



Restructuring Urban Solid Waste Management and Housing Problems for Economic Development: A Case of Nigeria

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ABSTRACT

The paper focused on the need to reform solid waste management and housing problems as among the factors for the economic development of Nigeria. This is based on authors' perception that decent housing and environment ensure quality of life and by extension a measure of development. The authors unraveled that housing and solid waste problems in Nigeria stemmed from increasing population, insufficient funding, lack of better condition of living in rural areas, thus leading to rural-urban migration. Consequently, there is a high concentration of people in Nigerian urban places and the insufficient availability of housing has compelled Nigerians to live in slums and shantytowns. This has raised the solid waste generated by households, businesses, artisans and markets thereby reducing the living standard. The efforts put in place by the government over the years to manage the situation have failed to achieve much, hence adversely affecting economic development. Based on the foregoing, among the recommendations made to revive the ugly trend are: repositioning the state of Nigerian rural areas; establishment of mortgage banks in every state of the country; increasing private sector participation in both housing provision and solid waste management and promotion of greater awareness on the need for proper waste disposal by all and sundry.

Keywords: Urban, Solid waste, Housing, Restructure, Economic Development.

1. INTRODUCTION

Urban solid waste management problems and housing shortages constitute some of the numerous economic and socio-economic challenges of the developing countries. Such a challenge is not far from the dual¹ economic base of these economies (Cai & Donghan, 2008). The large chunk of the population residing in those highly undeveloped rural areas is compelled by circumstances to migrate to the urban places in search of better living condition and employment given the increased economic activities and better quality of life (UN-HABITAT, 2008; Lehmann, 2010). Consequently, the urban areas become over populated, which in turn results in a high demand for adequate housing, pressure on the use of social facilities, increased waste from consumption not just from households but local market traders, artisans, industries and other associated problems. Within the economic perspectives, housing involves capital or labour expenditure to the households, rental payments to landlords and governments, backward linkages and an overall multiplier effect on the households and the financial system through mortgages and loans (Arku & Harris, 2006). Therefore, urban housing organization, adequacy and quality play a role in economic development of countries. Furthermore, in spite of the aim of Solid Waste Management (SWM) strategies which include, but not limited to quality of life, environmental sustainability and a general economic wellbeing. Urban solid wastes has continued to retard the above stated aims through various unethical dumping and disposal patterns (Numerow, 2009; Farahbaksh & Marshal, 2013).

Noting his concern about the state of solid waste generation, Palczynsk (2002) posits that waste generation, domestically and industrially, continues to rise globally in piles due to growth in consumption. In advanced nations, per capita waste generation rose nearly three-fold over the last two decades, reaching a level five to six times higher than that in developing countries. With increase in population and living standards, waste generation in developing countries is also increasing rapidly, and may double in volume in the current decade. If current trends continue, the world may see a five-fold increase in waste generation by the year 2025. This situation does retard development sought for in developing economies, specifically, in Nigeria.

In addition, people have settled at a place to seek for means of life sustenance. Obviously, the rapid growth in urbanization is one of the features of developing countries, and has been particularly so since the 1950s. Census in the early 1950s showed that there were about 56 cities in Nigeria and about 10.6% of the total population lived in these cities. This rose dramatically to 19.1% in 1963 and 24.5% in 1985. At present, over 40% of the Nigerian population lives in urban places. Among the reasons for this is that most centres for economic activities are established in urban places and there exist job opportunities and social facilities in these cities. Consequently, incessant rural-urban migration in Nigeria has called for increased development of housing facilities to accommodate the populace in the cities and also the need to manage solid wastes that are generated on daily basis. Succinctly, the patterns of life in Nigerian rural areas do not encourage the type of life desired by many dwellers. People migrate to seek for jobs, better health facilities, good water supply, electricity, good roads, good housing, business opportunities, better transport, and above all, to raise more income for the sustenance of life. Urban cities are the centres for vocational economic activity and the existence of various training institutions. So, because housing is immobile, when a household chooses a dwelling place, it is also choosing a location. The households go with only capital, skill and luggage leaving behind immobile accommodation (Abiodun, 1976; Ajanlekoko, 2001; O'Sullivan, 2003; Nigeria Rural-Urban Linkages, 2004).

This situation does compound the existing problem of the cities. Rapid expansion of urban population has brought with it numerous problems associated with the difficulty of provision of infrastructure such as good road network, medical facilities, power supply, waste management and most critically housing for the people. But one of the most prominent of urban problems is how to make available adequate housing facility which has compelled many Nigerians to live in slums. Attempts at ensuring the availability of low-cost housing have been insignificant, notwithstanding the establishment of the Federal Mortgage Bank of Nigeria in 1977. Hence, shantytowns and slums are frequently found in urban areas. Congestion in urban housing is a serious problem. Recent estimation shows that about 85% of the urban inhabitants live in single rooms, sometimes with eight to twelve persons per room. Conditions of living are poor. In 1996 for instance, only about 27% of urban dwellers had access to piped water as source of water supply. It is saddening to note that below 10% of urban populace has an indoor toilet. The total number of housing units in 1992 was 25,661,000, and this was highly inadequate (Abiodun, 1976; Ogu & Ogbozobe, 2001; [http:// www. Nations encyclopedia com](http://www.Nationsencyclopedia.com)).

Notwithstanding that the desire of most Nigerian leaders is environmental decency, as cleanliness ensures the health of the people, the attainment of the desired level of decency has been thwarted by solid waste scattered here and there in Nigerian urban cities. The generation of solid waste by the teeming population is higher than the rate of its disposal. This has escalated the incidence of endemic diseases in our cities. The situation of solid waste littered in Nigerian urban places is really a thing of worry. Solid waste includes papers, cartons, rags, wastes of industrial raw materials and finished materials, garbage from kitchens, plastic materials, broken glass materials, metal scraps; especially and recently, bags of cellophane water. They usually occupy a good portion of useful plots or acres of land. In Nigeria, solid waste is gathered and conveyed directly to the disposal site by vehicles. The waste is heaped at open places along roadsides. The open deposits provide habitat for diseases causing organisms such as house flies, bacteria, insects and rodents (Ijioma, 1987; Emeherole, 1987; Agunwamba, 1998).

Given the situation of urban solid waste management and housing in Nigeria and the need for economic development which their positive changes, among others, will contribute, it is our intention to unravel how restructuring these factors will improve the economic development in Nigeria. So, in this paper, we wish to present it thus: section one is housing problem and urban solid waste management in developing countries and Nigeria; section two focused on the role of government in addressing the housing and waste management problems in Nigeria; section three dwells on the impact of urban solid waste management and housing problem on Nigerian's economic development while section four is the recommendations and conclusion.

2. A REVIEW OF THE HOUSING PROBLEMS AND URBAN SOLID WASTE MANAGEMENT IN DEVELOPING COUNTRIES

Studies on the urban solid waste management and housing in developing countries have often focused on two strands of ideologies such as market reforms² and sustainability. From the solid waste management perspective, Bau *et al.* (2001) on market reforms established their case rather from the standpoint of a holistic privatization of the enterprises in the form of a private-public partnership in sewage management. Here, the private sector invests the needed capital in the operation of the waste management while the government on its own instills the standards of operation, coordination and competitiveness for efficient delivery system³ (Cointreau-Levine,

1994). Yet, this does not in any way rule out public sectorial limitations in terms of stiff laws and regulations guiding the operation, very low productivity of its staff given their manual operation methods and inadequate supervision of the private sector. Furthermore, outside the purview of the formal public sector are also the services of the booming informal private households. Ahmed and Ali (2004) posit that this scenario has often been the case of developing countries where most of the private sectorial workers in the solid waste management business are informal⁴ workers. Informality connotes their unregulated and unorganized (to an extent) operational styles, small scale and subsistence in its operation using direct labour from the households.

Considering also the sustainability perspective, the Earth Summit of 1992 further brought to limelight on issues regarding sustainability. But the developing countries on their path may have drifted slightly from the “Green Agenda⁵” to instead the “Brown Agenda” stressing more on pollution control especially through proper waste disposal and management approach (Furedy, 1992; Bose & Blore, 1993; Bertone *et al.*, 1994). For instance Kenyan government has reiterated its commitment to reducing environmental pollution as contained in the policy framework of Kenyan government and the United Nations Environment Programme (UNEP) 2005⁶ while Zimbabwe applied a community involvement projects and education for a sustainable environment (Johnson & Wilson, 2000).

Furthermore, the housing provision equally share similar scenario but with a slight distinction. In the case of housing provisions, both the formal or conventional and informal or unconventional modes are often observed in developing countries. Formal is backed by legal and organized provision mechanism where the private and public institutions play a leading role while utilizing labour services of the household. It could be a case of private public partnership also. On the contrary, informal housing provisions rather conforms to unregulated and traditional approach in housing provision. Gilbert (1990), Turner (1976) posits that such informality in housing production is as a result of the lower per-capita income as seen from the developing countries. Research works over the 60s and 70s gave even more credence to informal housing provision as an economic development strategy for the third world countries alike. Turner (1972 and 1976), Abrams (1966) established a market enabling strategy in housing provision through ‘self-help’ or ‘self-build’ where individuals at the lower income category are allowed to construct their houses with a financial help from the authorities. According to Bredenoord & Lindert (2010), about 60% of the population of Mexico in 1990/1991 and 53% of the urban population in Peru lived in houses built through ‘self-help’ while 85% and 90% of all houses built in Nicaragua and Indonesia respectively are all from the services of informal self-help workers⁷.

3. HOUSING PROBLEMS IN NIGERIA

Really, population explosion in an area is associated with a myriad of problems, if there is insufficient policy, strategy, programmes and capital to match with the facilities needed to surmount rising problems. The problem of solid waste and housing in Nigeria has gradually escalated to the state it is now. Accommodations are indispensable needs of man. This is because man must settle at a place to aspire for economic activity. Housing is a place for business activity. Holland (1976) and Anusionwu (1982) point out that in terms of quantity and quality, the insufficiency of urban housing has been persistent and worsened over time in many less developed countries. This ugly situation has given room for a myriad of slums littered within human shelters without even the minimum necessary infrastructural facilities. In general, housing

has cultural, social and economic features which are of emotional importance to the households and the entire states. So, a large chunk of workers' saving are spent on housing which is required for settlement and a focal point for the development of the family. A good number of urban dwellers spend over 20 percent of income on housing.

In fact, the housing circumstances of households are often used in determining welfare measurement. The National Bureau of Statistics (2005) pointed out that 66 percent of the households lived in single rooms while 24.1 percent lived in whole buildings. The use of mud for wall construction is very high: 58.5 percent for the poorest household while for least poor household, it is 66 percent. Given the expected increase in urban population, the magnitude of housing problem in the country is enormous. The National Rolling Plan (1990) has an overriding objective of increasing the welfare and standard of living of the average citizen. It also points out that the national housing need in Nigeria is between 500,000 and 600,000 units considering the prevailing occupancy ratio of between three and four persons per room. Given the census population of over one hundred and forty million in 2006, and the expected increase since then, the housing need has risen considerably (Ajanlekoko, 2001; Osuka, 2006).

It is distressful to note that the needed costs of meeting up with housing requirements are not easy to come by given the Nigerian governments' high cost of governance, underutilization, misapplication, misappropriation of resources, selfishness, greed, corruption, lack of focus and above all, insufficient capital due to over reliance on one sector for financing developmental projects. However, investment in housing is profitable. The Second National Development Plan (1970-1974), has among other objectives, the need to embark on a housing program. It proposed a total of 59,000 housing units made up of 15,000 for Lagos and 4000 for each of the then eleven states. The attainment of this intention was below average as only 12% was realized. Besides, during the Third National Development Plan (1975-1980), the total proposed housing units was 202,000, the then capital of the country was allocated 46,000 while 156,000 was for other parts of the country. But the realization was highly below expectation. Only 19%, that is 8500 units, were established in Lagos and 13%, that is 20,000 units, put in place in other parts of the country by the end of the plan period (Ogu & Ogbuozobe, 2001).

Recently in Nigeria, housing provision was left to the private investors, which was later, included in government policy. Government limited its role at that period to provision of credit facilities through loans to building societies, housing corporation and staff housing schemes. Minimal allocation of revenue was channeled to housing issues. Consequently, there was high level of determination on housing issues in the Third National Development Plan. This was because of the government acceptance as part of its duty to play active role in the provision of housing for all income groups to minimize the proportion of income of workers spent on housing rent. It embarked on actions in that direction such as addition of subsidized rents, raising of construction of quarters for government workers and the extension of credit facilities to enhance private housing construction. In addition, the Fourth National Development Plan, among others, included reduction in rural-urban migration (Osuka, 2006:69), which can be said to be the basis for pressure on facilities in urban places. This intention has not been achieved.

Furthermore, it is pertinent to state that there is poor economic situation in Nigeria, increasing cost of building materials, rising urban population and absence of effective housing policy. Besides, Nigerian urban centers have experienced unexpected increase in population within few years, mainly because of the high growth of the economy and expansion in government machinery resulting from state creation. So, the provision of housing lags behind the increasing

need leading to worsening housing situation among the urban households. In other words, the rate of increase in population seems higher than the rate at which buildings are erected to accommodate the teeming population. Most times, the high rent for available accommodations are unaffordable by low income earners. Even the high income earners do not find it very easy to raise the annual bulk payment of private houses. Some usually resort to bank loans or obtain salary advance with the intention to repay on installment basis. Be it as it may, the predicament of housing in urban areas compelled both the federal and the state governments to set up housing projects. The housing corporations all over the country have the mandate of acquiring land, plan, design, construct and manage houses. Regrettably, for over fifty years of Nigerian independence, it is yet to develop a bubbly mortgage market and houses continue to be provided through the painstaking conservative method of acquiring land and erecting building over some years, which could be an individual's entire life time. In many cases such buildings are left unfinished or individuals have to drain their entire life savings in order to erect a home (Andrew, 2007).

The shortage of housing in Nigeria in very recent time is put at 15 million houses whereas 12 trillion naira is needed to finance the shortage. This is a very large sum of money which is about 4 times the annual national budget of Nigeria then. The 1991 housing policy estimated that 700,000 housing units should be erected every year if housing deficiency is to be tackled. This presentation depicts that not less than 60% of the new houses are to be built in urban centers. In the same vein the ministry of Housing and Urban Development in 2006 announced that the country requires about 10 million housing units so as to cover the country's housing needs. On micro-perspective, it is quite obvious that house ownership is one of the main priorities for most households and it represents the largest single investment for most (between 50% and 70% of household income). This circumstance becomes very significant when it is noted that per capita income and the real income of average Nigerians have been falling. The swift increase in the costs of building materials in the last two decades has additionally reduced the affordability for most Nigerians. If we link yearly needs for housing with the gross domestic product of ₦82.53 billion in 1988 and ₦85.82 billion estimates for 1989, and over ₦88 billion in 1991 as well as per capital income of ₦3, 000.00, financing becomes a major factor of the housing problem, especially, long term funding (Ajanlekoko, 2001; Mabagunje, 2007; Kabir & Bustani, 2010).

World health Organization holds the view that home plays a vital role in sustainable health delivery system. The rise in such urban population gave rise to the dearth and high cost of urban land including that of housing. Invariably, such an unprecedented demand for housing does not match with the supply. People are made to live in indecent and unpleasant buildings that create health problems. As an essential need of man, affordable housing units have remained a huge challenge towards absorbing rising urban population in Nigeria. The euphoria of oil boom led to a development of national housing program aimed at providing adequate shelter for the teeming population. Consequent upon this, various approaches were instituted in order to develop and improve the housing units, ranging from slum clearance and resettlement, private housing schemes, sites and services scheme associated with the use of new land for residential allocation, settlement upgrading and self-helping (Ogu, 1996; Ogu *et al.*, 2001, Nwaka, 2005). Table below presents a housing plan of Federal Government of Nigeria from 1971-1996.

Table 1: Housing Schemes and Plans 1971-1995.

Years	A) Intended number of housing units	B) Number of Units Produced	Percentage (%)B compared
1971-1974	59,000	-	-
1975-1980	202,000	28500	14.1
1981-1985	200,000	47234	23.6
1994-1995	121,000	1.136	0.9

Source: Ogu, V I and Ogbuozobe, J E (2001). 'Housing Policy in Nigeria: Towards Enablement of Private Housing development'. *Habitat International*, 25, 473-492.

Housing units' provision has shown a very poor rating right from the oil boom era of 1970s to the mid-1990s. Also in the 1970-1974 targets, only about 12% was achieved. UN habitat 2008 held that the occupancy ratio of houses in Nigeria is at the threshold of 6 persons per room of 20m² and 60% of Nigerians are without adequate shelter (under-housed and no housing) with 25% or less of residents owning their own homes compared with the 75% international bench mark. Conditions of living are generally poor. Percentage of the population with improved sanitation facilities (indoor toilet facilities) was 10% in 1996 and 13% in 2010. However, about 27% of the urban population has an access to pipe borne water in 1996 and 75% in 2010 but housing is yet to experience this increase.

4. URBAN SOLID WASTE MANAGEMENT IN NIGERIA

Constitutionally, urban solid waste management in Nigeria is the responsibility of the three tiers of government as stated in the 1999 Constitution (FRN, 1999). These levels of government have not been able to make available financial, manpower and materials requirement to achieve proper waste management over the years. The conspicuous heaps of solid waste dumped in open spaces along the roads and along river banks in major urban centers is evidence of inability to meet up with that responsibility. This failure has compelled some state governments to adopt different measures aimed at tackling solid waste problem. Nevertheless, the degree of attainment in solid waste management is not satisfactory (Afon, 2007). The rate of population growth in Nigeria was pointed to be 2.8%, with urban growth rate of 5.5% per annum. This has contributed in no small way to the complexity of solid waste management. The growth of a city is associated with land use problem and increase in waste generation. Solid waste management (waste storage, collection and transport, resources recovery and recycling, waste treatment and disposal) in many cities in Nigeria, even in the capital territory have remained a hard nut to crack, in spite of all efforts put in place to address the issue. This has brought about varieties of health problems to the citizens (Omuta, 1987; UDBN, 1988; Imam *et al.*, 2008).

The resources managers in Nigeria are aware of the increased solid waste generation over the years and have made attempts to manage it. Solid waste is one of the problems confronting the urban cities in Nigeria at present. Economic development, actually, among other things, includes positive changes in the environment which increases the decency of the milieu and health state of

the people. Nigeria as a country is besieged by environmental hazard resulting from inadequate solid waste management. The increased level of urban solid waste generated by industries, artisans and households, which piled conspicuously all over Nigerian cities, that contaminate streams and rivers without any treatment compelled the Federal Government of Nigeria to promulgate Decree 58 for the establishment of a Federal Environmental Protection Agency (FEPA) on 30th December, 1988. This guided the formulation of a national policy on the environment with the following aims, among others: to protect all Nigerians with a quality environment adequate for their health and well-being; to increase public knowledge and advance understanding of the vital linkages between the environment and development; and to promote individual and community participation in environmental protection and improvement efforts (Agunwamba, 1998).

Besides, Ogwueleka (2009) points out that solid waste management has sprang up as one of the greatest challenges facing states and local government environmental protection agencies in Nigeria. The quantity of solid waste being generated continues to rise at a quicker pace than the ability of the agencies to improve on the financial and technical resources needed to be at par with this growth. The situation has constrained the Federal Government of Nigeria to promulgate various laws and regulations to protect the environment. At present, the Federal Ministry of Environment administers and enforces environmental laws in Nigeria. It took over this function in 1999 from the Federal Environmental Protection Agency (FEPA), which was created under the FEPA Act. Pursuant to the FEPA Act, each state and local government in the country set up its own environmental protection body for the protection and improvement of the environment within its jurisdiction.

The government agencies are given the duty of managing, employing and disposing of solid waste generated within the area. The state agencies generate fund from subvention from state governments and internally generated revenue through sanitary levy and stringent regulations with heavy penalties for offenders of illegal dumping and littering of refuse along streets (Ogwueleka, 2003). Every effort has been on the best approach to tackle solid waste problem in Nigeria. On this note, the government decided to experiment with the privatization of the solid waste management sector. The Federal Government has instituted a National Integrated Municipal Solid Waste Management Intervention Program in few states. Lagos state government established municipal solid waste management policy to encompass private sector participation in waste collection and transfer to designated landfill sites. It is pertinent to define municipal solid waste at this point. Ogwueleka (2009) points that it includes refuse from households, non-hazardous solid waste from industrial, commercial and institutional establishments (including hospitals), market waste, yard waste, and street sweepings. Municipal solid waste management (MSWM) refers to the collection, transfer, treatment, recycling, resources recovery and disposal of solid waste in urban areas. The goals of municipal solid waste management are to promote the quality of the urban environment, generate employment and income, and protect environmental health and support the efficiency and productivity of the economy.

5. THE ROLE OF GOVERNMENT IN ADDRESSING THE HOUSING AND WASTE MANAGEMENT PROBLEMS IN NIGERIA

A great proportion of the population of Nigeria lives in substandard, poor housing and in deplorably unsanitary residential environment (Onibokun, 1985). The situation, according to

Acquaye (1985), is getting worse because of increase in population growth, urbanization, industrialization and improvement in general prosperity. All these have resulted in increased demand for housing and solid waste which cannot be matched by supply and its corresponding waste management (Afolabi & Olumide 2012). In Nigeria, as in most developing countries, rapid urbanization and population growth have not been matched with increase in housing construction and the corresponding waste management mechanisms, and therefore there is a colossal quantitative and qualitative shortage of housing units in the country and the required waste management agency to cater for the waste thereof (Adekunle, 2002).

Past and present governments in Nigeria have attempted to confront and are still on the path of confronting, the nagging problems of accommodation, given the increasing population of Nigerians. Problems have ranged from difficulties in collection, transfer, treatment, recycling, resources recovery and disposal of solid waste in urban areas (Ogwueleka, 2009). This gave rise to various programs and policies articulated and implemented to address these problems. These include; rent control, public land ownership, development of subsidized housing estate for the low income groups, direct and indirect subsidies to the middle and upper income people, housing loans schemes, establishment of housing corporations, building societies and Federal Mortgage Bank of Nigeria (FMBN), employers housing scheme (Aribigbola, 1992) and recently the National Housing fund (NHF).

In the same vein, urban solid waste management is yet to be satisfactory. The goals of urban waste management are to promote the quality of the urban environment, generate employment and income, and protect environmental health and support the efficiency and productivity of the economy. Agunwamba (1998) argues that solid waste management has emerged as one of the greatest challenges facing state and local government environmental protection agencies in Nigeria. In the bid to tackle this situation, the Federal Government of Nigeria has promulgated various laws and regulations to safeguard the environment, as pointed earlier. These include Federal Environmental Protection Agency Act of 1988. Pursuant to the FEPA Act, each state and local government in the country set up its own environmental protection body for the protection and improvement of the environment within its jurisdictions (Ogwueleka, 2009). Municipal solid waste management is a major responsibility of the state and local government environmental agencies. The agencies are charged with the responsibility of handling, employing and disposing of solid wastes generated. The State agencies generate funds from subvention from state governments and internally generated revenue through sanitary levy and stringent regulations with heavy penalties for offenders of illegal dumping and littering of refuse along streets (Ogwueleke, 2003).

The federal government has instituted the national integrated municipal solid waste management intervention program in seven cities of Nigeria. The seven cities are Maiduguri, Kano, Kaduna, Onitsha, Uyo, Ota, and Lagos. Lagos state government established municipal solid waste management policy to encompass private sector participation in waste collection and transfer to designated landfill sites (Onibokun, 1999). In most urban areas, stationary containers system is adopted for waste collection, the waste containers placed at the points of waste generation. This method requires the delivery of waste by the residents to a storage container. These containers are generally at open space along street ends or junctions. These containers are placed 500-800m apart. The agencies find this system more convenient and less expensive than house to house services. Different types of ventures are used for solid waste collection in Nigeria. The compactor

trucks, side loaders, rear loaders, mini trucks, tippers skip truck, and open back trucks are commonly used as collection trucks.

Although past and present government in Nigeria often expresses interest in the provision of housing for the Nigerian masses, as well as addressing the urban waste management problems, the strategies adopted were of little benefit to low income group (Federal Government of Nigeria, 1985). There is, therefore, the need for a dynamic approach or strategy to combat the problem of housing shortage in the face of the growing population, phenomenal increase in the volume of wastes generated daily in the country and dwindling resources of the country. This is more so since past efforts seemed not to have demonstrated meaningful effect or impact on housing provision and waste management in the country. Thus many Nigerians still live in very poor housing environments. The above and other issues have called for devising new approaches or strategies capable of facilitating, promoting and enhancing increase in housing construction and more decent environment in Nigeria.

6. EFFECT OF HOUSING AND SOLID WASTE ON ECONOMIC DEVELOPMENT

Early research on the nexus between housing and economic development was carried out between 1970s and 1980s with a leading paper by Turin 1970 and Drawer 1980. Before this time, housing was mainly seen as a social expenditure and not directly linked to economic development⁸.

Globally, environmental decency is a consideration for development. Development in actual fact consists of positive changes in the various sectors of an economy. Economic development often focuses on economic indicators. Economic development is often used synonymously with national development. It really includes, among others, the structural transformation of a country in various areas like income, employment, infrastructure such as housing, waste disposal facilities, road network and power supply. In Nigeria, the degree of availability of infrastructure distinguishes urban from rural areas. Infrastructures in both urban and rural areas in Nigeria are grossly inadequate. Although there is variation in population of both urban and rural, but insufficiency of waste disposal infrastructure and housing in places of need in Nigeria, has resulted to high level of its menace, thereby affecting the standard of living. Besides, the associated health hazard of solid waste mismanagement in the country is a thing of worry. Health actually is wealth. The number of sick persons resulting from contamination from solid waste littered in the country has eaten deeply on the low income of workers and also retards the ability to function, which in turn reduces work and income generation.

Recent study has shown that funding for waste management in developing countries is always inadequate, and real costs are never fully recovered. The developing countries have a feature of capital inadequacy. Scholars have pinpointed that insufficient capital stock for industrialization and capital overheads provision have contributed to low level of income in developing countries, which resulted to low saving, thereby affecting capital formation or fund mobilization by banks. The protagonists of this view are Hans Singer and Regnar Nurkse. In his perception, Singer (1949) states that the less developed countries experience “a dominant vicious circle of low productivity.” Deficiency of needed capital for infrastructural development presupposes inability to acquire the necessary tools and equipment for industrial and environmental development. Nurkse (1953) notes that developing countries do experience the vicious circle of poverty, which can be perceived thus: low income gives rise to low saving, which in turn results to low

investment, leading to low productivity and consequently low income. Besides, there is high level of consumption. When there is insufficient saving by the few surplus units in the country, it becomes difficult to raise the necessary capital for provision of necessary tools for solid waste disposal. Based on the aforementioned, the economy is adversely affected as what are necessary to be done are left undone, thereby compounding the problems of the society and also retarding living standard. The low level of real income by a country is a reflection of low productivity, which in turn is due to the lack of capital. The lack of capital is a result of inability to save, and to escape from this ugly situation requires that a country increases its saving (Ashinze & Onwiguokit, 1996: 523-524; Eboh *et al.*, 2006).

Really, there is the need to reposition the Nigerian economy by giving more attention to housing and solid waste management. This involves adequate provision of the needed capital for acquisition of solid waste management materials, so as to evacuate and properly dispose solid waste in our urban areas, thereby improve our environment and encourage living standard.

Unequivocally, housing sector plays crucial role in nation's welfare position than it is mostly recognized. This is because; it does reliably impact on, apart from the populace, but in the performance of other sectors of the economy. Countries of the world are aware of the importance of housing; hence housing adequacy has attracted much attention by virtually all countries of the world, especially developing ones since the 1970s. Among the reason attributed to it is that it is one of the basic needs of life, it is a significant durable consumer goods, which influence positively on productivity given that decent housing does greatly influence workers' health, wellbeing and growth and also, it is a yard-stick for measuring standard of living of people in many places, the world over (Sanusi, 2003).

Synthesized concept of economic development considered environmental restructuring and decent housing facilities as essential requirements for development, it is quite clear that Nigerians are still battling with development. In view of the rising population of the country and the large number of slums scattered virtually all over the urban towns of the country. It is obvious that on the average large proportions of the population of Nigerian citizens are living in substandard accommodation. This can be attributed to low income, inflations, rising cost of building materials and lack of access to funds from Federal Mortgage Bank of Nigeria.

In Nigeria today and from all ramifications, suffice it to state that the problems of growthlessness, underdevelopment and poor living standard are associated with insufficiency of housing and solid waste management problem. The latter constitutes unhygienic environment with associated health hazards. The situation of urban places in Nigeria is highly unsatisfactory when compared with some third world countries. So, given the scenario in Nigeria, especially in the urban places with slums littered here and there, it can be deduced that housing inadequacy has been impacting adversely on the economic development of Nigerian economy.

7. RECOMMENDATIONS

Obviously, there exists the possibility of reviving the Nigerian economy by, among others, giving sufficient attention to housing problems and urban solid wastes management. It is quite a matter of radical exercise of political will. Nigeria has considerable resources to lead the economy out of low living standard associated with inadequate housing and poor waste management if the leaders are sincerely desirous for such change. The problem of housing and solid waste disposal can be tackled if the following points are earnestly pursued.

- a) The rural areas need be reformed to minimize rural-urban migration. Transformation of the rural areas includes, among others, environmental restructuring such that good road network, power supply are put in place, medical centres, vocational schools, housing facilities and above all establishment of industries. This is expected to reduce rural-urban migration, cut the possibility of rising population in urban places and avoid pressure on the use of existing facilities. This in line with Olaseni & Alade (2011):

«Infrastructure is the umbrella for many activities usually referred to as “social overhead capital” by development economists... The adequacy of infrastructure helps to determine a country’s success or failure in diversifying production, coping with population growth, reducing poverty, improving environmental conditions ... Indeed socio-economic development can be facilitated and accelerated by the presence of infrastructure. If these facilities and services are not in place, development will be very difficult.»

If the rural areas are improved sufficiently, excessive migration to urban places will reduce and consequently reduce waste generation and housing problem.

- b) The three tiers of government in Nigeria have to willingly establish recycling plants and integrated waste management technology in the urban centers. This will go a long way to reduce both organic and inorganic wastes scattered in Nigerian streets. Kaosol (2009); Troschinetz & Mithelcic (2009) note that there are several sustainable technological ways to manage solid waste before landfill. For instance incineration gives energy; fertilizer is obtained from composting organic waste, anaerobic digestion produces energy and other useable materials are recovered through recycling. This necessitates integrated waste management, although capital intensive but it is an important requirement for restructuring urban solid waste management in Nigeria.
- c) The population of households that make up the urban centers in each state should be known which will guide the provision of facilities. This is expected to assist to eradicate heaps of waste all over the urban places due to inadequacy of disposal facilities, thereby putting to an end the health hazards associated with it. The government has to make laws for the regulation of population of a specific urban area so as to ensure that facilities in an area are at par with the existing number of people in the place. This will help reduce excess waste due to over population of an area.
- d) There is the need to reduce the cost of governance and the establishment of mortgage banks in the 36 states in Nigeria and encouraging entrepreneurial development that can empower more private individuals to delve into estate management. In other to have sufficient capital to improve house financing in Nigeria, political position in Nigeria should be exclusively for those who are already engaged. This implies that some government institutions should be on part time basis so as to reduce cost of governance as experienced in present day Nigeria. Sustainable housing policy is imperative as it will help to reduce poverty. Marcuse (1998) points that a sustainable housing policy must be one that tries to focus towards bringing into place socially fair housing system. House is an important physiological need of man and must be addressed sufficiently as a prerequisite for economic development.
- e) Unemployment should be addressed. Great effort is required to tackle dependency ratio resulting from high rate of unemployment. Civil servants lack the ability to save because of extended family total reliance on their paltry income. Disguise unemployment and poor

remuneration affect many Nigerians from securing a decent home. Addressing unemployment and improving remuneration of workers will to a great extent, empower many Nigerian to be able to acquire decent accommodation. Given that Nigeria is agrarian economy, it is essential that the government has to encourage integrated agriculture. This in line with Uma *et al.* (2013) who point that it is imperative for the federal, state and local governments to establish integrated agriculture in all the wards in each local government. Apart from providing accommodation for workers, it is a source of livelihood for the people.

- f) Waste management courses should be taught in schools and colleges. This will assist the youths to acquire the right skill and attitude toward cleanliness. Besides, the National Orientation Agency should co-opt the media houses, churches/mosques and business organizations to enlighten people on waste disposal. Also, waste management courses should be offered in the high institutions. Agunwamba (1998) and Singh *et al.* (1995) note that waste management courses are offered by very few schools and so there is shortage of skilled workers in this important facet. So, there is the need to ensure adequate trained personnel in environmental agencies. So, improving education on waste management will go a long way to help reposition solid waste management in Nigeria while the enlightenment campaign leads to attitudinal change.
- g) In view of the aged parents depending on sons and daughters, it is imperative for the government of Nigeria to introduce old peoples' homes in all the 774 local government areas of the country and be catered for by the respective local government authority. It is a measure that can go a long way to relieve dependants and apart from creating accommodation for aged, it will assist in alleviating general poverty in the country.
- h) It is of utmost necessity for the government to make adequate legislation on waste disposal. The legislative agenda and fines for violation must be communicated to the Nigerians through schools, churches, mosques and market authorities in every state in Nigeria.
- i) There is urgent need to increase both public and private sector active participation in management of housing estates. Mostly by making land available to such investors. This is like creation of enabling environment for private investors who have the will to go into long term investment.
- j) The mainstay of the Nigerian economy in the 1960s that is agriculture should be renewed and introduction of modern agriculture relevant to various parts of the country will play a significant role. The insight in this is that modern farm settlement is a decent home for farmers. This has the tendency to reduce high unemployment, curtails incessant rural-urban migration, brings food to the rising population, raw materials to industries, income generation and ameliorates poverty in Nigeria.
- k) All states and local government authorities have to implement and make sure that every day, the shop owners, artisans, hair dressers, automobile mechanics and industrialists do dispose their waste appropriately. Wastes deposited along roads, beneath bridges, in culverts and in drainage channels must be cleared and those wastes dumped around busy areas must be removed. In addition, the collection and disposal of waste should not be delayed, so as to guard against decomposition of organic waste. This involves provision of

enough facilities for waste deposit and also sufficient coverage by the relevant waste management authority.

- l) Foreign direct investment in housing estate and solid waste management should be promoted. Lack of capital in developing countries has been a major setback in economic development. The foreign owners of capital wishing to expand beyond their home economies should be attracted by Nigerian government. This will involve creating enabling environment and ensuring the security of lives and property.
- m) Slums and unplanned structures should be avoided in our urban centres. The uncontrolled heaps of waste in such areas are avoidable if low cost housing units are put in places with careful planning and the enabling political will, and zero tolerance for corrupt practices, this is achievable.

8. CONCLUSIONS

This paper has examined the impact of urban solid waste and housing problems on economic development of Nigeria. It was obvious that the governments of Nigeria over the years have attempted in different ways to tackle the problems but it has remained insurmountable due to failure to control rural-urban migration, lack of capital and increasing population rate. Consequently, there have been pressure in the use of urban facilities and the insufficiency culminated in creating slums, shantytowns, heap of waste deposits in conspicuous places and health hazards emanating from decomposed organic waste. The heaps of waste of different forms can be separated for recycling, composting and recovery for useful purpose. This requires integrated waste management technology, which the adoption will play significant role to reposition urban solid problem. Besides, increased low housing provision, strong mortgage bank and enabling environment for both domestic and foreign private estate management are expected to assist in resolving housing problem in Nigeria. It is our view that the trend can be revived if and only if efforts are made in putting into use the articulated recommendations.

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Endnotes

- ¹ Dual economic base is further characterized by undeveloped rural areas and a developed urban area existing side by side- see W. Arthur Lewis 1954.
- ² The structural adjustment policies of the 80s re-invigorated the neo-liberal perspective of reducing the government control of markets while allowing the private sector play a significant impact.
- ³ See Bartone et al. (1991), Rondinelli & Lacono (1997), Burgess *et al.* (1997), Levine (1994), Lee (1997).
- ⁴ Services of the informal workers are not limited to itenery and stationary waste buyers, small scale recycling firms, waste pickers and community based organizations.
- ⁵ Green Agenda 21 is the outcome of the UN Eath Summit if 1992 in Rio de Jeneiro requiring a re-orientation of the human race to the environment.
- ⁶ See Njeru, J. (2006).

⁷ See UN-Habitat (2005b): XLI and XXXVIII, Porter and Lloyd-Evans, (1998), De-Soto (2000) and UNCHS-Habitat, (1993).

⁸ As was the case between 1945-1960s with the ideas of post-war development planning as documented in Domar 1947, Nurkse. 1953 and Lewis 1954- See Arku and Harris 2006.