important ones are:

- Serious concern on environmental planning and protection designed to check ecological imbalances with serious immediate and future consequences.
- Emphasis on the need for a national environmental planning and protection policy, which was eventually produced and launched in 1988
- Concerned with articulated goals, the need to formulate and produce for guidance of implementing ministries, departments and other agencies connected with environmental management.
- The establishment of a coordinating national agency, the federal Environmental protection Agency with Specified goals and objectives. The essence of setting up this agency was to meet the needs and fill the gap left by the defunct provincial development communities, Areas committees and the development Board of the 1930s and 1940s.
- Direct involvement of non governmental organizations in environmental management like the oil companies, Nigerian conservation foundation, World wide fund for Nature etc.
- The birth of environmental education. From 1990, a full-flown campaign on Environmental Education has been integrated into the Nigerian University Diploma and Degree Programmes. Among the pioneering institutions involved include; Lagos state University, University of Agriculture Abeokuta and University of Calabar. (Above, 2003)

Effective and Efficient Environmental Management Practices

The last few decades of the 20th century witnessed the emergence and steady ascendancy of sustainability as a new development paradigm. This new trend result in recasting environmental issues in the context of sustainable development (Munasinghe, 1999). The deriving forces have been the shift in paradigm from growth to sustainability, and the attendant

steady increase in understanding, acceptance, adjustment and implementation of the concept of sustainable development. Thus, since 1990s, the concept of sustainable development and its practical implementation have been increasingly considered by policy makers to be one of the most critical tools for achieving a balance between economic, social and environmental objectives (Aina, 1992).

Hence, effectiveness and efficiency could be said to be very essential in injecting vitality in environmental practices that are likely to be sustainable. However, the following practices, if effectively applied in Nigeria will go a long way in assisting environmental management in Nigeria.

Environmental Impact Assessment

Environmental management professionals and experts in developing countries have an interest in getting to grips with a clear appreciation of the importance, significance, implications and benefits of promoting sustainable environment through environmental impact Assessment Jones (1988). Smith (1993) made a strong case for a redefinition of the role of environmental impact assessment in order to enhance its capability as an instrument for achieving the goals of sustainable environment.

Thus, the strong view of the federal government of Nigeria in the philosophy that a small investment in prevention would be worth many times what would later have to be spent to repair any damage in the environment led to the enactment of environmentally impact Assessment Decree 86 on the 10th day of December, 1992 (Olomola 1998). The decree generally seeks to ensure that the likely environmental impact of implementing projects are provided consideration particularly at the early state of project identification and planning.

Even though the task of implementation of this decree has been placed on federal environmental Protection Agency, and that even some oil companies in Nigeria have environmental management departments, yet the decree is not effectively implemented. Hence, there is need for effective implementation of the decree to bring about sanctity in our environment.

Efficiency in Legal Framework

Several laws and policies on wild life protection, conservation and other aspects of environmental management have existed in Nigeria some of these laws were in existence before the Koko incident which led to the establishment of the federal environmental protection agency in 1988. The agency (FEPA) was among others empowered to establish effluent limitation for new point sources in industries which shall require application of the best control technology currently available, as well as for existing point sources which shall require application of the best management practice under circumstances as determined by the agency (Olomola, 1998).

Although penalties for pollution under FEPA Decree have been stipulated, there is need that these penalties can be further increased, particularly in the case of companies. Besides, how equipped is FEPA in this onerous task of control and management of pollution generally.

Furthermore, apart from the criminal sanctions being made either by a government agency or a third party under section 21 of FEPA Decree, a person or company responsible for the discharge of hazardous substance into the Nigerian waters should be made to pay compensation. Also in the case of liability to third parties under section 21 sub-section 1b of the decree, FEPA should not be made to be the determining authority as regards the amount recoverable and that the section should be amended to make it possible for such third party to directly sue the individual or company responsible for the environmental damage.

Meanwhile, for effective implementation of the task bestowed on FEPA, there is need for an environmental court with defined authority to act on the spot, as obtained in some advanced countries of the world.

Flood and Erosion Prevention and Management Cases

Recently, there have been outrageous cases of menace of flood cutting across the country. This has actually brought untold hardship to individuals concerned. In some cases various lives and property worth millions of naira have been lost. There is therefore need for this issue to be tackled so as to save a lot of Nigerians from being homeless if care is not taken (Emodi, 2012a).

In proffering solution, there is need to re-design and up date most urban areas in the country. In so doing, structures that hinder the free flow of storm water must be removed, and houses built without drains along flood and erosion plains must be identified and their owners compensated to construct deep drains for run-offs. Such drains must be constructed to empty not into rivers and seas as it is presently done, but into a central trough specialized constructed to receive storm water from sewerage and public drains. The waste content of the trough could be recycled from time to time and its sediments treated and solidified.

Sand filling, piling and construction of break waters, dykes and concrete drains could be carried out along coastal areas to prevent coastal flood and erosion menace in such areas. Also, if not along approved wharves which are protected with floating buoys or harbours with landing facilities, berthing by boats and ship should not be allowed. The environment should also be protected from the actions of fire wood cutters, gravel, limestone and quarry prospectors as well as from cattle grazing.

Environmental Information and Technology

Soft and hardware information technology could be used to create awareness in a given population about the environment. News broadcasting, play acting, debate in radio and television, seminars, conferences and group discussions could be used. This aims at reinforcing the need for attitudinal change among the people as it concerns environmental management practices in Nigeria.

Also advanced technology could be used in solving environmental problem particularly the problems relating to aquatic environment. The techniques involved include; application of process – simulation modeling, advice services, alarm and alarm handling as well as real time control system. Environmental processes, computer science appreciation, field hydraulic systems, storage and transmission techniques as well as data acquisition are some of the technological components.

Although environmental education is in existence in Nigeria, yet new strategies such as environmental information technology are necessary to ensure efficiency in environmental management, since this areas have not been explored.

Water Supply

The way irrigation and water supply are being conducted in Nigeria appears to be uncomplimentary to the country's search for effective and efficient environmental management (NEST, 1991). The process often adopted often leads to land degradation, spread of water borne diseases and sometimes flood and erosion, as well as land tremor.

The country could take cue from successful countries in this area. The advantages of Isreal model are worthy of mentioning. The creation of a central delivery system for water supply reduces maintenance cost and improves specialization. The whole country is brought under water supply grid, thus removing the need for isolated and wasteful water supply system and the consequent degradation of land, exposure of the country to water

borne diseases and the possibility of earth tremor. Hence worthy examples could be borrowed by Nigeria from such a developing nation and effective use of our rivers could be made for effectiveness and efficiency in our environmental management practices.

Centralized Technique

Even though Nigeria is similar in the steps of America with reference to the establishment of a Federal environmental Protection Agency yet the country unlike America and Canada has not placed the agency directly under the office of the president. This step is necessary so as to remove the ambivalence that now seems to exist between the Agency and the ministries.

Besides, the Federal Environmental Protection Agency in Nigeria has no authority over state environmental protection agencies. This situation is, indeed, regrettable and needs to be stopped immediately. In proffering solution, the federal Environmental Protection Agency may be made a federal institution that is state implemented. On the other hand, the Agency Board in every state with restricted but defined powers like the federal Revenue Court might be set up. Then states and local governments could be authorized by law to set up state Boards and committees to perform the rest of the functions not covered by the federal government laws.

Mineral Exploitation and the Hazard

The process of exploiting and extracting minerals in Nigeria has always constituted a hazard to life and property. In some other mineral producing industrialized countries, the multi nationals engaged in mineral extraction are compelled by stringent laws and environmental management practices to ameliorate or avoid excessive damage to life and property in their operational environment. In Nigeria, the laws are there

but the major problem is enforcement. Hence, there is an urgent need to reinforce grater hard work, caution and surveillance in the process of enforcement of environmental laws, rules and regulations in Nigeria. Federal Environmental Protection Agency needs to be effectively positioned to bring about a new change of heart among Nigerians and foreign investors in oil sector, so as to effect effectiveness in the environment, which the country deserves.

Industrialization and Deforestation

In as much as industrialization is essential to ginger development in any growing nation there is need to strike a balance between competing interest of industrialization and deforestation. It is advocated resorting to the old methods of forest reserve blocks and forest regeneration. This will involve all the tiers of government as well as communities, non governmental organizations, particularly multi-National companies. Timber prospecting companies should be made by an agreement to replant and nurse young plants in approved locations to satisfy a specified percentage of the total number of trees proposed to be cut.

Urban Pollution

Here again, there is competing interest between quality urbanization and pollution. Rapid urban population growth, among other factors, have compounded environmental quality problem (Emodi, 2012b). But then there is the need for a balance. Hence it is being advocated that urban areas in Nigeria should be clearly demarcated and planned or replanned in such a manner as to confine specific interests to specific areas; industrial locations at the urban fringe, markets at the urban fringe, supper markets and shopping centres in urban city centres, housing estate in appropriate locations with high rise buildings occupying designated locations, railway stations, air ports, sea and river ports at the urban fringe.

For liquid waste disposal and checking flood and erosion, central sewage system with large channelization arrangements should be introduced in every urban area. Liquid wastes as well as certain solid wastes could be collected centrally in a large trough and latter treated, solidified and passed to farmers as manure.

Conclusion

Environmental problems in Nigeria are acute and pervasive. It is evident that the rate at which biological resources in the country are being lost is increasing rapidly. In addition, the impact of population on air, water and land has wide ranging adverse implications of which the most critical are the rapidly increasing levels of poverty and the declining levels of quality of life for many people in the country.

There is yet more to come. Nigerians must brace up for less predictable weather patterns in the form of longer rainy seasons more severe storms and flooding in some areas, longer dry seasons and more drought in other areas.

This should be a source of great and justified concern today. The situation therefore calls for a concerted effort in handling our environment. There must be effective scientific techniques in the management of our natural resources. Our natural resources and our environment in general will be a better place to live within few years if we sincerely apply these techniques discussed.

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