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## THE URBAN ENVIRONMENT AND URBAN REFUSE MANAGEMENT IN NIGERIA

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### ABSTRACT

*Every human society produces solid wastes which if not properly managed would pollute the environment and cause health problems. In fact, there is always the problem of refuse management wherever human beings live. The problem is more pronounced in the densely populated areas where wastes are produced in large quantities. In Nigeria, there is serious problem of refuse management in the urban centres especially in the major towns and cities. In fact, the problem of solid waste management has reached a crisis stage. This has to some extent, affected the nation's drive towards sustainable development. (Meanwhile, it has been pointed out that the pursuit of the economic growth and development to the neglect of environmental considerations is likely to be unsustainable). Efforts made by the government at different levels to ensure the proper management of refuse have yielded little or no result. Realizing the importance of sanitary environment to human health and economic development, this paper examines the general problems of refuse management in the urban centres of Nigeria. Suggestions are given as to how these problem may be solved.*

### Introduction

Human beings produce wastes wherever they live but they are always facing the problem of how to manage them. In Nigerian traditional societies, normally people did not deposit solid wastes indiscriminately (Ademuwagun, 1978). They created open dumps where all refuse were deposited. Open dumps are the oldest and most common way of disposing solid waste in man's history (Keller, 1976). The waste is often piled as high as possible. In some instances, the refuse is ignited and allowed to burn. This is still the practice in Nigerian contemporary villages. But with the increase population and urbanization resulting in change of most places to commercial and educational centres, the waste disposal problem has become more acute.

During the pre-independence period, the city used to be kept clean by strict enforcement of the public health laws and regulations (Fantola and Oluwande, 1983). The sanitary inspectors were well known and feared. However, since independence the laws have either been gradually relaxed or totally forgotten.

Also, the oil boom has caused rapid urbanization. Most towns have turned to ~~big cities with~~ heterogeneous people. Refuse carriers continue to throw wastes indiscriminately in these towns and cities. Drainage are very poor. When the water mixes with wastes, decay and putrefaction is ~~infectious~~ (Enoh, 1996). The various state and/or local governments charged with the responsibility of solid waste management have very poor resources in the form of money, men and materials.

According to Adeniji et al (1996), informed opinion suggests that the quality of concentration of waste generated rises with urbanization and human population. In fact, accelerated urbanization in Nigeria, accentuated by multiplication of new administrative centres following the creation of new states and local government areas coupled with diversification of occupation and trade, educational needs and production of wider array of goods encouraged population pressure in many urban centres in Nigeria. The result of these is that in large urban areas, there is degradation of environmental quality and the larger the urban area, the lower the quality. These are no doubt, the main reasons why the problem of solid waste management has reached a crisis stage in the major towns and cities of Nigeria.

### The urban environment and population

At the international level, the quality of the urban environment of the developing nations is an increasingly important issue. The poor of the developing countries are moving into the urban areas and as a result these are the fastest growing areas of these countries (The Environment and the British Aid Programme, 1990).

In Nigeria, most urban centres are highly congested. Here urbanization is accompanied by growth in industry, in commerce and in housing requirements, all of which help to create employment and economic prosperity. But they also make great demands on supplies and services for water, sanitation and energy. In fact, industrialization and urbanization have caused an ever-increasing affluence and have greatly compounded the problem of waste management in Nigeria.

The increase in urban population, combined with other factors is causing severe pressures on ecosystems (Adeniji et al, 1996). In fact, it is now generally acknowledged that out of the intricate web of factors influencing development in Nigeria, environmental and population considerations are of great importance.

Enoh (1996) maintained that solid wastes etch a trail of visible blight in almost all areas of Nigeria as is the case in most urban areas in the Third World Countries. He noted that across these countries and mostly in urban areas, the same scenes repeat themselves-litter in beaches, litter along road sides, litter near commercial houses, litter around industrial and residential areas.

The urban population density has an influence on the relationship between living space, other natural resources and waste generation. According to Onibokun (1989) the national population grew annually at 3.0 percent and 5 percent. In fact, an examination of the development structure and dynamics of the Nigerian urban system shows that the number of cities with 500,000 and more inhabitants grow from a mere two in 1963 to 14 in 1984.

In our urban centres today, there are dumps here and there and they all scare the urban landscape. These wastes are, no doubt, deleterious to environmental quality because the solid wastes that the people generate are not properly disposed of.

In most urban centres of Nigeria there are slums and shanty areas which are unplanned. At the same time we have areas which are properly planned. These are areas inhabited by the high socio-economic

group of people. There are other areas occupied by the middle class people. Still other areas are inhabited by the civil servants. Furthermore, there are areas where industries are located. Refuse in one form or the other are produced in these areas all of which must be disposed of (the problem of management.)

From our discussion so far, it is crystal clear that a feature that is characteristic of the cities in Nigeria is the rapid and uncontrolled rate of growth of these cities, largely resulting from lack of planning. The rapid and uncontrolled population growth invariably over-stretch whatever facilities that are available. Experience all over the country confirms that the existing public sector strategy on solid waste management is problem ridden.

### **Nature of Wastes Produced in Nigeria**

In most urban centres of Nigeria, the waste, particularly the solid variety is characterized by highly putrescible materials - leaves, garbage, food remnants and paper. From industries hazardous materials like gases, lead, mercury and arsenic compounds are continually being produced as wastes. The putrescible materials are generated from food processing in the homes, the ubiquitous roadside eating places and market places.

Unchecked, these wastes pollute the air above the cities, enter water and soil, and through many pathways contribute to poor health and environmental norms. This portends great dangers ahead.

### **Refuse Problem as a Hindrance to Sustainable Development**

The concept "sustainable development" has gained widespread recognition following the publication in 1987 of the Brundtland Report entitled "Our Common Future". It is the report of the United Nations sponsored World Commission on Environment and Development chaired by Mrs Gro Harlem Brundtland.

There is yet no universally accepted definition of sustainable development. Sustainable Development implies the handing down to successive generations not only of man-made wealth but also of natural wealth (like soil, water, plants and animals) in sufficient amounts to allow a continuing improvement in the quality of life (The Environment and the British Aid Programme, 1990). The World Commission on Environment and Development (WCED) defines Sustainable Development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987).

Similarly, Adeniji et al (1996), maintain that while there is still no universally accepted definition of sustainable development, 'the concept implies a new evaluation of the relationship between people and nature, a movement away from the domination of nature to working with nature, and reassessment of the methods used for the transformation of natural resources into useful products' (1996:66). This calls for a combination of effective action regarding environment and development taking into account the different relationships between social, economic, technological and environmental conditions and requirements at national and international levels.

Thus, according to Mabogunje (1968) the current rapid urban growth, and the attendant quantum of solid wastes are serious constraints to sustainable development. It is obvious then that a people faces serious problem of refuse management is not sustainable in terms of development. Sustainable cities are those where achievements in social, economic and physical development occur in synergy and are maintained.

In Nigeria, the need to banish poverty and raise living standards has made it imperative on successive governments to pursue economic growth and development as a legitimate objective. This pursuit to the neglect of environmental considerations is likely to be unsustainable (Ayodele et al, 1996). The problem of refuse if not properly approached with a lasting solution would hinder sustainable development in Nigeria.

### **Practical Problems of Refuse Management**

The Nigerian government at different levels have always been making efforts to ensure a proper management of refuse in our urban centres but the complexity of the problem has made their efforts unyielding. The following are the practical problems associated with refuse management in our cities.

**Collection:** Firstly there are several areas of the city which receive no service and others, particularly near streams which do not have adequate service. Secondly most of the refuse collection vehicles provided by the government are not always available for operation due to inefficient maintenance and shortage of spare parts.

**Depot Location:** Firstly, the accumulation of water in some depots causes acceleration of anaerobic decomposition of the wastes and resulting odours. Secondly, adequate and easy access has not been provided in many cases for the public or for the collection crews who have to empty the depots.

**Disposal Sites:** Firstly, in the highly congested urban centres most existing disposal sites are often small and are operated as dumps rather than as sanitary landfills. Secondly, the refuse vehicles frequently get stuck particularly in the wet season because they have to travel over previously deposited wastes, that have not been compacted to dump their loads at the top of the working face. This causes excessive wear of clutches and tyres and sometimes causes undue stresses on the hoisting mechanisms of the vehicles. Thirdly, in the highly congested cities, disposal sites are located at the edge of public roads. As a result the operations are all too visible to the public most of whom are offended by what they see.

**Supervision:** Firstly, in most cases the effectiveness of supervision is restricted because the refuse supervisors and overseers usually have to rely on local taxis to travel around the city. Secondly, the quality of data recorded on the collection and disposal operations does not permit proper monitoring of efficiency or sound planning for the future.

**Vehicle Operations:** Firstly, the collection vehicles are run until they break down. This results in high maintenance and repair costs. Secondly, there are not enough spare parts kept in stock in the cities and this results in repairs taking much longer to complete than should be necessary.

### **Suggestions**

Firstly, there must be standard dustbins with covers, durable, light and resistant to corrosion. The capacity must be adequate. In selecting the capacity, the living pattern must be considered, together with the generation rates and the frequencies of emptying.

Secondly, to facilitate solid waste collection in our cities, depot method should be restricted to those areas where houses do not have access roads. When depots are employed they must be of correct designs. The type selected will depend on the method of emptying or of loading solid waste into the refuse vehicles.

Thirdly, the transportation of refuse to disposal sites just like the collection aspects, requires proper technical planning and organization. The important factors to be considered in order to have efficient solid waste transportation are as follows:

- 1) the nature of the solid waste;
- 2) the traffic situation;
- 3) number and types of refuse vehicles;
- 4) financial resources and
- 5) haulage distance.

Fourthly, sanitary landfill operations should be performed by depositing the wastes in a natural or man-made depression or trench, compacting them into the smallest practical volume and covering them with compacted earth or other materials in a systematic and sanitary manner.

### Conclusion

The government through its various agents has been deeply involved in the management of refuse in Nigeria, but the much desired success is still far from being achieved. Hence, the greater commitment of the government in solving the problem.

In the present dispensation, financing solid waste management system on cost-recovery basis is virtually impossible, coupled with the pervasive payment default by real potential beneficiary. However, the potential for the recovery and reuse of solid waste materials is yet to be fully realised and tapped in Nigeria. So also is the inherent opportunities and advantages available in the communities themselves, if they are properly mobilized.

Since indiscriminate disposal of refuse by the people is an habit, there is always the need for environment education for the people. The government should sponsor devoted plans to educate its citizens on environmental quality. A sincere citizen of this country will note that citizens have not learnt enough about environmental management when we consider the various ways the environment is abused. Furthermore, the government should encourage and/or finance more research on refuse management.

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