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# URBANISATION PHYSIOGNOMIES IN BIDA, NIGER STATE, NIGERIA

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## Abstract

The process of urbanisation influences the physical appearance and visual characteristics of urban areas. Various aspects of urbanisation like economic growth and development from agriculture to diversified national economy attracts rural dwellers to urban areas in different countries. This leads to change in demographic structure, stretched urban spaces, shrinking cities and living standards improvement. Urban planning parameters of infrastructural facilities in the residential density areas of Bida were investigated for their urbanisation physiognomies. Inclusive city concept guided the study. Cluster sampling method was used to select wards for household's questionnaire administration due to the absence of neighbourhood population figure from the 2006 census. Bida local government area comprises fourteen political wards with distinct characteristics; of the core, the intermediate and the peripheral neighbourhoods. These represent high, medium and low housing density. One ward was randomly selected from each of these neighbourhoods to represent each density type in order to have a fair and equal representation. Masaba A was chosen in the core, Dokodza in the intermediate and Wadata in the peripheral neighbourhood. The result revealed that the city is clearly divided along building types and spacing. All the roads were fair. Individuals

**Keywords:**
Urbanisation, Inclusive city, Housing Density, Wards, Facility Provision.



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provided 82% of water facilities in Wadata ward, 36% of water facility was provided by the local government authority (LGA) in Dokodza ward while the LGA is solely responsible for the 76% of water provision in Masaba A. Waste were relatively managed by individual households in Wadata (84%) while there was discriminate dumping of refuse in both Dokodza (72%) and Masaba A (88%). Increased government intervention in waste management is an urgency in the LGA. Residents can also imbibe green culture by reducing the volume of solid waste generated using the three Rs'. Finally, there should be harmony between the three divided areas to allow for inclusive urbanisation.

## Introduction

Mankind has entered a new 'urban era', where the majority of the population lives in urban areas. There is no universally agreed definition of the term "urban" across countries of the world, and, thus, comparability of "urban areas" across countries and regions is not always straightforward (van Huijstee et al., 2018). This limitation as reported by the United Nations Department of Economic and Social Affairs classifies areas as urban in accordance to the criteria set by each country or territory (UNDESA, 2022). The criteria may be based on political or administrative features, structural and/or functional characteristics related to population density, and the size or functions that cities perform for their inhabitants (OECD & Sahel and West Africa Club, 2020). For instance, the classification of an area as urban area in term of population size vary from one country to another. An area is classified as urban or developed when it has a population size of 20,000 in Nigeria, but in Ghana, an urban area has 5,000 inhabitants. The U.S. Census Bureau for 2000 Census classified an area as urban when the core area has a population density of equal to or greater than 1000 people and the surrounding areas has population density of equal to or greater than 500 people per square mile (U.S. Census Bureau for 2000 Census).

Despite the lack of a single, global definition of the urban, in terms of population and physical size, the United Nations have used the official national census definitions of different countries to estimate how the proportion of population living in urban areas as defined by the individual countries have been changing over the years. The data shows considerable differences in the size of the world's urban agglomerations. It is estimated that nearly half of all urban dwellers reside in relatively small settlements of less than 500,000 inhabitants. While one in five of the urban population lives in settlements of one million populations or more, nearly one in eight reside in the world's 28 mega-cities of 10 million inhabitants or more (United Nations 2014).



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Globally, it is predicted that by 2050, about 66% of the developing world and 86% of the developed world will be urbanized (UNDESA, 2014; Washington DC, Department of Economic and Social Affairs; 2015). The predicted urban population growth is equivalent to approximately 3 billion urbanites by 2050, much of which will occur in Africa and Asia (UNFPA, 2020). The African continent was the least urbanised in the 1950s (Cohen, 2006), nevertheless by 2015, the percentage of the urban population nearly tripled from 14% to 40.4%. The World Bank account of 2022, likewise, validates the UNDESA, (2014) prediction. It gives the percentage of urban population of total areas in all countries of the world, out of these, Nigeria is 54%, Cameroon 59%, Kenya 29%, India 36%, Brazil 88%, Italy 72%, United Arab Emirates 88%, United Kingdom 84% and United States is 83% (World Bank Group, 2023).

**Aim**

To assess the urbanisation physiognomies in Bida's residential infrastructural facilities.

**Objectives**

The objectives are to: investigate the urban planning parameters of infrastructural facilities in the residential density areas of Bida; compare the level of involvement of the stakeholders in the provision and maintenance of the facilities and; emphasize the use of green space and the three 'Rs' of reduce, reuse, and recycle; the waste management hierarchy that helps cut down on what we throw away for a sustainable community.

**Research Problem**

Two hundred years ago, only about 3 per cent of the world's population lived in urban areas. The urban population rose to roughly 15 per cent by 1900, after a century of industrialisation. Currently, about 3.5 billion people, which is roughly half the world's population live in urban areas. The world's urban population is projected to almost triple over the next century, climaxing at nearly 10 billion people, approximately 85 per cent of a total population of between 11 and 12 billion (Fuller and Romer 2013).

However, there is a shortage of data on the vast majority of the world's cities. Research on cities is limited to the world's 30-odd megacities and the 600 cities that are driving international economic growth (Dobbs, Smit, Remes, Manyika, Roxburgh, and Restrepo 2011). While there are almost no data on roughly 3,400 cities with over 100,000 residents and other 50,000 cities and urban localities around the world. The dearth of data on these urban localities, of which Bida is one informed this study.

**Scope of the Study**

The scope of the study is limited to three residential neighbourhoods: Masaba A, Dokodza, and Wadata in Bida. The study examines the challenges and opportunities of



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infrastructure provisions in these neighbourhood. These include water facilities provision, road network, and solid waste generation. The findings from this study can apprise policy decisions and development initiatives aimed at improving infrastructure provision in similar communities, ultimately enhancing the quality of life for residents and promoting economic growth.

**Literature Review**

Urbanisation can simply be termed as the process, whereby settlements get bigger in terms of population size and physical extent relative to other settlements in a country or region (Acheampong, 2019). Tacoli, (2015) emphasises that urbanisation should be distinguished from urban growth, although, the two concepts are sometimes used interchangeably. Urbanisation is termed as the proportion of the total national population living in areas classified as urban, whereas urban growth strictly refers to the absolute number of people living in those areas (Tacoli, 2015). Cohen (2015) attests to the United Nations recent projection that nearly all global population growth from 2017 to 2030 will be in cities with about 1.1 billion new urbanites over the subsequent 10 years.

**The Urbanisation Process**

The processes of urbanisation through several aspects of urbanisation in different countries of the world, include economic growth and development from mainly agriculture to a more diversified national economy, which attract rural people to urban areas (Bai et al., 2014; Fan, 2022). This movement leads to city's demographic change, social transformation, reshaped and stretched urban spaces, shrinking cities and living standards improvement (Gu, 2019). However, the physiognomies of urbanisation in many cities like Bida include rapid and unplanned urban growth which results in poor infrastructural facilities location. These include inadequate housing and transportation, poor sanitation and waste management, and poor air quality. Bida is an important city in urbanisation because it was a major centre for commercial, transportation, political, and industrial activities in the trend of post-colonial civilisation, and it is still relevant in today's urbanisation.

Several scholars agree that the first cities were developed somewhere in ancient Mesopotamia, though there are disagreements about exactly place. Most of the early cities were small by today's standards, and the largest city around 100 CE was most likely Rome, with about 650,000 inhabitants (Chandler and Fox 1974). The factors limiting the size of ancient cities included inadequate sewage control, limited food supply, and immigration restrictions. For example, serfs were tied to the land, and transportation was limited and inefficient. However, the primary influence on cities' growth today is economic forces.



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In 1800, the only city in the world with a population of over 1 million was Beijing, but by 1900, there were 16 cities with a population of over 1 million (United Nations 2008). Nevertheless, from the mid-1670s to the early 1900s, London increased its population from 550,000 to 7 million (Old Bailey Proceedings Online, 2011). The development of factories during the industrial era resulted to influx of people from rural to urban areas and many places experienced a growth surge, new technology, increased transportation efficiency, food production, and food preservation. However, the growth in global urbanisation in the 20th and 21st centuries is following the trend of North American cities, but is quicker and at larger scales, especially in peripheral and semi-peripheral countries, Shanghai population size almost tripled within 21 years, from 7.8 million in 1990, to 20.2 million in 2011. It is projected to reach 28.4 million by 2025, it is third in size beside Tokyo with a population of 38.7 million and New Delhi with 32.9 million population size (United Nations, 2012).

The global urban population was 34% in 1960; and the number of people living in urban areas first exceeds the number living in rural areas around 2007 or 2008. However, by 2014, the urban population accounted for 54% of the total, and will continue to grow to 66% by 2050 as predicted (UNDESA, 2014). Shown in Figure 1 is the global urban population trend between 1950 and 2050.

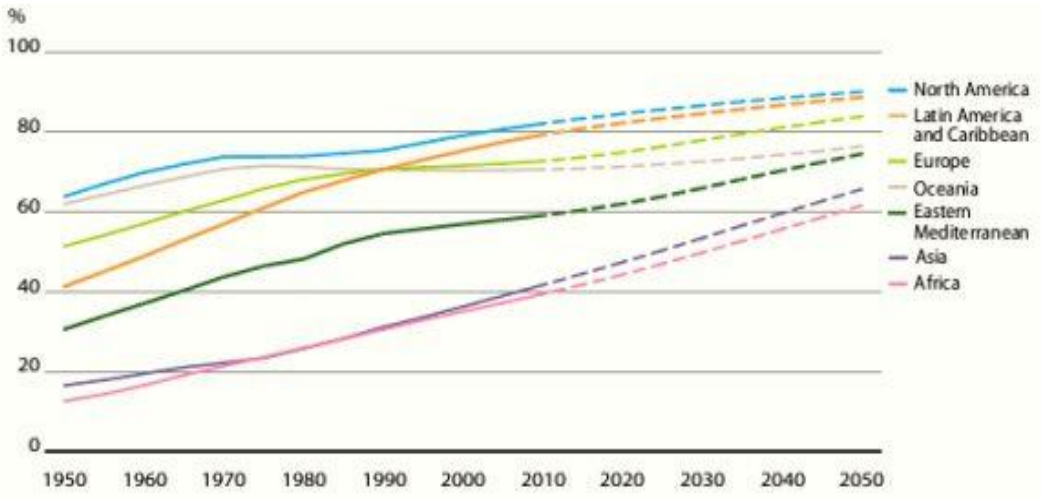



Fig. 1: Global urban population
Source: http://urban-age.net/cities/

The process of urbanisation affects all sizes of settlements, in a way that villages gradually grow to become small towns, smaller towns become larger towns, and large towns become cities. This trend has led to the growth of mega-cities. A mega-city is an urban



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area of more than ten million people. Rapid expansion of city borders, driven by increases in population and infrastructure development can swallow up neighbouring urban areas to form mega-cities. In 1970, there were only three mega-cities across the globe, but in the year 2000, the number had risen to 17 and by 2030, 24 more mega-cities will be added (UNDESA, 2014).

Some of the urbanisation indexes include population size to characterize population urbanisation, economic level to reflect economic urbanisation, and the area of construction land to describe land urbanisation. In other word, the living standards improvement is the result of economic development, population growth, and construction land expansion (Peng et al., 2016). Moreover, the variation in unit size will affect the urbanisation level, if it is quantified by gross quantity indicators. In order to remove this effect, the urbanisation indicator was processed to obtain a density value. For instance, the population density, measured in person per $km^2$, Gross Domestic Product density in (GDP)/ $km^2$, and construction land proportion were selected to quantify population urbanisation, economic urbanisation, and land urbanisation respectively. (Su et al., 2012; Wu et al., 2014; Wan et al., 2015).

There is no universal definition of what constitutes urban settlement, nevertheless, the criteria for classifying an area as urban may be based on one or a combination of characteristics, such as human population threshold, population density, proportion employed in non-agricultural sectors, presence of infrastructures such as paved roads, electricity, piped water or services, and presence of education and health services (Cohen, 2006). On the other hand, urbanisation denotes a process whereby a society changes from a rural to urban way of life or redistribution of populations to urban settlements associated with development and civilisation. For centuries, urban areas, which have major influence on the whole countries and regions have been centres and drivers of commercial, scientific, political and cultural life.

**History of Urbanisation in Nigeria**

Urbanisation has a long history in its growth and development in Nigeria. There were extensive urban developments that predate the British colonial administration, where many cities like Lagos, Ibadan, Kano, Sokoto, Calabar, and Port-Harcourt have existed for epochs before the advent of the European colonisation. For example, Lagos, one of the world's largest cities, grew as a colonial Nigeria's capital and leading port and it still remains the country's economic centre. Ibadan was also founded as a 19th century war camp and was the largest pre-colonial city in sub-Saharan Africa (SSA). This was because of its large rural-urban migration, and its economy, that was based on agriculture and trade. Similarly, Kano, the largest Hausa city in Northern Nigeria became prominent as a prosperous agricultural district (the groundnut pyramids) and as a major terminus of



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Trans-Sahara trade. Other important cities in Nigeria include Oyo, Abeokuta, Ife, Zaria, Katsina, Jos, Bida, Calabar, and Enugu. They are major centres for commercial, transportation, political, and industrial activities in today's urbanisation. The post-independence era led to Africanisation of public service and the expansion of parastatal and agencies, which resulted to a high rate of new employments in urban centres. Additionally, the 1970s and 1980s saw acceleration in other sectors like banking, construction, and tourism. More recently is the impact of globalisation and the free movement of peoples, goods, and services. Thus, post-independence migration into urban centres assumed torrent proportions (Cohen, 2006).

The pattern, trend, and characteristics of urbanization in Nigeria are also alarming. The pace of urbanisation in Nigeria's towns and cities shows extraordinarily high rates of 5%-10% per annum (Egunjobi, 1999). Consequently, there has been rapid expansion of Nigerian cities' area up to ten times their initial point of growth (Agbola & Agbola,1997) and the growth has been largely unplanned and uncontrolled (Olarenwaju. 2004; Washington, DC, 2006). Several studies have, similarly, shown that inadequate planning of urban land uses in Nigeria and great intensity of use has exacerbated urban problems (Egunjobi, Onakomaiya & Oyesiko, 2002; Washington, DC, 2006; Jiyah, 2024). This makes sustainable urban development an integral pillar of the 2030 Agenda for Sustainable Development, including the adoption of a specific goal dedicated to cities.

**The Drivers of Urbanisation**

Many parts of the world have rapidly urbanised since the second world war, with the urban share of the world's population rising from 30 percent in 1950 to 57 percent in 2021. It is projected to reach 68 percent by 2050 (UNDESA, 2022). In most regions, urbanisation has been largely driven by structural transformation, which entails an economic transformation from mainly agriculture to a more diversified national economy, thus, attracting rural people to urban areas (Christiaensen & Martin, 2018). The structural transformation of economies is characterised by improvements in productivity, especially of labour, and changes in the relative importance of sectors through the reallocation of production factors such as labour and capital (FAO, 2017). This entails four interrelated processes: i) a declining share of agriculture in gross domestic product (GDP) and employment, and a gradual shift of jobs from the primary agriculture sector to secondary and tertiary sector jobs, typically located in urban areas; ii) rural-to-urban migration; iii) the rise of a modern industrial and service economy; and iv) a demographic transition from high to low rates of births and deaths (Johnston & Kilby, 1975; Davis & Henderson, 2003; Timmer, 2009; Christiaensen & Martin, 2018).

As the relationship between agriculture and the rest of the economy changes, rural transformation occurs. The latter refers to the process of inclusive and sustainable



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improvements in rural livelihoods following rising productivity of (smallholder) agriculture, increasing marketable surpluses, rising off-farm employment opportunities in rural areas, better access to services and infrastructure also in rural areas, and the capacity to influence policy, embedded in national processes of economic growth and structural transformation (IFAD, 2016).

This process involves a strengthening of rural-urban linkages, which connect agriculture and other activities in the rural economy to the manufacturing and service sectors as they expand into urban centres (FAO, 2017). Growth in non-farm sectors and shifts in the labour force out of farming are then expected to gradually contribute to land consolidation and rising farm sizes. Improvements in agricultural productivity are a necessary condition for such a process to result in reductions in rural poverty and overall improvements in living standards.

Climate change and environmental degradation is another factor that may contribute to urbanisation. Generally, more people in the low-income rural regions have lower per capita income, since they depend on natural resources for their livelihoods. Majority of the labour force who engage in agriculture, forestry and fisheries fell down trees for lumbering, charcoal, and for farming activities and are, therefore, more vulnerable to climate change and environmental degradation (Mortreux, de Campos & Adger, 2018). If the agriculture, forestry, fisheries and land-use sectors are weakened from the effects of climate change and biodiversity loss, these populations may be compelled to migrate to urban areas in search of work (Afifi, 2011; FAO, IFAD, IOM & WFP, 2018; Muller et al., 2020). Evidence from sub-Saharan Africa shows that, between 1960 and 2000, nearly 50 percent of net migration (estimated at 5 million people) was due to changes in temperature and rainfall, which affected agricultural production and brought about a reduction in farm incomes and rural wages, thus spurring rural-to-urban movements (EUROSTAT, 2000).

Although, the urbanisation and city growth in developing countries (including Nigeria) are caused by a multitude of factors, inclusive of rural-urban migration, natural population increase and annexation, and expansion of neighborhoods. However, these factors are not mutually exclusive. It has been argued that because the rate of natural increase is lower in urban than rural areas, the main drivers of urbanization are rural-urban migration, expansion of urban areas through the process of annexation, and transformation of rural villages to small urban settlements. Thus, urbanisation has outpaced industrialisation. The drivers of urbanization are, therefore, industrialisation, globalisation, modernisation, marketisation, administrative / institutional power and the sociological process of rationalisation (Gries and Grundman, 2018; Gu. 2019).

In addition, the perception that cities offer greater opportunities in terms of education, employments, research, and even search for marriage partners are powerful "pull"



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factors while population pressure on land resources has been seen as the main "push" factors for rural-urban migration in Nigeria (UNICEF, 2001). Other important factors that influenced urbanisation in Nigeria include creation of new states and local government areas in 1989 and 1991, as well as new universities and colleges in virtually every state, and subsequent relocation of the new federal capital to Abuja. Finally, population dynamics during the periods of enumeration for the two Nigeria's population censuses (1991, 2006), due to differential migration and movements of population within and across states and even the international borders have contributed to urbanisation.

**Quantification of Urbanisation**

The common ways of quantifying urbanization are through population density, household density, percentages of different land use types like residential, commercial/industrial, agricultural, transportation, road density as well as total impervious area such as roads, parking lots and roofs (UN Environmental Protection Agency, 2023).

Recent significant advancements were made in developing a methodology for delineating urban and rural areas for international and regional statistical comparisons (United Nations, 2022 & UN Statistical Commission, 2022). This methodology was developed by a consortium of the European Union and international agencies including Organization for Economic Co-operation and Development (OECD), World Bank, FAO, United Nations Human Settlements Programme (UN-Habitat) and International Labour Organization (ILO). The methodology classifies the whole territory of a country across a rural-urban continuum by degree of urbanisation, based on its population size and density (European Commission, 2020). The UN Statistical Commission subsequently endorsed the Degree of Urbanisation (DEGURBA) in March 2020. The classification system is to ensure global comparability by using the same thresholds across the globe. This classification, comprises three classes of cities, towns and semi-dense areas, and rural areas as well as seven sub-classes for the rural and semi-dense areas, (European Union, FAO, UN-Habitat, OECD & World Bank. 2021).

**The Challenges of Urbanisation**

Challenges of urbanisation can be viewed as physical/environmental, health, economic, and social challenges.

The physical challenges of urbanisation are rapid and unplanned urban growth resulting in poor infrastructures such as inadequate housing, water and sanitation, transport and health care services and at the long run, urbanization drastically impact the quality of life in negative ways (Dutt et al., 2006; Sridhar and Mavrotas, 2021).

Urbanisation significantly impact health in the 21st century. Many of the 4.2 billion people living in cities (half of humanity) still suffer from inadequate housing and transport, poor



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sanitation and waste management, and bad air quality. Equally, other forms of pollution, soil contamination, urban heat islands, and a dearth of space for walking, cycling and active living also combine to make cities the centre of the non-communicable diseases, epidemic and drivers of climate change. As a result, urban areas are faced with triple health burden: infectious diseases like tuberculosis, HIV/AIDS, and diarrhoea; non-communicable diseases like heart disease, asthma, and depression; and violence and injuries, including road traffic injuries (WHO, 2021).

However, the theory that urbanisation goes hand in hand with economic growth and structural transformation does not hold for all countries and regions (Jedwab & Vollrath, 2015; Castells-Quintana & Wenban-Smith, 2020). This is because there is no one-to-one association between GDP per capita at purchasing power parity (PPP) and level of urbanization (measured by the share of the urban population). For instance, 91 percent of Jordan's population was urban in 2019, but the country's GDP per capita was relatively low at almost 10,000 PPP dollars per year. Nevertheless, 90 percent of Gabon's population was living in cities in 2019, but it's GDP per capita was around 15,000 PPP dollars per year (Castells-Quintana & Wenban-Smith, 2020).

Urbanisation without economic growth can be linked to poor rural living conditions, including poverty, lack of employment or underemployment, lack of infrastructure, lack of access to services and food insecurity, and/or environmental degradation (ScienceDirect, 2023; Adger et al., 2015; Selod & Shilpi, 2021). These conditions are particular with Southern Asia and sub-Saharan Africa; the two regions where structural transformation is lagging behind, as a result of the low productivity of subsistence agriculture and, the rapid rates of population growth (FAO, 2017). The sub-Saharan Africa had the highest rate of urbanisation in the world in the late 1990s, but has more poverty than is historically observed in other regions (Turok & McGranahan, 2013).

There is also an increasing occurrence of forced displacement from rural areas to urban areas, often as a result of disasters and/or conflict. Displaced populations are increasingly concentrating in cities; 61 percent of the 26 million refugees (UNHCR, 2019) and two out of three internally displaced persons, reside in urban areas in 2019 (UNHCR, 2020). This is currently the case in many rural areas in Nigeria, where the population are forced to flee their ancestral homes for cities or IDP camps because of Fulani terrorism.

**Methodology**

The research utilized both primary and secondary data sources to generate information. The research methodology encompasses various empirical activities, including reconnaissance surveys and questionnaires administration, to gather relevant data on the demographic, socioeconomic characteristics and perception of residents on the



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urbanization physiognomies of Bida. The secondary data were sourced from the internet, academic journals, textbooks, newspapers, and other credible materials.

Cluster sampling method was used in selecting neighbourhoods for household's questionnaire administration due to the absence of neighbourhood population figure from the 2006 census. Bida local government area comprises fourteen political neighbourhoods with distinct characteristics; of the core, the intermediate and the peripheral neighbourhoods. These represent high, medium and low housing density. One neighbourhood was randomly selected from each of these neighbourhoods to represent each density type in order to have a fair and equal representation. Masaba A was chosen in the core, Dokodza in the intermediate and Wadata in the peripheral neighbourhood. They represent the divided city along the line of residential infrastructural provisions. Subsequently, because the LGA population size is large for this study, at a limited time, 0.045% of the 2024 projected population of 334,757 (2024), with 5% margin of error and at confidence level of 95%, was chosen for sample size. The sample size of 150 was obtained. Thus, sample size of 50 were equally allotted to each of the three selected neighbourhoods. Questionnaires were then randomly administered to the households to investigate the planning parameters of road type, water facility provision and liquid and solid waste management in the neighbourhood. 100% of the questionnaires were retrieved, and the retrieved questionnaires were coded and analysed using SPSS and Microsoft excel. The results were presented in tables, frequency distributions, figures and average scores.

**The Study Area**

Bida, the study area is an important city in urbanisation history in Nigeria (Fig. 2). It was a centre of British colonial influence, the Europeans settled and established trade and indirect rule through the Emirate system, in the town. This is evident by a lot of buildings in government reservation areas. It has Educational institutions, research institute and federal medical centre. It is also a nodal town as it serves as an intersection of trade for farm produce from surrounding villages.

Masaba A neighbourhood is a vibrant and diverse community located in Bida Local Government Area (LGA), Niger State, Nigeria. Masaba A is situated in the heart of Bida LGA, approximately 15 kilometres from the city centre. The terrain is predominantly flat, with a mix of savannah and forest vegetation. It has a population of approximately 10,000 residents, from household population size with a diverse mix of ethnic groups, including the Nupe, Hausa, Gwari people and other indigenous tribes. The ward is predominantly rural, with a strong emphasis on residential, agriculture and trade.

Dokoza neighbourhood is located in Bida local government and it is one of the communities that has basic facilities in Bida local government, it has different facilities of



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which is the Federal Medical Centre (FMC). The estimated population for this community is set to be 2650 according to 2006 population census, doing the population projection to 2024 we have 4061 approximate population. These facilities enhance good living of the people living in the neighbourhood.

Wadata is a relatively small neighbourhood, divided by a major road. Wadata community is located en-route the Emir's palace. The neighbourhood pattern consists mainly of individual family compounds, each fenced and housing multiple structures.

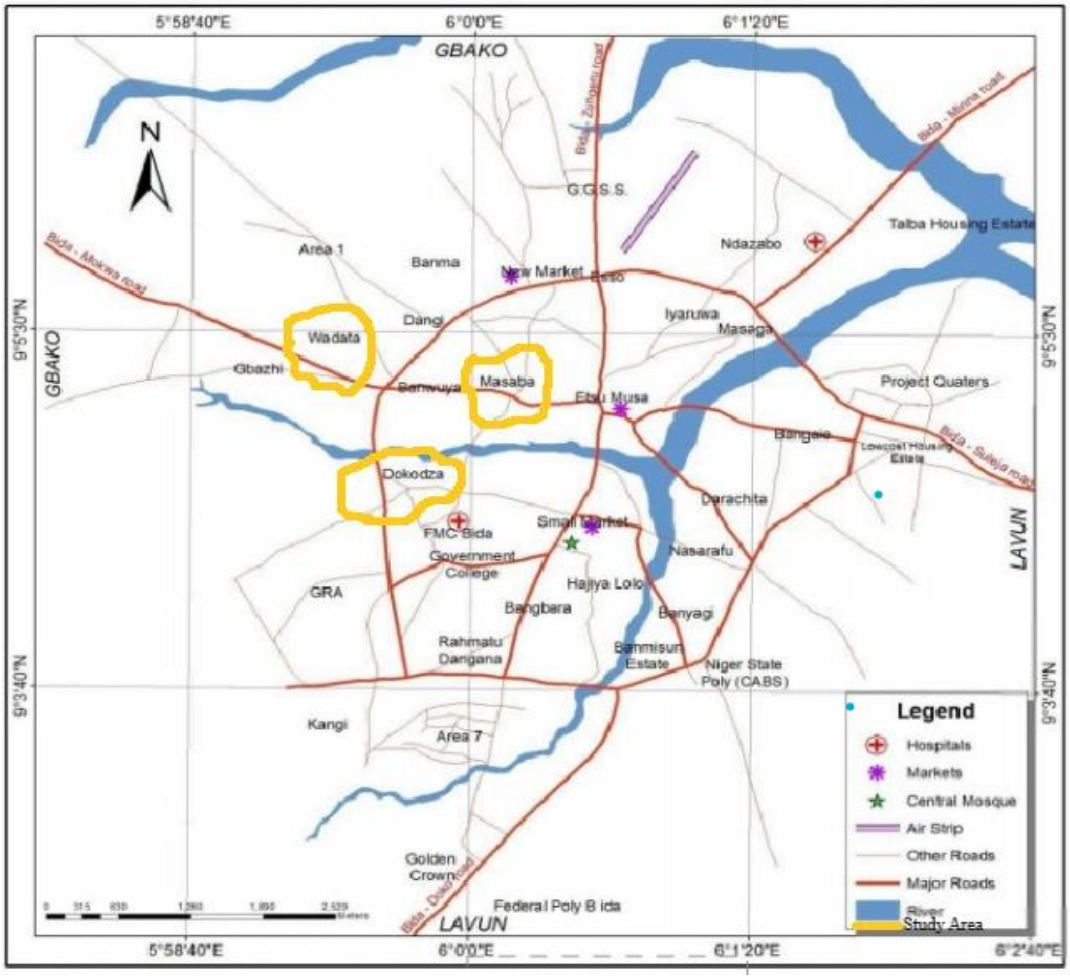



Figure 2: Map of Bida showing the three neighbourhoods under study
Source: Niger State Ministry of Lands and Housing, 2015,

**The Socio-Economic Profile**

The field survey in Table 1 revealed that male respondents in Dokodza was 76%, Masaba was 58% and Wadata was 42% while the female respondents were 24%, 42% and 48% respectively. However, the grand percent revealed a 58.7% of the total respondents in the



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three wards were male while 41.3% were female signifying that both genders are significant stakeholders and determinants of the urban physiognomy.

**Table 1. Socio-Economic Profile**

| | Masaba | | Dokodza | | Wadata | | Grand | |
|---|---|---|---|---|---|---|---|---|
| **Gender** | Variable | % | Variable | % | Variable | % | | % |
| **Male** | 29 | 58 | 38 | 76 | 21 | 42 | 88 | 58.7 |
| **Female** | 21 | 42 | 12 | 24 | 29 | 48 | 62 | 41.3 |
| **Total** | 50 | 100 | 50 | 100 | 50 | 100 | 150 | 100 |

Author's survey, 2024.

**Occupation of Respondents in the Residential Types**

The percentage of civil servants in Masaba neighbourhood as shown in Table 2 was 20%, Dokodza was 32% while 46% of Wadata respondents were civil servants. Craft dominated the Dokodza neighbourhood with 36% responses, while students with 38% were the major respondents in Masaba. This denotes the characterisation of urbanisation as stated by Cohen, (2006).

**Table 2: Occupation of Respondents in the Residential Types**

| Variable | Masaba | | Dokodza | | Wadata | |
|---|---|---|---|---|---|---|
| **Occupation** | **Variable** | **%** | **Variable** | **%** | **Variable** | **%** |
| **Civil servant** | 10 | 20 | 16 | 32 | 23 | 46 |
| **Craft workers** | 16 | 32 | 18 | 36 | 2 | 4 |
| **Self employed** | 5 | 10 | 5 | 10 | 15 | 30 |
| **Student** | 19 | 38 | 11 | 22 | 10 | 20 |
| **Total** | 50 | 100 | 50 | 100 | 50 | 100 |

Author's survey, 2024.

**Building Materials Used for Neighbourhood Houses**

The building materials used in construction in Masaba was 62% mud, Dokodza was 70% cement while Wadata was 82% cement houses as depicted in Figure 3. This affirms the traditional characteristic of Masaba neighbourhood. Most of the houses were fenced in Masaba A (88%), and they were adjoined to katamba, the traditional entrance to a compound in Bida. Shops were attached to many fences; the natives lease out the shops and they serve as source of income to them. Thus, normal setbacks were not observed at the core and the number of people per household exceed the standard 2 persons per room. Shown in Figure 4 is the percentage of fencing in the study area. 88% of the houses in Masaba A were fenced, 48% of buildings were fenced in Dokodza, while 66% of buildings



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in Wadata neighbourhood were fenced, this denotes the traditional setting of privacy of Katamba fence in the core area of the study area.

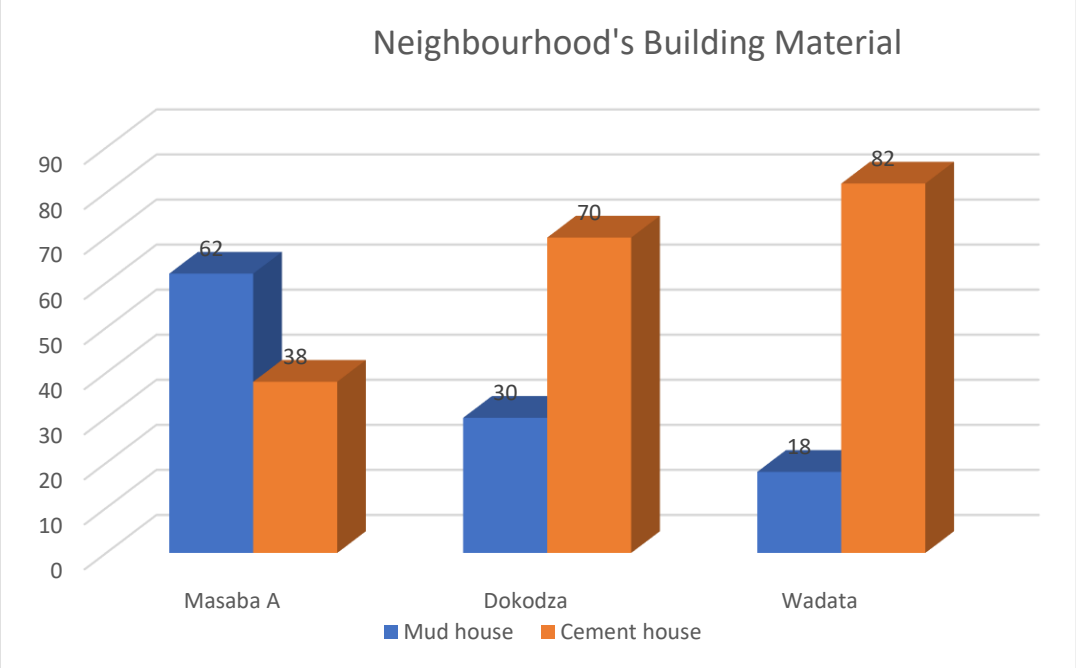



Fig. 3. Building Materials Used for Neighbourhood Houses
Author's survey, 2024.

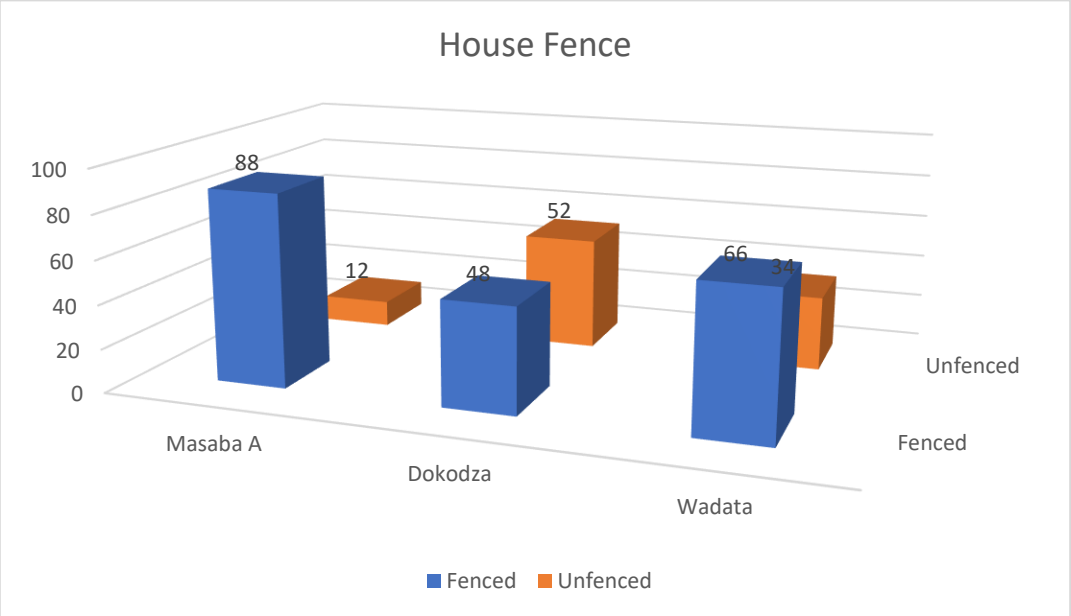



Fig. 4: Percentage of Fenced Buildings in the Study Area
Author's survey, 2024.



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**Types of Facilities by Neigbourhood**

The facilities provided by neigbourhood is shown in Table 3. Most households in Wadata relied on individual sources of water, such as private boreholes or wells. While the local government authority provided water to the Masaba and Dokodza neighbourhood. The result revealed that the 82% of water facilities were individually provided in Wadata, a representative of the low-density area. In the medium density area, the local government provided 36% of the water while individual houses dug borehole and give water to their neighbours at designated time, the local government is solely responsible to the 76% of water provision in the core area. These facilities are in form of constituency projects. The residents have to queue for the water supply.

The road networks of Dokodza, Masaba A and Wadata neighbourhood are respectively shown in Fig. 5. The impervious roads in Wadata and Dokodza quantify positive urbanisation as noted by UNEPA, (2023).

The toilet facilities dominant in the study area was the water closet. Pit latrine was mostly used by respondents in Masaba A (30%) and Dokodza (44%) however, where this was absent, the residents resorted to open defaecation. This can lead to communicable diseases as stated by WHO, (2021).

Street lights were mounted as consistency project in Masaba A (78%) and Dokodza (60%), this was, however, not available in Wadata neighbourhood, their security lights (22%) were provided by individual houses.

However, one of the physical challenges in the study area as posit by Dutt et al., (2006) and Sridhar & Mavrotas, (2021) was solid waste disposal. The solid waste disposal method in the community was poor and poses environmental and health concerns due to the absence of a coordinated waste management system. Solid waste disposal was relatively managed by individual households in Wadata area, where 84% of the respondents used waste bins or government waste collectors. There was discriminate open dumping of refuse in both Dokodza (72%) and Masaba A (88%); the middle and the core areas. A small percentage of 10% and 12% resulted into burning of their solid waste in Masaba A and Dokodza respectively.

**Table 3: Types of Facilities Provided by Neigbourhood**

| | Facilities | Masaba A Variable | % | Dokodza Variable | % | Wadata Variable | % |
|---|---|---|---|---|---|---|---|
| 1 | **Water Provision** | | | | | | |
| | Government | 38 | 76 | 32 | 64 | 9 | 18 |
| | Individual | 12 | 24 | 18 | 36 | 41 | 82 |
| | Total | 50 | 100 | 50 | 100 | 50 | 100 |
| 2 | **Road Type** | | | | | | |



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| | Facilities | Masaba A Variable | % | Dokodza Variable | % | Wadata Variable | % |
|---|---|---|---|---|---|---|---|
| | Primary | 6 | 12 | | | 49 | 98 |
| | Secondary | 24 | 48 | 3 | 6 | 1 | 2 |
| | Tertiary | 20 | 40 | 47 | 94 | | |
| | Total | 50 | 100 | 50 | 100 | | |
| 3 | **Solid Waste Disposal Method** | | | | | | |
| | Open dumping | 44 | 88 | 36 | 72 | 4 | 8 |
| | Waste Bin/collector | 1 | 2 | 8 | 16 | 42 | 84 |
| | Burning | 5 | 10 | 6 | 12 | 4 | 8 |
| | Total | 50 | 100 | 50 | 100 | 50 | 100 |
| 4 | **Street lights** | | | | | | |
| | Solar | 39 | 78 | 30 | 60 | 11 | 22 |
| | NEPA | 5 | 10 | 10 | 20 | 23 | 46 |
| | Solar/NEPA | - | - | 5 | 10 | 14 | 28 |
| | None | 6 | 12 | 5 | 10 | 2 | 4 |
| | Total | 50 | 100 | 50 | 100 | 50 | 100 |
| 5 | **Toilet Facilities** | | | | | | |
| | Open defecation | 8 | 16 | 11 | 22 | 3 | 6 |
| | Water closet (w) | 27 | 54 | 17 | 34 | 30 | 60 |
| | Pit latrine | 15 | 30 | 22 | 44 | 17 | 34 |
| | Total | 50 | 100 | 50 | 100 | 50 | 100 |

Author's survey, 2024.



Fig. 5. Road Type in the Study Area. Author's survey, 2024.



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**Government Intervention and Planning Activities at Grassroot Level**

Although, 48% of respondents in Masaba A and 56% in Dokodza neighbourhood shown in Table 4 felt the Government effort in infrastructure provision at the grass root level; 52% of the respondents in Masaba A and 74% of respondents in Wadata did not feel this impact aligning with the findings of ScienceDirect, 2023, Adger et al., (2015), and Selod & Shilpi, (2021). Wadata, Dokodza and Masaba A respondents felt planning intervention at the grass root level by 86%, 68%, and 64% respectively. Thus, all planning activities experienced in the study area were in the bottom-up hierarchy.

**Table 4: Government Intervention and Planning Activities at Grassroot Level**

| Variable | Neighbourhood | | | | | |
|---|---|---|---|---|---|---|
| | Masaba A | | Dokodza | | Wadata | |
| Government Effort at the Grass Root | Variable | % | Variable | % | Variable | % |
| Felt | 24 | 48 | 28 | 56 | 13 | 26 |
| Not felt | 26 | 52 | 22 | 44 | 37 | 74 |
| Total | 50 | 100 | 50 | 100 | 50 | 100 |
| Planning Activities | | | | | | |
| Yes | 32 | 64 | 34 | 68 | 43 | 86 |
| No | 18 | 36 | 16 | 32 | 7 | 14 |

Author's survey, 2024.

**Conclusion**

The study identified three divided neighbourhoods along facility provisions in the study area. Urbanisation physiognomies in the core area of Masaba A was large size and high density. There was heterogeneity of population in the middle Dokodza and the low density neighbourhood of Wadata. There was also social distance between neighbours in Wadata unlike Masaba A that enjoyed social cohesion. Most households in Wadata relied on personal sources of light and water. While the local government authority provided street light and water to the Masaba A and Dokodza neighbourhood. On the contrary, the solid waste management in Wadata A and Dokodza was very poor, while Wadata neighbourhood enjoyed regular collection of their solid waste because of easy access. Finally, a bottom- up approach was also used to coordinate planning activities in the study area.

**Recommendations**

Local implementation of the New Urban Agenda: planned city extensions and planned city infills must be maintained in the expansion of the study area. This will lower the costs of basic urban services, urban energy use and greenhouse gas emissions.



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Turning waste into wealth: residents can reduce the amount of solid waste generated by imbibing the green culture of reduce, recycling and reuse of material- a sustainable solid waste management strategy. Youth involvement in solid waste management by sorting the waste into grades for sale can truly turn the waste into wealth. Likewise, the local government can increase the number of trucks used in collecting solid waste, for a token, to create employment for truck drivers.

Avoid adopting one-size-fits-all approaches: there should be harmony between stakeholders for inclusive urbanisation. The facilities provision interventions should promote social inclusion that prioritize equity, and addresses the specific needs of the marginalized and vulnerable groups within the community, including women, youth, elderly, persons with disabilities, and ethnic minorities.

Collaboration with stakeholders: there should be regular transparent communication with community members and stakeholders, about the facilities and the feedback should be adapted to improve project strategies over time.

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