

URBAN DESIGN AND SUSTAINABLE DEVELOPMENT: A CASE OF MAKOKO AREA OF LAGOS STATE, NIGERIA

Olumuyiwa O Ajayi, MSc.

Faith O. Oviasogie, MSc.

Dominic E. Azuh, PhD

Moses M. Duruji, PhD

Covenant University, Ota, Ogun State, Nigeria

Abstract

Today, cities in developing countries enmeshed in extreme poverty and fail to create the jobs necessary for development. The share of the population living in urban areas is rising inevitably. According to the report of the Global Urban Observatory (2003), urban poverty in developing countries is typically concentrated in slums and other informal settlements. The bulk of the urban poor in Africa as exemplified by the Nigerian situation are living in extremely deprived conditions and indecent housing with insufficient physical amenities like water supply, sanitation, sewerage, drainage, community centres, health care, nutrition, preschool and non-formal education. The UNDP Human Development Report 2004 ranks Nigeria as the 30th poorest country in the world, as it is now, according to the Global Competitive Index (GCI, 2013-2014), Nigeria is the 120th poorest country among 148 countries in the world. Currently about 65- 70% of the population lives below the poverty line, half of which probably lives on less than half a dollar per day and precarious situation (UNDP, 2004). The issue of poverty in Nigeria especially in the urban areas as exemplified by the situation in Lagos being the commercial nerve of the country has been aggravated by the present trend of rural urban migration coupled with the inability of the urban areas to create the jobs necessary for development. Currently Lagos reflects the embodiment of the contemporary decay of urban life as evident in the poor standard of living, congested apartments, degraded environment, crime, among others. It is against this background that this paper seeks to investigate the interplay between urban design and sustainable development in Makoko due to its strategic location in Lagos metropolis.

Keywords: Urban Design, slums, sustainable development, informal settlement, Makoko-Lagos, Nigeria

Introduction

Whenever the Lagos State government moves to showcase the beauty of the city, it focuses on the beautifully constructed roads of Ikoyi and Victoria Island, as well as the imposing buildings in the industrial areas of the state. But in reality, Lagos is more than the beautiful roads of Ikoyi, or the intimidating skyscrapers found in some parts of the Island. Many areas of Lagos are still bereft of infrastructures that make life easy for the dwellers. Despite the efforts of the state government to transform the city into one with aesthetic appeal, there are still many slums with little government presence. One of those is Makoko in Yaba local government area. Makoko appears to have been neglected by the Lagos State government. Makoko is a slum neighbourhood established in the 18th century as a fishing village and its population is considered to be 100,000. A large part of the area rests in structures constructed on stilts above the Lagos Lagoon (BBC 2010).

Makoko represents an irony in a mega city like Lagos. It is a community where many residents live on the lagoon belt in a repulsive and unhygienic condition. Somehow, they have continued to weather the storm. Photographs and aerial view show the resilience of the inhabitants. Makoko is composed of an exotic breed striving to live a meaningful life despite all odds. Even despite the dire circumstances, culture is seen in confluence with commerce (BBC, 2010).

Before Nigeria's independence, the colonial government at that time adopted the Garden City approach in the planting of European Quarters, later GRAs (Government Reserved Areas), with spacious, lush greenery. The Government Residential Areas became standard features of many Nigerian cities. In Lagos, this gave credence to such places as Ikoyi and Ikeja GRA. This approach was unfortunately not carried through to the 'African quarters' like Ebute Metta. At post-independence, it was only the former European Quarters or GRAs that were planned. Perhaps due to increased migration, various areas comprising the metropolis virtually grew without a plan (Adejumo, 2003).

Oduwaye (1998) attributes part of the problem of rapid urbanization to the rapid rate of migration from rural areas to urban areas, among other causes. All this growth and rapid urbanization was not without its problems. The tremendous pressure brought on by unplanned urbanization has put pressure on land, resulting in urban sprawl and in largely unmet demand for basic urban services and infrastructure such as water, electricity, sanitation, access roads, public transport, effective drainage and waste disposal. The inevitable result has been the rapid development of slums both on land and along the waterways, including the lagoons where the tidal waves are not so strong as to sweep away the temporary shanties that have been constructed by people who are desperate to live near the city centre but are unable to afford the cost of scarce accommodation. This rapid unplanned growth was characterized by over population of some areas and neglect of other urban areas.

Adejumo (2003) revealed that unplanned developmental activities have continued to alter the metropolitan fringes. The depressed national economy encouraged fringe communities to sell landed properties giving room for the growth of slums. He suggested land acquisition by the government which should extend to the fringes to acquire land as green belts serving as buffers that will contain the sprawl on one hand and delineate the urban edge on the other. This further explains the development of slums and shanties along the fringes of the Lagos lagoon.

Definition of Concepts

Urban Design

According to Michael, Dodge, Jiang & Smith (1998), design in architectural term refers to the arrangement and planning of houses, roads, streets and paths in a way that allows them to be meaningfully structured; function properly and also make them admirable to behold. According to a report of the European Union Expert Group on the Urban Environment (2004:10), urban design is refers to the physical design and planning of the built environment which is made up of physical infrastructure, complexes, space and urban areas in relation to the natural environment within and around built-up areas. Barnett (1982) defined urban design as the procedure of designing physical buildings that allows for urban growth, conservation and change (cited in Michael, Dodge, Jiang & Smith, 1998). In the view of the South African government (2013), the focal point of urban design is on shaping the built or erected environment in response to the natural, physical, social and economic factors. Put differently, it has a value adding mission to accomplish to the environment by making it good for habitation. In addition, it creates room for the inhabitants of urban centers most especially those with limited ability to tap into the benefits and opportunities of urban living.

Michael, Dodge, Jiang & Smith (1998) in their study on urban design showed a synergy between urban design and sustainable development. They argued that urban design

concerns itself with the making of places making and creating sustainable human settlements which includes the designing of individual buildings, groups of buildings, spaces and landscapes. These arrangements at the long run will help establishment of framework and processes that facilitate successful development.

The Commission for Architecture and the Built Environment (2000) gave another dimension to the understanding of urban development. It mentioned that although the application of designs space are transformed and given relevance, it also addresses the preservation of the natural environment and the conservation of resources. Other importance of a good urban design is that it adds to the quality of life in these urban centers, informs people's experiences and also informs the identity attached to the city itself. It also allows for the improving of social integration, the promotion of the health of citizens, attends to the psychological welfare of the people as well as ensures economic development (Commission for Architecture and the Built Environment, 2000; INFRA1219, 2011).

Sustainable Development

Development is concerned with improvement. Cuesta, Sarris and Signoretta (1991) defined sustainability as development that does not cause damages to the physical environment and also allows urban centres to sustain its structures whether social or economic. There are a lot of definitions of sustainable development that give different insight into what they think it is. However despite this hurdle, the Brundtland Report by the World Commission on Environment and Development in 1987 gave its own definition which became the commonly known definition of sustainable development (William & Millington, 2004). World Commission on Environment and Development (1987) defines it as "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs".

The core component of the definition is the conservation and development of resources. The most relevant resources that are affected by urban design include land, the ecological systems and bio-diversity, air, water, physical infrastructure, the built or developed environment, human health and their well-being, social relation or social capital and cultural heritage (European Union Expert Group on the Urban Environment, 2004:10; Commission for Architecture and the Built Environment, 2000, 2). What this point to is that sustainable development like urban design also integrates within its concern environmental, social and economic components. It allows for a long term analyses of economic, biological and social advancement in the light of environmental considerations.

From the above, it is evident that there UD is relevant for development. In fact, Cuesta, Sarris and Signoretta (1991) emphatically mention that the basis of urban design is the issue of sustainable development. An important significance factor that shows the synergic relationship between urban design and sustainable development is that, the environment must be taken care of for the good of the present generation while also putting the future generations into consideration.

Urban Design and Slum Formation Process

Slums are characterized by devalued images of an area of the community which also results in congestion of various uses and inadequate circulation space (George, 1999). According to Agboola (1995), two types of slum exist in Nigerian cities. These are the traditional slums arising in towns from the decay of existing structures and there are spontaneous slums created by squatters on illegally acquired land. (Agboola, 1985; 1987). If this pattern represents the majority of the slums in Lagos, it is necessary to reconsider the use of such terms as 'traditional' and 'spontaneous' and to show that some slums can appear outside the inner city on legal land.

In a study conducted by Abumere (1987) on urban decay in Forty Nigerian cities, he concluded that the cities closely identified with the phenomenon of overcrowding “are large cities, including Lagos, Kano, Ibadan, Benin, Onitsha and they are generally ancient, except Onitsha”. (Abumere 1987: 25-26). Moreover, most of these cities are closely associated with overcrowded and degraded environments. So, urban decay connected with overcrowding is almost entirely a big town problem in Nigeria and concerns, cities like Lagos, Kano, Ibadan and Onitsha.

However, in 1985 about 68.2 percent of the slums in Nigerian cities were found within a radius of 1km from the city centre (Abumere 1985: 33). If there are no resources for urban renewal, the city centre, which is the oldest by definition, town into city a slum in time. Hence, slums on the city outskirts can also be found, normally in the largest Nigerian cities. (Abumere, 1978: 31) in the large and fairly large cities, such as Lagos, Kano, Ibadan and Enugu, a considerable proportion of slums occur at the city outskirts, more than five km from the centre. The major reason is that accommodation in many of the cities has been priced, beyond what most citizens can afford. Many low income workers, therefore, live in low-cost shanties or slums at the city outskirts. Fifteen years later, the situation has not improved in Lagos. Generally poverty has spread out in all Nigerian cities and the Lagos government has not really addressed the issue of slums in the city. Consequently, based on age, location and size, slums in Lagos have been identified as three types:

The oldest and largest slum is the core area of the city, which covers the entire pre-colonial town. A large part of the city can be seen as a slum, even if the inhabitants do not agree that they live in a slum for historical reasons (Mabogunje, 1968). A few small-scale slums, on land occupied illegally by squatters, can be found at the margins of the planned city (Colen, 1973). And numerous slums, generally occupied by tenants on legal lands, are found at the outskirts of the city along major roads or close to local labour market. Their size, history, socio-economic and cultural features differ from one slum to another. Some peripheral slums such as Mile 12, Agege and Ajegunle in Lagos are associated with this type of slum.

The slum formation processes have been identified with major causes and effects of slum, which already exist in the city. Sometimes, the blame is put on the people, government and city planners. Hence, this unwholesome scenario calls for revitalization process, which will definitely ameliorate the unpleasant conditions of urban slums and decays in the city at large (George, 2009).

Urban Design and Evolution of Slum

Scholars in urban studies have identified that the causes of slum is as a result of poor urban planning, and wretched housing conditions which already exist in the inner-city or a neighbourhood. Others see it as a set of forces that interact to give rise to a devalued physical and social image of an area by a large community (George, 1999). Similarly, low capital formation has been identified with slum areas. In a developing economy like Nigeria, the major cause of slums is low capital formation of the less privileged groups. The income they generate is only enough for sustenance, while they have low capital to utilize in improving their homes or to keep their environment healthy for human habitation. Hence, poor financial position of such residents is the main reason why 6-10 persons would live in a room.

In addition, there is a sense of alienation among the rural-urban migrants of the cities seriously in search of white-collar jobs, which are not available. They find solace in poor quality housing in a filthy environment. They feel a sense of alienation from the whole urban system of life and are satisfied with the fact they can find a place to live in, though substandard and squalid housing result from misuse of dwelling units originally planned for less intensive uses. The effect of slum in a city on the other hand, is as a result of slum-prone areas and forces which is usually associated with developing countries where less planning on cities have led to deteriorating, overcrowding unsanitary conditions, or absence of facilities or

amenities such as potable water, drainage systems, schools, health facilities, recreational ground and post office (George, 2009).

The concept of poverty has been identified as a major cause of poor urban design and slum evolution. Poverty can be defined in different ways. Some attempt to reduce it to numbers, while others argue that a more ambiguous definition must be used. In the end, a combination of both methods is used in defining poverty. Generally, economists and social workers use two approaches to define poverty. Some people describe poverty as a lack of essential items, such as food, clothing, water, and shelter, needed for proper living. Poverty also has a social dimension, which include poor quality of housing and the living environment, i.e. lack of access to basic services like clean water, health care, education etc. However, even a definition in economic and social terms does not describe poverty well enough. Apart from not having access to the benefits of development, poverty is also a lack of choice and of voice, of rights and security of participation in decision making (Shubert, 1996).

Consequently, urban poverty is a monster with many heads and arms that limits the possibilities available to the poor in the cities. The poor are marginalized to the point where they are unable to determine their own destiny. Two decade ago, only one third of the world's poor was living in urban areas while it is estimated that now half of the poor are concentrated in cities and towns. Currently, it is estimated that of the world's population of six billion people, half of whom live in urban areas, there are over one billion poor people living in slums and spontaneous settlements (UN HABITAT, 2003b).

The urban poor in developing countries find land in the city to live and build their own houses. If possible, they construct their toilet and drainage system. They tap electricity from an adjacent house through an informal connection and if they are threatened with eviction, they find another place to live. They work in irregular and low-paid jobs, and develop and operate micro-enterprises to make a living. They organize their savings and loans groups so that they can make investments in housing or business. They produce and sell goods and services to each other in quantities and quality for which there is a demand among the poor. The urban poor show a great ingenuity in finding solutions to their problems and meeting their basic needs (Fallavier et al, 1999). These solutions most often result into environmental problems inform of sub-standard housing, poor waste disposal system, poor environmental sanitation and degradation among others.

Almost everything the urban poor need is available in the market. However, because the market is informal, the poor have to buy whatever they need at a relatively high cost. Because they do not have much money, they buy goods and services on the informal market where the price per unit tends to be higher than in the formal market. Even if the public sector provides a good or service for free, e.g. education and health care, the poor have to pay to gain access, because free goods and services are always in short supply.

As noted by Fallavier et al, (1999), the urban poor lack information (including information about their rights), therefore, they have to rely on middlemen who often take a disproportional cut. Because they cannot afford to follow the rules and regulations and are forced to operate in the informal sector (for their housing, their micro-business), they are always vulnerable to extortion (Fallavier et al, 1999). The urban poor would be less poor, if they did not have such relatively high costs of living.

Implications of Good Urban Design for Sustainable Development

The results of studies carried out by Olokesusi (1994), Anozie (1994) and Fadamiro (2000) on Lagos, Imo and Ondo States examining the negative effects of unplanned urbanization on the urban environment, emphasized that the rapid growth of urban centers in Nigeria generated management problems, such as encroachment of open spaces, inadequate solid waste management, water supply, housing and water pollution. Thus, urbanization

according to Osiyi (1989) has resulted in uncontrolled use and development of land, creating chaos and blighted conditions in cities.

Fadamiro and Atolagbe (2006), attribute this to lack of pursuit of landscape planning, design, and management in promoting land use development in Nigeria. Key among the problems of unplanned urbanization was that of urban housing. This was further compounded by a lack of firm land in the physical expansion of the city to accommodate several immigrants both local and foreign as Lagos gained more prominence as a Mega city, ranking 6th world mega city by the year 2000 based on population size

Also the problem of poor terrain assails most of Lagos as much of the land is barely 5 meters above sea level; there is therefore the added problem of poor drainage and insufficient firm land upon which to build and install the basic infrastructure necessary for city dwelling. With the government's inability to meet up with the housing demands, much of the urban poor found a solution in the construction of shanties along waterfronts, resulting in many slums defacing the water bodies and causing urban blight. The Lagos lagoon is home to many of such settlements and Makoko is one of them (BBC, 2010).

Furthermore, poor urban design and construction methods have a significant effect on health and the environment. Sustainable urban design is essential in order to ensure that urban settlement patterns take account of environmental factors. It must encapsulate the integration of urban environment issues at three levels: in the most relevant community policies (transport, health, research and technological development), in key sectors of community environment policy (water, air, noise, waste, nature and biodiversity) and between the different levels of administration (national, state and local); sustainable construction strategies are of great importance (George, 2009).

In the housing unit, lead exposure, poor indoor air quality and contaminated construction materials are some of the health risks. Lead paint is still used in much of the developing world. In addition to ingestion of paint chips and dust tracked into the home, exposure can also occur by drinking water carried through lead pipes. Lead poisoning can reduce IQ and cause learning and attention disabilities. In high doses it can cause kidney damage, anemia, and death (Habbitat, 1984).

Poor indoor air quality is associated with respiratory infection, chronic obstructive pulmonary disease, respiratory tract cancers, tuberculosis, cataracts, and asthma. The burning of solid fuels such as dung, wood, and coal, exposes people who use them to particulates, nitrogen and sulfur compounds, and benzene. Asthma sensitizers and triggers found indoors include dust mites; cockroach, pet, and rodent allergens; molds; fine dust; tire fragments; and chemical air pollution such as tobacco smoke, wood smoke, and volatile organic compounds from building materials (Habbitat, 1984).

Another source of housing-related health problems is building materials commonly used in slum housing. Composite wood panels such as particleboard are vulnerable to moisture damage that can encourage mold growth. Mold is known to be an allergen and a lung irritant, particularly for people with asthma. The resin glue used in some particleboard, plywood paneling, and fiberboard also releases formaldehyde, a volatile organic compound that can impair lung function and cause cancer at high doses (Habbitat, 1984).

Conclusion

Unplanned settlements in developing countries are the product of rapid urbanization, which is bringing migrants from rural areas to industrialized centres and main cities in increasing numbers. In the housing literature, these settlements have been referred as: spontaneous settlements, in reference to the absence of government aid and control; uncontrolled settlements, in reference to their lack of regulation; shantytowns, in reference to the poor quality of construction; popular settlements, in recognition of the fact that they are inhabited by low-income people; marginal settlements, in recognition to the role their

inhabitants are assumed to play in urban society and to their location within the city; and transitional settlements, as an expression of the positive view that they can, over time, become consolidated and permanent settlements.

These unplanned settlements have shown to be effective housing delivery systems for the urban poor in developing countries. In most of these countries, it is widely accepted that unplanned settlements will result, over a period of time, in settlements with characteristics similar to planned urban areas for comparable income groups. The ability of the urban poor to provide housing by themselves is not fully recognized in most of the official housing programs, usually managed by government agencies. Efforts on both sides, the state and the users, are not efficiently utilized. Most official low-income housing proposals are still based on pre-assumed standards rather than on the existing requirements of the intended users.

Recommendations

The government and other relevant agencies should ensure that both old and new buildings conform to sustainable design parameters in order to reduce the frequency of disease occurrence in the study area. Modern public health calls for comprehensive and systematic efforts that address health inequalities and urban poverty. The root cause of ill health, whether socio-economic or environmental must be identified. It is essential that an urban health agenda be formulated. It must articulate the complex relationships among poverty, health and the environment and position health considerations in the centre of economic regeneration and urban development efforts. The successful reconnection of planning and public health will require the redefinition of urban planning to include addressing health disparities. Design and construction must also align with best practices and ensure that health friendly methods and materials are used for construction.

Also, previous research, indicate that water tourism can be a major revenue source, particularly for developing economies like Nigeria (Falade, 1998). This call for change in the way the existing fringes of the Lagos waterways is currently being used. With proper planning, the area along the Lagos lagoon edge where Makoko is also located can undergo a renewal that will position the lagoon for better development and subsequently for water tourism development. Due to the strategic location of Makoko, the Lagos State government should give the community an uplifting and transform Makoko into a commercial and entertainment hot-spot on the lagoon.

References:

- Abumere, S. I.: *The Nigerian Urban Environment and the Problem of Slums*. Unpublished Paper, Department of Geography, University of Ibadan, 1985.
- Abumere, S.I. :‘Urbanization and Urban Decay in Nigeria’. In: P Onibokun, F Olokesusi and L Egunjobi (Eds) *Urban Renewal in Nigeria*. NISER, Ibadan, 1987.
- Adejumo, O. T : *Developmental Strategy for Sustainable Public Open Space System in Metropolitan Lagos: The City in Nigeria*. OAU, Ile-Ife, p. 112 -120, 2003.
- Agboola, T.: ‘The Prospect for Private Sector Involvement in Urban Management Functions in Nigeria’. *Review Of Urban And Regional Development Studies* 6: 135-149,1994.
- Agboola, T. :‘Urban Renewal: A Case Study of Lagos Metropolitan Area’. In: P Onibokun, F Olokesusi and L Egunjobi, *Urban Renewal in Nigeria*. NISER: Ibadan, 1987.
- Anozie U.C. : *Environmental Sanitation Control in Imo State, Nigeria: In Urban Management And Urban Violence In Africa*. Vol.1 IFRA, UI: Ibadan, 1994.
- Cohen, A.:*Custom and Politics in Urban Africa. A Study of Hausa Migrants in Yoruba Towns*. Berkeley and Los Angeles: University Of California Press, 1973.
- Commission for Architecture and the Built Environment: *By Design: Urban Design in the Planning System*, 2000. Retrieved On February 12, 2014 from

https://www.gov.uk/Government/Uploads/System/Uploads/Attachment_Data/File/7665/158490.Pdf

Cuesta, R., C. Sarris & Signoretta, P.: *Urban Design: Methods and Techniques*. Great Britain: Plant A Tree, 1991.

European Union Expert Group on the Urban Environment: *Urban Design for Sustainability. Final Report of the Working Group on Urban Design for Sustainability to the European Union Expert Group on the Urban Environment January 23, 2004.*

Fadamiro J.A. & A.M.O Atolagbe : *Urban Environmental Sustainability: A Challenge to Effective Landscaping in Nigeria.*” *Dimensi Teknik Arsitektur*, Pp. 34(1), 44-51, 2006.

Fadamiro J.A.: *Outdoor Spaces and Their Landscape Qualities: A Comparative Analysis of Three Neighbourhoods in Lagos, Nigeria. Journal of Urban and Environmental Research*, Pp. 2, 55-67, 2000.

Falade J.B.: *Public Acquisition of Land for Landscaping and Open Space Management*” *Journal of Nigeria Institute of Town Planners*, p. 11, 1-13, 1998.

Fallavier, P., et al.: *Poverty Analysis in Phnom Penh: Analytical Report of Findings and Basis for Policy and Project Directions*, 1999.

George C. K.: *Attaining Sustainable Development in Lagos Metropolis- A Challenge for Town Planners*. Paper Presented At 27th Annual Conference of Nigeria, Institute of Town Planners, and Benin-City: Edo State, 1999.

George, C. K. : *The Challenges of Urbanisation in Nigerian Urban Centres: The Lagos Mega City Situation – A Town Planner’s Perspective*. Libro-Gem Books Ltd: Lagos, 2009.

Global Competitive Index: *World Economic Forum, 2013/2014.*

Global Urban Observatory: *Slums of the World. The Face of Urban Poverty in the New Guidance Sheets: London, 2003.*

Habitat : *Upgrading Of Inner City Slum*, (UNCHS), Nairobi: Kenya, 1984.

Mabogunje A.: *Urbanization in Nigeria*. University of London Press, 1968.

Micheal, B, Dodge, M, Jiang, B., Smith, A.: *GIS and Urban Design*. Working Paper Series 3. Center for Advanced Spatial Analysis (CASA) Working Paper 3, 1998.

Oduwaye, A. O.: *Urban Landscape Planning Experience in Nigeria. Landscape and Urban Planning*, p. 43, 133-142, 1998.

Olokesusi F: *Sustainability and Solid Waste Management In Metropolitan Lagos: The Imperative For A New Paradigm*. In *Urban Management and Urban Violence in Africa*. Vol.1. IFRA, UI Ibadan, 1994.

Osiyi S..D.: *Landscape Design as a Tool for Improving Enugu Neighbourhoods. A Case Study of Oguwi New Layout, Enugu. Unpublished Thesis Dissertation UNN Enugu Campus, 1989.*

Shubert, C.: *Building Partnerships for Urban Poverty Alleviation: Community- Based Programmes in Asia*, Urban Management Programme, UNCHS, 1996.

South African Government: *Urban Design Policy*. 2013. <http://Www.Capetown.Gov.Za/En/Planningportal/Documents/130416%20draft%2013%20urban%20design%20policy.Pdf>

UN-Habitat: *Slums of the World: The Face of Urban Poverty in the New Millennium*. Nairobi, United Nation: UN Millennium Project’s Report to the UN Secretary-General. Investing In Development: A Practical Plan to Achieve the Millennium Development Goals Washington

Williams, C. C. & Millington, A. C.: The Diverse and Contested Meaning of Sustainable Development. *The Geographical Journal*, 170(2), Pp. 99–104, 2004.

World Commission on Environment and Development WCED: *Our Common Future*. Oxford: Oxford University Press. 1987.

BBC Welcome to Lagos, Makoko Documentary, Thursday, September 23, 2010