URBAN LAND-USE PATTERN AND ITS EFFECT ON DEVELOPMENT IN OSOGBO METROPOLIS

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Abstract

Globally, land is used for different purposes. These are but not limited to: residential, commercial, religious, recreational, industrial, transport etc. The proportion of land allocated to various use in different parts of the world vary tremendously depending on the level of development, compliance with the planning regulations and the purpose to which the land is to put (United Nations Environmental Project, 1999). Osun state was created in 1991 with its capital in Osogbo, the need to develop the town to befit the status of a state capital made the government formulate different development policies. These policies led to high rate of rural-urban migration because of the increased in socio-economic activities and a high demand for land in the metropolis. This paper therefore analyzed urban land-use pattern and its effect on development in Osogbo. The study used descriptive survey research design; the stratified sampling technique was used to purposively drawn 250 respondents in the study area to participate in the study. The study relied extensively on both primary and secondary sources of data. The primary sources were 250 questionnaires administered and five Key-Informant Interviews conducted while the secondary data were: books, journals, online materials, newspapers and archival materials. The findings from research question two revealed that 23.6% of the respondents agreed that improper land-use increased natural disaster within the metropolis. 35.2% of the respondents agreed that it increases pressure on the available social amenities because of congestion while 19.6% agreed that it leads to in environmental degradation. The study therefore concluded that the pattern of land-use in Osogbo was hampering development and recommended that there is a need to redesign the Master Plan of the city and ensure compliance to the planning regulations in order to achieve optimum development.

Key Words: Land, Land-use, Development, Osogbo and Government
Words Count: 288

Introduction

Nigeria is the largest country in Africa, and the largest concentration of black people in the world with a land area of close to 1million square kilometers, and a population of well over 125 million. Estimates at the turn of the 21st century suggest that 43.5% of the population were living in urban areas, up from 39% in 1985, with projections that the urban population will reach 50% by the year 2010, and 65% by 2020. The rate of urban population growth is thought to be 5.5% annually, roughly twice the national population growth rate of 2.9%. More than seven cities have populations that exceed1million, and over 5,000 towns and cities of various sizes have populations of between 20,000 and 500,000 (Ugwu, 2011). Thus, Osogbo is among the first one hundred largest cities in the world which translates into pressures on land and thus high urban dynamics.

Globally, land is used for different purposes. These are but not limited to: building residential houses, agriculture (farming, animal husbandry, fishing, and horticulture), commercial, mining, education, health, recreation, industrial, religious centres and transportation purposes etc. The proportion of land allocated to various land-use in different parts of the world vary tremendously depending on factors such as: level of development, land mass, the topography of the land, compliance with the planning regulations and the purpose to which the land will be put (United Nations Environmental Project, 1999). Land is the platform of all human activities whether: economic, social, spiritual or recreation etc. land is a free gift of nature that comprises of all other resources while in legal terms, it is often defined as the material of the earth, whatever may be the ingredients of which it is composed, whether soil, rock or other substances.

Different definitions have been given for Land-Use. The Encarta Dictionary, (2009) described it as the way the solid part of the earth that is not covered by water is employed for a certain purpose. Pocket Oxford Dictionary, (1994); describes it as the manner in which the solid part of the earth's crust is caused to serve a purpose. Food and Agriculture Organisation, (1999) defined Land-use as being characterized by the arrangements, activities and inputs people undertake in a certain land cover type to produce,

change or maintain it. Barlowe, (1978) refers to land-use as the sum total of the natural and man-made resources over which the possession of the earth surface gives control. Hemuka, (2002) refers to it as the use to which a particular land piece is put. Fasina, (1996) defined Land-use as a kind of permanent or cyclic human intervention with the land to satisfy human needs. It is the application of human control on natural ecosystem in a relatively systematic manner in order to derive benefit from it (Vink, 1975).

One can deduce from all the different definitions above for Land-use as being the management and modification of natural environment such as settlement and semi-natural habitats for a specific purpose. Man makes use of the land he inhabits to a degree unmatched by any other species. The human imprint is most marked in the temperate and tropical zones, but even in remote deserts, high mountains, and polar region bear evidence of the works of man. Land can be put to different uses such as: residential, commercial, industrial, administrative, agricultural or educational. Land-use within a planned space should show a discernible and recognizable pattern. In large urban centers where industries and major transportation networks are the connecting factor, the alteration of the landscape is most evident.

Land occupied by farms, plantations and pasture may seem more natural but these forms of development are the products of human activity just as surely as densely populated cities, sprawling factory complexes, and bustling international airports. Human land-use even extends to the oceans, where people appropriate the surface for maritime traffic lanes; comb the waters below for fish, squid, algae, and other items of value; and mine the seabed for petroleum and metals. Leaving land in its natural state is another, more subtle form of land-uses, since wilderness, parks, and preserves may still satisfy human demands for recreation and for ecosystem services such as water catchment, and the control of land erosion.

Every settlement whether in urban or rural area consists of buildings and other structures; open and enclosed spaces and circulation channels. These elements are arranged in varying degrees and ways to create a form and structure peculiar to that setting (Achi, 2004). In other words, the field of urban design is viewed as holding the key to the creative activity. By this, the form and character of the physical environment may be devised, modified and controlled, in circumstances of social, economic, technological and/or political change, (Tibbalds, 1988). A city can display textures, which are a reflection of organization of activity patterns and their form (Bacon, 1967). For example European cities vary from the composition of indigenous cities found in Nigeria (Breese, 1966).

The modern Osun State with its capital in Osogbo was created from part of the old Oyo State on 27th August, 1991. The state derived its name from the river Osun, the venerated natural spring that is the manifestation of the Yoruba goddess. Osun state is bounded in the north by Kwara State, in the east partly by Ekiti State and partly by Ondo State, in the south by Ogun State and in the west by Oyo State (OSG, 1991). The high influx of people into the state for: education, socio-economic activities, recreation, religious and tourism has caused a high demand for urban land-use especially in Osogbo metropolis which serves as the capital of the state, the seat of government and the centre for commercial activities. The increase in socio-economic activities in the city has led to the high rate of rural-urban migration and a high demand for land. A lot of problems as arisen from these such as the non-conformity to the planning laws thereby resulting in a negative outlook of certain parts of the town, indiscriminate disposal of refuse on major roads, environmental pollution, parking wrongly, heavy traffic, dirty environment, poor development among others. This paper therefore critically analyzed the pattern of land-use in Osogbo metropolis and its effect on development.

Statement of the Research Problem

Urban land-use is an integral part of the global focus on sustainable development. Urban areas all over the world offer a number of advantages in terms of concentration of people followed by demand for commercial properties and transportation. Most of the earlier studies on the relationship between pattern of land-use and urban property values and development have shown a positive relationship (Dewees, 1976; Damm et al, 1980; Wolf, 1992; Singh, 2005). Osogbo is a classic example of a city that has developed rapidly since it became the Osun State capital in 1991. Many private companies, retail stores, commercial banks aggregate in the metropolis to take advantage of opportunities afforded by locations near the seat of governance thus attracting complimentary services. The state capital has also been experiencing expansion in terms of population and population density due to increase in commercial activities in the state.

The land-use pattern adopted in the city is not well planned and consistently lacked control. This has made the city and the state at large to be far behind in terms of development when compared to other states such Akwa/ibom that were created the same time with it. Medda *et al.* (2003) opined that land-use is contingent on the business development plan in the city. Consequently, the rise in socio-economic activities like business, tourism, transportation and

many more have produced many externalities that directly and indirectly affect the morphology of cities (Ladd and Wheaton, 1991). The resultant effect is the overcrowding which is birthed by land abuse. This means that lands are not used for their real purposes because residents try to maximize every inch of their land.

The extent of land degradation or poor land-use in Osogbo is presently alarming. This occurs in different scales and dimensions as no part of town can be entirely excluded. Also, compared with some other state capital, the city is blessed with abundant land resources, which are capable of indefinite regeneration over a given period of time if the prevailing management practices are conducive. The management issue cannot be taken for granted, given the fact that Nigerian policy makers have now come to understand that sustainable management of land is a prerequisite for providing enabling environment for development. This paper is set out to identify the extent of these problems using Osogbo the capital of Osun state as a case study.

Research Aim and Objectives of the Study

The aim of the study is to a critically analysis of land-use patterns and its effect on development in Osogbo area of Osun state. While the specific objectives of the study are as follow to:

i. To identify land-use types and factors responsible for it within Osogbo area of Osun state.
ii. To find out the effects of land-use pattern in Osogbo metropolis on development?
iii. To find out the measures put in place to ensure proper land-use in Osogbo?

Justification for the Study

This paper aims to study the problem of urban land-use in Osogbo city centre and its effect on development. It is observed that in Osogbo metropolis land abuse is a major problem. Some of the causes are: lack of education on the part of residents about the dangers inherent in indiscriminate use of land; insufficient conduct of research to make findings about the implications of land-use and effect on the environment due to interest in monetary gains. The findings of this paper will greatly contribute to the development of appropriate land-use policy in Osogbo such as the development of a land-use model of what the city centre should look like. The significance of study is to serve as a guide to land experts, Estate surveyors, lawyers, government and other stakeholders on the land for efficient utilization of the available land in Osogbo. It will also help in educating the public on various steps taken to use and maintain the zoning ordinances, for uniformity in the development process of the capital city.

Scope and Delimitation of the Study

The scope of this paper is limited to Osogbo city centre which is the capital of Osun state although references will be drawn from other surrounding area. The study area Osogbo Urban was made up of five original settlement namely: Abere, Ayepe, Okebale, Ayetoro Area and Oja-Oba/Station road.

Operational Definition of Terms

Land: It's a free gift of nature that is used for different purposes ranging from: agriculture, commercial, residential, recreation, religion etc.

Land-use: It refers to the way in which any parcel of land is put to use, in accordance to the various forms of human activities.

Sprawl: Urban sprawl is the irregular development of cities without apparent plan to the east, west, north and south.

Urban: A town/city which supply a wide range of good and service to its country side.

Rural: A geographical area (hinterland) located outside towns and cities.

Development: It is a process that creates growth, progress, positive change or the addition of physical, economic, environmental, social and demographic components in a society or place.

Literature Review

Land-Use in Nigeria

Land is a vital natural resource that hosts and sustains all living things namely: plants, animals and man. It is a fixed socio-economic asset that aids production of goods and services and hosts virtually all activities that take place on earth (Magel, 2001). The nature of land and types of its components dictate what must exist on it. Hence, savannah land hosts grasses while tropical forested land is characterized with hardwood forest among others. To an extent, land influences climate and dictates lifestyles of settlers on it. Land host houses and towns where origin of a man is traced. This is because all communities are located on land and their territories are defined by it.

Nigerian as a country is blessed with abundant land resources, which are capable of indefinite regeneration over a given period of time if the prevailing management practices are conducive. Land cannot be taken for granted, given that these resources constitute the productive base for the Nigerian state upon which the livelihoods of many rural and urban households depend. The proportion of land allocated to various land-uses, in different parts of the world vary tremendously over time and space depending on their level of development and compliance with the planning regulations. Similarly, the priority for allocation also depends on the use to which the land will be put. Clark et al (2006) have classified the urban land-uses in Canada into six categories with the residential occupying the largest

proportion (40%), closely followed by transportation (32%), public/institutional (10%), open space (7%), industrial (6%), while commercial land-use occupies (5%) the least proportion of land-use.

Many researchers in some of the advanced countries have conducted studies which reveal that there is strong and positive relationship between land-use types and development pattern (Newman and Kenworth, 1999; Cervero, 2002; Stefano. et al., 2012). Another critical issue that is related to land-use pattern is the phenomenon of indigene ship in Nigeria. The status of indigene ship confers on individual the right to own and use land anyhow it pleases him or her. Boh, (2007) and Gbehe, (2007) in their separate works pointed out that Land-use in most communities in Nigeria such as among the Tiv people in the Benue valley, is freighted with symbolic meaning, it is sacred and considered as an ancestral and historical sphere of influence. On the strength of this, therefore, the way land is life to many people as it's there source of existence. Literature has shown that in many African communities (Oyerinde, 2005; Ayo, 2002; Asiyanbola, 2008) land is seen as the path to heaven for the departed relatives, the abode of ancestral and a devouring god to the defaulters and abusers of it. That could be why Tuladhar, (2004) conceived that land belongs to a vast family of which many are dead, few are living and countless are yet to be born.

Statutory Land Right versus Customary Land Right

In Nigeria, the bottleneck in individual, company or government right to customary land has led to statutory land tenure system. This is a system backed up by decree number 6 of 1978, tagged the Land-use Act. This Act vested right to allocate urban land under the state governor and put land management and control at rural level under the local governments councils (Omole, 1999). The need to institute statutory land tenure that gives the individual access to land anywhere in the country is obvious.

Kayode, (1999) noted that: There was the need to have a unified land tenure system as against the diverse land tenure system operating in the country before 1978. He also observed that there is a serious need to curtail the activities of land speculators and greedy individuals who had turn land to a market commodity.

In addition, the 1978 Land-use Act also gave every Nigerian the opportunity of getting at least a plot of land in any part of the country for his developmental purpose. The Land-use Act, as a Nigerian Land Law, divorces English law (the colonial law) that operated in the Northern part of the country from indigenous but formal law that protects the general public. The Land-use Act also merges the merit in the customary land tenure law and the English legal system to be able to face off the shortcomings and the uncertainty in the customary law. It was also realized that because of population growth, the economic growth, and advancement in technology, the traditional rulers and the customary trustees of land were unable to protect and control the use of land under their care properly. This calls for a new direction in the use and administration of land in Nigeria. Despite all these, right to land and properties in Osogbo is grossly affected by the old customary tenure of land and property holdings. A fair practice in the present land holding is the customary tenant title.

Customary tenancy is defined as people who are not members of the family but have on application been given family land to occupy on payment of yearly customary tributes (Ogedengbe, 2006). The practice of dividing land among families, allocating land in fragments and customary tenancy coupled with lack of respect to the Land-use Act in South Western Nigeria have made land to be inadequate for the people. There seems not to be a given land without title. Conflicts over farm land, reserved zone, and inter-community boundaries are common but unexpected, since the promulgation of the Land-use Act. In a situation where land for settlement and agriculture is in abundance in comparison to land fragmentation and hoarding, conflicts over land boundaries are not issues, and conflicts over land properties are minimal (Mudenda, 2006). However with the current rise in population it is becoming clearer that overlapping interest on land and its resources have been generating conflicts. These have overtime negatively impacted the socio economic development and physical environment in affected communities.

Land-use Pattern Characteristics in Osogbo, Osun State Nigeria

It is important to look at the land-use pattern first in Yoruba land before dove-tailing into land-use pattern in Osogbo area of Osun state. Ojo, (1966) did an analysis of the morphology of towns in Yoruba land. He stated that the growth of the cities took the following forms:

a. A filling up of pre-colonial part of the settlement with development: i.e. the area within the walls or trenches/ramparts.

b. An expansion along the peripheries and a growth along the vertical axis of the city which was due to the first deliberate effort of the Europeans to stay clear of the indigenous areas and to build schools and other facilities far, where adequate land was available.

c. The third level of growth is sharply suggestive of change whence the traditional skyline of the typical Yoruba town has disappeared and replaced with

juxtaposition of buildings of various forms and heights. The typical compound had disintegrated and single family units have taken over.

d. Another level of growth apart from the three identified by Ojo, (1966) is the construction of tenement houses.

e. The latest move is distortion of post modernism i.e. post-modern architecture.

Land-use type is the geographical division of land based on some combination of natural factors such as soil, relief, climate and vegetation interacting in interplay with other natural and socio-economic factors. The term is often used to indicate man's use of the land; such as for agriculture, grazing, mining, forest, and urban development (John, 1996; Adeyanju, 2005). The processes of land-use development in the cities of Nigeria have led to the emergence of various types of land-use activities in the rural and urban centres of the country. Among the dominant land-use types in the country are: residential, commercial, industrial, public and semi-public, transport and communications, recreation and primary production (Onokerhoraye and Omuta, 1998).

i. Agricultural Use

Agriculture, where more than 70 percent of the Nigerian labour force is engaged contributed 42.07 percent to the Gross Domestic Product (GDP) in 2008 and 45.35 percent as at the third-quarter of 2009 (National Bureau of Statistics, 2009a). Given its direct relevance in foreign exchange earnings and provision of raw materials for industrial growth, the sector will for a very long time remain the mainstay of the economy. Therefore, despite the neglect of the sector by some past administrations because of the 1970s' oil-boom, the Nigerian agriculture still occupies a prime place as a strong pillar for economic growth and development. Lambrou and Laub (2006), 75 percent of today's food comes from arable crops and five animal species, with just three arable crops (rice, maize and wheat) accounting for about 60 percent of the calories and proteins obtained from plants.

Nigerian agriculture provides the long-term resource base for the direct and indirect support of plant and animal resources, which man uses. However, the performance potential of the sector is still very much under-utilized because of several socio-economic, environmental and political constraints (Federal Government of Nigeria, 2004). However, although outputs in some basic staple crops have recently increased, most of these increases were as a result of agricultural land area expansion (Flake, 2009). The extent of land degradation in Nigeria is presently alarming. This occurs in different scales and dimensions and no part of the country can be entirely excluded.

Moreover, poor incentives for natural resource conservation, among other socioeconomic problems, have subjected the soils' nutrients to serious exploitative degradation and depletion. Nigerian policy makers have now come to understand that sustainable management of land is a prerequisite for providing enabling environment for agricultural development, which is pivotal towards ensuring that the basic need of man (food) is adequately available, accessible and affordable for the growing populations (Federal Government of Nigeria, 2004). It should be noted that since the time Nigerian government signed the United Nations Convention to Combat Desertification (UNCCD), the call for actions to support efforts to combat land degradation and depletion has been inadequately fulfilled (USAID, 2004).

ii. Land as a means of Transportation

In large urban and industrial centres and major transportation networks, the alteration of the landscape is most evident. Medda *et al.* (2003) opined that urban land-use is contingent upon the transportation system which is in turn dependent on business development in the city. Consequently, the rise in road traffic and the subsequent increase in land-use devoted to road infrastructure have produced many externalities that directly and indirectly affect the morphology of cities (Ladd and Wheaton, 1991). Transportation is an integral of city land-use. Hence, it has to be put into consideration when discussing land-use issues because roads are the main arteries that make movement within and outside cities possible. Every settlement consists of buildings and other structures; open and enclosed spaces and circulation channels. These elements are arranged in varying degrees and ways to create a form and structure peculiar to that setting (Achi, 2004). In other words, the field of Urban Design is viewed as holding the key to the creative activity. By this, the form and character of the physical environment may be devised, modified and controlled, in circumstances of social, economic, technological and/or political change (Tibbalds, 1988).

The Use of land for Road Network Pattern and Development

Road network consists of large number of interwoven roads exhibiting many patterns ranging from star-like to grid-like with irregular patterns becoming recognized (Zang and Lund University, 2004). It consists of large amounts of roads that interweave with each other to exhibit a pattern. Patterns are defined as characteristics and properties found in repeated and regular manner within one object, or

between a number of objects with such repetition in the form of shape, density, distribution, linkages, connection or orientation. These occur among the same kind of objects or different kinds of objects or within an object, or between objects repeated with sufficient regularity.

Such repeated properties may be shape, orientation, connectedness, density or distribution. The frequency of such patterns enables development of prototypical views of geographical processes (Mackaness and Edwards, 2002). The route network is a set of nodes representing spatial locations and displays topological and geometric variations, while topology itself refers to the arrangement and connectivity of nodes and links of a network (Wyatt, 1997). The route network consists of primary and secondary roads known as arterial and minor roads respectively. Arterial roads are moderate or high-capacity roads that are below highway level of service, carrying large volumes of traffic between areas in urban centres and designed for traffic between neighbourhoods. They have intersections with collector and local streets, and commercial areas such as shopping centres, petrol stations and other businesses are located along such roads. In addition, arterial roads link up to expressways and freeways with inter-changes (Wikipedia contributors, 2008).

According to Aderamo (2003), road network constitutes an important element in urban development as roads provide accessibility required by different land-uses and the proper functioning of such urban areas depends on efficient transport network, which is a backbone to their very existence. The analysis of the road network involves the recognition of the patterns and qualities of the roads. Zacks and Tversky, (2001) examined the idea of events as objects and argued that patterns themselves are objects bounded in space, organized hierarchically, and recognizable by a set of distinctive qualities. The qualities can be emphasized through the process of abstraction and symbolization, by which pattern is viewed as complexes of primitive objects and relationship between the primitives. This gives the shape, extent, orientation, density, topology and configuration as their intrinsic properties. Topology, according to Xie and Levinson, (2006), is an arrangement and connectivity of nodes and links of measuring the spatial structure while configuration refers to collection of objects that comprise the pattern of road networks.

Another method is agent-based simulation of the amount of road use and selection of roads with high level of usage. The approach consists of algorithm base for road generalization adopted to create a version of network of roads that exhibits certain properties, which includes good connectivity, length of the roads, degree of continuation, and degree and frequency of usage (Morisset and Ruas, 1997). It is pertinent to state that as good and exploratory as these approaches are, they do not guarantee that some important properties of road network are not distorted. Some of the approaches (Thomson and Richardson, 1995) ignore the analysis of road network patterns thereby losing its essential patterns. This therefore called for new techniques further developed by researchers. One of the techniques to ensure detailed analysis of the road network pattern is the graph theory.

Different studies have been carried out using the graph-theoretic concept, amongst which are Garrison and Marble, (1960) and Nystuen and Dacey (1961). The former applied graph theory in measuring regional highways in the United States of America, while the latter analyzed functional connection between central places in Washington using communication flows in a network. In addition, Muraco (1972) used the concept in studying intra-urban accessibility in Columbus and Indianapolis, USA, and in estimating traffic flow in Barnsley, U.K. (Ogunsanya, 1986). In Nigeria, Aderamo (2003) used graph theoretic analysis in studying the growth of intra-urban network in Ilorin. The study found various indices of network development for the periods 1963, 1973, 1982 and 1988 tracing the growth of the intra-urban network of the town between 1963 and 1988. The study also found relationship between road development and expansion of city, and significant effect on transportation planning and property development. Also, in Nigeria, the method was used to determine degree of accessibility and connectivity of nodal points within a road network using a university community as case study (Oni, 2007a), and similarly in the analysis of accessibility and connectivity in the road network of a metropolitan area also in Nigeria (Oni, 2007b).

These works, which were carried out on regional basis, succeeded in determining the degree of accessibility and connectivity of nodal points in the road network of the study areas but they did not relate the degree and levels of such accessibility and connectivity to property values. The important issue is to determine how such accessibility and connectivity relate to property values instead of mere deductions that certain roads are better accessible as posited in the studies. Apart from this, existing literature in Nigeria have not considered road transport in relation to commercial property values.

iii. Urban Land-use

For centuries, cities have been the heart, the lifeblood of various civilizations, the epicenter of economic, political and artistic activities, (Spates and Macionis,

1987). Cities as seen today exert an increasing attraction on people worldwide in fact the population tends to concentrate in big cities. Gomez and Salvador, (2006), opined that in the 21st century the number of people living in cities will progressively increase. City is not an artificial construct; the city is a set of habits, customs and lifestyles. These elements are interrelated and rather than being viewed individually, they are subsumed in the identity of place and the identification of the city Spates (2006).

According to the researcher, the contemporary city is characterized by complexity, simultaneity and instability, producing situations of transience and transformation. In the developed countries in Europe and America, transformations have contributed to an increasing urban identity crisis which transformed cities into heterogeneous environment. The mutations in interpersonal relationships and intergeneration gaps, technological development, mass migrations and globalization have transformed to spaces in the urban landscape; new types of place have arisen and the utilization of existing spaces has been modified. Urban cities occupy only a small part of the territory; actually cities occupy 2% of the surface area of the territory (Gomez and Salvador, 2006; Terradas, 2001).

However, each city has its own history marked by the way it extended and grew thus it's not surprising to find cities that expanded and occupied new land even in periods in which the population was decreasing. Urban phenomenon is continuously increasing, extending the boundaries of the city or metropolitan areas. Thus, urban planning is experiencing a crisis at least in the concept of urban planning that appeared with the modern movement and its myriad of architects. The reality in the big cities in Nigeria such as Lagos, Ibadan, Port Harcourt and Benin presents a number of problems that are worth mentioning. These include urban decay, slum, overcrowding and lawlessness. The invasion of urban spaces therefore causes the loss of land and natural resources.

The basis of the urban crisis lies in the dimensions and expansion of the large cities where these problems become even more severe. For instance 42 slum communities or blighted areas were identified in Lagos metropolis in 1981 by a World Bank Urban Renewal project. The number of slums in the city is estimated to have increased to about 100 due to the inadequacy of private public institutions to provide housing the increasing population Adelakin, (2004).Inadequacy of basic infrastructures in the urban centre in many African cities, poor urban planning together with other urban governance challenges contributes to making African urban slum dwellers works at risk. Poor urban planning or lack of planning as urban development increases is evident in not preventing new development on areas at risk of flooding (Adelekan, 2004).

According to McGianahan et al. (2007), economic activity and urban development often increase the environmental pressures that lead to flooding and slum. The foregoing allows the scholars investigation into the issues of urban regeneration as a tool for sustaining urban development. The objectives of the study are to examine the level of urbanization in Nigeria, concept of sustainable development; identify and examine the phases of urban decay in the system, examine issues of urban renewal/ development for urban sustainability and strategies and identity the challenges of urban renewal in Nigeria.

Environmental Degradation of Land: Causes and Consequences

The term, environment is conceived as a system where living organism interacts with the physical elements. This level of interaction propelled different types of human related activities which consequently translate into different environmental related problems which have some negative influences on man (Jeje and Adesina, 1996). The eventual decline in the condition and integrity of the environment arising from these processes results in environmental degradation (Omisore and Akande, 2003). This phenomenon, according to Ojo and Aderounmu, (2003), is described as a state of overexploitation of the available environmental resources. The Encarta Dictionary, (2007) summarizes it as a process of decline in the quality or performance of living conditions.

Primarily, environmental degradation is caused by several factors including rapid urbanization due to overpopulation, accelerated industrialization, unplanned and uncoordinated physical development resulting from poor urban management and ineffective control policies, insufficient urban infrastructure such as housing and efficient transportation system to cater for the population upsurge (Jiboye, 2003; Ajala, 2005; Olayode, 2005). A World Bank report indicates that technological advancement and economic development are factors which also cause environmental degradation (World Bank, 1995). The effects of this environmental problem exist in different forms such as drought, desertification, deforestation, flood and erosion, pollution, housing congestion leading to slums and unsanitary situation, loss of bio-diversity, climate change and all forms of deplorable physical conditions. The resultant effect of these problems has adverse socio-economic, cultural and environmental consequences on the wellbeing of the people and the physical development of any nation (Jiboye, 2003).

Indeed, it has been affirmed that environmental degradation does not only indicate a state of bad

living conditions or a declined environmental integrity (Omisore et, al,. 2003), it also affects human welfare, health, family life as well as the overall quality of a community environment (Olanrewaju, 2003). At the urban level, environmental problems affect the urban poor disproportionately because of poor quality and overcrowded housing and the inadequacies in the provision of water, sanitation, drainage, health care and garbage collection. The urban poor also often live in environmentally unsafe areas, such as polluted sites near solid waste dumps, open drains and sewers, and near industrial sites. Though the impacts of climate change on the urban poor have not been fully studied, this is emerging as an area of increasing concern as they may further exacerbate the risks of negative environmental effects for the urban poor through sea level rise, warming temperatures, uncertain effects on ecosystems, and increased variability and volatility in weather patterns (Baker, 2008).

Aside from Lagos, other cities like Ibadan, Port Harcourt in the Niger Delta region, and Calabar, also grew very rapidly as commercial and administrative centers in Nigeria. However, a dominant urban feature common to them is the degrading state of the physical environment. Unfortunately, the uncontrolled growth pattern associated with the urbanization process has been responsible for the diverse environmental problems in these cities (Jiboye, 2005). An immediate consequence of the rapid urbanization in these cities is the increase in demand for urban services like housing, education, public health and a generally decent living environment (Ogunleye, 2005). Considering the need for effective land-use and the challenges posed by the diverse environmental problems associated with urbanization process in Nigeria, urgent effort is required to control the rate at which urban population and the spread of cities increases; effort is also required to control the decline in the quality of urban infrastructure as well as that of overall standard of living of the people in Nigeria. This study will therefore fill this gap by relating the impact of environmental degradation as a result of improper land-use in Osogbo metropolis.

Methodology

Research Design

This section addressed the plan, structure, and strategy of investigation of issues related to the land-use pattern in Osogbo metropolis of Osun State. In this study, the descriptive design was used. It was adopted because it allowed generalization beyond the scope of the study.

Study Area

The study area is Osogbo, the capital city of Osun State located between latitudes 7°49'39.95" and 7°43'57.62" North of the equator, and longitude 4°28'12.47" and 4°38'30.53" East of the Greenwich Meridian. Osogbo has been the major city center and became a commercial center at the arrival of railway in 1907 which brought the colonial government of then to the threshold of the Town. The busiest and most commercial part of the town are Ajegunle, Old Garage/ Orisumbare area, Ogo Oluwa Area/Igbona and Ayetoro Area and the area along Oja-Oba/Station Road. Osogbo is also the home of art and culture in the Yoruba traditional history; as the Osun Groove serves as a tourist center that has gained international recognition.

Figure 1.1 Map of Osun State within the context of Nigeria

Source: Department of Geography, University of Ibadan 2019

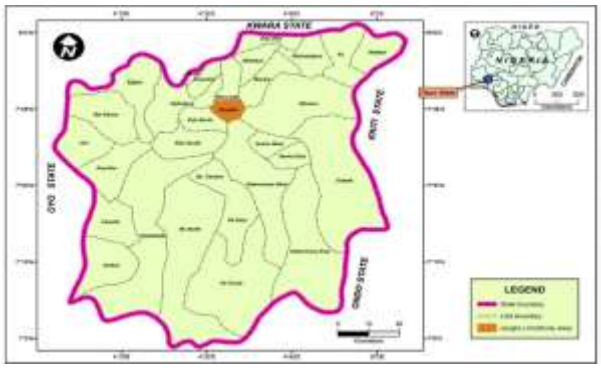


Figure 1.2 Map showing the study area:

Source: Department of Geography, University of Ibadan 2019

Study Population

The population of this study is estimated at over 787 676 people residing in Osogbo area of Osun State, Nigeria (National Population Commission, 2019).

Sampling and Sampling Techniques

Sampling is a systematic process used to select a required portion of a target population. A Sample size of 250 using stratified sampling respondents was drawn from people residing in Osogbo area, Osun State Ministry of Land and Physical Planning, Directorate of Land Information Systems in the Land Bureau, Landlords, business owners, religious leaders, Civil Servants in the Ministry of Land and other stakeholders to participate in the study.

Sources of Data

The required data were from Primary and Secondary sources. The Primary data were obtained through questionnaires and were complemented with oral interviews on officials of Osun State Ministry of Land and Physical Planning, Directorate of Land Information Systems in the Land Bureau, Landlords, business owners, religious leaders, Civil Servants in the Ministry of Land and occupiers of commercial properties involved in the study. Other forms of secondary data are: Journals, Books, Newspapers, Online materials, Archival materials on land-use and its effects on the environment.

Data Collecting Instrument

The research instruments used in this study were both primary and secondary sources of data. The primary sources of data include structured In-depth Interview (IDIs) and questionnaires. The questions asked were be simplified to enable the respondents understand the questions easily and provide answers correctly.

Methods of Data Collection and Data Analysis

Data was gathered through primary and secondary sources. The primary sources consist of questionnaires and interviews. The secondary sources involved the use of textual materials such as books, journals, newspapers, archival information, monograph, and records from survey and town planning. The data gathered was analyzed using the Statistical Package for Social Sciences SPSS version 11.0. The descriptive statistic of: Simple frequency, Percentages, Charts and Graphs will be computed for the analysis. The finding from the interview was used to corroborate the findings.

Data Analysis and Presentation of Findings

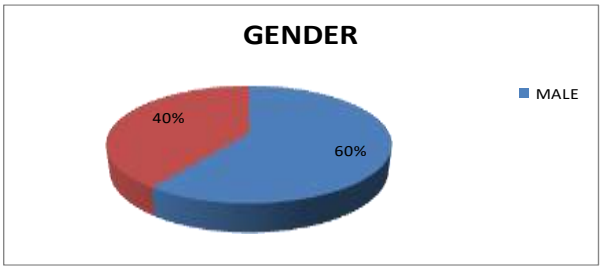
In line with the structure of the questionnaire used to collect data, each table and diagram addressed specific statement in the instrument. The analysis was based on the 250 questionnaires administered and in-depth interview conducted on the respondents.

Table: 1.1: Gender Representations

Sex	Frequency	Percentages (%)
Male	150	60.0
Female	100	40.0
Total	250	100.0

Source: Researcher's Field Survey, 2019.

Figure 1.3: Graphical Representation of the Respondents' Gender



Source: **Researcher's Field Survey, 2019.**

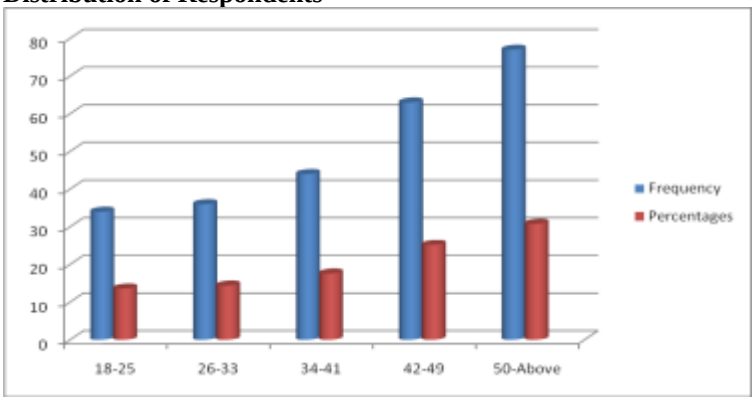
The Table 1.1 and Figure 1.3 above revealed that on gender, 60% of the respondents are male while 40% of the respondents are female. This means that both genders were used for the study and were well represented.

Table 1.2: Age Distribution of the Respondents

Age	Frequency	Percentages
18 – 25	34	13.6
26 – 33	36	14.4
34- 41	44	17.6
42 – 49	63	25.2
50-Above	77	30.8
Total	250	100

Source: Researcher's Field Survey, 2019.

Figure 1.4: Graphical Representation of Age Distribution of Respondents



Source: Researcher's Field Survey, 2019.

The Table 1.2 and Figure 1.4 above show that on age respondents between 18-25 years are 13.6%, those between 26 and 33 years are 14.4%, 34-41years of the respondents are 17.6%, respondents whose age falls within 42-49 are 25.2% and finally respondents

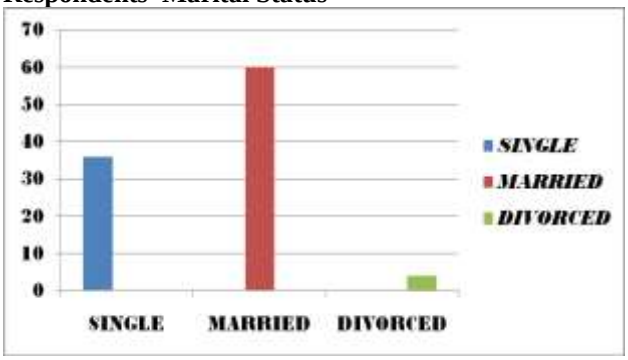
between the ages of 50 years and above are 30.8%. This means that on age respondents between ages of 34 and above are 72%. The explanation for this is that respondents between those ages form the bulk of the working class and understand the economic importance of land use and its implication on economic development.

Table 1.3: Marital Status Representation of Respondents

Marital Status	Frequency	Percentages (%)
Single	80	32
Married	150	60
Divorced	20	08
Total	250	100

Source: Researcher's Field Survey, 2019.

Figure 1.5: Graphical Representation of Respondents' Marital Status



Source: Researcher's Field Survey, 2019.

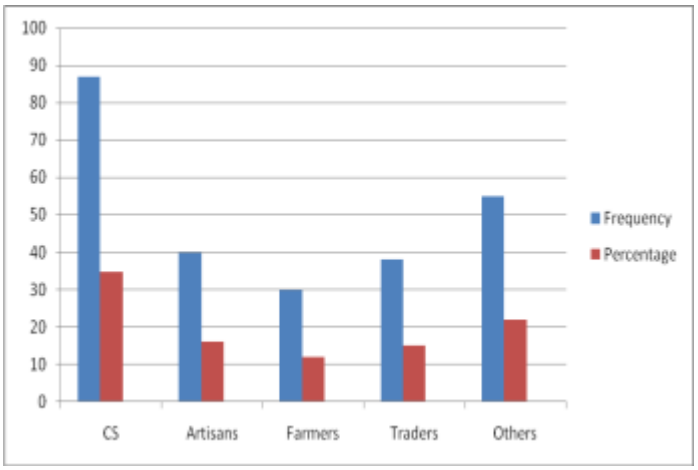
The Table 1.3 and Figure 1.5 above show that on marital status 32% of the respondents are singled, while 60% of the respondents are married and 8% of the respondents are divorced. This means that on marital status the respondents were well represented and most of the respondents used for the study are married.

Table 1.4: Occupational Distribution of Respondents

Occupation	Frequency	Percentages%
Civil Servants	77	30.8
Artisans	40	16.0
Farmers	53	21.2
Traders	38	15.2
Others	42	16.8
Total	250	100.0

Source: Researcher's Field Survey, 2019.

Figure 1.6: Graphical Representation of Respondents' Occupation



Source: Researcher's Field Survey, 2019.

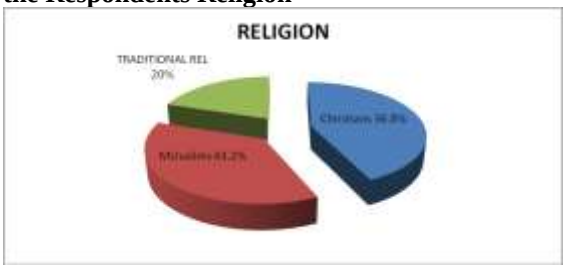
The Table 1.4 and Figure 1.6 above show that on Occupation 30.8% of the respondents are Civil Servants. 16% of the respondents are Artisans, while 21.2% of the respondents are Farmers, 15.2% of the respondents are Traders and 16.8% of the respondents are others. The others include: clergy, self-employed persons, teachers etc. The findings revealed that on occupation the respondents were well represented and Osun state has a large number of Civil Servants as seen from the findings above.

Table: 1.5: Religion of the Respondents

Religion	Frequency	Percentages
Muslims	108	43.2
Christians	92	36.8
Others	50	20.0
Total	250	100.0

Source: Researcher's Field Survey, 2019.

Figure 1.7: Pie Chart showing the Distribution of the Respondents Religion



Source: Researcher's Field Survey, 2019.

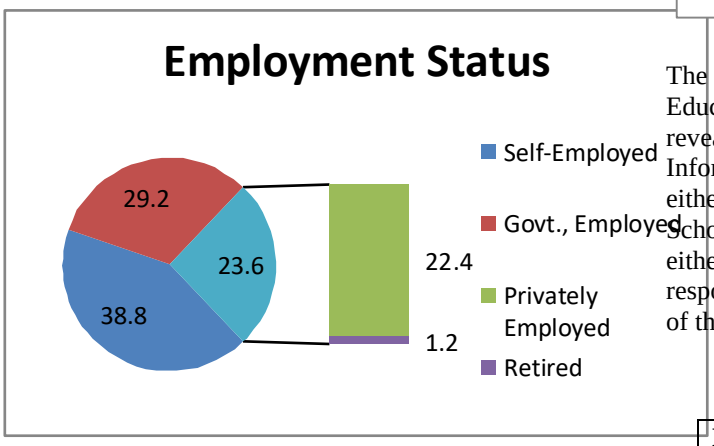
The above Table 1.5 and Figure 1.7 showed the religious distribution of the respondents. It reveals that about 43.2% of the respondents are Muslims; while 36.8% of the respondents are Christians and 20% of the respondents are practitioners of other religion. These show that in the study area majority of the respondents are Muslims.

Table: 1.6: Employment Status of Respondents

Employment Status	Frequency	Percentage
Self-Employed	97	38.8
Govt., Employed	73	29.2
Privately Employed	56	22.4
Retired	24	9.6
Total	250	100

Source: Researcher's Field Survey, 2019.

Figure 1.8: Pie Chart showing the Distribution of the Respondents Religion



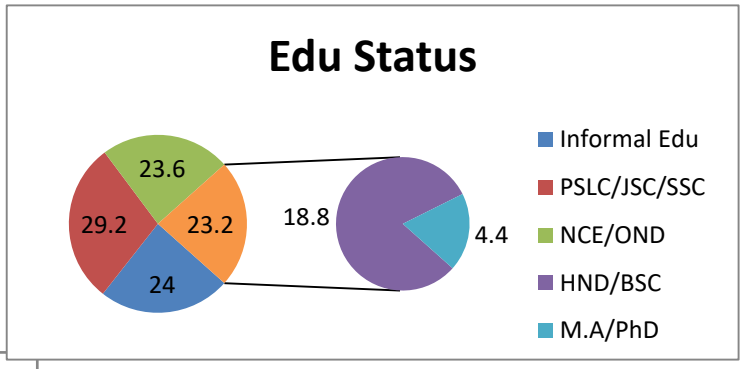
The above Table 1.6 and Figure 1.8 showed that on employment status of respondents 38.8% of the respondents were self-employed; while 29.2% of the respondents were employed by the government; 22.4% are employed in private firms within Osogbo metropolis and 1.2% of the respondents are retired.

Table: 1.7: Educational Status of Respondents

Edu., Status	Frequency	Percentage
Informal Education	**60**	**24**
PSLC/JSSCE/SSCE	**73**	**29.2**
NCE/OND	**59**	**23.6**
HND/BSC/BA	**47**	**18.8**
M.A/PhD	**11**	**4.4**
Total	**250**	**100**

Source: Researcher's Field Survey, 2019.

Figure 1.9: Pie Chart showing the Distribution of the Respondents Education



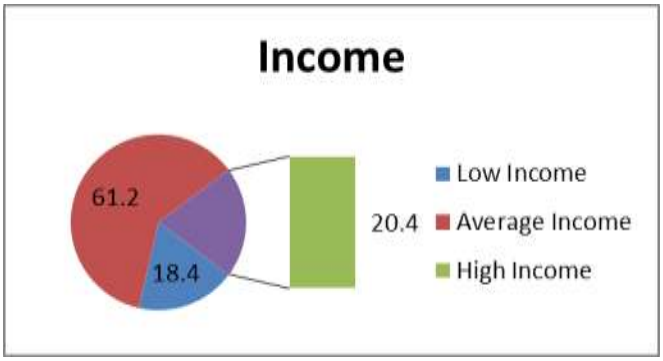
The above Table 1.7 and Figure 1.9 showed the Educational distribution of the respondents. It revealed that about 24% of the respondents have Informal education, 29.2% of the respondents are either Primary/Secondary or Senior Secondary School holders; while 23.6% of the respondents are either NCE or OND holders; 18.8% of the respondents are either HND/BSC holders and 4.4% of the respondents are Masters or PhD holders.

Table: 1.8: Income Status of Respondents

Income Per Month	Frequency	Percentage
Low Income	**46**	**18.4**
Average Income	**153**	**61.2**
High Income	**51**	**20.4**
Total	**250**	**100**

Source: Researcher's Field Survey, 2019.

Figure 1.10: Pie Chart showing the Distribution of the Respondents Education



The above Table 1.8 and Figure 1.10 showed the Income distribution of the respondents. It reveals that about 18.4% of the respondents are Low income earners; while 61.2% of the respondents are average

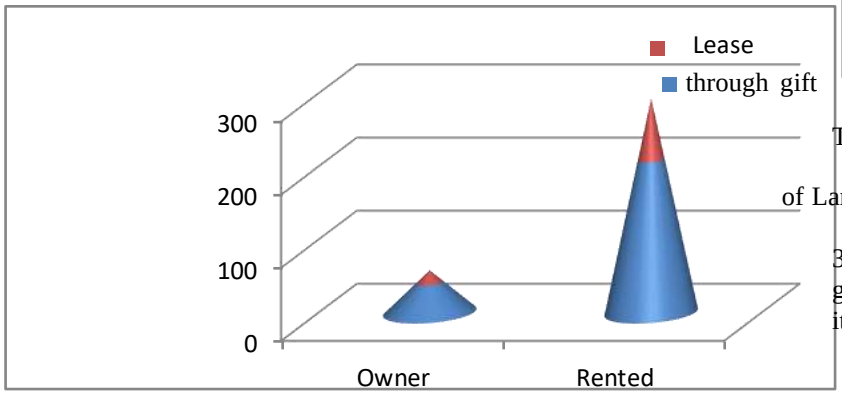
income earners and 20.4% of the respondents are high income earners.

Table: 1.9: Ownership Type

	Frequency	Percentage
Rented/Leased	**209**	**83.6**
Owner Occupier	**41**	**16.4**
Total	**250**	**100**

Source: Researcher's Field Survey, 2019.

Figure 1.11: Pie Chart showing the Distribution of the Respondents Education



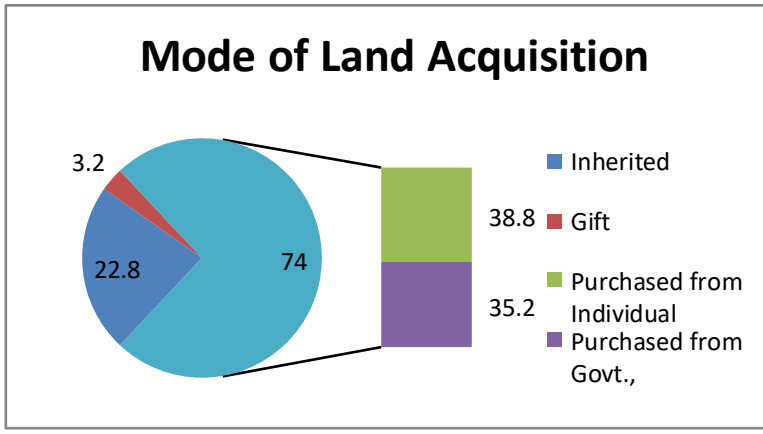
The above Table 1.9 and Figure 1.11 showed the land ownership distribution of the respondents. It reveals that about 83.6% of the respondents have a rented apartment while 16.4% of the respondents are occupying their own apartment.

1.10 Mode of Land Acquisition, if owner occupier

	Frequency	Percentage
Inherited	57	22.8
Gift	08	3.2
Purchased from Individual	97	38.8
Purchased from Government	88	35.2
Total	250	100

Source: Researcher's Field Survey, 2019.

Figure 1.12: Pie Chart showing the Distribution of the Respondents Education



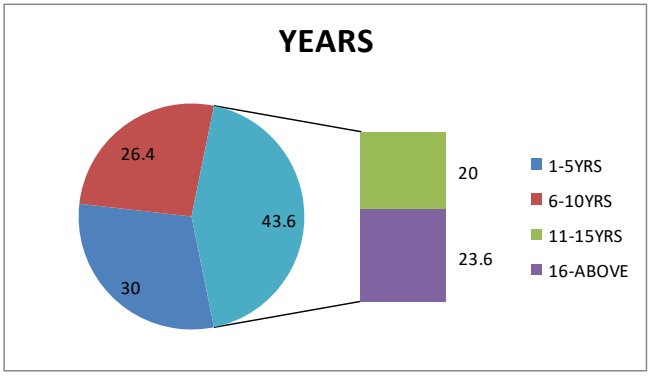
The above Table 1.5 and Figure 1.7 showed the mode of Land acquisitiondistribution of the respondents. It reveals that about 3.2% of the respondents got it ; 22.8% of the respondents inherited it, Rented 35.2% of the respondents purchased it from the government and 38.8% of the respondents purchased it from individual.

1.11 Duration of the Respondents stay in the Area of Study

Yrs in Osogbo	Frequency	Percentages
1-5yrs	75	30.0
6-10yrs	66	26.4
11-15yrs	50	20.0
16-Above	59	23.6
Total	250	100

Source: Researcher's Field Survey, 2019.

Figure 1.13: Graphical Representation of Respondents' years of stay in the study Area



Source: Researcher's Field Survey, 2020.

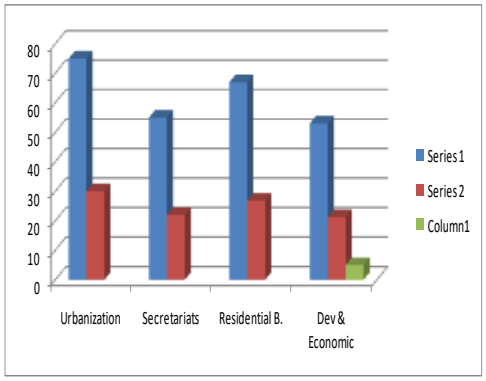
The above table 1.6 and Figure 1.8 showed the demographic distribution of the respondents on the duration of stay in the study area. It was found that 30% of the respondents have lived in the study area between 1-5 years. It was further revealed that respondents that have lived in the study area for between 6-10years were 26.4%. The findings also revealed that those respondents that have lived between 11-15years in the study area are 20% while those respondents that have lived in the study area for 16years and above are 23.6%.

Table 1.12: Showing the Factors Responsible for the pattern of Land-use in Osogbo

Factors	Frequency	Percentages
Religious	15	6.0
Agriculture	35	14
Industrial	21	8.4
Educational	29	11.6
Commercial	60	24
Cultural	07	2.8
Administrative	23	9.2
Residential	60	24
Total	250	100

Source: Researcher's Field Survey, 2019.

Figure 1.14: Graphical Representation of Factors Responsible for the Pattern of Land-use in Osogbo?



Source: Researcher's Field Survey, 2019.

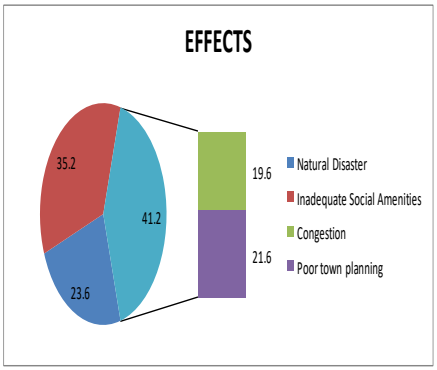
The above table 1.7 and Figure 1.9 show the demographic distribution of the respondents on factors that are responsible for pattern of Land-use in Osogbo. It was discovered that 30% of the respondents agreed that it was due to urbanization resulted to the land being used for state capital. Also, it was revealed that 22% of the respondents agreed that because the state and Federal Secretariat were situated in Osogbo made it the commercial nerve of the state and this determine the pattern of Land-use. While 26.8% of the respondents agreed that the need to have residential building determine land-use and 21.2% of the respondents agreed that development and economic purposes determine pattern of land-use in Osogbo.

Table: 1.13: Table showing the Effects of Improper Land-use in Osogbo

Factors	Frequency	Percentages
Increase in Natural Disaster	59	23.6
Inadequate Social Amenities	88	35.2
Congestion	49	19.6
Poor town Planning	54	21.6
Total	250	100

Source: Researcher's Field Survey, 2019.

Figure 1.15: Graph showing the Effects of Improper Land-use in Osogbo



Source: Researcher's Field Survey, 2019.

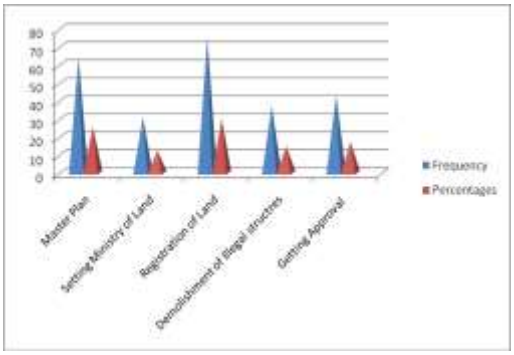
The above Table 1.8 and Figure 1.10 show the improper land usage in Osogbo by the respondents. The responses revealed that about 23.6% of the respondents agreed that one of the effects of improper land-use is an increased in natural disaster within the metropolis. It was observed that 35.2% of the respondents agreed that improper land-use lead to pressure on the available social amenities. While 19.6% claimed congestion as a reason. Furthermore, 21.6% of the respondents agreed that improper land-use was caused by poor town planning structure of the area.

Table 1.14: Showing the Solutions to the Problem of Improper Land-use in Osogbo as claimed by Respondents

Probable Solutions	Frequency	Percentages
Master Plan for Osogbo	59	23.6
Setting up a Ministry of Land	88	35.2
Demolition of Illegal Structures	49	19.6
Registration of Land	54	21.6
Total	250	100

Source: Researcher's Field Survey, 2019.

Figure 1.16: Graph Showing the Respondents' views on the Solutions to Improper land-use in Osogbo



Source: Researcher's Field Survey, 2019.

The above tables 1.9 and Pie chart 1.11 showed the probable solutions to improper land-use in Osogbo. The responses revealed that (23.6%) of the respondents agreed that having a Master Plan for Osogbo will help while 35.2% of the respondents agreed that setting up a viable ministry of land will do prevent the problem of improper land-use. Some 19.6% of the respondents agreed that the demolition of illegal structures could be the solutions while 21.6% of the respondents agreed that registration of land with the state government and getting approval before putting any structures on land are important steps to manage improper land-use.

Conclusion

This study did a critical analysis of pattern of land-use and effect on development in Osogbo area of Osun State. This is a worth-while effort because of the environmental degradation arising from improper land-use is becoming a serious problem and a challenged to the state government and the local population in particular. The study therefore concludes that there is the need to redesign the Master Plan of the city and enforce households' strict compliance with the planning standard regulations before embarking on further developmental structure this is with the view to ensuring that all land within Osogbo metropolis is put into proper use in other to achieve optimum development.

Recommendations

This paper has expanded the research frontier in land-use by introducing new dimensions and concept in the area of land use management. It recommends that the planning authorities at the Local, State and Federal levels should enforce strict compliance with planning standard regulations for city developers in order to reduce the incidence of conflicts on land use patterns that has characterized the developing countries to which Nigeria belong.

There should be public enlightenment on the rationale behind land use zoning in urban centres in Nigeria. And more importantly, various organizations, religions bodies, developers, association, youths and many other stake holders should be educated on how to comply with land-use planning laws in their respective cities.

However, in order to ensure proper use of land: there should be:

i. The ministry of survey and town planning should be reconstituted and made to be effective in performing their function

ii. The government should do proper education and enlightenment of people, architect, surveyors, building engineers and other stakeholders on the issues of land-use

iii. The government should demolish illegal structures and compensate the owners of dispossessed properties that have approval.

iv. The government and other stakeholders should emphasize sustainability in infrastructure design and planning in a way that will foster human capacity and support economic growth without hindering the environment.

v. There should laws put in place by the federal and state government to ensure effective regulation for housing standard approval.

vi. Development control in every part of the city especially the city centres because they are more vulnerable to slum development.

vii. The land law and administration related to land ownership and land tenure in the context of planning and redevelopment, the policy approach and power to enable property acquisition or resumption

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QUESTIONNAIRE

Section A: Bio-Data/Demographic Variables
Gender: Male ( ) Female ( )
Marital Status: Single ( ) Married ( ) Other ( )
Religion: Christian ( ) Muslim ( ) Traditional Religion ( ) Others ( )
How Long Have You Lived In Osogbo: 1-5( ) 6-10 ( ) 11yrs-15yrs ( ) 16yerars- Above ( )
Educational Status: Informal Education ( ), HND/BSC ( ); MA/MSc ( )

Section B: What are the Factors responsible for the pattern of land-use in Osogbo?

s/n	Items	Agree	Undecided	Disagree
6.	Do you think the urban nature of Osogbo determines pattern of land-use			
7.	Do you think the building of the State secretariat in Osogbo determines pattern of land-use?			
8.	Do you think the need to for development determines land-use in osogbo?			
9.	The need to build shops or other businesses determines pattern of land-use?			
10.	The need to build lots of houses determines pattern of land-use?			
11.	The location of the Federal secretariat in Osogbo determine pattern of land-use			
12	The need to have farmland and other business determines land-use			

Section C: What measure can be put in place to ensure proper Land-use in Osogbo?

S/N	Items	Agree	Undecided	Disagree
13.	The agency of State government should give approval for the purpose of any land in Osogbo before its use?			
14.	All the lands in Osogbo should be used in line with Osogbo master plan?			
15.	Do you think every land in Osogbo should be registered with the state government			
16.	Do you the all the agencies in charge of land should be abolished and a body set u			
17.	Illegal structures on land should be demolished and the land should properly used			
18.	The govt and other agencies should be directly involved in land-use			

Section D: Is lack of education directly responsible for improper land-use in Osogbo?

S/N	Items
17.	Do you think level of education affects land-use pattern?
18.	Do you think the issue of religion and ethnicity determines land-use pattern?
19.	Do you think the corruption a major problem of land-use in Nigeria?
20.	Do you think government policy leads to improper land-use

IN-DEPTH INTERVIEW GUIDE

Can we meet you Sir/Ma (Introduction)
In your opinion what is Land?
How do you see Osogbo?
Will you say Osogbo is rural or urban area?
What is the pattern of land-use in Osogbo
Will you say lands are properly used in Osogbo?
The agencies in charge of land how will you rate their performance?
Will you say there role is effective or not?
If yes, why do you say so?

i. If No, why?

ii. What is the way forward?

What will you are the short coming of the government in land-use
What are the challenges encountered by workers of Ministry of Land in the discharge of their duties?
What are the solutions to the problems faced by the workers?