



SUSTAINABLE REFUSE DISPOSAL IN NIGERIA

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Abstract

Prevention of environmental degradation is a step in the same direction with preventive medicine which is the current practice in worldwide Medicare. This is because when you prevent pollution of the environment, you prevent pollution related diseases. One of the greatest pollutants in the environment today is the refuse. This is why it is very important to find a lasting solution to the problem of refuse management in Nigeria.

Keywords: Refuse, Environmental Degradation, Medicare, Pollution, Refuse Management and Sustainable Development.

that the solution to this problem is better sought for in the sustainable

INTRODUCTION

Refuse

Refuse refers to solid wastes it is waste resulting from normal community activities looking at it from the point of view of its origin; it includes solid wastes generated from residences (domestic wastes) industrial zones, commercial areas, institutions, street refuse and demolition or construction wastes (Gyuse, 2011). Another way of classifying refuse is that base on the nature of the material, here refuse could be classifies as organic or inorganic combustible or noncombustible yet another way of classification of refuse is on the basic of kind of materials found within it (Tuan,1997) such classification distinguishes between garbage, rubbish ,ashes ,street refuse ,dead animals, abandoned automobiles industrial

development concept. A will prevent pandemic prevention of pollution and infections.

Wastes ,demolition wastes, construction wastes, sewage solid waste and hazardous and special waste such as nuclear wastes (Gyuse, 2011, Gyuse, 2014, Oyesiku, 2010, Ogunleye, 2009, Jiriko, 1999 and Adesanya, 1998).

There is no better method of classification as any method chosen depend on what the classifier wants to achieve through the classification.

Refuse Management Problem in Nigeria Today

The management of refuse in Nigeria is a serious problem (Gyuse, 2011). It is a problem which looks more of an urban phenomenon than rural (Gyuse, 2014). The rural refuse is easily absorbed into the natural environment as land is not scare. The rural dwellers can afford designated dumping site for refuse. They are therefore used to the dumping method of refuse disposal, but the urban settlement is tightly built up and land value very high and hardly can any site be afforded for the dumping of refuse unless it is a transfer station wherein it will be removed later and regularly too this is why the dumping method is not suitable in the urban land given the irregular or no remove prevalent in Nigerian towns and cities to make issue worst ,the dumping sites are in most cases unauthorized and the refuse heaps so deposited become menace to urban life (Afon, 2008, Afon, 2007 and Edwards, 2003).

Cases abound where streets and even some major highways are taken over by those refuse heaps thereby reducing the street or highway capacity (Emankhu and Ubangari, 2015). Refuse heaps in most of our towns and cities have become sign post that welcomes visitors to our towns and cities (Gyuse, 2014). This is a phenomenon which leads to traffic holdups and in extreme case accidents. This apart, the refuse heap is the breeding ground for vermin (rodents and insects) the vermin transfer most communicable diseases (Egunjobi, 1986). The odor and sight pollution associated with the refuse heap is another serious consequence where the heap is set on fire particularly in the dry season, the atmosphere gets polluted by ashes as particles of carbon that are emitted from the burning refuse cause the distortion of the ambient temperature condition in cities as a result of heat emission from the burning refuse (Gyuse ,2011 and Ojo, 2002).

It is the fervent contention of this paper that the environment degradation associated with the urban refuse disposal system in Nigeria is obvious and the time has come for a scientific and conventional refuse management machinery to be evolved, a refuses management machinery which is not only self-sustaining but whose self -perpetuation will grow with urban sprawl (rapid city explanation) is at this point in

time a necessity. It is the bid to make a case for it that forms the *raison d'être* for this write up.

Sustainable Growth and Development Concept.

The concept of sustainable urban growth and development means urbanization growing in same level with self-sustaining, self-perpetuating environmental management and planning machinery. It is a growing municipality characterized by a management authority that is aimed at an improved environmental management and planning capacity capable of identifying environmental problems or issues associated with growth, priorities them and provides tools for dealing with them adequately (Ogunleye, 2009).

This is an urbanization whose management has a clear vision of the cost and benefit of growth and the effect of the neglect of the impact of the growth on the environment. Sustainable urban growth and development is characterized by awareness of not only good planning and management practice but also of the impact of city growth on the natural resources base on the surrounding region. As a follow up to the awareness of the impact of growth the municipal management has an efficient growth management tools, (Adesanya, 1998).

The sustainable city growth managers should foster inter-sectoral cooperation among the diverse public, private and popular actors in the urban development in the task of identification and resolution of urban environmental issues. This is important because urban environmental problem requires cross-sectoral approach such as ideal urban growth and development is where there is a self-perpetuating and adequate supply of portable drinking water, adequate and efficient central sewage treatment and dispersal efficient mass transportation system, just to mention a few of the environmental issues. Self-perpetuation in this context means ability of a project to sustain itself after the initial investment by the municipality. By this token, it means that a sustainable urban growth and development can be guaranteed when the growing urban Centre among other things is able to generate revenue from the water supply, refuse disposal, sewage collection, and disposal and so on, that is enough for running the project at their current existence level and for future expansion as the municipality expands. This requires not only accountability on the part of the management of the municipality but also cooperation from the private and corporate entities who benefits from these environmental projects, (Gyuse, 2011, Gyuse, 2014, Oduwaye and Lawanson, 2006).

Current Approaches to Refuse Management in Nigeria.

Up till today, apart from the promulgation of the environmental sanitation decree in 1983 by the federal government of Nigeria. There is no articulate organizational and

administrative instrument to guide refuses management in Nigeria. The results of this absence of any clear-cut policy on refuses management include the following; the organizations responsible for refuse management in the major metropolis lack terms of references, strength, adequate financial resources and public acceptability. The emerging towns and cities, for example, the state capitals and local government headquarters do not have any refuses collection and disposal organization structured on sustainable waste management. To attest to this, no towns in the defunct plateau state (now Nasarawa and Plateau) has any refuse management organization comparable with Ibadan Waste Disposal Board or Lagos Waste Management Authority (LAWMA). The much that exists in the nature of institutional or organizational framework for environment (Solid waste) management is still in a state of flux (Gyuse, 2011). The cited work further explained that refuse management is constitutionally a local government function in several states in Nigeria, it is difficult to identify with certainty any agency whose responsibility refuses management is. The municipal government recognize and accept as their responsibility, refuses management and still will attribute their inefficiency to inadequate funding and shortage of technical facilities and expertise.

Nasarawa state, Lafia, the state capital has no autonomous refuses management organization; neither do the lesser towns in the state. Refuse management function is not clearly defined; the local government as well as Nasarawa State Urban Development Board (NUDB) are involved in refuse management. In fact, refuse management throughout the state leaves much to be desired. The streets are littered with refuses heaps. Refuse heaps count conducted by the author in Lafia, Doma and Akwanga attests to this assertion.

(Table 1) Table 1: Distribution of Refuse Heaps Across Selected Towns in Nasarawa State.

Town	Number of Refuses Heaps
Lafia	98
Keffi	87
Wamba	32
Nassarawa Eggon	45
Mararaba	101
Nassarawa	25
Toto	12
Awe	10
Keana	09
Kokona	23

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Obi	12
Doma	77
Akwanga	88
Uke	99
Kadarko	46
Assakio	35
Umaisha	12
Udege	34
Zhemegli	12
Gada	10
Mama	06
Loko	11
Umme	05
Mada Station	11
Alongani	11
Barikin Abdullahi	10
Giza	09
Aloshi	08
Karshi	11
Gidanrai	11
Tunga	09
Nunku	08
Gwanje	05
Andaha	08
Anjida	06
Gudi	19
Azaara	06
Angwan Zaria	08

Source: Refuse Heaps Counts, HND II Urban and Regional Planning, Nasarawa State Polytechnic, Lafia: September 12th to December, 20th, 2019.

Sustainable Refuse Management for Nigeria.

The first and right step in the search for a sustainable refuse management method is the formulation of explicit policy which should spell out the shares of responsibility of refuse management among the federal, state and local governments and even the private concerns where necessary.

According to the World Bank Report (2004), for any urban infrastructure project to succeed, it must possess the following qualities; Autonomy the ability of the provider to operate professionally, free from undue influence of the provider to operate professionally, free from undue political interference. Commercial orientation; this means the willingness of users to pay and the provider to charge for services rendered. Accountability: this implies the ability of the public and government to sanction the provider if services are inadequate and the existence of a supportive framework of laws and regulations and the capacities to implement.

These conditions strongly suggest participation of the private sector in the provision of urban infrastructures. A sustainable refuse management should therefore possess the aforementioned qualities. The private sector should be involved in refuse management and users to pay for services.

Sustainability could be achieved if private companies are licensed to collect refuse from properly delineated areas in return for adequate fees from users. Such fees which should be properly accounted for should consist of two parts- collection fee and capital depreciation fee. Through this method, revenue could be generated for sustainability particularly if there is proper financial accountability.

In this direction, there are varieties of framework for private involvement in the sustainable refuse management project as well as other infrastructure.

These frameworks according to World Bank Report (2011) include service contract, management contract, lease, concession and build operate own and transfer. Two of these frameworks are favored for sustainable refuse management and they are the lease and the concession. The reason for the choice of these two options is that they embody initial government investment to the time of which private investors will take over. The initial capital investment needed for the take-off of effective and enduring refuse management maybe too much for the private investors. The two options are explained hereunder. The leases are a situation where the government owns and finances major capital expenditures while private party finances operations, maintenance, short lived assets and working capital. The private party bears most/all commercial risks and collects fees. Such leases span a period ranging between 5-15 years. Concession is a situation where the government owns fixed assets while the private party finances operations, maintenance and major capital investments; private party bears commercial risk and this transaction spans 15-50 years. Working within any of these frameworks, the private investors licensed to collect refuses over delineated areas after the initial government investment will collect fees within their areas of operation. After collection, the private investor will pay a certain percentage stipulated by the terms/articles of the contract into a special account meant for capital depreciation and take the remaining part for refuses collection. After collection, the disposal either through landfill system or

incineration or composting to be jointly financed by the various private parties collecting refuses from their licensed areas but under the supervision of the government so as to ensure that none of them defaults.

This arrangement has to be given adequate legal backing to make sure that all the private parties comply with the terms of the agreement. Also the deprecation pool of fund has to be properly accounted for so as to provide for expansion and replacement of parts or in totality of machines. Through this arrangement, sustainability can be guaranteed.

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