CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUNG OF THE STUDY

According to United Nations Population Fund (UNPF, 2017), population growth is a phenomenon seen in all countries everywhere in the world, whether developed or underdeveloped. It is caused mainly by migration.

Population increase caused an increase in demand for available houses as well. Demand for housing grows day by day in Nigeria, while most of the population cannot get the suitable house of their dreams (Olotuah, 2015).

According to the Federal Office of Statistics (FOS, 2021), Ilorin is one of the quickest developing capital urban areas in Nigeria confronting hardened difficulties in overseeing metropolitan development and guaranteeing compelling conveyance of essential administrations in metropolitan territories. The specific population of Ilorin is not known because the public evaluation of 2016 thought little of the number of inhabitants in numerous settlements of Nigeria based on political reasons.

However, the current estimate today varies from 4 to 9 million residents. Besides, it is notable that during the colonial time, population tallies were more similar to gauges than genuine checks which make it harder to assess the development. Population growth in Ilorin is stronger than in other growing urban areas in Nigeria.

However, population growth in Ilorin has never been fast as it seems to be currently. The total expansion in the urban population is extremely huge, having expanded from 230,000 thousand in 1971 to 2.18 million in 1991, even though the development pace of Ilorin has not risen steeply (Census, 1991). Throughout advancement, almost certainly, an enormous number of rural people will keep on moving to urban communities since they lack economic opportunities in the underdeveloped places they come from. The rapid growth in population number, and size of metropolitan territories in recent years in

Nigeria have shown the intense deficiency in dwelling units. Basorun (2019), explains that population growth had caused blockage, high rents, poor urban living conditions, poor infrastructure services, and indeed high crime rates. At a minimum level, homeownership is one of the highest needs for most families and it brings about the biggest single venture. This turns out to be critical when it is understood that per capital and genuine pay in Nigeria have been on the decay. Housing densities have progressively increased in Ilorin, because of the mix of many interrelated segments which include: land value, framework, building materials, approaches, building guidelines, and all the more significantly, money (Adebayo M.A & Oladipo, R. A 2018). Land in housing densities is important on account of the tremendous monetary necessity and shortage in most metropolitan communities of the country for housing creation (Mehmet, 2019).

According to Ajibola (2020), the low-density settlements typical of urban fringe or rural areas convert agriculturally productive areas to less productive residential development. Removal of frontier vegetation and consequent loss of biodiversity increases energy consumption and infrastructure provision costs. Ironically, a fast-developing city like Ilorin, has a few benefits in those zones that are created, while having more spread.

The conventional presumption of work being moved in a rural community has gotten less reasonable with the decentralization of business and modern activities in most large metropolitan regions (Akinbamijo O.B 2020).

Another key challenge is urban sprawl arising from rapid population growth. Amaefule (2008), states the fact that Ilorin has witnessed unprecedented population growth with no corresponding development in infrastructure and housing which has led to the development of housing sprawl in some parts of the city in the last decade. This is mostly noticed in areas like Sango, Oyun, Apata Yakuba, Idi-Ori, Kwara Poly Gate, Agbede, Ara Village, Elekoyangan, Anfeyin-Oja and Maya Village. Other major challenges include building a strong institutional framework for policy formulation and implementation. Apart from this, there are also inadequate funds to sustain the delivery of public utilities and key

services like water supply, solid waste management, environmental beautification, Electricity and so on.

The increasing rate of poverty among urban and rural dwellers and its implication on resource utilization/consumption with energy, sanitation, and scarcity of reliable data for effective environmental planning and management are noticeable (Oloidi A.J, 2017).

In summary, when expectations about future development potential are high, more land will be withheld for development, land values will be higher, and the densities in developed areas will be higher. More development will be done on less land, at higher prices, as the owners wait for higher expected returns from future development. This study, therefore, focuses on the effects of population growth on housing demand in Ilorin Kwara State, Nigeria.

1.2 STATEMENT OF THE RESEARCH PROBLEM

Housing is a basic need of every human being just as food and clothing (Aribigbola, 2019). It is fundamental to the welfare, survival, and health of man (Fadamiro et al, 2018). Hence, housing is one of the best indicators of a person's standard of living and his place in society.

- **Urbanization**: People move from rural to urban areas in search of economic opportunities, which increases the demand for housing in cities
- **Poor infrastructure**: The infrastructure in cities is struggling to keep up with the growing population, leading to a lack of water, power, and sanitation
- **Overcrowding**: People are forced to live in overcrowded and low-quality housing
- **High cost of housing**: The cost of rent is high, and homeownership is difficult for many families
- **Poor living conditions**: Housing conditions are poor, with a lack of protection from drainage overflow and no rules on how many people can live in a room

In essence, housing quality can be judged by the physical appearance of the buildings, facilities provided, quality of walls used in the building construction, the eminence of the roofing materials, condition of other structural components of the house, and the environmental condition of the house. Hence, the inadequacy of

housing in terms of quality and quantity results in a poor standard of the environment.

1.3 RESEARCH QUESTIONS

1. How can the government in partnership with private land owners and other institutions work together to ameliorate the housing problems in the city.
2. Where the houses of suitable standards are the affordable to every house seeker?
3. Is government currently addressing the issue of housing in the study area?

1.4 AIM AND OBJECTIVES

The objectives of this research work shall be to:

i. To identify the problems and implications of population growth facing housing demand on the residents in Sango Area and University Road Ilorin South.

ii. To assess the rate of house affordability and demand in Sango Area and University Road.

iii. To suggest planning implementation that can be adopted to govern population growth in Sango Area and University Road in Ilorin South.

1.5 JUSTIFICATION OF THE STUDY

Many factors interplay to create property value. Olujimi and Bello (2019) observed that the increasing demand for properties in urban centres would continue to attract the interest of real estate developers. Besley (2021) has found the efficient provision of infrastructure is usually characterized by heavy capital outlay, indivisibility of benefit and high externalities. Boyce and Allen (2019) study the impact of value on property as a result of the infrastructure. Adewumi (2020)

closely related; to have housing that is sustainable, there is a need for the provision of infrastructure.

Lichfield (2019) also writes on the effect of urban infrastructure development on property value in Abeokuta, he observed that areas with basic facilities such as road, good drainage, electricity, public water attract high property valuer. Ighalo (2022) noted that urbanization has accelerated at much faster pace than the situation in advanced industrial countries during the period of rapid industrial development in Nigeria.

In conclusion, other factors could be harnessed to boost rental values of properties in our cities. Since infrastructural facilities are regarded as boosters to social well-being of city dwellers, hence the choice of infrastructural facilities as factor that may likely affect rental value of residential properties in Nigeria cities is considered to be appropriate.

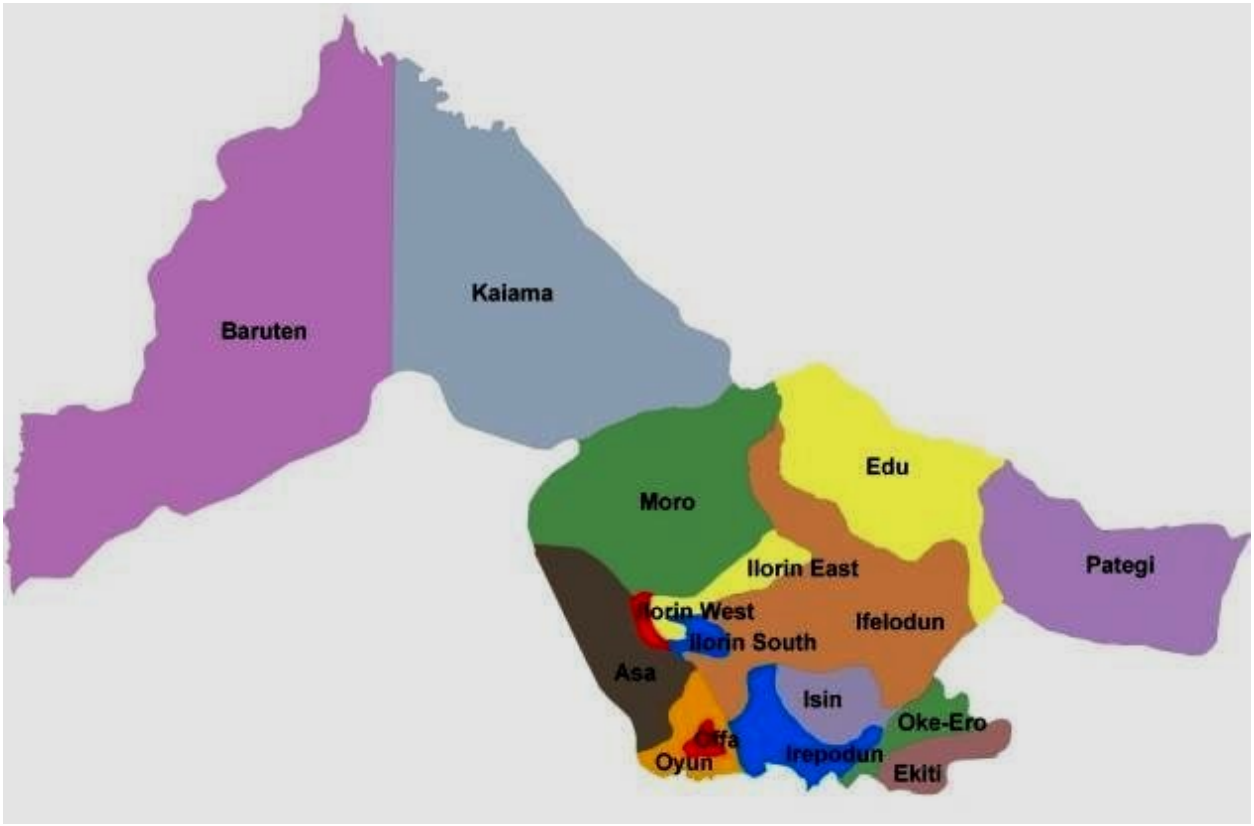
1.6 SCOPE OF THE STUDY

The study was limited to a residential core of Sango and University Road the Ilorin South Local Government Area in the capital city of Kwara State

1.7 STUDY AREA

Ilorin South Local Government Area is situated in Kwara State, North Central Nigeria, and has its headquarters in the suburb of Fufu. It has an area of 174 square kilometers and a population of 208,691 according to the 2006 census. Popular districts and towns in the Ilorin South Local Government Area include Gaa Akanbi, Sango, Fate, Tanke, and Offa Garage.

The LGA is home to diverse ethnic groups including the Yoruba and Fulani. The Yoruba language is extensively spoken in the area, with Islam and Christianity widely practiced religions in the area. Notable landmarks in Ilorin South Local Government Area include the University of Ilorin.



1.8 LIMITATION OF THE STUDY

Due to financial constraints that have foreseen, the study will take its sample from only a small part of the population, i.e. a small will be drawn and used to represent the entire population.

Other limiting factors include short space of time available for the research work in adequate material and financial handicap which militated against the effort of the researcher.

1.9 DEFINITION OF TERMS

Housing: A residence such as a house, apartment, mobile home, or room(s) within a larger structure that provides a space for occupants making up a single household to live and eat.

Demand: Demand is an economic principle that describes a consumer's desire and willingness to pay a price for a specific good or service.

Supply: Supply is a fundamental economic concept that describes the total amount of a specific good or service that is available to consumers.

CHAPTER TWO
LITERATURE REVIEW

2.0 INTRODUCTION

According to United Nations Population Fund (UNPF, 2019), population growth is a phenomenon seen in all countries everywhere in the world, whether developed or underdeveloped. It is caused mainly by migration. Population increase caused an increase in demand for available houses as well. Demand for housing grows day by day in Nigeria, while most of the population cannot get the suitable house of their dreams (Olotuah, 2022).

According to the Federal Office of Statistics (FOS,2021), Ilorin is one of the quickest developing capital urban areas in Nigeria confronting hardened difficulties in overseeing metropolitan development and guaranteeing compelling conveyance of essential administrations in metropolitan territories. The specific population of Ilorin is not known because the public evaluation of 1991 thought little of the number of inhabitants in numerous settlements of Nigeria based on political reasons.

However, the current estimate today varies from 2 to 5 million residents. Besides, it is notable that during the colonial time, population tallies were more similar to gauges than genuine checks which make it harder to assess the development. Population growth in Ilorin is stronger than in other growing urban areas in Nigeria.

However, population growth in Ilorin has never been fast as it seems to be currently. The total expansion in the urban population is extremely huge, having expanded from 230,000 thousand in 1971 to 1.18 million in 1991, even though the development pace of Ilorin has not risen steeply (Census, 1991). Throughout advancement, almost certainly, an enormous number of rural people will keep on moving to urban communities since they lack economic opportunities in the underdeveloped places they come from. The rapid growth in population number, and size of metropolitan territories in recent years in Nigeria have shown the intense deficiency in dwelling units. Basorun J.O & Fadairo G. (2022), explains

that population growth had caused blockage, high rents, poor urban living conditions, poor infrastructure services, and indeed high crime rates. At a minimum level, homeownership is one of the highest needs for most families and it brings about the biggest single venture. This turns out to be critical when it is understood that per capital and genuine pay in Nigeria have been on the decay. Housing densities have progressively increased in Ilorin, because of the mix of many interrelated segments which include: land value, framework, building materials, approaches, building guidelines, and all the more significantly, money (Adebayo M.A, 2018). Land in housing densities is important on account of the tremendous monetary necessity and shortage in most metropolitan communities of the country for housing creation (Mehmet, 2019).

According to Amaefule (2022), the low-density settlements typical of urban fringe or rural areas convert agriculturally productive areas to less productive residential development. Removal of frontier vegetation and consequent loss of biodiversity increases energy consumption and infrastructure provision costs. Ironically, a fast-developing city like Ilorin, has a few benefits in those zones that are created, while having more spread. The conventional presumption of work being moved in a rural community has gotten less reasonable with the decentralization of business and modern activities in most large metropolitan regions (Ilechukwu, 2010). Another key challenge is urban sprawl arising from rapid population growth. Aribigbola (2008), states the fact that Ilorin has witnessed unprecedented population growth with no corresponding development in infrastructure and housing which has led to the development of housing sprawl in some parts of the city in the last decade. This is mostly noticed in areas like Sango, Oyun, Apata Yakuba, Elekoyangan, Anfeyin Village, Idi-Ori, Asani, Agbede and Poly Gate. Other major challenges include building a strong institutional framework for policy formulation and implementation. Apart from this, there are also inadequate funds to sustain the delivery of public utilities and key services like water supply, solid waste management, environmental beautification, and so on.

The increasing rate of poverty among urban and rural dwellers and its implication on resource utilization/consumption with energy, sanitation, and scarcity of reliable data for effective environmental planning and management are noticeable (Rotowa, 2019). In summary, when expectations about future development potential are high, more land will be withheld for development, land values will be higher, and the densities in developed areas will be higher. More development will be done on less land, at higher prices, as the owners wait for higher expected returns from future development. This study, therefore, focuses on the effects of population growth on housing demand in Ilorin, Kwara State, Nigeria.

2.1 LITERATURE REVIEW

The rapid growth of world population and its agglomeration in cities and towns around the world is affecting the long-term outlook for humanity (UNHabitat, 2021). The current phase of globalization and urbanization of the world has been attributed to the industrial revolution in the late 18th century and the increased population growth of the world in the 19th century after the World War II, (Huff & Angeles, 2011). Prior to the 19th century, few percentages of the world population reside in cities, until later in the 19th and 20th centuries, when the higher percentage of the world population strife to reside in the city (Idowu, 2017). Faniran and Megbolugbe (2017) and WHO-UN-Habitat (2019) among other scholars have admitted to the huge consequences of interaction of high population growth rate and unprecedented rapid urbanization currently going on in the world. This observation has received much attention globally, in particular, is the contributions of the academicians. Urbanization has been blamed for the changes and catastrophic incident that had occurred within in the world. Many have seen urbanization as undesirable because, of its major developmental challenges, which exerts an awesome pressure on social, economic, and environmental sustainability. A global report on urbanization trends has emphasized that cities will remain the focal point for global economic, social, cultural, and political activities (UN-Habitat, 2021).

The process of urban growth is a universal phenomenon occurring all over the world. Pacione (2021) has acknowledged the result of a combination of natural increase of the urban population and net in-migration of people to urban areas as the cause of the increasing levels of urbanization and urban agglomeration.

Demographic change by many scholars is the most prevailing factor that determines the spatial transformation in any region of the world, while other factors observed to be responsible include the social, economic, and political activities, which has led to the competition for land for various uses (Laraba & Shola, 2019; Popoola, 2019). Similarly, Sadia (2020) indicated that there are basically two categories of factors responsible for shaping and determining the urban growth pattern and process in any cities. These factors are classified as spatial and non-spatial factors. The spatial factors include land price surface, road accessibility, land elevation of the topography, private housing scheme, while the non-spatial factors are comprised of demographic, social, economic, and political factors.

According to Sanusi (2017), the peri-urban area constitutes an important interface in settlement continuum and development, serving as a buffer for the unexpected population. This is the area which reflects the pressure exerted by city in the surrounding neighboring space. Peri-urban in some instances is the open space where rural and urban features co-exist, in environmental, socioeconomic, and institutional terms (Allen, *et al.,* 2006). Basically, the argument of several scholars, including Dutta (2012) on peri-urban interface is based on the interaction of rural and urban forces, resulting in the exchange of their individual resources.

However, the boundaries between rural and urban are getting blurred, as the benefits and bane of city growth extends far into the urban fringe. The interface between the rural and urban areas is gradually phasing out due to rapid urban growth. City periphery is subjected to multiple transformations like, physical, morphological, socio-demographic, cultural, economic, and functional, (Mondal *et al*., 2021). Dutta (2012) advocated that the peri-urban boundary is forever

shifting, followed by extending urban areas engulfing the interface route into the agricultural land threatening the land available for farming and production of foods.

2.1 LITERATURE REVIEW

The rapid population and urbanization which is common feature of countries of developing nations since the last century has constituted great threat to urban sustainable development. It is against this backdrop that this paper examines the urbanization trends in Ilorin, Nigeria. The data used for the study were obtained from secondary sources. Some of these data include population growth of Ilorin since pre-colonial era, annual population growth, spatial expansion of Ilorin between 1960 and 2010; and Built-up area of Ilorin from 1986-2006. Findings from this study show that the spatial expansion of the study area was propelled by rapid population growth i.e. in 1931 the total population of the town was 100,592, it grew to 208,546 in 1963, while in 1991 Ilorin population was confirmed to be 532,088 by the National Population Commission and it is believed that by the year 2020 the population of Ilorin will reach 3,518,771 based on projection. Moreover with the spate of the growing population, demand for land to build houses was on the increase, thereby causing the physical growth of the study area. For instance the built-up area of study area was 1235.84 Ha in 1960, and in 1980 it was 3170.24Ha and in 2010 the physical built-up area reached 14,306.71Ha. In addition, the study revealed that as the built up area is increasing due to population growth, the land consumption is also increasing, for instance the land consumption rates in hectare of land use was 0.0054 in year 2003 and in year 2012 it has reached 0.0091. The study recommends integrated National programmes for spatial distribution of population and to this effect priority consideration should be given to the preparation of master plan which will make provision for a more equitable system of distribution of development in all areas. This will no doubt address the issue of rapid urbanization and thereby enhance sustainability of the city.

2.1.1 CONCEPTUAL REVIEW

Sustainable Development

The concept of “Sustainable Development” has been in existence even before the turn of the century. It is a socioecological process characterized by the fulfillment of human needs while maintaining the quality of the natural environment indefinitely. This concept came into general usage following publication of the 1987 report of the Brundtland Commission - formally, World Commission on Environment and Development. It is this Commission, set up by the United Nations General Assembly that coined the most often-quoted definition of sustainable development which is “development that meets the needs of the present generation without compromising future generations to meet their own needs” (WCED, 1987; Jiboye, 2011c; Daramola & Ibem, 2010). However, several other definitions have been given to explain this concept; one of such emanated from the National Affordable Housing Agency of Britain, describing it as a means of ensuring a better quality life for everyone, now and for generations to come (NAHA, 2006). It is the process of building our communities so that we can live comfortably without consuming all of our resources. This implies, living in a sustainable way by conserving more of the things we all need to share - this is not just about consuming resources, but includes changing our culture to make conservation a way of life (Mediawiki, 2008). With regards to “urban growth”, sustainable development implies the ability of the urban areas and their regions to continue to function at levels of desired quality of lives by community without limiting the options available to the present and future generations; and resulting to diverse impacts within and outside their boundaries. Nevertheless, the pace and scale of growth in urban areas have outstripped the capacity to maintain acceptable standards of public health, environmental safety, and sustainable economic growth in the less developed nations of Africa, Asia and Latin America (Adedeji, 2005; Daramola & Ibem, 2010).

2.1.2 THEORETICAL FRAME WORK

Urbanization is the process of human agglomerations in multifunctional settlements of relatively substantial size (Mabogunje, 1985). It represents the movement of people from rural areas to urban areas with population growth equating to urban migration (Misilu, et al., 2010). The United Nations Habitat in 2006 described it as the increased concentration of people in cities rather than in rural areas (UN-Habitat, 2006). Urbanization contributes to sustained economic growth which is critical to poverty reduction (World Bank, 2008). The process of urbanization also involves the improvement of urban quality including renewing the city, optimizing urban spatial organization and improving urban function. The way it is managed and administered has a direct bearing on its ability to support economic development, social development, health systems and mitigate poverty (Akhmat, 2010)

Many studies have documented the impact of urban growth on urban population and its consequences on housing supply both within and outside the country.

In view of Gilbert et al, (2013), there is an increasing recognition that the growth of cities is inevitable and the solution to urban problems depends heavily on effective urban planning, infrastructure development and management. Rapid and often unplanned population growth is often associated with population demands that outstrip infrastructure and service capacity and leading to environmental degradation.

Their study, therefore sought to put into perspective impacts of population growth on infrastructure and service provision in Eastleigh neighbourhood. Its main themes were to understand trends in population growth, secondly, to understand the impact of population growth on infrastructure and services, thirdly, to explore available initiatives and their effectiveness in guaranteeing sustainable infrastructure and effective services in the neighborhood. The data was analysed with the aid of computer packages SPSS and Microsoft Excel programs. The packages generated outputs were illustrated using percentages and bar graphs. Data collection techniques broadly engaged questionnaires to collect

households' data; face to face interviews were of essence in collecting data from households, business premises and relevant government institutions; in-depth interviews were conducted with government institutions and business community; observation and photography was utilized to identify physical parameters that are associated with infrastructure dilapidation and service negligence as a consequence of population growth. The study adopted sampling size and procedure as advanced by Fisher's formula (n = Z2PQ*1/d2).

Related work from Pradhan, (2007) examines the role played by infrastructure in determining the level of urbanization in India and across its states. The analysis is based on construction of composite infrastructure development index by applying principal component analysis and then integrates the same with degree of urbanization. The study investigated the impact of infrastructure on urbanization in India, by using the state-wise data of past quarter decades and the estimated results confirmed that infrastructure has a significant positive impact on urbanization. It is assumed that without increase of infrastructure, urbanization in India would be much lower today. They finally conclude with suggestion that India needs a broad based policy to increase the level of infrastructure in the interest of urbanization in particular and overall balanced development in general.

In a related study from, Nontokozo et al (2011), they examined the role and influence of infrastructural development on land use and land cover (LULC) change, in light of sustainable development, in Mbabane city. They employed Geographic Information System (GIS) on time series data retrieved from analogue maps that were scanned, geo-referenced and then digitized, to produce land use maps. Infrastructural development was found to have increased by expanding the urban boundary and at cultivated which were found to have either vanished down the years. From their research, it was concluded that indeed Geographical Information System and Remote Sensing is a critical tool for obtaining land use land cover image and it has proven to boast capacity

in data integration, analysis and visualization. Even though there focus was just on the retrieval of historic data, primarily from analogue paper maps, the study showed that the technology is important for monitoring, modeling and mapping of LULC changes across a range of spatial and temporal scales as it enables the assessment of the extent, direction, causes, and effects of these changes.

In view of Vincent and Gure (2005), reviewed that most persistent and challenging problem facing Nigeria cities is inadequacy of urban infrastructure. They stated that in the recent decades, Nigeria has adopted a few key strategies from urban environmental infrastructure development. These range from a technocratic state-provider model, a poorly developed private provision model, and an international-led stakeholders approach to urban environment planning and improvement. urban centres not only serve their resident populations but also that in their hinterlands and hence help to stimulate the economic development of rural areas. The presence and adequacy of such service and facilities not only enhances the welfare of the people but is also a major determinant of the future growth of the urban centres. The current deficiencies in the provision of basic infrastructural facilities is a consequence of the rapid population increases in the urban areas resulting in the overuse of existing facilities and made worse by lack of development of the services to keep with the increases.

Andrew (2010) states that Urban growth directly have impacts on traffic congestion. It is evident that urban sprawl has negative impacts on both air quality and public health, which affects the human condition. Many believe that urban sprawl is a recent phenomenon, but actually dates back to ancient times. The quality of infrastructure services is further eroded by the rapid population growth in most of these cities. Poor infrastructure reduces the profitability of modern sector manufacturing and may therefore inhibit industrialization.

Related work from Zubair, (2006), reviewed the use of Geographical Information System and Remote Sensing in mapping Land Use Land Cover in Ilorin, so as to

detect the changes that have taken place. Subsequently, an attempt was made at projecting the observed land use land cover. In achieving this, Land Consumption Rate and Land Absorption Coefficient were introduced to aid in the quantitative assessment of the change. The result of the work shows a rapid growth in built-up land. Data was obtained from National Space Research and Development Agency in Abuja (NASRDA).

In view of Sunday (2013), examines the challenges of rapid urbanization on the sustainable development of Nyanya, Abuja. Finding of the study is that the primary factor for the rapid urbanization of Nyanya within a short period of time is migration. The consequence of the rapid urbanization and population rise within a short period is that infrastructural facilities and services are grossly inadequate to cater for the population. The study reveals that there is inadequate good quality housing, poor waste management, inadequate electric power supply, inadequate good quality domestic water supply, inadequate and unaffordable health care facilities, poor environmental health and traffic congestion on the Abuja city-Nyanya-Maraba-Keffi road. Two land sat ETM (30M resolution) satellite data images covering Nyanya settlement and GIS software (ERDAS IMAGNE 8.6) was used for data processing and analysis. Satellite imagery was utilized in evaluating spatial and temporal changes that have occurred within the data set periods.

This enables the evaluation of the impact of rapid urbanization on the Nyanya environment. Data imagery was classified into land cover types adapting the Anderson classification system and change detection carried out using the post classification comparison algorithm. Classified images of the 2 selected years were cross referenced and results of change detection will be used for change detection analysis. Field observations and Questionnaire was employed for gathering requisite data to profile infrastructural facilities and services available and to examine their state of utilization and challenges. Data obtained from the questionnaire will be analyzed statistically in order to assess the impact of rapid

urbanization on the sustainable living of the population. Recommendations proffered to address these challenges include; urgent need for the Abuja Federal Capital Territory Administration to embark on urban renewal of Nyanya. Adequate Infrastructural facilities and services should be provided for the residents. Mechanism for periodic review and upgrading should be put in place to ensure a qualitative built urban environment, with adequate resources and facilities to support a sustainable healthy living.

According to Oyeleye (2013), An urban centre is an agglomeration of people that are organized around non-agricultural activities, and urban growth is the rate of growth of an urban population. Urbanization in Nigeria and other developing countries has been very alarming over the past ten (10) years. This is as a result of high rate of rural-urban drift, which has resulted to various problems like, unemployment, poverty, settlements, pollution, overpopulation, traffic congestion, crimes, and food insecurity .There is high rural-urban drift in Nigeria because of the inequalities, in terms of infrastructural facilities, services, social amenities and heterogeneity economic activities in favor of urban centres. He make an attempt to examine the existing challenges, and predict future challenges of urbanization and urban growth in Nigeria, while measures to greatly minimize the challenges are suggested in order to ensure sustainable developments in both the Nigerian urban centres and rural areas.

Related work from Aderamo and salau (2013) examined the infrastructure of parking patterns, problems and their causes in Ilorin with a view to reduce the problems. The data used were collected through direct field survey of selected road intersections covering traffic volume and composition, traffic delay and causes and land use activities. On-street parking surveys were also carried out along selected roads in the city while off-street parking surveys were carried out at selected locations. Parking problems alone were found to contribute 23.9% of delays at the road intersection in Ilorin. Regression method was used to model parking demand along the selected streets and the off-street parking facilities

which could aid in estimating the parking need in the metropolis. The study finally recommended that in order to reduce traffic congestion and delays at road intersections in the city, on-street parking should be discouraged and adequate off-street parking facilities should be provided. Parking has been a long standing problem in many urban centres in Nigeria. This has been due to the absence of clearly designated areas for parking in many of our cities. This has led to traffic congestion and delay problems.

2.1.3 URBANIZATION OF ILORIN: THE POPULATION GROWTH AND DEVELOPMENT

Urbanization is a complex phenomenon. It is believed to be the major surrogate for growth and development characterized by population growth, industrial growth and pluralism of the population for the purpose of this study, the quantitative measurement of urbanization involved: the average rate of growth of the city over the period of 30 years (1991-2020). The average yearly additional land consumed in the city and pluralism of both the human and industrial population measuring the state of anomie and anonymity.

2.1.4 ISSUES TO CONSIDER BEFORE IMPLEMENTING URBAN GROWTH (LAND USE) ANALYSIS.

Issues to be considered by Macleod and Cognation (1998) in the study of land use expansion for monitoring the environmental dynamics. They include:

i. Detecting if change has occurred
ii. Identifying the nature of the change
iii. Measuring real extent of the change and Assessing the spatial pattern of the change.

Some of the common remote sensing data for urban land use analysis mostly acquired from Landsat Multispectral Scanner (MSS), ETM+, SPOT, AVHRR, NigeriaSat and RADAR. Some new sensors include moderate resolution imaging

spectrometer (MODIS) and advanced space borne Thermal Emission and reflection Radiometer (ASTER).

When selecting remote sensing data for urban landuse, it is important to use the same sensor, same radiometric and spatial resolution data with anniversary or very near anniversary acquisition dates in order to eliminate the effects of external sources such as sum angle, seasonal and phonological differences (Jensen,2004).

2.2 REVIEW SUMMARY

The researchers has carried out a great work on effect of population Growth and the impact to the environment in many areas of the world, including Nigeria but none has carried out consequences of urban growth on infrastructure facilities in the particular location of this study area. Their work has been an insight to see various Remote Sensing , GIS techniques and Statistical method which can be use to assess urban growth in order for a better sustainability to infrastructure facilities. Now decided to carry out my research work by adopting some of the method they use to assess urban growth (land use) and its consequences on housing supply

SPECIFIC EFFECTS OF POPULATION GROWTH IN SANGO AND OTHER VILLAGES IN ILORIN THE KWARA STATE CAPITA

- **Increased Pressure on Infrastructure:**

  As the population grows, there is a greater demand for housing, roads, water, electricity, and other essential services. This can lead to inadequate infrastructure and strain on existing facilities.

- **Environmental Degradation:**

  Rapid urbanization and population growth can contribute to deforestation, pollution, and changes in microclimate, potentially impacting the overall environment.

- **Socioeconomic Challenges:**

  Increased competition for resources and employment can lead to higher costs of living, income inequality, and social unrest.

- **Urban Sprawl:**

  Population growth can drive urban expansion, leading to the encroachment of urban areas on surrounding natural habitats.

- **Impact on Quality of Life:**

  Overcrowding, traffic congestion, and lack of access to basic amenities can significantly reduce the quality of life for residents.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter deals with the elements of the research process in the chapter introduction. It is an attempt to undertake a comprehensive research work, many decisions have to be taken, so as to discharge some plans taken from their hidden position.

In this chapter, it takes into understanding the research design, the sampling technique, data requirements, data collection instrument and method of data analysis discussed.

3.2 THE RESEARCH DESIGN

Research design address the planning of research, this is the planning of scientific designing and a strategy for finding out something (kotheri 2014). This section addresses the plan, structure and strategy of investigation of issues

related to the effect of population growth in Sango, Apata Yakuba and other villages along Kwara poly area in Ilorin Kwara State. The plan outline research scheme on which the work was carried out, the strategy shows means by which the research was carried out including the method adopted in data collection and analysis. this study adopted survey research resign so as to enhance collection data

3.3 DATA TYPES AND SOURCE

For the purpose of this study data was collected from both primary and secondary sources.

PRIMARY SOURCE OF DATA

These are first hand data which are collected by the research directly from sources. It involves the collection of data in environmental indicator and characteristics of dwelling in the study areas.

3.4 INSTRUMENT FOR DATA COLLECTION

PRIMER DATA INSTRUMENT

The following instruments were used for the purpose of collecting the primary data and they include.

FIELD SURVEY

This is primary data aimed at collecting the necessary information from the site in the study area, the survey was conducted by the researcher to identify the population growth of dominant in the 7 neighborhood which made up the study areas. Data in the characteristics of the dwelling house hold size population were obtained through survey. It also involved personal contact with the living within the environment for direct oral examination

ORAL INTERVIEW

This method is used for gathering data from people through face to face (one on one) contract between the researcher and the respondent. Here, the researcher obtains the relevant information from the respondent to some earlier the pared

oral question as this actually invoices personal contract between the researcher and their respective respondent. Standard question will be phrased for the interview session that the respondent could respond quickly.

PERSONAL OBSERVATION

This is a method by which a researcher makes their observation or taken measurements in the field with or without the participation of the object investigation and it is either animate or inanimate.

SECONDARY DATA

This involved the use of relevant statutory document note, past research works, encyclopedia, journals, newspaper publications, seminar papers, maps, textbooks, Google search. Which are relevant to the research work. Most of these data were obtained from school library and government agencies and other parastatals among other sources.

3.5 TARGET POPULATION

Target population can be described as total member of group, people or event. It is also defined as the class of people the researcher wants to use in collecting data and use as a sample with similar characteristic that are interest to the researcher for a particular purpose in term of residential properties. The two areas chosen randomly are Sango and University road Tanke There are four hundred and twenty six (426) buildings in Sango and five hundred and fifteen (515) in University Road which cover the area mention earlier making eight hundred and forty-one (841).

3.6 SAMPLE FRAME

For the purpose of this research work, the target population refers to the people living in case study, which is Sango and other villages along poly road.

SAMPLE FRAME

A sample frame is the device from which a sample is drawn. It is list of all those within a population who can be sampled. The target population for this research work is base on the number of the residential building in the study area

3.7 SAMPLE SIZE

Out of the sampling frame in the study area which include Adewole Estate. The sample size is Four hundred and twenty (420)

3.8 SAMPLING PROCEDURE

There are different types of sampling techniques, but for the purpose of this project work, will be limited to systematic random sampling. Which a random sample, with a fixed periodic interval is selected from a large population. the fixed periodic interval, called the sampling interval, is calculated by dividing the population size by the desired sample size.

3.9 METHOD OF DATA COLLECTION

This is a methodical process of gathering and analyzing specific information to proffer solutions to relevant questions and elevate the results. It focuses on finding out all there is to a particular subject matter.

3.10 SUMMARY OF DATA ANALYSIS

This is process of discovering useful information by evaluating data. And this is done through a process of inspecting, clearing, transformation and modeling data using analytical and statistical tools, which researcher will explore in detail further along in this article.

.

CHAPTER FOUR

4.0 DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

This section analysis and interpret the assessment of effect of population growth on housing supply in Nigeria. The objectives are to identify the trend of urban growth examine the effect of population growth on housing supply and proffer possible solution to the effect of population growth on housing supply. The objective of this study forms the basis of all the analysis carried out in this chapter. The results are presented inform of maps, charts and statistical tables.

The first objective of the study focuses on mapping out the trend and rate of the study area using Remote Sensing and GIS techniques, the second and third objective was achieved through field survey using questionnaire, Face to face structured interview and Reconnaissance observation.

4.2. TREND AND RATE OF POPULATION GROWTH IN ILORIN SOUTH BETWEEN 2019 & 2023

Ilorin East is experiencing rapid urbanization and tremendous economic growth since the last two decades. The growing urbanization in the city has created pressure for the changes in the Land-use pattern. These changes have rapidly transformed the town from a subsistence economy into a commercial economy

The rapid land use in Ilorin South is largely due to its status as one of the Local Government area within the State capital. In the last ten years, the town and its surroundings had undergone changes in its land use types and in consumption and utilization of land resources.

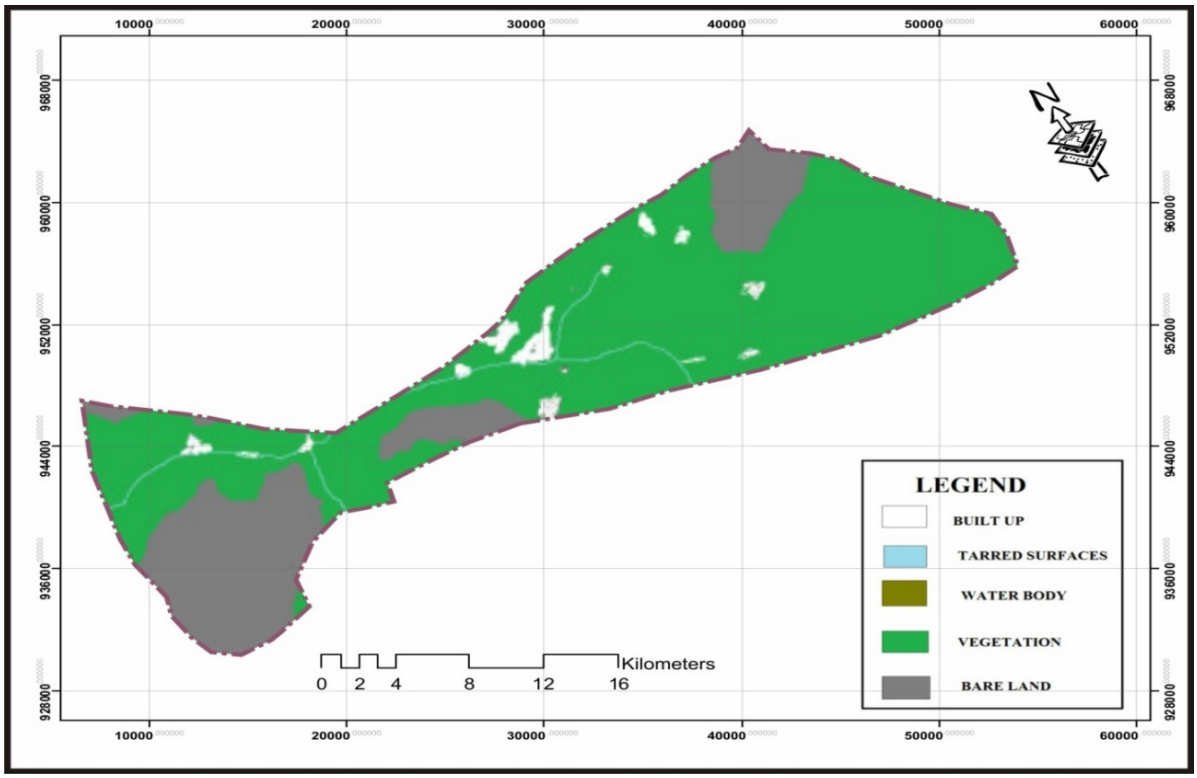


Figure 4.1: Land use pattern of Ilorin South, (2023)

Source: Author's data analysis, 2025

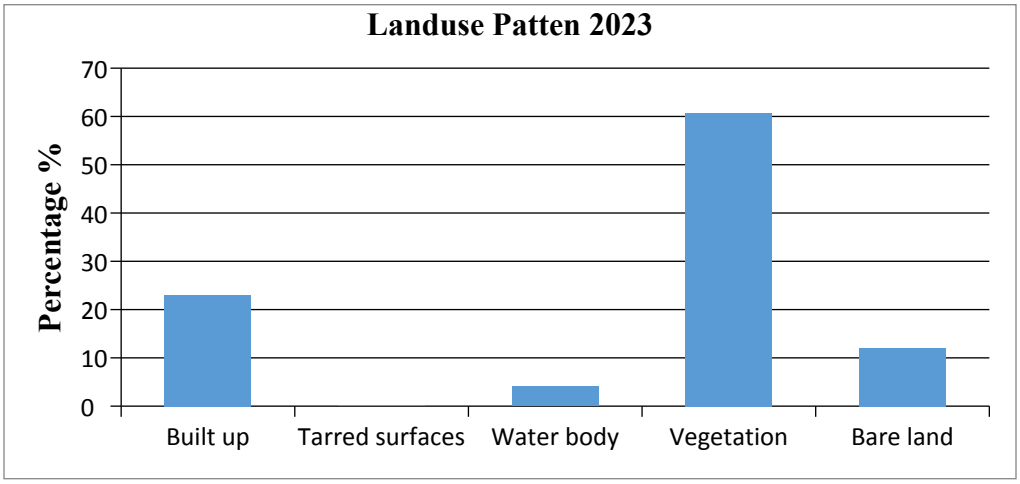


Figure 4.2: Percentage of Land-use Pattern, (2023)
Source: Author's data analysis, 2025

The interpreted image showed that Built-up land occupied 23.02% of the total land-use, tarred surface covers 0.10%, water body occupied about 4.1% of the total land-use, vegetation covers about 60.74% which made up of the largest land-use category and Bare land area occupied about 12.04% of the population.

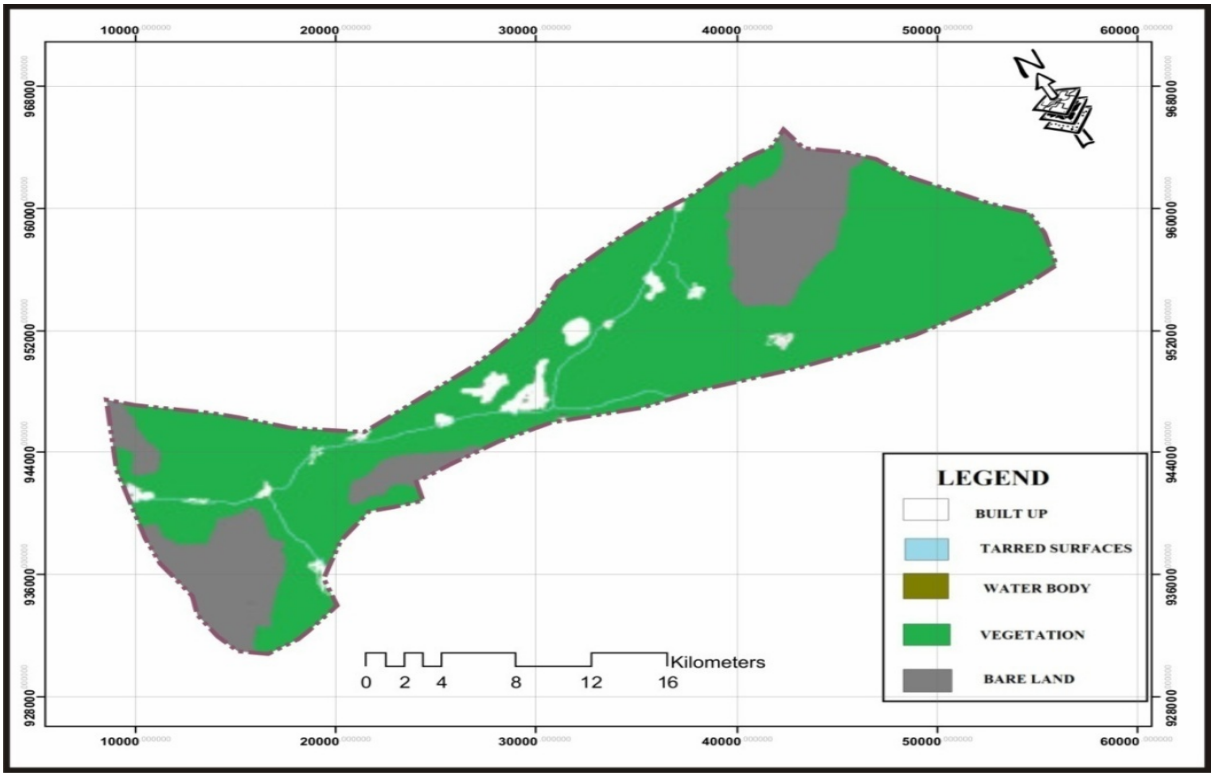


Figure 4.3: Land use pattern of Ilorin South, (2023)

Source: Author's data analysis, 2025

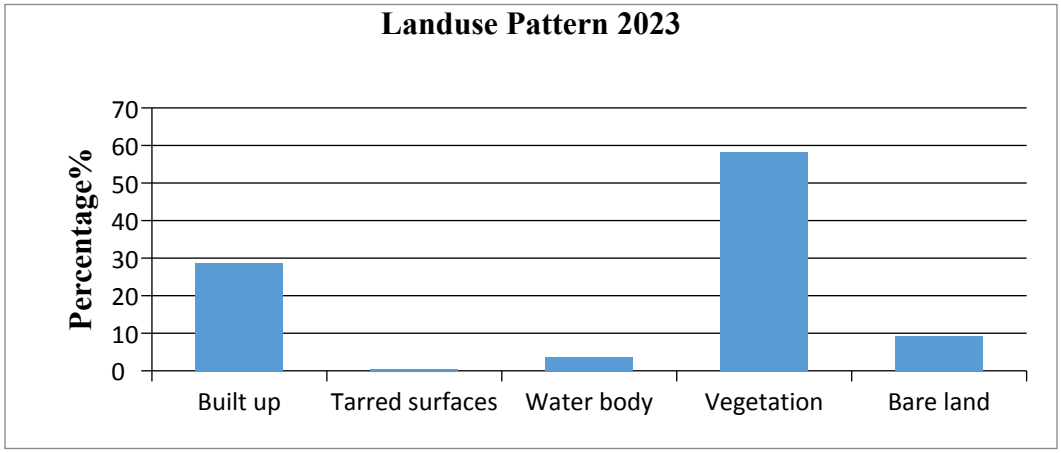


Figure 4.4: Percentage of Growth and population, (2023)

Source: Author's data analysis, 2025

The interpreted image showed that Built-up land occupied 28.07% of the total land-use, tarred surface covers 0.40%, water body occupied about 3.6% of the total land-use, vegetation covers about 58.01% which made up of the largest land-use category and Bare land area occupied about 9.02% of the population.

The analysis for 2023 showed a great change in Land-use category, most especially the built-up category, which increases steadily from 23.02% to 28.07 with striped residential buildings and commercial services which were present in the clustered residential area of Land-use. Similarly, the classification showed that Tarred surfaces increased from 0.10% in 1995 to 0.40% in 2023, Water body reduced from 4.1% in 1995 to 3.6% in 2012, Vegetation land which includes scattered cultivation and plantation reduced from 60.74% in 2019 to 58.1% in 2019 and Bare land reduced from 12.04% in 2022 to 9.2% in 2023.

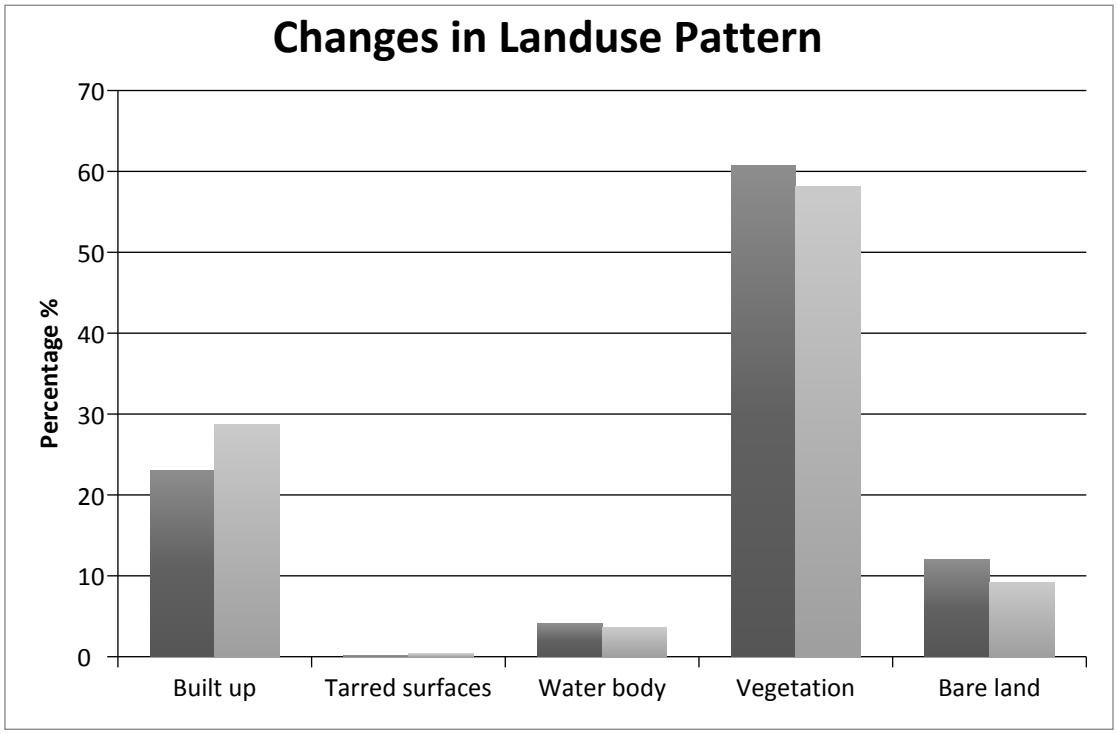


Figure 4.5: Changes in Land-use Pattern between 2019 – 2023.
Source: Author's data analysis, 2025

Figure 4.5 shows the percentage growth and land distribution of each category, the analysis shows difference in each years of the analysis. The amount change was calculated and represented in graph. Built-up area is recorded the highest amount of change from 23.02% in 1995 to 28.7% in 2023, this indicate that there is steady an effect of population and growth in Ilorin South Local Government Area.

High resolution image from Google Earth show the trend and rate of urban population and growth of the purposive area in Ilorin South Local Government Area of 2019 and 2023.

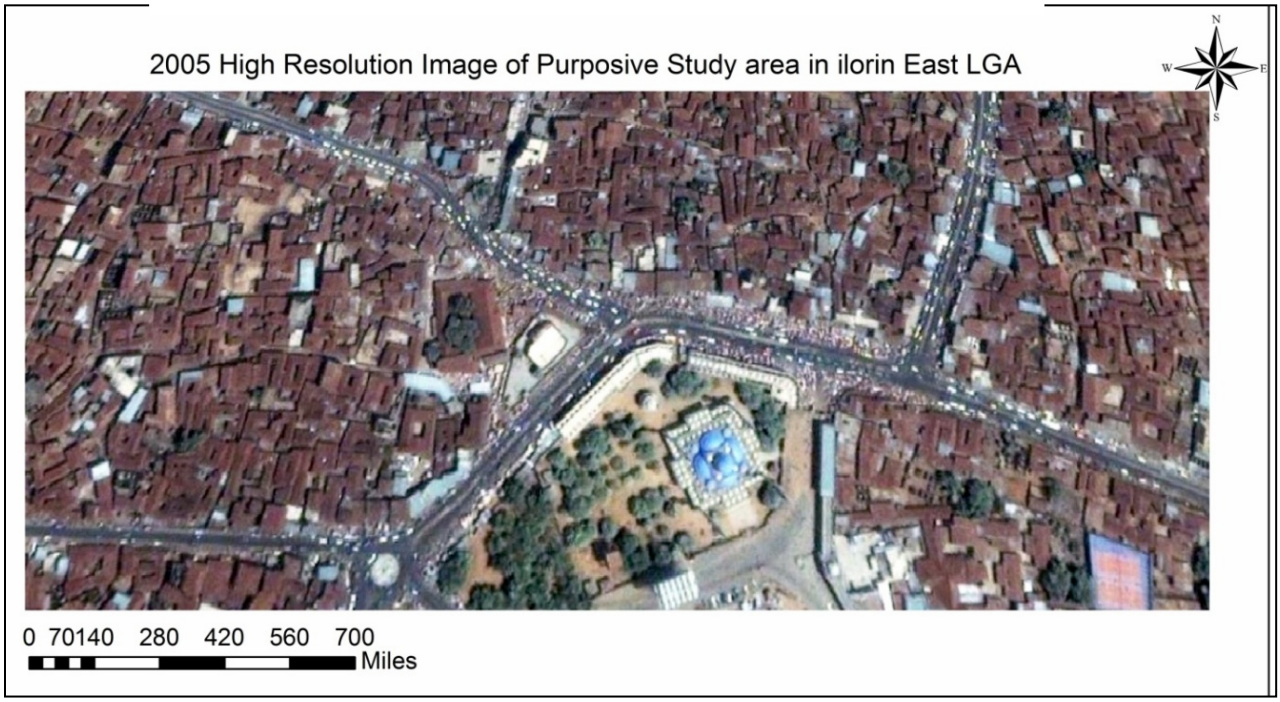


Figure 4.6: High resolution image of purposive area Ilorin South, (2023)
Source: Author's data analysis, 2025

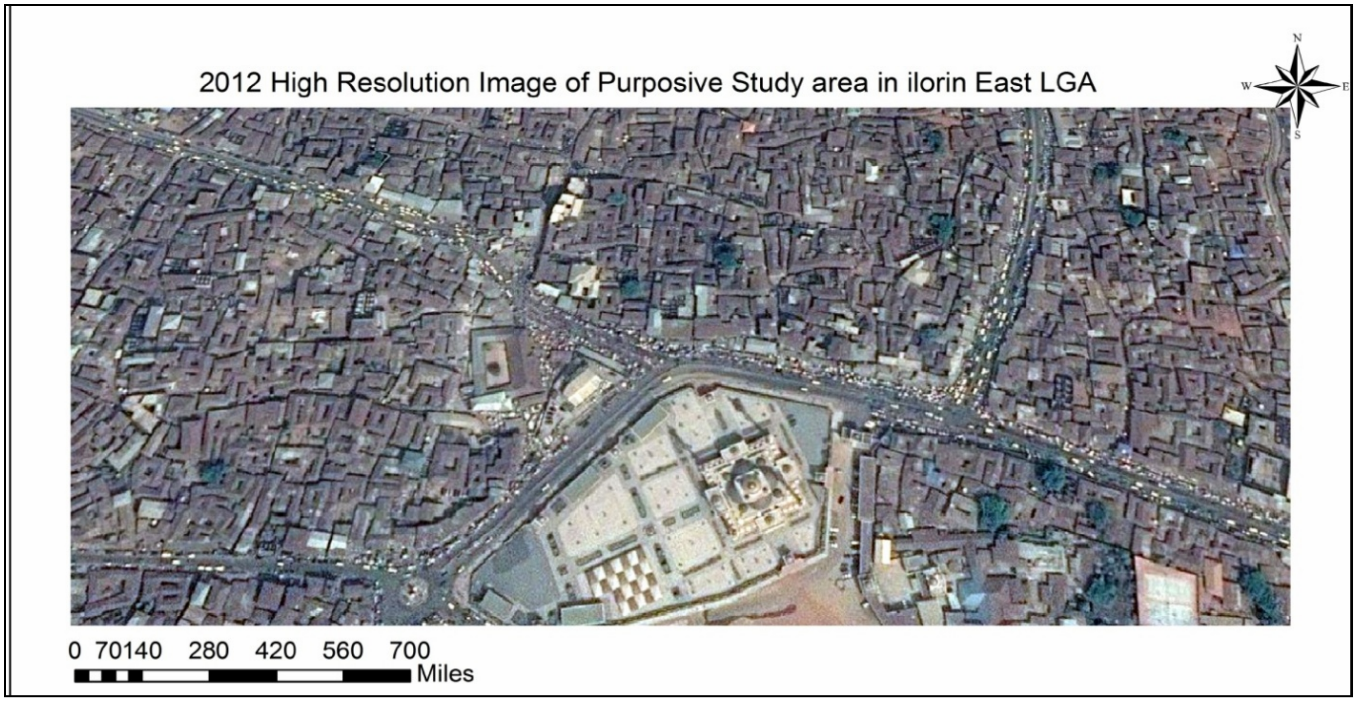


Figure 4.7: High resolution image of purposive area Ilorin South, (2023)

Source: Author's data analysis, 2025

4.3 AN EFFECT OF POPULATION GROWTH ON HOUSING SUPPLY

200 questionnaires were sent to purposive study area Sango and University Road Tanke in Ilorin South Local Government Area making it a total of 400 questionnaires administered for this study. A set of 182 and 175 questionnaires were returned from Sango and university road respectively, giving a total of 357 questionnaires returned. Data obtained from the survey research questionnaire on the study assesses the effects of population growth on housing growth in Ilorin South Local Government Area were analyzed using Statistical Package for Social Sciences (SPSS) version 16.0.

Table 4.4 Sex of respondent

Sex of respondent	Frequency	Percent

Male	139	38.9
Female	218	61.1
Total	357	100.0

Table 4.4 shows that respondents that are female have the highest percentage of 61.1% with a response count of 218 while the male have a response count of 139, representing 38.9%. This means that the survey is largely dominated by the female.

Table 4.5 Qualification of respondent

Qualification of respondent	Frequency	Percent
O level	103	28.9
ND/HND	133	37.3
BSc/MTech	76	21.3
MSc/MTech	22	6.2
Others	23	6.4
Total	357	100.0

Table 4.5 shows that 28.9% of the respondents have O level education, 37.3% of the respondents have ND/HND education, 21.3% of the respondents have B.Sc/B.Tech education, 6.2% of the respondents have M.Sc/M.Tech education, and 6.4% of the respondents have other type of education. This means that majority of the respondents went through ND/HND education.

Table 4.6 Age of respondent

Age of respondent	Frequency	Percent

15-29	138	38.7
30-39	145	40.6
40-49	54	15.1
Above 50	20	5.6
Total	357	100.0

From Table 4.6 shows that 38.7% of the respondents are age between 15 and 29years, 40.6% age group of 30 - 39years, 15.1% of the respondents 30 and 39 years and 5.6% above 50.

Table 4.7 Profession of respondent

Profession of respondent	Frequency	Percent
Trader	85	23.8
Civil servant	101	28.3
Self employed	106	29.7
Students	65	18.2
Total	357	100.0

Table 4.7 shows that 23.8% of the respondents are traders, 28.3% of the respondents are civil servant, 29.7% of the respondents are self employed, 18.2% of the respondents are student. This means that the survey is largely dominated by self employed people.

Table 4.8 Marital Status of Respondent

Marital status of respondent	Frequency	Percent

Single	135	37.8
Married	190	53.2
Divorce	14	3.9
Widow	18	5.0
Total	357	100.0

Table 4.8 shows that 37.8% of the respondents are single, 53.2% of the respondents are married, 3.9% of the respondents are divorce and 5.0% of the respondents are widow. This means that the survey is largely dominated by married people who have live long enough in the area to do justice to the research.

Table 4.9 For how long have you been residing in your area

For how long have you been residing in your area	Frequency	Percent
Less than 5 years	58	16.2
6-10 years	76	21.3
11-20 years	104	29.1
Greater than 20 years	119	33.3
Total	357	100.0

Table 4.9 shows that 16.2% of the respondents have been staying in the area for less than 5 years, 21.3% of the respondents have been staying in the area for 6-10years, 29.1% of the respondents have been staying in the area for 11-20years, and 33.3% of the respondents have been staying in the area for greater than 20 years. This means that the survey is largely dominated by people who have been staying in the area for greater than 20years.

Table 4.10 Urban growth influence Population and housing supply in an area.

Urban growth influence population and housing supply in an area.	Frequency	Percent
Strongly Agree	235	65.8
Agree	99	27.7
Disagree	19	5.3
Strongly Disagree	4	1.1
Total	357	100.0

Table 4.10 shows that 65.8.7% of the respondents Strongly Agree that, 27.7% of the respondents Agree, 5.3% of the respondents Disagree and 1.1% of the respondents Strongly Disagree. This means that the majority of the respondents strongly Agreed that Urban growth influence population in an area.

Table 4.11 Population and growth causes scarcity of houses in an area

Population and growth causes scarcity of houses in an area.	Frequency	Percent
Strongly Agree	73	20.4
Agree	222	62.2
Disagree	34	9.5
Strongly Disagree	28	7.8
Total	357	100.0

Table 4.11 shows that 20.4% of the respondents Strongly Agree, 62.2% of the respondents Agree, 9.5% of the respondents Disagree and 7.8% of the respondents Strongly Disagree This means that the majority of the respondents agreed that Population and growth causes scarcity of houses in an area.

Table 4.12 Urban growth has greater effect on adequacy of infrastructural facilities.

Urban growth has greater effect on adequacy of infrastructural facilities.	Frequency	Percent
Strongly Agree	102	28.6
Agree	215	60.2
Disagree	28	7.8
Strongly Disagree	12	3.4
Total	357	100.0

Table 4.12 shows that 28.6% Strongly Agree, 60.2% Agree, 7.8% of the respondents Disagree and 3.4% Strongly Disagree. This means that the majority of the respondents agreed that Population growth has greater effect on adequacy of infrastructural facilities.

Table 4.13 Population growth allows for availability and Maintenance of the infrastructural facilities.

Population growth allows for availability and Maintenance of the housing supply.	Frequency	Percent
Strongly Agree	170	47.6
Agree	136	38.1
Disagree	29	8.1
Strongly Disagree	22	6.2
Total	357	100.0

Table 4.13 shows that 47.6.7% Strongly Agree, 38.1% Agree, 8.1% Disagree and 6.2% Strongly Disagree. This means that the majority of the respondents

strongly agreed that Urban growth allows for availability and Maintenance of the infrastructural facilities.

Table 4.14 Population growths influence the need for more and new infrastructural facilities

Urban growths influence the need for more and new infrastructural facilities and housing supply.	Frequency	Percent
Strongly Agree	202	56.6
Agree	123	34.5
Disagree	29	8.1
Strongly Disagree	3	.8
Total	357	100.0

Table 4.14 shows that 56.6% Strongly Agree, 34.5% Agree, 8.1% Disagree and 0.8% Strongly Disagree. This means that the majority of the respondents agreed that Urban growths influence the need for more and new infrastructural facilities and services.

Table 4.15 Urban growth causes overcrowding in the area.

Urban growth causes overcrowding in the area.	Frequency	Percent
Strongly Agree	114	31.9
Agree	188	52.7
Disagree	49	13.7
Strongly Disagree	6	1.7
Total	357	100.0

Table 4.15 shows that 31.9% of the respondents Strongly Agree, 52.7% of the respondents Agree, 13.7% of the respondents Disagree and 1.7% of the respondents Strongly Disagree. This means that the majority of the respondents agreed that Urban growth causes overcrowding in my ward.

Table 4.16 Population growth causes all the houses in my area to be properly planned.

Urban growth causes all the houses in my area to be properly planned.	Frequency	Percent
Strongly Agree	34	9.5
Agree	82	23.0
Disagree	171	47.9
Strongly Disagree	70	19.6
Total	357	100.0

Table 4.16 shows that 9.5% Strongly, 23.0% of the respondents Agree that, 47.9% Disagree and 19.6% Strongly Disagree. This means that the majority of the respondents Disagreed that Urban growth causes all the houses in my area to be properly planned.

Table 4.17 Adequacy of Infrastructure

Adequacy of Infrastructure such as electricity, health services, good roads, pipe borne water etc are properly provided in my area.	Frequency	Percent
Strongly Agree	58	16.2
Agree	54	15.1
Disagree	168	47.1
Strongly Disagree	77	21.6

Total	357	100.0

Table 4.17 shows that 16.2% Strongly Agree, 15.1% Agree, 47.1% Disagree and 21.6% Strongly Disagree. This means that the majority of the respondents Disagreed that Adequacy of Infrastructure such as electricity, health services, good roads, pipe borne water etc are properly provided in my area.

Table 4.18 High rate of urban growth influence the movement of people into my area.

High rate of urban growth influence the movement of people into my area. (immigration).	Frequency	Percent
Strongly Agree	109	30.5
Agree	199	55.7
Disagree	35	9.8
Strongly Disagree	14	3.9
Total	357	100.0

Table 4.18 shows that 30.5% Strongly Agree), 55.7% Agree, 9.8% of the respondents Disagree and 3.9% Strongly Disagree. This means that the majority of the respondents agreed that High rate of urban growth influence the movement of people into my area. (immigration).

Table 4.19 Proper planning in the area is responsible for availability of more land

Proper planning in my ward is responsible for availability of more land for general developments.	Frequency	Percent
Strongly Agree	54	15.1
Agree	97	27.2

Disagree	145	40.6
Strongly Disagree	61	17.1
Total	357	100.0

Table 4.19 shows that 15.1% Strongly Agree, 27.2% Agree, 40.6% Disagree and 17.1% Strongly Disagree. This means that the majority of the respondents Disagreed that Proper planning in my ward is responsible for availability of more land for general developments.

Table 4.20 Population growth rate is responsible for proper sewages and refuse disposal

Urban growth rate is responsible for proper sewages and refuse disposal in my area.	Frequency	Percent
Strongly Agree	41	11.5
Agree	81	22.7
Disagree	64	17.9
Strongly Disagree	171	47.9
Total	357	100.0

Table 4.20 shows that 11.5% of the respondents Strongly Agree, 22.7% of the respondents Agree, 17.9% of the respondents Disagree and 47.9% of the respondents Strongly Disagree. This means that the majority of the respondents strongly disagreed that Population growth rate is responsible for proper sewages and refuse disposal in my area.

Table 4.21 The level of population growth account for high standard of living in an area.

The level of population growth account for	Frequenc	Percent

high standard of living in an area.	y	
Strongly Agree	39	10.9
Agree	70	19.6
Disagree	167	46.8
Strongly Disagree	81	22.7
Total	357	100.0

Table 4.21 shows that 10.9 of the respondents Strongly Agree, 19.6% of the respondents Agree, 46.8% of the respondents Disagree and 22.7% of the respondents Strongly Disagree. This means that the majority of the respondents Disagreed that The level of urban growth account for high standard of living in an area.

The state of utilization of infrastructure facilities

Table 4.22 Car Park

Car parks	Frequency	Percent
Very Good	9	2.5
Good	35	9.8
Poor	175	49.0
Very Poor	138	38.7
Total	357	100.0

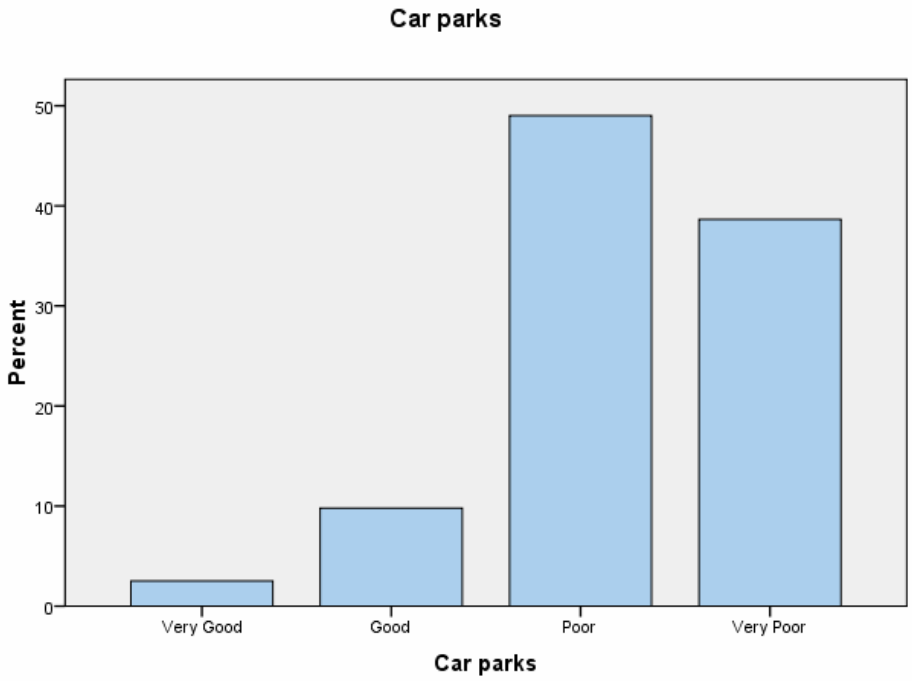


Fig 4.8 Car Parks

Table 4.22 and Fig 4.8 show that 2.5% of the respondents Very Good, 9.8% of the respondents Good, 49.0% of the respondents Poor and 38.7% of the respondents Very Poor. This means that the high rate of urban growth consequences on car park is poor.

Table 4.23 Refuse Disposal

Refuse disposal	Frequency	Percent
Very Good	14	3.9
Good	19	5.3
Poor	182	51.0
Very Poor	142	39.8
Total	357	100.0

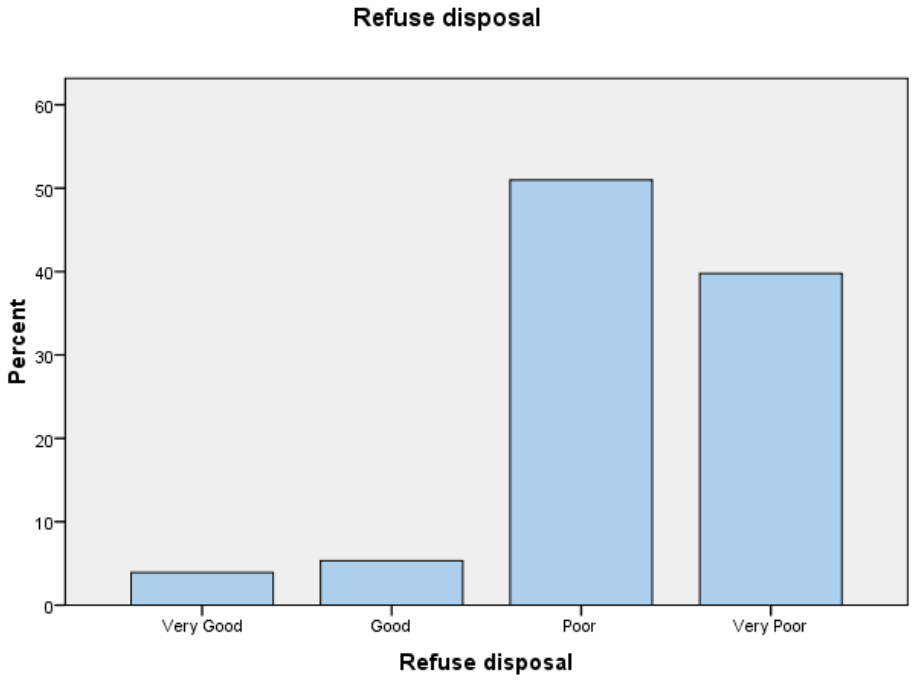


Fig 4.9 Refuse Disposal

Table 4.23 and Fig 4.9 show that 3.9% of the respondents Very Good, 5.3% of the respondents Good, 51.0% of the respondents Poor and 39.8% of the respondents Very Poor. This means that the high rate of urban growth consequences on refuse disposal is poor.

Table 4.24 Road Network

Road network	Frequency	Percent
Very Good	24	6.7
Good	98	27.5
Poor	149	41.7
Very Poor	86	24.1
Total	357	100.0

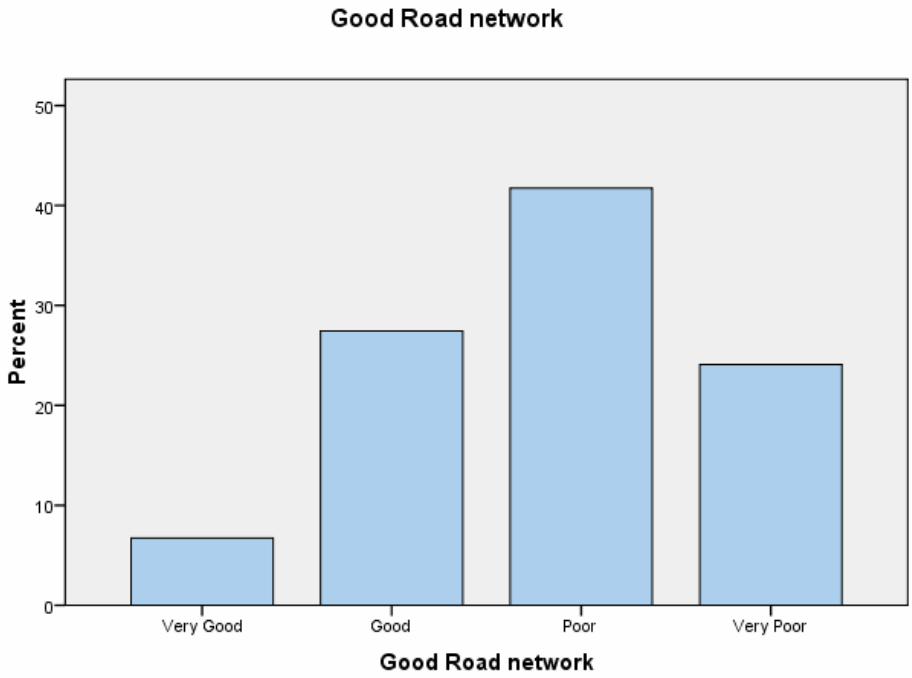


Fig 4.10 Road Network

Table 4.24 and Fig 4.10 show that 6.7% of the respondents Very Good, 27.5% of the respondents Good, 41.7% of the respondents Poor and 24.1% of the respondents Very Poor. This means that the high rate of urban growth consequences on Road Network is poor.

Chi square determine the significant different between the Ward of the respondents and the effect of population Growth on available housing supply and Infrastructure facilities.

Table 4.25 Residential area against Car Parks

Ward or residential area	Car parks				Total
	Very Good	Good	Poor	Very Poor	
Sango Area	6	20	82	74	182

University Road	3	15	93	64	175
Total	9	35	175	138	357

Table 4.26 Chi- Square test for Address of Residential Area against Car Park

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.994[a]	3	.393
Likelihood Ratio	3.016	3	.389
Linear-by-Linear Association	.038	1	.846
N of Valid Cases	357		

From Table 4.27, the distributions of respondents based on their Address of Residential Area and car parks in the area are considered shows that there is no significant different (p-value = 0.393 is less than 0.05) in the Address of Residential Area and lack of car parks

Table 4.28 Chi- Square test for Address of Residential Area against the impact of crime activities

	Value	Df	Asymp. Sig. (2-

			sided)
Pearson Chi-Square	4.059[a]	3	.255
Likelihood Ratio	4.135	3	.247
Linear-by-Linear Association	.137	1	.711
N of Valid Cases	357		

From Table 4.29, the distributions of respondents based on their Address of Residential Area and refuse disposal in the area are considered shows that there is no significant different (p-value = 0.255 is less than 0.05) in the Address of Residential Area and availability of refuse disposal

Table 4.29 Residential area against Road Network

Ward or residential area	Good Road network				Total
	Very Good	Good	Poor	Very Poor	
Sango Area	12	47	78	45	182
University Road	12	51	71	41	175
Total	24	98	149	86	357

Table 4.30 Chi- Square test for Address of Residential Area against the impact of crime activities

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.541[a]	3	.910

Likelihood Ratio	.541	3	.910
Linear-by-Linear Association	.311	1	.577
N of Valid Cases	357		

From Table 4.31, the distributions of respondents based on their Address of Residential Area and good road network in the area are considered shows that there is no significant different (p-value = 0.910 is not less than 0.05) in the Address of Residential Area and availability good road network

4.4 Proffer Possible Solution to the Population Growth Effect on Housing Supply

Table 4.31 Relocation of the residents

Relocation of the residents of populated area by the government can contribute to less pressure on infrastructural facilities in my area.	Frequency	Percent
Strongly Agree	136	38.1
Agree	165	46.2
Disagree	45	12.6
Strongly Disagree	11	3.1
Total	357	100.0

Table 4.34 shows that 38.1% of the respondents Strongly Agree, 46.2% of the respondents Agree, 12.6% of the respondents Disagree and 3.1% of the respondents Strongly Disagree. This means that the majority of the respondents agreed that Relocation of the residents of populated area by the government can contribute to less pressure on infrastructural facilities in my area.

Table 4.32 Regular and proper refuse disposal

Regular and proper refuse disposal by the appropriate government parastatals can help improve the quality of sewage disposal site.	Frequency	Percent
Strongly Agree	85	23.8
Agree	239	66.9
Disagree	17	4.8
Strongly Disagree	16	4.5
Total	357	100.0

Table 4.35 shows that 23.8% of the respondents Strongly Agree, 66.9% of the respondents Agree, 4.8% of the respondents Disagree and 4.5% of the respondents Strongly Disagree. This means that the majority of the respondents agreed that Regular and proper refuse disposal by the appropriate government parastatals can help improve the quality of sewage disposal site.

Table 4.33 Provision of new infrastructural facilities

Provision of new infrastructural facilities such as water facilities, electricity, good roads, health facilities etc can help to reduce the pressure on old infrastructures in an area	Frequency	Percent
Strongly Agree	149	41.7
Agree	181	50.7
Disagree	20	5.6
Strongly Disagree	7	2.0
Total	357	100.0

Table 4.36 shows that 41.7% of the respondents Strongly Agree, 50.7% of the respondents, 5.6% of the respondents Disagree and 2.0% of the respondents

Strongly Disagree. This means that the majority of the respondents agreed that Provision of new infrastructural facilities such as water facilities, electricity, good roads, health facilities etc can help to reduce the pressure on old infrastructures in an area.

Table 4.34 Provision and enforcement of housing

Provision and enforcement of housing plan by the government can help in reducing urban growth effects on infrastructures in the area.	Frequency	Percent
Strongly Agree	100	28.0
Agree	211	59.1
Disagree	35	9.8
Strongly Disagree	11	3.1
Total	357	100.0

Table 4.37 shows that 28.0% of the respondents Strongly Agree, 59.1% of the respondents Agree, 9.8% of the respondents Disagree and 3.1% of the respondents Strongly Disagree. This means that the majority of the respondents Agreed that Provision and enforcement of housing plan by the government can help in reducing urban growth effects on infrastructures in my area.

Table 4.35 Provision of adequate security in urban growth area

Provision of adequate security in urban growth area can help to control the rate of destruction and vandalization of infrastructural facilities.	Frequency	Percent
Strongly Agree	143	40.1
Agree	153	42.9
Disagree	47	13.2

Strongly Disagree	14	3.9
Total	357	100.0

Table 4.38 shows that 40.1% of the respondents Strongly Agree, 42.9% of the respondents Agree, 13.2% of the respondents Disagree and 3.9% of the respondents Strongly Disagree. This means that the majority of the respondents Agreed that Provision of adequate security in urban growth area can help to control the rate of destruction and vandalization of infrastructural facilities.

Table 4.36 Enlightenment and awareness

Enlightenment and awareness of consequences of urban growth on infrastructural facilities can help to reduce the rate of migration in an area.	Frequency	Percent
Strongly Agree	95	26.6
Agree	175	49.0
Disagree	76	21.3
Strongly Disagree	11	3.1
Total	357	100.0

Table 4.39 shows that 26.6% of the respondents Strongly Agree, 49.0% of the respondents Agree, 21.3% of the respondents Disagree and 3.1% of the respondents Strongly Disagree. This means that the majority of the respondents Agreed that Enlightenment and awareness of consequences of urban growth on infrastructural facilities can help to reduce the rate of migration in an area.

4.5 Discussion of the result

Objective one of the research analyzed the trend and rate of urban growth and effect of population in Ilorin South between 2019 & 2023. The percentage of each category of land-use witnessed a great change most especially the built-up

category which increases steadily from 2019 to 2023. Similarly, the classification showed that Tarred surfaces increased from 0.10% in 2019 to 0.40% in 2023, Water body reduced from 4.1% in 2019 to 3.6% in 2023, Vegetation land reduced from 60.74% in 2019 to 58.1% in 2023 and Bare land reduced from 12.04% in 2019 to 9.2%. Built-up area is recorded the highest of change from 23.02% in 2019 to 28.7% in 2023.

Objective two of the research work analysis the effects of population growth on housing supply which field survey resulted that 89.25% of the questionnaires sent were returned from Sango Area and University Road respectively. The values of Cronbach's alpha for each construct of the questionnaire equals 0.725 which indicates an acceptable degree of reliability of the entire questionnaire, as supported by (George and Mallery, 2009). The result shows that respondents that reside in Sango Area had the highest percentage of response .Respondent's Sex shows female are more than male, ND/HND has the highest percentage education and the age category shows 30 - 39years as the highest age group. Most of the respondents are Self employed and marital status shows married as the highest status. The result shows that largely people who dominated the area have been staying in the area for greater than 20years.

Majority of the respondents Strongly Agreed that Urban growth influence population in an area and agreed that Urban growth causes improvement on infrastructural facilities such as roads, sewage disposals, hospital, schools, e.tc in an area. Respondents from the study area agreed that Urban growth has greater effect on adequacy of infrastructural facilities, Strongly agreed that Urban growth allows for availability and Maintenance of the infrastructural facilities and agreed that Urban growths influence the need for more and new infrastructural facilities and services.

From the result obtained, respondents Disagreed that Urban growth causes all the houses in the area to be properly planned, Disagreed that Adequacy of Infrastructure such as electricity, health services, good roads, pipe borne water

etc are properly provided in my area, disagreed that Proper planning in my ward is responsible for availability of more land for general developments, strongly disagreed that Urban growth rate is responsible for proper sewages and refuse disposal in my area and disagreed that The level of urban growth account for high standard of living in an area.

The state of utilization of infrastructure facilities in the study area

From the obtained result, Car Parks has been part of major problem in the study area. There is no proper Refuse Disposal, the road network is poor which has been causing traffic congestion in the study area.

The result show that, the distributions of respondents based on the purposive place in the study area and the infrastructure facilities that was put into consideration (car parks, refuse disposal, road network and pipe borne water) are considered shows that there is no significant different in the Address of Residential Area and the infrastructure facilities. This implies that the purposive ward can be said to have the same problem with the entry study area.

Objective three analyzed possible solution to the effect of population and Growth on house supply. The result obtained show that the majority of the respondents agreed that Relocation of the residents of populated area by the government can contribute to less pressure on housing supply in the area, respondents agreed that Regular and proper refuse disposal by the appropriate government parastatals can help improve the quality of sewage disposal site and respondents also agreed that Provision of new infrastructural facilities such as water facilities, electricity, good roads, health facilities etc can help to reduce the pressure on old infrastructures in an area.

The respondents also agreed that Provision and enforcement of housing plan by the government can help in reducing urban growth effects on housing supply in the area and Provision of adequate security can help to control the rate of destruction and vandalization of infrastructural facilities. Enlightenment and

awareness of consequences of urban growth on infrastructural facilities and Provision of adequate employment which can help in reducing migration to highly populated area that can affect available infrastructures are also part of the possible solution which the respondent has chosen.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Preamble

This research work demonstrates the ability of Remote Sensing, Geographical Information System (GIS) and Statistical techniques to assess Effect of population Growth on housing supply in Nigeria in Ilorin South Local Government Area. This is with a view to provide required information, especially about the state of development and the nature of changes that might have occurred. The information would be found useful in formulating effective environmental policies and management strategies. This chapter is to summarize the results of the research work, bring out the relevant Conclusions and Recommendations.

5.2 Summary

The aim of this study is to Assess Effect of population Growth on housing supply in Nigeria in Ilorin South Local Government Area with the objectives to analyze the trend and rate of population growth between 2019 &2023, examine the effect of population growth on housing supply and proffer possible solution to the consequence of Effect of population Growth on housing supply in Nigeria. Primary data through questionnaires administration was employed to obtain data on available housing supply, their state of utilization and challenges. Secondary data was obtained from the National Population Commission and Remotely Sensed data to Enumerate reports of the study area..

In determining the population growth, Remote Sensing technique was applied using the Idrisi Selva and ArcGIS software in image processing and analysis. The land sat satellite images were classified based on a classification scheme comprising, farmland, wasteland, built-up land, forestland, water bodies. The total questionnaire used was 400, which was administered to the purposive study area in order to examine the Effect of population Growth on housing supply in Ilorin and proffer solution to the effect of population Growth on housing supply in Nigeria. The consequence of this effect of population growth is that infrastructure facilities are grossly inadequate to cater for the population therefore that there is traffic congestion, improper refuge disposal, in adequate parking space and walk ways, poor ventilation for the houses, inadequate electric power supply and inadequate good quality domestic water supply.

5.3 Conclusions

This research work based on the results and the analysis done has clearly shown the extent to which Remote Sensing, Geographic Information System (GIS) and Statistical Techniques can be used as effective tools to assess Effect of population Growth on housing supply in Nigeria. Landuse pattern of Ilorin South Local Government Area showed phenomenal increase in the Built-up areas while the vegetation decreased. The increase in built up areas leads to the effect on

the available housing supply. The possible solution would equip urban/environmental planners with relevant data that would enable them to promptly curtail the adverse effects. Assessing and monitoring of population growth makes data of area up-to-date.

5.4 Recommendations

The following recommendations are proffered for the sustainable development of Ilorin south local government area on the available housing supply:

- There is urgent need for the Federal Capital Development Authority (FCDA) to embark on urban renewal of Ilorin South Local government Area.
- Adequate and Provision of new infrastructural facilities such as water facilities, electricity, good roads, sewage bins e.t.c should be provided for the residents. Mechanism for periodic review and upgrading should be put in place.
- Enlightenment and awareness of Effect of population Growth on housing supply in Ilorin can also be help to reduce the risk at which the housing supply were exposed to.
- Provision of adequate security in urban growth area to control the rate of destruction and vandalization of infrastructural facilities.
- Provision and enforcement of housing plan by the government can help in reducing urban Growth effects on housing supply in the area.
- Regular and proper refuse disposal by the appropriate Government Parastatals can help improve the quality of sewage disposal site.

References

Aderamo, J.A and Salau, K.A. (2021), Parking patterns and problems in developing
countries: A case from Ilorin, Nigeria.

Agbola , T. (2009), Reading on urban and regional planning. Published by Macmillan Nigeria
linked, Ibadan, Oyo State, Nigeria pp.179 .

American Statistics Association (ASA), (2019), introduction to research methods.
Measurement of scale for information analysis.

Anderson, B. (2017). A Land Use and Land Cover Classification System for Use with
Remote Sensor Data. Geological Survey Professional Paper No. 964, U.S. Government Printing Office, Washington, D.C. p. 28.

Andrew, B. (2019), The Effects of Urban Sprawl on Daily Life.

Cohen, L., Manion, L.,Morrison, K. (2020). Research Methods in Education. London & New
York: RoutledgeFalmer. Statistical analysis base on Cronbach's Alpha A rule of thumb.

Daniel, L.U (2014), Remote Sensing Land Use/Cover Change Detection; A comparison of
Landuse and Landcover Change Detection Methods. ASPRS-ACSM Annual Conference and FIG XXII Congress pg.2.

Eze, M.N. (2018), Geospatial Assessment and Monitoring of the Dynamics of Urban

Expansion of Ogbomoso, South-Western Nigeria.

Fox, B. (2019), Infrastructure Services in Developing Countries: Access Quality, Costs and

Policy Reform. World Bank Policy Research Working Paper 3468.

George, D. and Mallery, P., (2013). SPSS for window Step by Step. Fourth edition.

Reliability test of analytical statistic.

Gibson, P. and Power, C. (2020), Introductory remote sensing; Digital image processing and

application, Routledge: pp 92 – 112.

Gilbert, W.N; Aggrey D.M; and Martin, B.N. (2017), Effects of Population Growth on Urban

Infrastructure and Services: A Case of Eastleigh Neighborhood Nairobi, Kenya Journal of Anthropology & Archaeology 1(1); June 2017 pp. 41-56 Asoka, Thuo & Bunyasi American.

Igbokwe, A. (2019), Land cover mapping of large areas from satellites: status and research

priorities, International journal of remote sensing, 21(67), pp 1093–1114.

Igbokwe, A. (2018), Mapping and Monitoring of the Impact of Gully Erosion in South

Eastern Nigeria with Satellite Remote Sensing and Geographic Information System. International Archieves of photogrammetry,

Remote Sensing and Spatial Information Sciences. Vol. xxxvii, part B8, Beijing 2018, pp 865-871.

Ilorin Atlas. (2019). Information of Ilorin kwara State.

Ilorin East Local Government Area. http://www.kwarastate.gov.ng/ilorineast/contact.php.

Infrastructure, Online Compact Oxford English Dictionary, http://www.askoxford.com/concise_oed/infrastructure (accessed January 17, 2019).

Jack, H. (2020), Urban Land Economics Palgrave Macmillan, Fifth Edition pp 256-257.

Jensen, J. R. (2004), Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice-Hall Inc., Saddle River, USA.

Malcleod, R. and Congalton, R. (2018), A Quantitative Comparison of Change Detection Algorithms for Monitoring Eelgrase from Remotely Sensed Data. Photogrammetric Engineering and Remote Sensing, 64: 207 - 216.

Meyer, W.B. (1999), Past and Present Land-use and Land-cover in the U.S.A. Consequences. p.24-33. The Norwegian School of Economics and Business Administration, and the Norwegian Centre in Organization and Management (LOS).

National Population Commission Ilorin East LGA, Area office, Oke Oyi. (2014).

National Remote Sensing Agency, (NRSA). (2005), National Resources census: Department
of space, Govt. of India.

Nelson, A. (1995), Ezenagu, V.C. (2007), and Oriye, B (2009), Monitoring Urban Growth in
Developing Cities: A Case Study of Ilorin in Journal of the Nigerian Institute of Town Planners (NIIP) Vol. X1 P84.

Nontokozo, S.D and Sizwe, D.M. (2011), Effect Of Infrastructural Development On Land
Use And Cover Of Urban Areas In Swaziland; Case Of Mbabane City .

Olorunfemi, J.F. (1995), The growth of Ilorin: A documentation in Aerial photography.
Journal of Environmental International Vol. 11 pp509-514.

Oshikoya, A; Afolabi, O.O; and Odeyemi, C.A (1999): Urban Expansion Studies Using GIS
and RS Methods. Environ- link - Journal of the school of Environmental Studies; Federal Polytechnic, Ado-Ekiti.

Oyeleye, O.I. (2013), Challenges of Urbanization and Urban Growth in Nigeria. Integration
of geographic information systems and remote sensing,

Pradhan, R.P. (2017), Does infrastructure play role in urbanization: evidence from India.

Sunday, P.E. (2019), The challenges of rapid urbanization on sustainable development of
Nyanya, Federal Capital Territory, Abuja, Nigeria J. Appl. Sci. Environ. Manage. June 2019 Vol. 17 (2) 299-313.

Tiwari, D. (2016), Remote Sensing and GIS for efficient Urban Planning, GIS Development.

United Nations Population Funds (UNFPA) (2017), State of the World Population And
World Population Prospects. Unleashing the Potential of Urban Growth. http://web.unfpa.org/swp/2017/english/chapter_1 /urbanization.html.

Vincent, I.O and Gure, G.J. (2015), Rapid urban growth and its effects on infrastructure
facilities; Urban infrastructure development and sustainability in Nigeria. human settlement development vol.III.

Zubair, A.O. (2016), Change Detection in land use and land cover using Remote Sensing data
and GIS (a case study of Ilorin and its environs in Kwara State.), Department of geography.