



RESEARCH REPORT

URBANISATION AND URBAN EXPANSION IN NIGERIA

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ACRONYMS

CBD	Central Business District
DFID	Department for International Development
DHS	Demographic and Health Survey
ECDA	Enugu Capital Development Authority
FCT	Federal Capital Territory
GDP	Gross Domestic Product
GIS	Geographic Information Systems
GRA	Government Reserve Area
GRUMP	Global Rural-Urban Mapping Project
LGAs	Local Government Areas
NBS	National Bureau of Statistics
NPC	National Population Commission
NUDP	National Urban Development Policy
OECD	Organisation for Economic Cooperation and Development
SAP	Structtural Adjustment Programme
UN	United Nations
UN-HABITAT	United Nations Human Settlements Programme
UK	United Kingdom
US	United States
URN	Urbanisation Research Nigeria

EXECUTIVE SUMMARY

Nigeria’s urban population has increased rapidly over the past 50 years and will continue to grow relatively fast in the coming decades, although *how* fast is a matter of some dispute. Nigeria’s urban population (the urbanisation rate is around 50 percent currently, with an overall population estimated at 170 million) will nonetheless likely double within the next 30 years, possibly much sooner.

The growth of Nigeria’s urban population in both absolute and relative terms has been accompanied by the expansion of existing built-up areas and the emergence of new and identifiably ‘urban’ settlements.

At the national scale, the most extensive urban spatial expansion has been concentrated around four massive urban fields:

- A Northern conurbation centred around Kano, which has a north-south axis running from Katsina to Zaria and an east-west axis running roughly from Funtua to Hadejia;
- An emergent Central conurbation running from Abuja in the south-west to Jos in the north-east;
- A South-Western conurbation stretching from Lagos in the south to Ilorin in the north to Akure in the east;
- A South-Eastern conurbation within a roughly square zone encompassing Benin City, Port Harcourt, Calabar and Enugu.

The underlying cause of rapid urban population growth and urban expansion in Nigeria is rapid population growth driven by declining mortality and persistently high fertility: urban natural increase plays a significant (and possibly dominant) role in driving urban population growth.

While rural-urban migration also contributes to urban growth, the significance of urban natural increase and reclassification due to rural densification have been widely underappreciated while the role of rural-urban migration has likely been overstated in Nigeria, and indeed sub-Saharan Africa (SSA) more generally.

There has in fact been a huge increase in reclassified (‘rural’ to ‘urban’) settlements (on different definitions, of above 10,000, and above 20,000 inhabitants). These ‘emerging’ towns and cities generally have lower building and population densities than older, established urban settlements with accumulated trunk infrastructure, and may therefore contribute significantly to urban expansion, alongside the ongoing enlargement of existing urban boundaries.

While rural-urban migration is probably not the main contributor to overall urban population growth in Nigeria, it nevertheless continues to play an important role in urbanisation (defined narrowly as the urban proportion of total population).

Nigeria also exhibits very different regional dynamics: fertility rates are highest in northern areas where rural-urban migration propensities are

apparently lowest, while fertility is considerably lower in the southern regions where rural-urban migration propensities are apparently higher.

A major issue is the availability of accurate population and demographic data. This is of the most importance, as it is accurate population projections that in turn will allow undertaking realistic projections of urban land needs. These two elements are intertwined, and the latter cannot not be derived accurately without the former.

Rapid urban population growth in Nigeria has also had a major impact on the structure of cities throughout the country. Due to the absorption of new population, the expansion of land cover and the appearance of new districts, the morphology of Nigerian cities has changed.

Contemporary urban settlements in the country are complex and dynamic entities marked by the – frequently unguided and unordered – assemblage of the traditional core city and its residential, commercial and industrial zones with numerous new, typically suburban or peripheral areas, which arise in a wide array of configurations and social realities, and which contain a extensive range of economic functions and social activities.

Contemporary Nigerian urban settlements are further also characterised by a decentralisation of both population and economic activity emplaced within low density metropolitan areas. This emerges as a specific urban landscape characteristic of Nigerian urbanism, which should inform the development of frameworks for strategic spatial planning in the country.

At the same time, associated with strong demographic pressures and rapid urban growth, the materialisation of a new scale of urbanisation in Nigeria can be observed. This refers to the appearance of strongly interdependent urban/metropolitan regions consolidated through a polynucleated structure and which stretch way beyond a single urbanised entity. Urban corridors or fields developing in Lagos-Ibadan, Abuja FCT and its satellite towns, Kano-Katsina-Maradi or Awka-Onitsha-Nnewi are clear illustrations of this.

Urban expansion concentrates on the periphery. As land cover expands, the urban edge is in constant redefinition. This frequently redefines urban boundaries, and what is categorised as ‘urban’ and ‘rural’, which creates complicated linkages between urban change, spatial expansion and urban governance. The emerging reality is that there is a mismatch between the extent of the land cover occupied by the built fabric, and the existing administrative and institutional boundaries of Nigerian municipalities. Urban expansion is frequently not constrained within municipal limits but often overlaps or spills over between various Local Government Areas (LGAs) or even federal states.

Due to their constitutional roles and powers, state governments thus emerge as key actors in the strategic spatial planning processes required to address the dynamics of current Nigerian urbanisation and urban expansion.

INTRODUCTION

This report acts as a ‘baseline’ for the Urban Change Processes theme of the Urbanisation Research Nigeria (URN) programme – and thus as a foundation for later, targeted and more detailed research in the years 2015 to 2017.

The report analyses urbanisation and urban expansion in Nigeria. In portraying the dynamics and drivers of urban population growth and the spatial expansion process, it presents an integrated analysis incorporating:

- An overview of the spatial-demographic dynamics of Nigeria’s urban transition. While the information available is at times problematic and ambiguous, by combining and summarising data from multiple sources, credible facts are identified on the dynamics of the urban transition. The analysis points to an expected persistence in rapid urbanisation, urban population growth and urban expansion.
- An understanding of the dynamics of spatial expansion and the physical configuration – or urban structure – of Nigerian cities. As the country’s cities have expanded in terms of land cover, their physical organisation has been transformed. Through a historical overview of the evolution of urban structures and the linkages with demographic changes, spatial patterns characteristic of contemporary Nigerian urbanism are identified.
- An understanding of how existing public policy addresses emerging issues and challenges. It is intended that the findings and conclusions established in this report could advance the development of strategic spatial planning in Nigeria. Subsequent research projects within the URN programme will expand on the existing knowledge base to further support this intention.

NIGERIA'S URBAN TRANSITION: MEASUREMENT, TRENDS AND DRIVERS

In this section we provide an overview of the spatial-demographic dynamics of Nigeria's urban transition. We begin by defining the key trends, the various sources of data that can be used to identify trends and the problematic politics of population statistics in Nigeria. This is followed by a summary of stylised facts and an analysis of key drivers.

Definitions, measurement and data politics

In studying urban change processes it is useful to disaggregate the generalised concept of 'urbanisation' into four distinct spatial-demographic phenomena of interest: urbanisation, urban growth, urban expansion and urban system.

The term 'urbanisation' is used here to refer specifically to an increase in the *proportion of a country or region's population residing in urban settlements*, while 'urban growth' refers to an increase in the *absolute size of a country or region's urban population*. These terms are often confused in both academic and policy circles, but it is important to recognise the difference between them, particularly in the context of sub-Saharan Africa (SSA) where urban population growth rates are generally high but overall urbanisation rates relatively low. This has important policy implications which will be discussed following the analysis of drivers below.

We use the term 'urban expansion' in this report to indicate the spatial or physical enlargement of built-up areas. This generally accompanies urban growth, but the dynamics of urban expansion also depend upon the nature of physical developments and the population densities they promote. It is possible, for example, for a city to experience urban growth without expansion if this growth is absorbed within existing settlement boundaries. Conversely, expansion can occur without growth where new developments are created to facilitate lower population densities for an existing community.

'Urban structure' is the arrangement of land use in urban areas. As noted above, it is closely related to urban expansion, as the physical configuration of a settlement influences its population density, with the amount of land required varying for different activities.

The phrase 'urban system' is used here to characterise the distribution of urban populations across settlements within a national territory. A country is considered to have a highly 'concentrated' or 'primate' urban system when a large, single city dominates the distribution (i.e., it is significantly

more than twice the size of the second largest city in the territory). Classic examples of concentrated or primate urban systems include the United Kingdom and France,¹ while countries such as Germany and the United States exhibit more evenly distributed settlement patterns.

Finally, what constitutes an ‘urban’ area is conceptually and practically ambiguous. Broadly speaking, urban settlements are defined as demographically large, relatively densely populated, built-up areas. In practice, countries classify settlements for enumeration purposes using a variety of criteria—there is no universal standard. Considerations include population size, density, administrative status and employment composition, amongst others.

These differences complicate direct comparisons between countries (Satterthwaite 2007) but are ultimately of marginal statistical significance when assessing broad trends (Fox 2014). In Nigeria, a settlement is generally classified as urban if it comprises 20,000 people or more, which is a relatively high minimum population threshold compared to many other countries. We use a variety of data sources in the analysis presented here and note the differences in the underlying definition of ‘urban’ where significant.

With regard to monitoring urban change processes there are essentially three fundamental sources of quantitative data on urban population and urban settlement characteristics: population censuses; household surveys; and satellite imagery. All credible published estimates and projections can generally be traced back to one or more of these sources.

Census data has historically been considered to be the ‘gold standard’ of demographic sources. In principle, census exercises provide a relatively fine-grained statistical portrait of the socio-economic and demographic characteristics of a population on a periodic basis, usually every 10 years. This facilitates effective public policy planning and implementation. In practice, censuses in Africa vary considerably in frequency, coverage and quality.

Census data is also a key source underpinning the widely used United Nations demographic statistics. Where census data are limited or unavailable, other data are employed to inform models which are used to interpolate figures for incomplete series and project population counts into the future. For example, in sub-Saharan Africa many published estimates are based on a combination of available census data and data from sample surveys conducted by independent agencies which contain information useful for modelling population dynamics (such as fertility and mortality rates).

In the case of Nigeria, the most recent urban population estimates from the UN (published in 2014) have been derived from the 1963, 1991 and 2006 censuses, as well as a variety of household surveys including the Demographic Health Survey (DHS) and the Multiple Indicator Cluster Survey (MICS) (UN 2014). According to the UN methodology, and following

¹ Uganda and Ethiopia are relevant African examples.

the convention in Nigeria, settlements with a population of 20,000 or more are classified as urban. All state capitals are included.

Critics of the UN data point out that the published data series appear misleadingly complete and apparently comparable when in fact the quality of the data underpinning them varies wildly and national statistics agencies use very different definitions when classifying populations as 'rural' or 'urban' (Cohen 2004; Satterthwaite 2007). Nevertheless, UN statistics represent the best efforts of professional demographers to estimate and project national and sub-national population trends with available data and are certainly useful in identifying trends over time.

While UN figures are useful at the macro (i.e. national) level, margins of error increase significantly when it comes to estimates of individual settlements, where urban boundary definitions and the quality of underlying census data make a significant difference. For example, according to the latest UN figures the population of Lagos is roughly 13 million (UN 2014); according to the Lagos State Government (based upon an independently conducted parallel census in 2006) it is closer to 21 million today. There is, perhaps surprisingly, no consensus on the actual size of one of Africa's largest urban settlements (see Box 1).

Box 1. How many people live in Lagos?

Lagos is widely believed to be the largest city in Africa. Yet, as seen above, there is no consensus on just how big the city is today. This is due in part to the absence of reliable data. The following anecdote from the World Bank's Senior Urban Specialist Uwe Deichmann illustrates just how tenuous population estimates can be in Nigeria (and indeed other countries in Africa):

The journal West Africa published a short news item that the population of Lagos was five million. I wrote to them for the source, suspecting that Bob Morgan and Ransome Kuti had completed their demographic survey of the city and had multiplied the inverse of the sampling fraction to obtain its population. But, West Africa wrote back that one of its correspondents had been told this figure by Peg Peil (i.e. Professor Margaret Peil) then at the University of Birmingham's West African Centre. Thereupon I wrote to Peg who replied to say that she had been told that figure by Bob Morgan when he was visiting Britain. Thus, concluding that my first surmise was correct, I wrote to Bob for affirmation and congratulated him on the completion of the survey. He wrote back saying that the survey was not complete and forecast correctly that it would never be completed, but added the following:

"You remember...that I picked you up... at Lagos airport nine months ago. Your flight path had come in over the full length of Lagos and you remarked to me that the city had grown greatly and now looked as if it might have five million inhabitants. I knew that you had flown over many cities and knew the populations of many of them, so I thought that this was the best estimate Nigeria was likely to have. I have subsequently employed it when people have asked me the question."

Since the population census of 2006, the controversy around Lagos’s true population has been stoked by conflicting estimates by the federal government’s National Population Commission (NPC), which conducted the census, and the Lagos State Government, which conducted a parallel one in the same year. The NPC estimate was 9.8 million; the Lagos State Government estimate was 17.5 million. The origins of this significant discrepancy are not clear. However, it may result from differences in where the boundaries are drawn.

An independent estimate produced by Thomas Brinkhoff indicates a population of roughly 16 million in 2006. This figure represents the sum of the populations of Local Government Areas that comprise the metropolitan area of Lagos drawing on the official 2006 census data. The fact that this estimate is close to that of the Lagos State Government one, despite drawing on NPC data, suggests that the ‘official’ estimate of 9.8 million may reflect a more conservative definition of the boundaries of the city.

Sources: [African Population Database Documentation](#) and www.citypopulation.de

The most recent innovation in monitoring urban change, which ultimately may help resolve such disputes, has come in the form of geospatial datasets comprised of satellite imagery and census data. Proponents claim that satellite imagery of built-up areas *“is a more precise, consistent and comparable definition of an urban area than notions such as population thresholds or administrative boundaries”* (Linard, Tatem and Gilbert 2013, 23). The most notable examples include the Global Rural-Urban Mapping Project (GRUMP), the Atlas of Urban Expansion, the WorldPop project and Africapolis.

These datasets are particularly useful for monitoring urban expansion by providing information on land cover changes gleaned from satellite images. For example, the GRUMP dataset draws on composite images of night-time lights on cloudless nights taken by US Defense Department meteorological satellites; WorldPop employs land cover data from the European Space Agency’s Globcover project; and Africapolis relies primarily on Google Earth images supplemented with those available from the US Geological Survey. In each case, the visual information from satellites has been processed to distinguish between built-up (i.e. urban) areas and natural landscapes, resulting in an estimate of the land area covered by human settlements.

The datasets can also be used to cross-validate population estimates where habitation densities can be accurately calculated. However, it is important to note that population estimates drawn from geospatial datasets are ultimately informed by census data. While land cover data can help to refine estimates of urban population size (e.g. reveal gross discrepancies between reported and actual habitation densities), they should not be interpreted as wholly independent sources of population data given that they rely on census data and projections for population counts. Without this, satellite imagery alone can be misleading. For example, night-time lights data can significantly underestimate population size and density in areas lacking energy infrastructure.

In summary, there are a variety of sources we can draw upon to assess patterns of urban change, but there are inherent difficulties in sub-Saharan Africa due to the paucity of reliable census data and the current limitations of satellite imagery. In Nigeria, a patchy record of data collection has been compounded by politically motivated manipulation of population statistics.

The politics of population data in Nigeria is directly linked to the way in which this data is used to determine the allocation of fiscal resources in the country and the tenuous political settlement that binds together an ethnically diverse and religiously polarised society (Robinson 2012). These factors provide strong incentives for local officials to inflate the apparent size of their communities at state level, by ethnic group and even by religion (Population Council 2007).

As a result of the propensity for over-counting in the country, the quality of census data is not considered to be very good. The first post-independence census in 1963 is widely considered to be a product of political negotiation between states rather than an accurate count; the results of a subsequent census in 1973 were suppressed (ibid). The next census held in 1991 was held to be credible by some (Population Council 2007) but was disputed (Africapolis, 2008), as was the most recent in 2006; both excluded questions about ethnicity and religion (ibid).

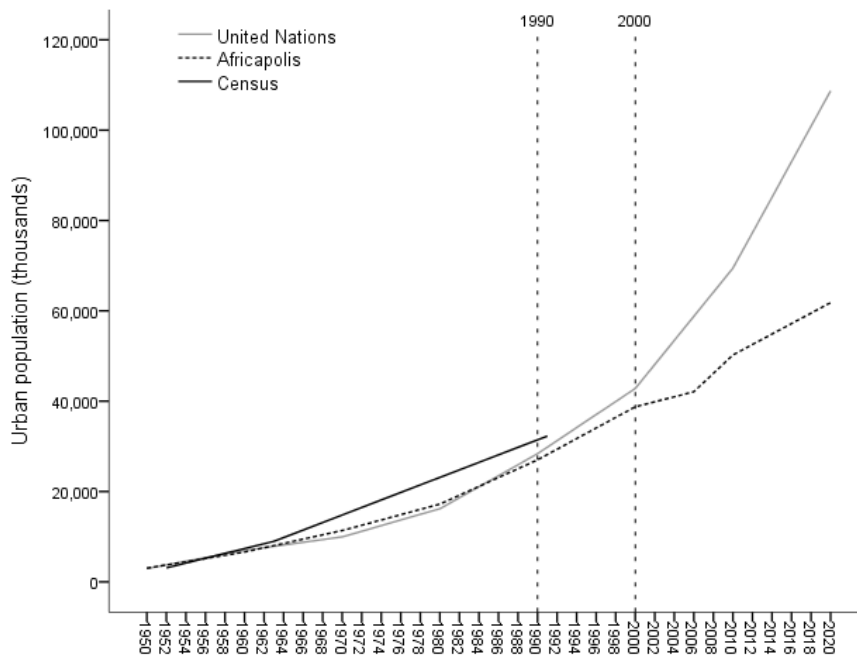
Urban change in Nigeria: some stylised facts

Overall, then, the data available on urban populations in Nigeria is patchy and problematic. Nevertheless, by combining information from multiple sources we can still identify some credible facts concerning the dynamics of Nigeria’s urban transition.

Urban growth and urbanisation

Nigeria’s urban population has expanded rapidly over the past 50 years and will continue to grow relatively fast in the coming decades, although *how* fast is a matter of some dispute. Figure 1 summarises urban population trends from three data sources: available censuses (1952, 1963, 1991), the United Nations (which incorporates data from the 2006 census) and Africapolis, which combines census data with geospatial analysis.

Figure 1. Urban growth in Nigeria, 1950-2020



Source: Author's calculations using Copyright © United Nations, 2014 & Agence Française de Développement, 2009 data. The CC license does not apply to this figure.

All three sources show a 10-fold increase in the size of Nigeria's urban population between 1950 and 1990 (from around 3 million to roughly 30 million). The 2006 census estimate of the nation's urban population is not publicly available, but the UN and Africapolis figures (both of which cite the 2006 census) suggest that the urban population reached about 40 million by the year 2000. An alternative estimate from the Atlas of Urban Expansion project, which uses a rather high minimum population threshold of 100,000, indicates an urban population of 33.4 million in 2000.

After 2000 estimates diverge significantly. According to the UN, Nigeria's urban population reached 69 million by 2010 while the Africapolis estimate is only 50 million. By 2020 the UN projects an urban population of 108.7 million while the Africapolis project is just 61.8 million. These divergent projections reflect significant differences in the assumed rate of urban growth, with the UN anticipating a rate of roughly 4.3 percent and Africapolis expecting something closer to 2.1 percent. In the first case, the urban population would be expected to double in roughly 17 years; under the second scenario doubling would take roughly 35 years. Either way, the absolute size of Nigeria's urban population is clearly expected to continue to grow rapidly in the coming years.

It should also be noted that the Africapolis team estimates that the number of settlements with 10,000 persons or more grew from 133 in 1960 to 438 in 2000 and is expected to reach 574 by 2020. In other words, urban growth in Nigeria is not simply a matter of population growth in existing settlements; it also involves the emergence of hundreds of new areas with urban population densities (see Table 1).

Table 1. Number of urban settlements,² 1960-2020

	Africapolis
1960	133
1980	253
2000	438
2020	574

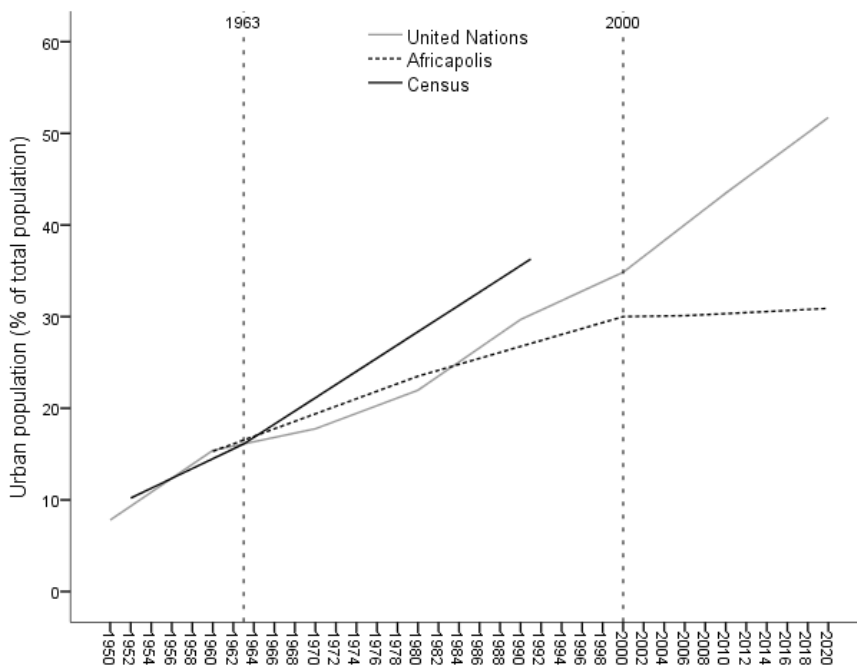
Source: Copyright © Agence Française de Développement, 2009. The CC license does not apply to this table.

There is somewhat more ambiguity with regard to past estimates and future projections of urbanisation—i.e. the percentage of the total population of Nigeria residing in urban settlements. As Figure 2 illustrates, the same three sources agree that the level of urbanisation in 1960 was about 15-16 percent despite the fact that Africapolis uses a lower threshold definition of urban (10,000) than the national and UN agencies (20,000). From 1963, estimates diverge significantly.

By 1990, which is the last year for which comparable estimates from all three sources are available, the census results indicate that 36 percent of the population was urbanised; the UN estimate is closer to 30 percent and the Africapolis data suggests a level of around 27 percent. The latest UN projections anticipate that over 50 percent of Nigeria’s population will live in urban areas by 2020, while Africapolis forecasts a levelling off, with the percentage of the nation’s population residing in urban areas stabilising at just over 30 percent.

² A settlement is defined by Africapolis as urban if it contains 10,000 persons or more. There are currently 774 LGAs in Nigeria.

Figure 2. Urbanisation in Nigeria, 1950-2020



Source: Author's calculations using Copyright © United Nations, 2014 & Agence Française de Développement, 2009 data. The CC license does not apply to this figure.

This latter forecast reveals the assumptions underpinning lower urban growth projections in the Africapolis models. In sum, Africapolis projections assume a significant deceleration of natural increase in urban areas counterbalanced by more persistent rural population growth and a very moderate rate of rural-urban migration, ultimately resulting in equivalent rates of population increase in rural and urban areas. As discussed below, this is an unlikely scenario. Consequently, Africapolis projections should be treated with caution.

Historical context of the Nigerian urban system

Prior to the penetration of European powers in the second half of the 19th and the early 20th centuries, the urban system had been developing since the early mediaeval period (circa 7th Century) and was particularly evident in the north of the country (Mabogunje 1965). This system was oriented around trans-Saharan trade. The Hausa States and the Kanem Empire, centred on Borno, were part of a trade network stretching across the Sudan region northwards to the ports of North Africa and on to Europe. Urban settlements also developed in the south-western Yoruba part of the country at around the same time. These towns developed originally as a result of Yoruba colonisation, rather as a consequence of long distance trade, but soon became trading centres themselves (Mabogunje, 1965). The colonial period transformed the urban system by changing the pattern of distribution of towns in the country (Fourchard, 2003). New towns emerged as administrative headquarters (such as Kaduna and Nsukka), while others were fostered as industrial centres (Jos and Enugu for instance).

This was particularly visible in the southeast of the country. Previous to British rule, urbanisation tended to concentrate in the north and southwest, and the southeast had a predominant rural character (Abumere, 1994). The colonial powers encouraged the urbanisation of southeastern Nigeria, through the creation of four major cities for the processing and export of raw materials: Port Harcourt, Aba, Enugu and Owerri.

The 1917 Township Ordinance established three categories of cities: first, second and third class. While the rationale for the classification remains ambiguous (population size and the traditional size of the towns do not emerge as determining factors), evidence indicates that proximity to the coast or to coastal ports, the role played in the processing and collecting of raw materials, as well as the contribution to export trade were all essential. Lagos was the only city identified as a first class town, with 18 classified as second-class towns and 50 as third-class towns, mostly located in the south (ibid).

The classification led to an uneven distribution of amenities and infrastructure. Cities in the south, close to the coast, ports and railway lines were privileged at the expense of northern cities, leading the latter to decline. This process created unequal development between urban areas in the north and the south of the country, which is still highly visible today.

The changes in the post-independence urban landscape were linked with administrative transformations. At the dawn of independence, there were three regions, Northern, Western and Eastern, with capitals at Kaduna, Ibadan and Enugu respectively, and with Lagos as Federal capital. In 1963, a fourth, Midwestern region (with Benin City as capital) was added. The number of states increased – to 12 in 1967 and 19 in 1976 – and with them the number of state capitals. There are presently 36 states, as well as the Abuja Federal Capital Territory (FCT).

Urban expansion and the evolution of the contemporary urban system

The growth of Nigeria’s urban population in both absolute and relative terms has naturally been accompanied by the expansion of existing built-up areas and, as noted above, the emergence of new identifiably ‘urban’ settlements. Overall, the physical expansion of built-up areas is expected to continue in the coming decades, although there is considerable uncertainty about how much expansion will take place. The key variables are population growth and, critically, population density.

As Table 2 shows, an estimated 464,192 hectares of land was covered by large urban settlements in 2000. Assuming that urban population densities remain constant, urban land cover is expected to triple by 2030; assuming a 2 percent decline in urban population density as urban population grows, urban land cover is forecasted to grow five-fold, reaching roughly 2.3 million hectares. It is impossible to predict how population densities will change, but in general rates of urban expansion have exceeded rates of urban population growth in West Africa (Angel 2012). If this precedent holds, it is likely that population densities will decline somewhat resulting in greater physical expansion.

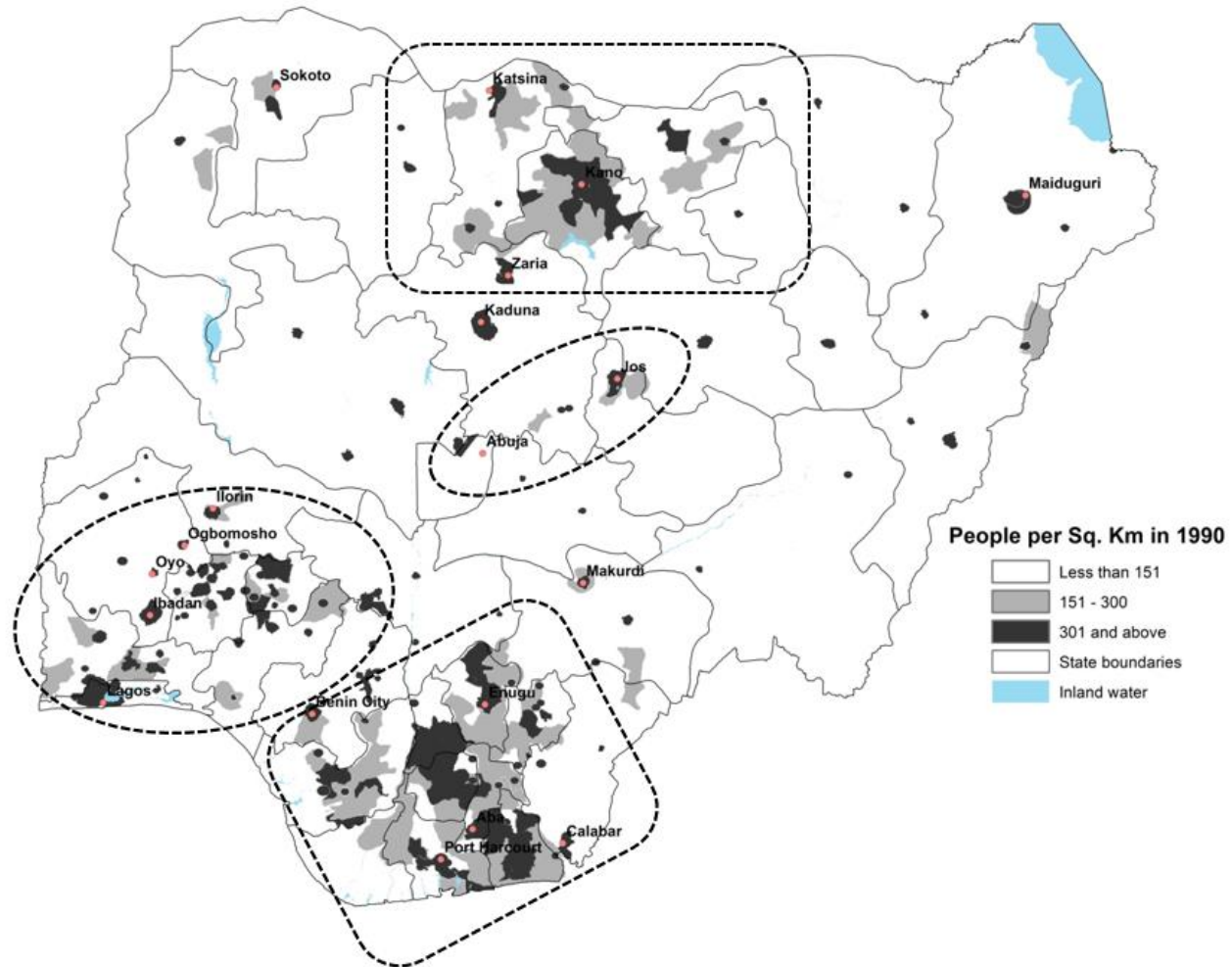
Table 2. Urban land cover estimates and projections

Urban land cover in 2000 (hectares)	Assumed annual density decline (%)	Projected urban land cover in 2030 (hectares)	Percentage change, 2000-2030
464,192	0	1,262,215	172
	1	1,703,812	267
	2	2,299,905	395

Source: Copyright © Angel, 2012. The CC license does not apply to this figure.

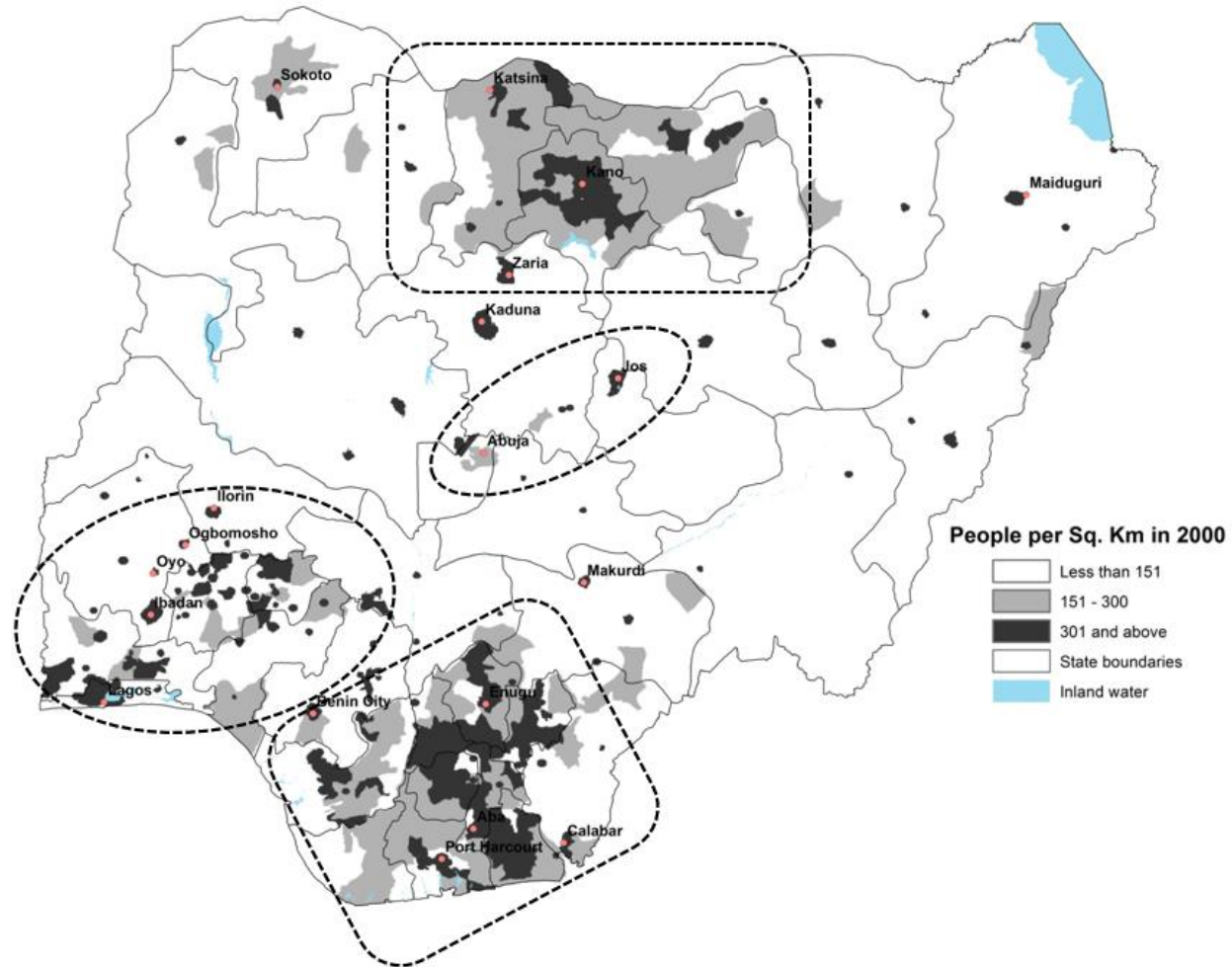
The broad contours of expansion trends and the evolution of Nigeria’s urban system are illustrated in Figures 3a-3d with a series of maps drawing on a combination of satellite imagery and population density data.

Figure 3a. People per Square Kilometre in 1990



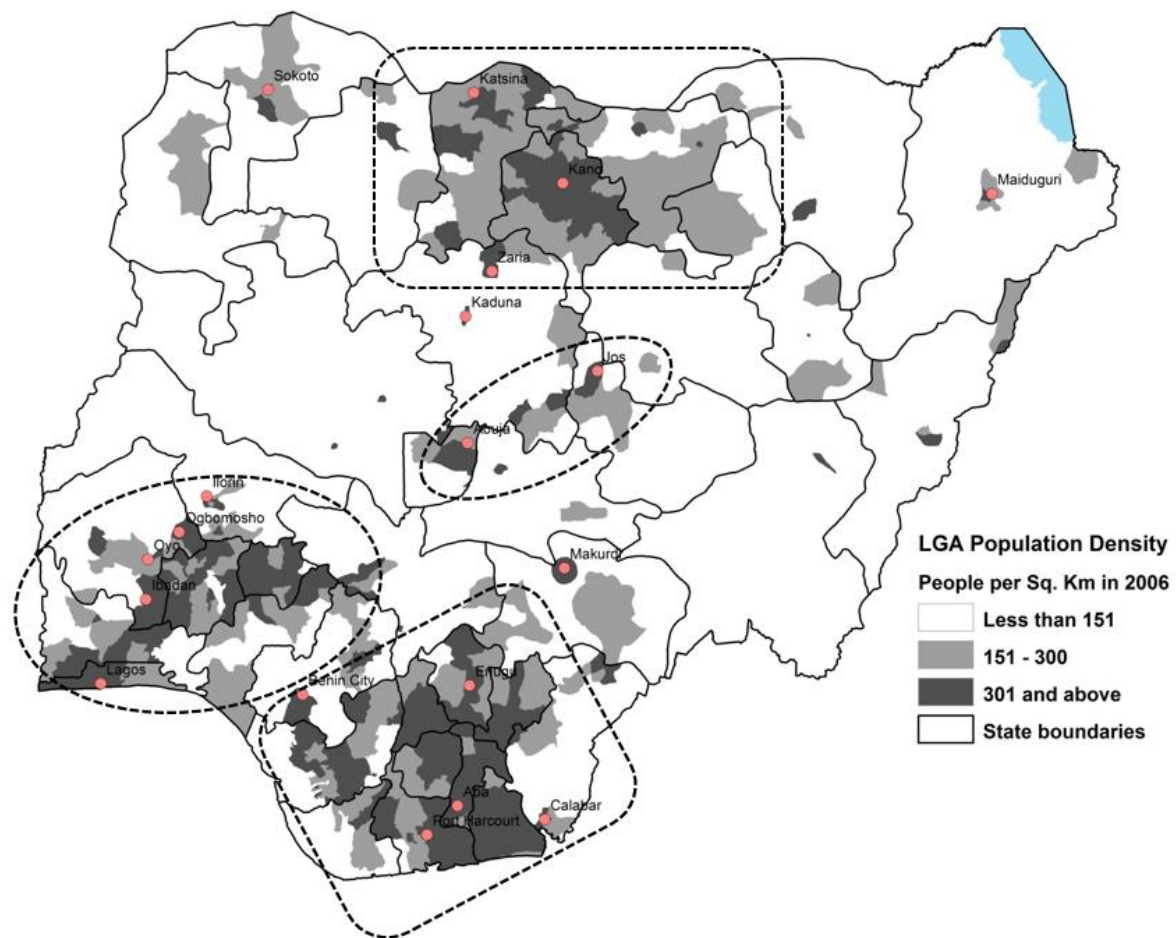
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Figure 3b. People per Square Kilometre in 2000



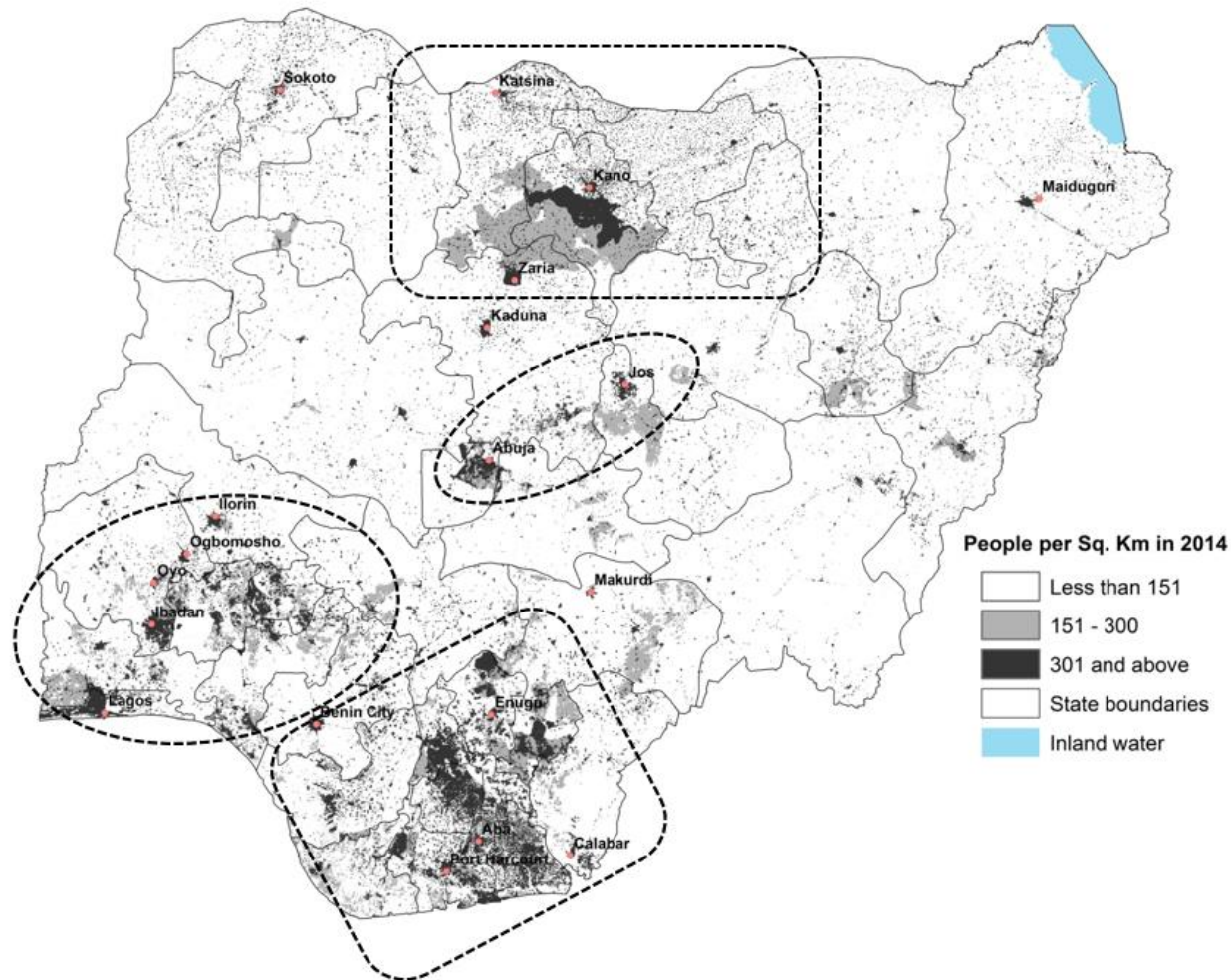
Source: Authors' elaboration from Copyright © Center for International Earth Science Information Network - CIESIN - Columbia University, International Food Policy Research Institute - IFPRI, The World Bank, and Centro Internacional de Agricultura Tropical - CIAT. 2011. The CC license does not apply to this figure.

Figure 3c. People per Square Kilometre per LGA in 2006



Source: Authors' elaboration using National Population Commission data. The CC license does not apply to this figure.

Figure 3d. People per Square Kilometre in 2014



Source: Authors' elaboration using Copyright © WorldPop data (Rescaled from 100m by 100m to 1km by 1km). The CC license does not apply to this figure.

In all four figures, population density is mapped according to a 3-tiered classification: 0-150 people per km² (p/km²), 151-300 p/km² and 301+ p/km². These thresholds were chosen based on precedents set by the World Bank and Eurostat: the former employ a minimum population density of 150 p/km² for their Agglomeration Index (Uchida 2010) while Eurostat uses a minimum density threshold of 300 p/km² to classify an urban area (Eurostat n.d.).

Maps 3a and 3b show population density in Nigeria for 1990 and 2000 respectively. Data for these two maps were drawn from GRUMP, which in the case of Nigeria represents a combination of 1991 census data, UN population forecasts and satellite imagery. These maps indicate that the most extensive urban expansion has been concentrated around four extended urban regions or conurbations:³

- A Northern conurbation centred around Kano, which has a north-south axis running from Katsina to Zaria and an east-west axis running roughly from Funtua to Hadejia;
- An emergent Central conurbation running from Abuja in the south-west to Jos in the north-east;
- A Southwestern conurbation stretching from Lagos in the south to Ilorin in the north to Akure in the east;
- A Southeastern conurbation within a roughly square zone encompassing Benin City, Port Harcourt, Calabar and Enugu.

These do not necessarily represent continuously built up areas (although they can), but rather networks of cities, towns and rural settlements of varying sizes linked by transport corridors. Of these, the Northern conurbation around Kano is forecast to experience the most rapid physical expansion in coming decades and ranks among the top five most rapidly expanding settled regions in all of Africa (Seto, Güneralp and Hutya 2012).

The general pattern is reinforced by Figure 3c, which shows population density by LGA in 2006 according to census data. This is less fine-grained as it does not incorporate de facto urban boundary data from satellite image analysis and can be deceptive given that the size of LGAs varies significantly. Nevertheless, the general pattern is confirmed.

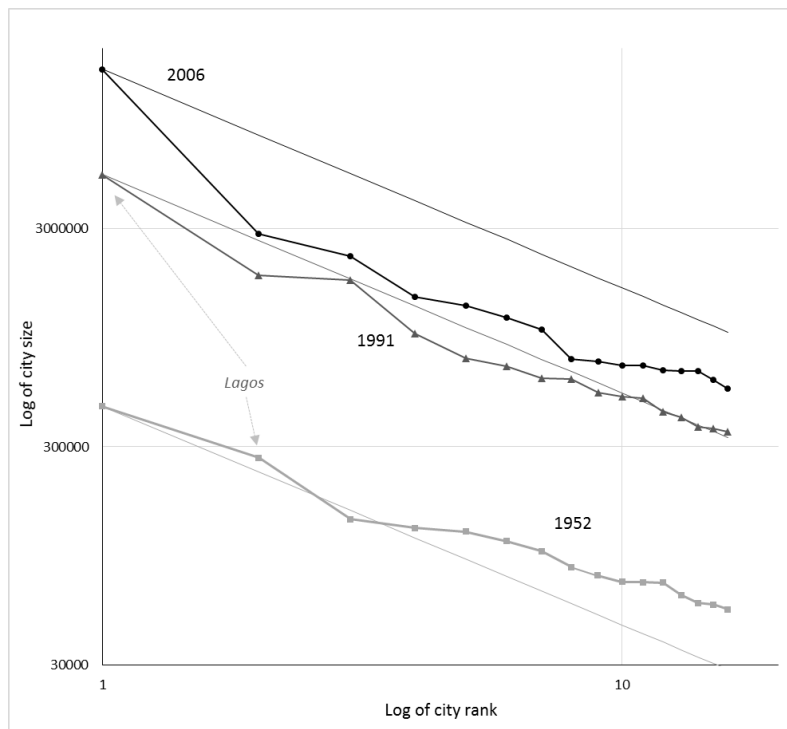
Finally, Figure 3d illustrates population density in 2014 according to the WorldPop database, which offers the most fine-grained detail and incorporates de facto built-up area estimates from satellite data and population data from the 2006 census. Again, the general pattern of four zones of concentrated urban expansion appears to be confirmed. While we consider this to be the most rigorous geospatial dataset available, there has been some suggestion that it underestimates urban

³In general terms, a conurbation is a urbanised region made up of metropolitan areas, secondary cities, large towns, and other urban areas, often anchored by a predominant centre (like Lagos or Kano). Through population growth and spatial expansion, these settlements join together to form an urbanised terrain or field.

population densities and over-estimates rural population densities (Rose and Bright 2014).

Apart from illustrating the extent of urban settlement in Nigeria, these maps also show that Nigeria has a fairly ‘balanced’ urban system. In other words, despite the widely held perception that Lagos is an over-bearing mega-city, Nigeria’s urban population is in fact spread across four large conurbations. Indeed, Nigeria has historically exhibited a relatively balanced urban system in contrast to many African countries. This is illustrated in Figure 4, which plots rank-size distributions of urban settlements in Nigeria for 1952, 1991 and 2006 based on census data. Given the controversy surrounding the contemporary population of Lagos (see Box 1 above), we have used Brinkhoff’s independent estimate of 16 million in 2006.

Figure 4. Rank-size distribution of major Nigerian urban settlements in 1952, 1991 and 2006



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In 1952, Nigeria’s settlement distribution was very even, with Ibadan holding the position of largest city. By 1991, Lagos emerged as the largest settlement and the overall distribution remained even. Lagos remained the largest city in 2006 while Kano surpassed Ibadan as the second largest city in the country. Although Lagos has pulled ahead in the hierarchy, it is unlikely that this trend will continue much further.

As Table 3 shows, current UN projections indicate that Nigeria’s second tier, metropolitan-scale cities (with populations between 1 million and 5 million) will collectively outpace the growth of Lagos by a wide margin while large secondary cities (between 300,000 and 500,000) will grow

marginally faster. These trends, coupled with the emergence of new urban settlements in Nigeria’s urban system, will likely diminish Lagos’s position in the system in coming decades, although the city will remain Nigeria’s largest.

Figures 5 to 9 provide a visual illustration of the evolution of the urban system in Nigeria, in the period 1952-2010.

Table 3. Urban population growth trends by settlement size class, 2010 - 2020

City size class	2010 Population (millions)	2020 Population (millions)	Average growth rate, 2010-2020	Cities included (listed in descending order of size in 2010)
5 million or more	10.78	16.17	4.05	Lagos
1 to 5 million	10.96	21.7	6.83	Abuja Benin City Ibadan Kano Port Harcourt
500 000 to 1 million	9.56	13.89	3.73	Aba Enugu Ikorodu Ilorin Jos Kaduna Maiduguri Nnewi Onitsha Oshogbo Owerri

				Uyo Warri Zaria
300,000 to 500,000	6.67	10.08	4.14	Abakaliki Abeokuta Ado-Ekiti Akure Bauchi Calabar Gboko Gombe Igbidu Katsina Lokoja Minna Ogbomosho Okene Ondo Oyo Sokoto Umuahia
Fewer than 300,000	31.47	46.86	3.98	All others

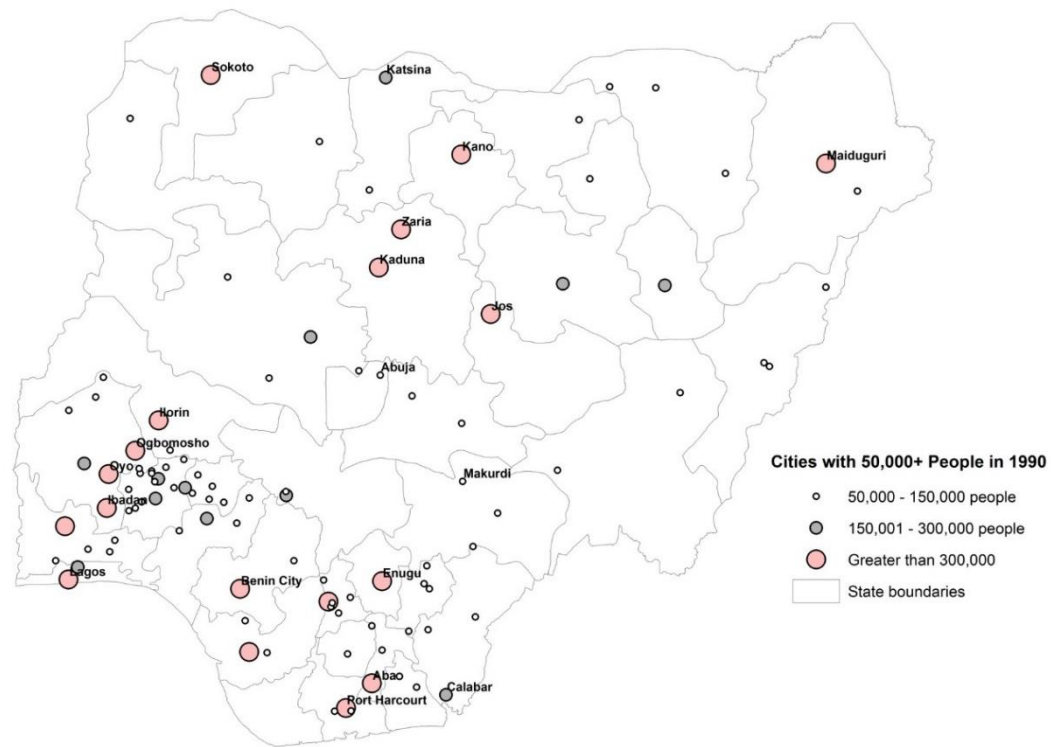
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Figure 5. Cities with 50,000+ people in 1952



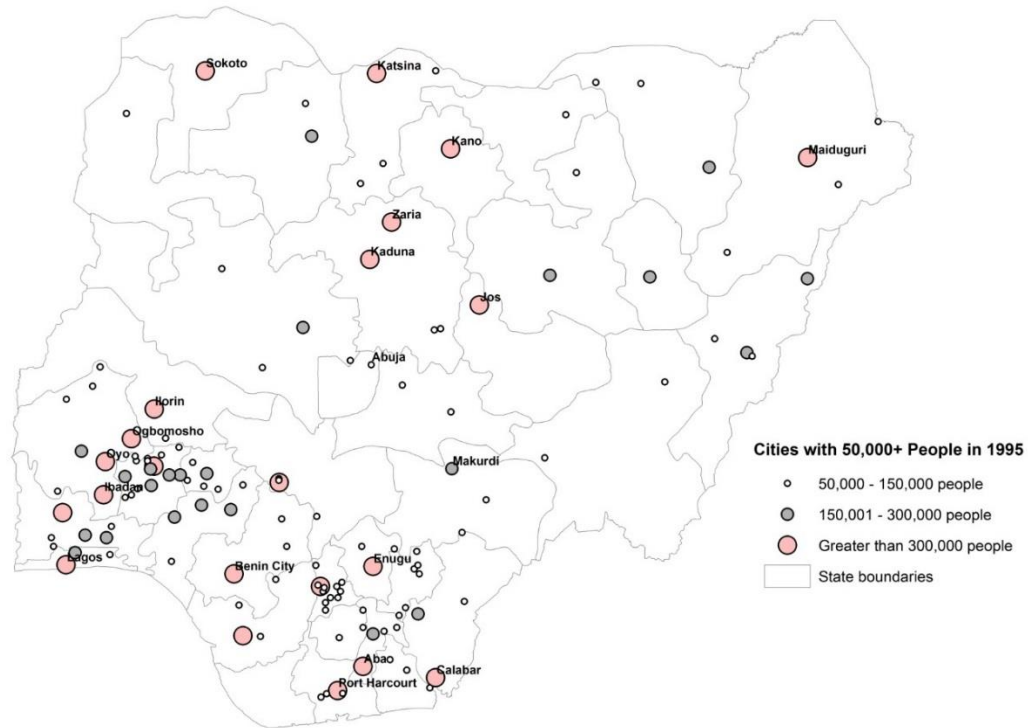
Source: Authors' elaboration using Copyright © Mabogunje, 1968 data. The CC license does not apply to this figure.

Figure 6. Cities with 50,000+ people in 1990



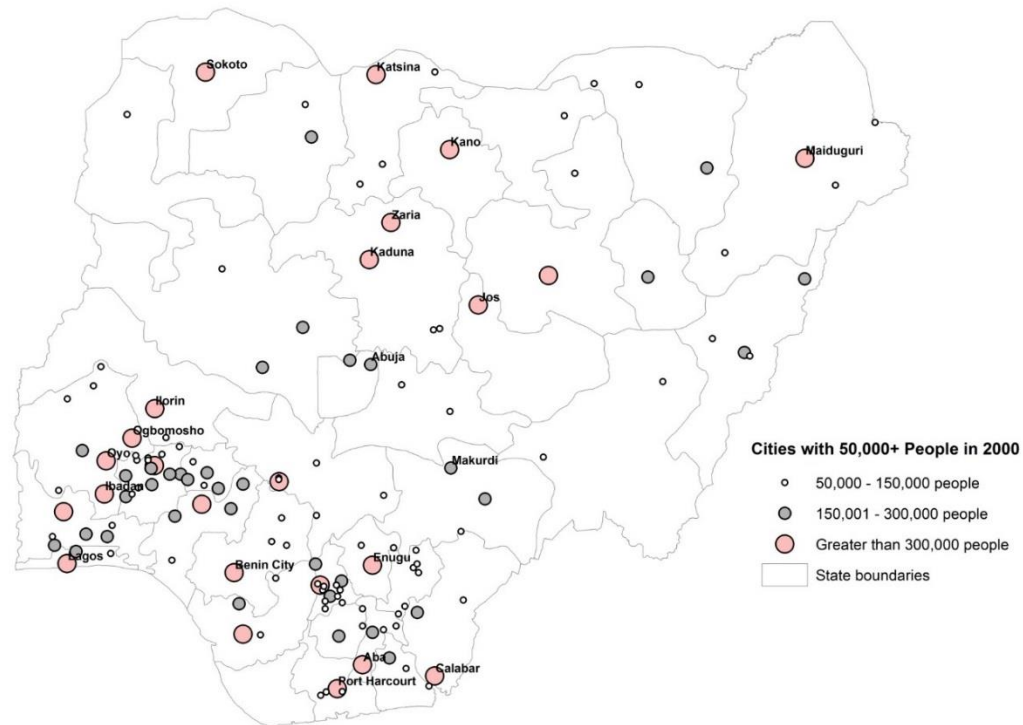
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Figure 7. Cities with 50,000+ people in 1995



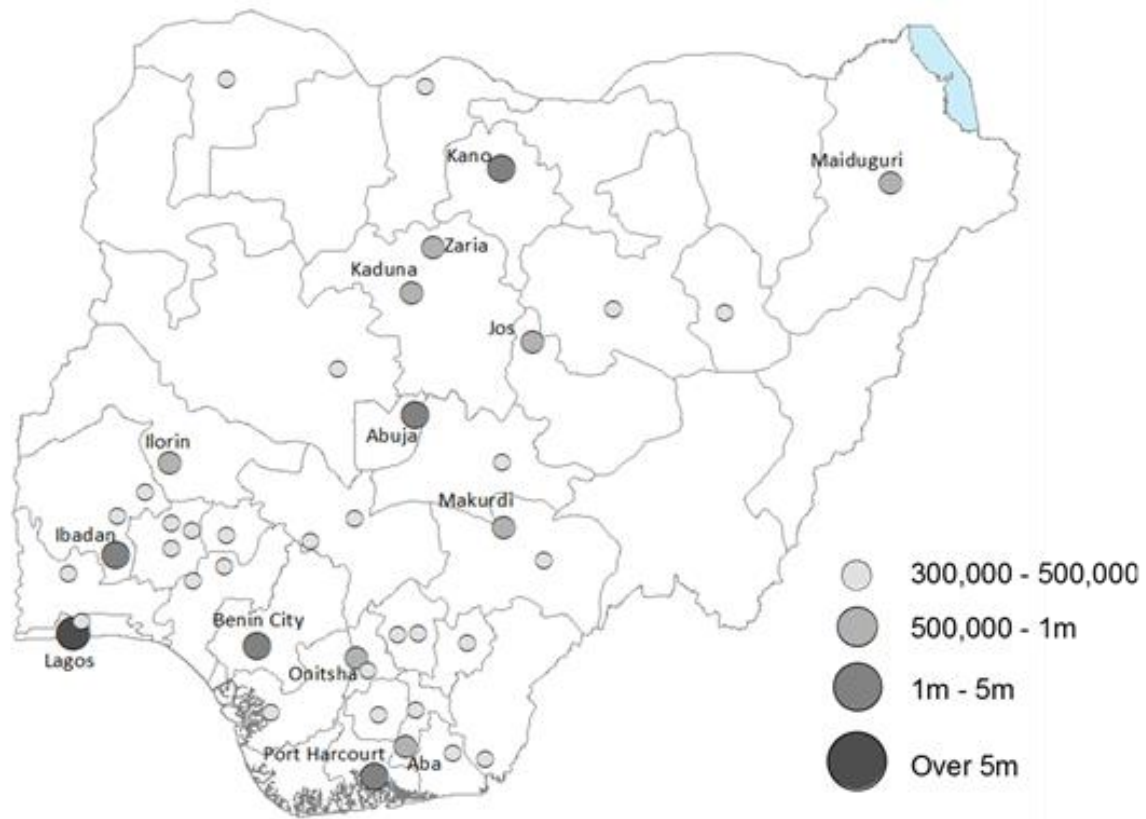
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Figure 8. Cities with 50,000+ people in 2000



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Figure 9. Cities with 300,000+ people in 2010



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Analysis of drivers

Accounting for these trends and patterns requires an appreciation of the demographic and socioeconomic underpinnings of urban change processes at national and subnational levels.

The demographic foundations of urban growth and expansion

The underlying cause of rapid urban population growth and expansion in Nigeria is rapid population growth driven by declining mortality and persistently high fertility. This is shown in Table 4, which summarises fertility and child mortality rates over five rounds of Demographic and Health Surveys in the country between 1990 and 2013. Although it is not possible to derive direct estimates of population growth from these series as the indicators are not strictly comparable, an analysis of overall trends between 1990 and 2013 clearly shows that mortality decline has outpaced fertility decline by a wide margin.

Table 4. Fertility and child mortality trends in Nigeria, 1990-2013

	1990	1999	2003	2008	2013	% Δ 1990- 2013
Total Fertility Rate	6.0	4.7	5.7	5.7	5.5	-8.3
Under-5 mortality rate	191	133	217	171	144	-24.6

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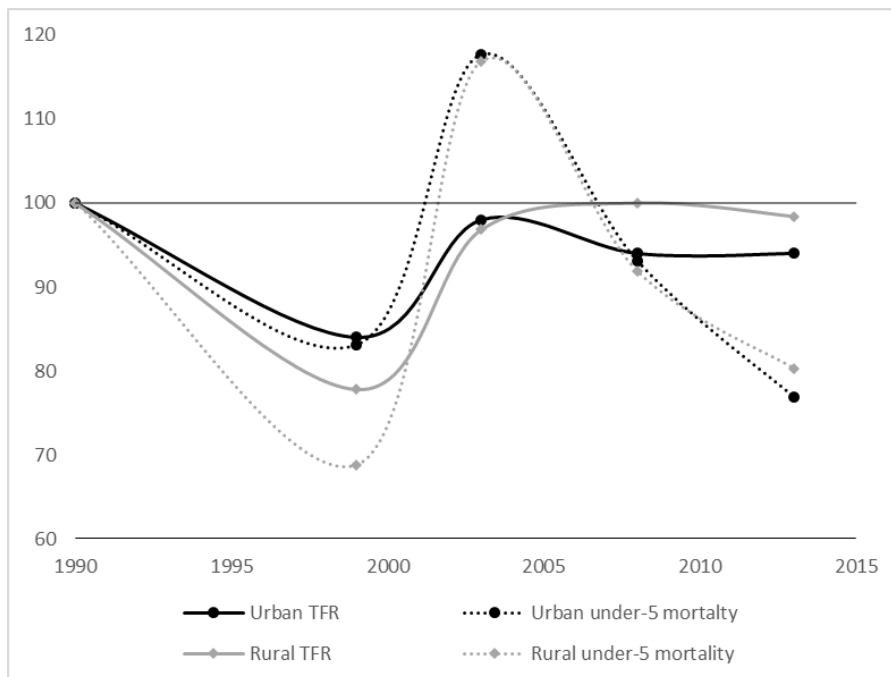
The resultant population boom has driven urban growth and expansion directly through (a) natural population increase in existing urban centres, and (b) densification in rural areas resulting in the reclassification of settlements from rural to urban. Indirectly, rapid population growth in rural areas expands the pool of potential urban migrants and may, through demographic pressure on natural resources, contribute to the ‘push’ factors that can stimulate rural out-migration (Fox 2012). While rural-urban migration contributes to urban growth (see below), the significance of urban natural increase and reclassification due to rural densification have been widely underappreciated while the role of rural-urban migration has likely been overstated in Nigeria, and indeed in sub-Saharan Africa more generally (de Brauw and Lee 2014; Jedwab, Christaensen and Gindelsky 2014; Fox 2012).

Fertility rates (and hence population growth rates) have historically tended to be lower in urban areas than rural areas (McNicoll 2011). However, in many developing countries in the post-war era urban fertility rates have remained relatively high while mortality rates have fallen creating an ‘urban push’ – i.e. a rapid, internally generated increase in urban

population size (Jedwab, Christiaensen and Gindelsky 2014). As a result, urban growth in many developing countries has been driven more by urban natural increase than rural-urban migration (ibid; see also Fox 2012). Although there is insufficient data to accurately determine the relative contributions of natural increase, reclassification and migration to urban growth and expansion in Nigeria, data on fertility and mortality trends in rural and urban areas is consistent with the hypothesis that urban natural increase plays a significant (and possibly dominant) role in driving urban growth.

Figure 10 shows trends in fertility and child mortality rates broken down by rural and urban residence between 1990 and 2013 drawing on DHS data. All indicators have been converted to index numbers to facilitate comparison of trend rates. In all areas, fertility and mortality declined between 1990 and 1999, increased sharply between 1999 and 2003 (for reasons that are not entirely clear) and have subsequently fallen. However, child mortality has fallen much faster than fertility since 2003. In urban areas, the average fertility rate of 4.7 is high and remained unchanged between 2008 and 2013. In other words, urban fertility decline appears to have stalled in Nigeria, somewhat contrary even to recent predictions (see McNicoll 2011), while urban mortality rates have plummeted. On current trends, urban natural increase can thus be expected to accelerate and contribute significantly to urban population growth and urban expansion in the near future.

Figure 10. Trends in fertility and mortality by urban and rural residence



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Just as the role of urban natural increase has often been overlooked in analyses of urban transitions, so too has the significance of rural transformation. The process of urbanisation is generally conceptualised,

and seen in the public imagination, as one in which people migrate from rural areas into existing towns and cities in search of opportunity. What is often overlooked is the enormous increase in the number of identifiably urban settlements that have emerged in developing regions in recent decades. As shown in Table 1 above, the number of settlements with a population of 10,000 or more in Nigeria is estimated to have tripled between 1960 and 2000. These ‘emergent’ towns and cities generally have lower building and population densities than older, established urban settlements with accumulated trunk infrastructure and therefore may contribute significantly to urban expansion, alongside the enlargement of existing urban boundaries.

Migration and urbanisation

While rural-urban migration is probably not the main contributor to overall urban population growth in Nigeria, it nevertheless plays an important role in urban change processes, particularly with regard to urbanisation – defined as the steady increase in the proportion of the national population residing in urban areas. When viewed over the long run, it is ultimately the net transfer of people from rural to urban settlements that drives urbanisation in these terms. Again, due to a lack of reliable, time-series data we do not have a clear picture of the extent and patterns of rural-urban migration within Nigeria. However, by piecing together the available information and combining it with what is generally known about migration in the region, we can identify some broad trends and dynamics, and dispel some myths.

First, it should be noted that there are four discernible types of migration flows in Nigeria: rural-rural, rural-urban, urban-rural and urban-urban (Oyeniyi 2013). According to data from the 1993 Migration and Urbanisation Survey of Nigeria, rural-rural migration at the time accounted for 63 percent of migrant flows in the country while rural-urban migration accounted for just 37 percent (Mberu 2005). However, as Table 5 shows, data from the 2010 Internal Migration Survey (IMS) indicate an inverse pattern, with rural-urban migrants now constituting 60 percent of all flows and rural-rural migrants making up 40 percent. A separate World Bank study found that rural-urban migration accounts for 83 percent of migrant flows (McKay and Deshingkar 2014, 12). The reasons for this shift have not been explored, but may relate to economic trends: Nigeria was in the midst of a protracted economic downturn in the early 1990s while economic growth has been robust since the turn of the millennium, and rural-urban migration is clearly responsive to economic growth (Mberu 2005).

Table 5. Migrant destinations in selected states, 2010

STATE	Destination	
	<i>Urban</i>	<i>Rural</i>
Anambra	98	2
Lagos	97	3
Ebonyi	90.3	9.7
Enugu	86.2	13.8
Abuja (FCT)	85.1	14.9
Nasarawa	34	66
Taraba	31.5	68.5
Benue	27.9	72.1
Bauchi	18.2	81.8
Akwa Ibom	16.7	83.3
NIGERIA	59.9	40.1

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Table 5 also illustrates the wide variation in patterns of migrant flows across states in Nigeria, with the highest rates of rural-urban flows reported in states within the South-western, South-eastern and Central conurbation zones as identified above. Rural-rural migration is reported as the dominant flow in 12 of Nigeria’s 36 states.

Unfortunately, there is insufficient data available to determine the absolute volume of migrant flows, the distribution of flows across state boundaries, and the volume of urban-rural and urban-urban flows, both of which are important in shaping urban growth, expansion and population distribution. For example, urban-rural flows can offset rural-urban ones and have done so in many African countries in the past (Mberu 2005). Similarly, urban-urban flows can significantly influence urban systems. Indeed, when it comes to understanding growth and expansion trends at the individual settlement level, urban-urban migration may in some cases play a dominant role. The growth of Abuja (and hence its ascendance in Nigeria’s urban hierarchy) is a case in point: the city grew rapidly primarily due to intensive in-migration after the relocation of the capital, with many

(if not most) migrants arriving from other Nigerian towns and cities rather than the surrounding countryside.

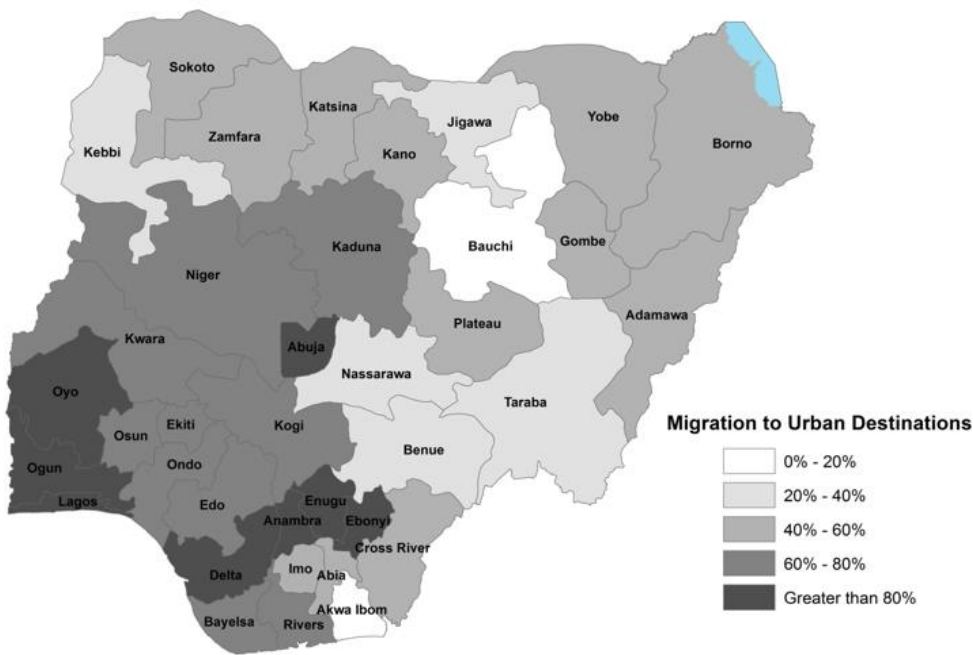
According to data from the Nigerian 2010 IMS cited by Oyeniyi (2013), the most common reasons for men to migrate are to seek employment (24.1 percent) and to further education (15.7 percent), while for women the most commonly cited reasons were to join a spouse or marry (39.8 percent), to further education (10.9 percent) and to seek employment (10.6 percent). Other reasons included joining relatives, work transfers, apprenticeships, ‘adventure’ and escape from conflict (Oyeniyi 2013). Although these figures relate to all migrants surveyed (not just those who moved from rural to urban areas), they are generally consistent with the extensive research on the determinants of rural-urban migration (Byerlee 1974; Todaro 1980; Lucas 1997; de Brauw and Lee 2014). In sum, people move primarily in search of (perceived or actual) opportunity or to escape an undesirable situation.

One traditional economic method of assessing the ‘opportunity’ gap between rural and urban areas, which influences rate of rural-urban migration, is to calculate the wage differential between sectors. Interestingly, data from 2003 indicate that the urban-rural wage ratio in Nigeria was 1.36 in the formal sector and 1.49 in the informal sector (de Brauw and Lee 2014, Table 1). This is not particularly high by regional standards for SSA and may help to account for apparently modest overall migrant flows between rural and urban areas in Nigeria. By comparison, the same data set indicates that the urban-rural wage ratio in the informal sector is over 2 in Ethiopia, Kenya, Togo and Uganda and over 3 in Zambia. We also have some information on *who* is likely to migrate. Contrary to popular perception, it is rarely the poorest and most vulnerable who abandon the countryside for the city but rather the young and relatively well-educated with some assets or resources—and often social connections in the target destination—who move (Mberu 2005; Mendola 2006). Research on the characteristics of migrants in Nigeria have been consistent with these broader findings in the empirical literature (Mberu 2005). Education level, in particular, is highly correlated with the propensity to migrate from rural to urban areas in Nigeria (ibid).

It also appears that the gender balance of the migrant population has equilibrated: historically men have been significantly more likely than women to migrate, but data from both the 2010 IMS and 1993 Migration and Urbanisation Survey show no significant difference in migration propensities between men and women (Oyeniyi 2013; Mberu 2005).

Finally, past research in Nigeria has shown differential migration propensities across ethno-linguistic and religious communities. In general, Christians are more likely to migrate than Muslims, with members of the Hausa/Fulani communities in the north found to be *least* likely to migrate to urban areas (Mberu 2005). Data from the 2010 IMS are consistent with these past findings, indicating that rural-urban migration is more common in the South West, South East and around the Abuja FCT than in the northern regions (see Figure 11).

Figure 11. Migration to Urban Destinations (2010)



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These findings challenge some current perceptions of migration patterns in the country. For example, a recent paper from the DFID-funded Migrating Out of Poverty project makes the following statements:

Poverty levels are comparatively higher in northern regions of the country, which are thought to be the primary source areas for migration...Families in the northwest and the northeast are four times more likely to have no education than those in the south (McKay and Deshingkar 2014, 11-12).

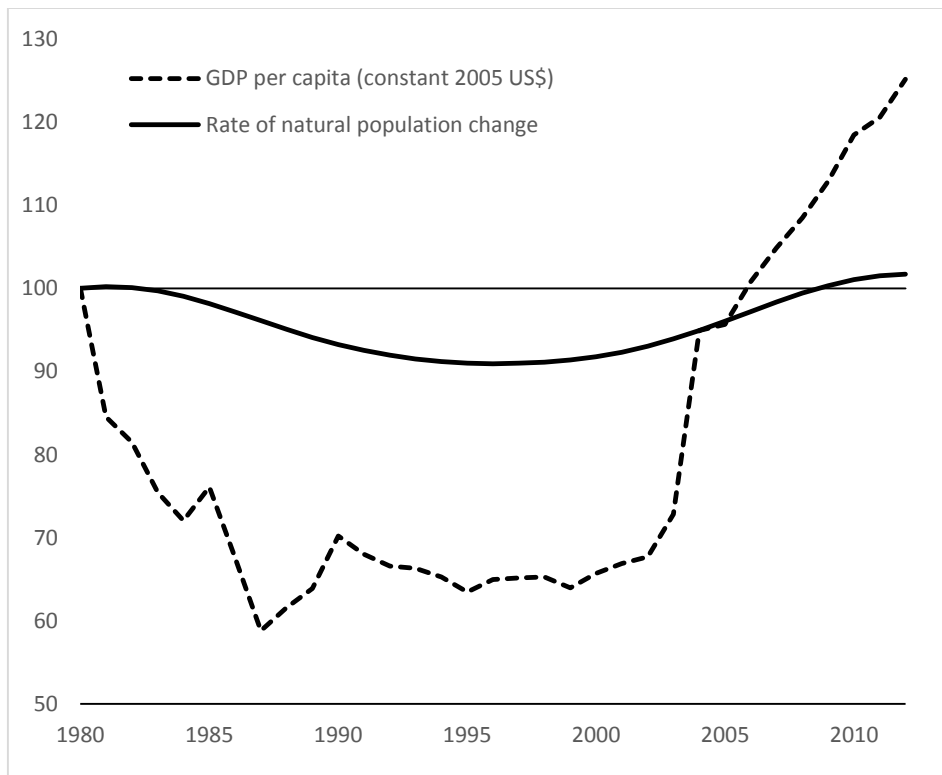
This passage, which reflects the common misperceptions about drivers of rural-urban migration noted above, is based on assumptions rather than actual evidence. Given what we know about migrant selectivity in general and in Nigeria in particular, it is unlikely that poor, relatively uneducated individuals from the predominantly Hausa north of Nigeria will contribute disproportionately to rural-urban migration flows. That is not to say, however, that they will not contribute significantly to urban population growth and to urban expansion in the country.

Tentative national and subnational forecasts

Given current demographic and economic trends, there is a very high likelihood that Nigeria's urban population will expand rapidly in coming years and constitute an increasing share of the national population. As Figure 12 shows, the rate of natural population increase and GDP per capita both declined in Nigeria between 1980 and the late 1990s. However, there has been a rather dramatic turnaround over the past decade. Income per capita has grown rapidly, and the rate of population

increase has reached pre-1980 levels due to falling mortality and persistently high fertility. Population growth will naturally contribute to the expansion of Nigeria’s urban population while improved economic prospects will naturally encourage more intensive rural-urban migration. In short, all signs point to continued urban growth, expansion and urbanisation.

Figure 12. GDP per capita and rate of natural population increase, 1980-2012⁴

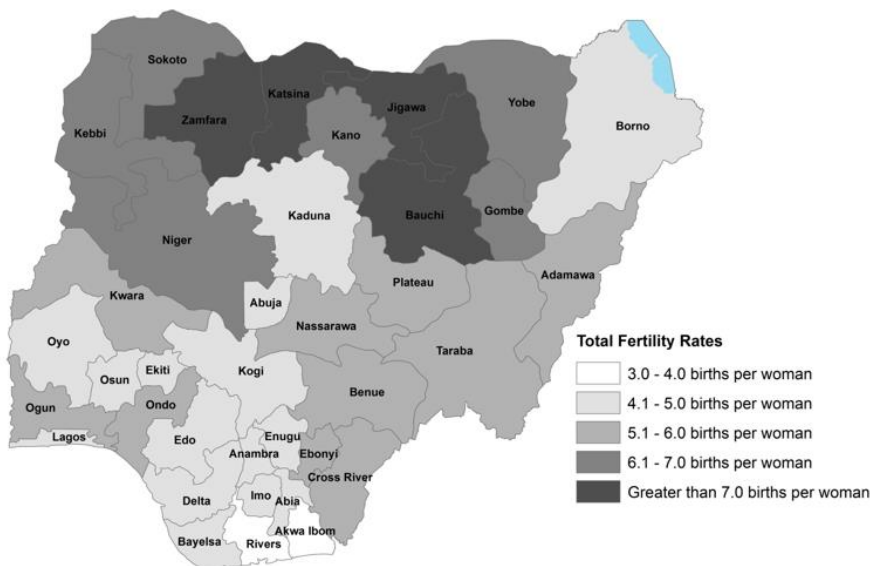


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However, there are likely to be very different regional dynamics. As Figure 13 demonstrates, fertility rates are highest in Northern areas where rural-urban migration propensities are apparently lowest, while fertility is considerably lower in the Southern regions where rural-urban migration propensities are apparently higher (see Figure 11). Putting these two pieces of information together, we can speculate that the predicted rapid expansion of urban land cover in the greater Kano region may be driven by in situ densification rather than intensive migration while migration will play a more significant role in urban growth in the Southern areas. It also seems likely that Nigeria’s urban system will stabilise as second-tier metropolitan and secondary cities grow more rapidly than Lagos or Kano.

⁴ Rate of natural increase calculated by subtracting the Crude Death Rate from the Crude Birth Rate

Figure 13. Total Fertility Rates



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Such speculation needs to be treated with caution however. There is simply not enough data available to determine the relative contributions of urban natural increase, reclassification and migration to urban growth, expansion and urbanisation in Nigeria as a whole, let alone sub-regions of the country. Yet given the diverse history of urban settlements across regions within the country, it is surely the case that urban change processes will be diverse and context specific.

This section has focused on elucidating trends in urbanisation and urban growth in Nigeria. While data sources differ on the pace, the evidence points to a fast increase in urbanisation and urban growth, which would in turn result in accelerated urban expansion. The overall tendency is then for cities to grow, both in population and in the area they occupy. It thus becomes imperative to study what the effects of urban growth and urban expansion are on the structure (that is, the overall physical configuration) of Nigerian cities.

THE EVOLUTION OF NIGERIAN URBAN STRUCTURE

Urban population growth inevitably has an impact on the physical shape and urban structure of cities – the arrangement of land use in urban areas. As cities absorb new inhabitants, the land cover they occupy expands and new districts or areas appear, which transforms their urban structures.

We now portray the historical evolution of urban structure in Nigerian cities in four identified periods: pre-colonial; colonial; post-independence; and the structural adjustment period.

The analysis culminates by discussing overall tendencies that shape the structure of contemporary urban settlements in Nigeria, typically identifiable as low-density urban or metropolitan areas, which is the salient feature of Nigerian urbanism.

Pre-colonial urban structure

The physical structure of Nigerian cities has historically been shaped by trade and politics (Chapin Metz, 1991). In the north, cities developed to support Saharan and trans-Saharan trade routes, and frequently attracted a large number of traders and migrants from surrounding areas. Northern cities – such as Kano, Katsina and Sokoto – also acted as central citadels and political capitals. In the Southeast, cities were organised to facilitate trade to the coast. In both instances, culture, history and landscape interacted to shape distinctive physical patterns.

Cities in the north were bounded by city walls, within which growth took place. At the core were a central market, government buildings and a main mosque (ibid). Northern cities had specific quarters for each group of specialised craft manufacturers. Their physical structure was shaped by roads running from the gates to the urban core.

Designed during the period of the Yoruba wars in the early 19th Century, the physical pattern of Southwestern cities is a reflection of their origin as war camps: in contrast to cities in the north, they frequently incorporated multiple centers of power without a single core palace (ibid). The main market often took a central position, and each original faction present in the city had a distinctive designated quarter, as exemplified by Ibadan, the largest city in the Yorubaland at the time.

In both instances, separate quarters emerged to host stranger migrants. In the south, these quarters were referred to as ‘Sabo’ and hosted the Hausa population (ibid). In the north, these new quarters were referred to as ‘Sabon Gari’ (literally, new town) and hosted inhabitants who were non-Muslim and not subject to the religious and other prohibitions of the Emir. Cities in the north and in the southwest were also both characterised by strong rural-urban linkages.

Colonial urban structure

The most noticeable mark left by the colonial system of ‘Indirect Rule’ on urban structure was the fragmentation of Nigerian cities. In line with a public health rationale to control sanitation and the spread of diseases, and the desire to keep social distance, the colonial rulers established separate quarters to host the European population, the Government Reserve Areas (GRAs). They were designed following a low-density, well laid-out residential pattern with tree-lined streets and had good infrastructure and educational, recreational and religious facilities (Chapin Metz, 1991; Ozo, 2009).

The GRAs constituted an expatriate enclave within existing urban structures, deliberately separated from the indigenous areas by the presence of a green belt (Ogu, n.d.). This meant that colonial cities were marked by the presence of spatially distinct districts, each of which had unique architectural and social features (Ozo, 2009). However, in contrast to the GRAs, the ‘native city’ was characterised by its high-density and often lacked planning and development controls, as well as infrastructure, services and amenities.

Post-independence urban structure

Following independence, urban settlements went through a strong phase of transition and growth: the urban population rose from 3.9 million in 1950 to 7.4 million in 1960, to reach 16.2 million in 1975. By 1990, it had attained 34.4 million (United Nations, Department of Economic and Social Affairs, Population Division, 2012). The physical structure of cities was transformed to accommodate and absorb new inhabitants, functions and activities.

A process of diversification of functions and activities occurred within Nigerian cities, notably in those federal, state and local government capitals that started to act as growth poles. Nigerian cities had to make room for the appearance of new economic activities: in the decade following independence, Nigeria adopted a policy of import substitution industrialisation, which fostered the emergence of various industries (Fourchard, 2003).

Post-independence cities thus concentrated small business enterprises as well as manufacturing firms including the textile, steel, automotive sub-sectors, and the construction industry (Metz, 1991; Cities Alliance, 2009; Falade, 2009; Ogun, 2010). They also hosted structures for emerging administrative functions and government service centres, as well as new institutions such as hospitals and post-secondary educational facilities.

This diversification of functions and activities undoubtedly left a mark on the urban form. Due to the large amounts of land that were required for hosting new inhabitants and developing new sources of dynamism and employment, physical expansion started to occur beyond the city limits inherited from the pre-colonial and colonial periods.

Makurdi is a clear example of the transformation. Following independence, it was a small town and due to its railway station, it mainly acted as a transit

node between the north and south of the country. The adjacent areas to the Benue River floodplains were mainly agricultural farmlands, dedicated to the production of rice and vegetables (Onu and Onu, 2012). Rapid development and the transformation of the city's structure then came about in 1976 when Makurdi was declared capital of the newly created Benue State.

Rapid urban expansion was triggered by land development from both public and private stakeholders, who established residential, military and industrial areas throughout the city. Makurdi's urban structure was profoundly altered through this physical growth, and the emergence of entire new areas such as recreational zones, residential quarters, housing estates and industrial sites – all of which started to move on to formerly rural lands.

Changes in the economic structure were also accompanied by transformations in their socio-spatial organisation. In particular, the GRAs progressively became engulfed by the expansion of urban areas and were fully integrated into the urban fabric. This led to the disappearance of green belts that had separated the GRAs from the rest of the city (Metz, 1991).

Informal settlements started to emerge due to demographic pressures, increased housing and population density and the inability of cities to properly house newcomers. These, notably on the periphery of cities, become the representation of the urbanisation of poverty (Gandy, 2005; Morakinyo et al., 2012). These new urban areas frequently suffered from a shortage of services and infrastructure.

Infrastructure and urban development

During the 1970s, revenues from oil production were mobilised to promote industrialisation, on the one hand, and to develop modern urban infrastructures, on the other (Fourchard, 2003). Improved water supply systems, paved streets, highways and bridges appeared in cities and towns. The development of urban utilities and infrastructure attracted a large influx of population into towns established as state capitals under the new administrative structure of the country (ibid).

This process was notably visible in Lagos (Gandy, 2005; Gandy, 2006; Filani, 2011). Lagos's still existing bridges and highways which were mostly built by the German engineering company Julius Berger in the 1970s left a permanent mark on its physical structure and signalled a permanent transition into a modern metropolis with an urban fabric characterised by a dense road network, modern means of transportation and high-rise buildings.

Informal settlements simultaneously made a strong appearance (Morakinyo et al., 2012; Agbola and Agunbiade, 2009; Gandy, 2005; Emordi and Osiki, 2011). While the most appropriate sites for development were allocated for low-density housing, signalling a persistence of colonial land use patterns, the inception of Lagos's most extensive informal settlements such as Ajegunle, Mushin and Somolu also occurred in this period, signalling that economic opportunity and shelter did not materialise for everyone.

Land delivery mechanisms and spatial expansion

In Nigeria, land for urban development has frequently been supplied outside formal state regulatory frameworks (Owei et al., 2008). Given exceptional demographic pressures in the post-independence period, there was a strong demand for land for organic growth in urban areas. In this context, physical planning instruments – such as masterplans – were lacking, and when they were present, LGAs often lacked the technical and financial capabilities to properly implement them.

Mechanisms for land delivery to follow a physical expansion strategy were frequently absent – which, in a context of a largely unregulated land market and strong population growth, led to the appearance of unplanned and scattered urban development. This has been a salient feature of the Nigerian urbanisation experience.

The urban expansion process in Enugu is representative: urban development in the city was frequently allocated outside of state regulatory frameworks, resulting in spontaneous physical spatial expansion on the periphery, both formal and informal in nature (Ikeijofor, 2004; Ikeijofor, 2009; Rakodi and Leduka, 2004).

Growth by densification and growth by expansion

A combination of the growth by densification and growth by expansion approaches presents a useful framework to understand the processes of urban development that occurred in post-independence Nigerian urban areas (Ogu, 2005).

Growth by expansion often occurs at the edges of existing urban areas and refers to the appearance of new parts of a city. It emerges when disconnected developments and residential settlements that do not form part of urban areas start to be incorporated into city limits due to physical expansion pressures (Atu et al., 2012). This process is supported by diminishing commuting distances to the urban core, which allow the ever-expanding absorption of discontinuous settlement on the periphery into an existing urban fabric. This process of growth and urban change integrates a diversity of settlements, ranging from housing estates, educational facilities and industrial sites to unplanned residential developments on urban fringes progressively incorporating peripheral peri-urban (and rural) settlements (Ogu, 2005.).

Growth by densification, in contrast, is defined by the emergence of various numerous independent houses in areas previously occupied by single large housing structures. This pattern of growth is frequently found in urban cores or already existing urban neighbourhoods, and results from land scarcity. As the term indicates, this leads to higher density as a higher number of settlements appear in an area where previously just one was present. It describes a process of infilling of urban areas that were often derelict or unused, and are then occupied and densified.

Such growth by densification has led to the appearance of various forms of development within the traditional core of Nigerian cities, and notably to the emergence of informal settlements. This process has been well-documented in Ibadan in particular (Mabogunje, 1968; Fourchard, 2003).

The post-independence period thus saw the transformation of Nigerian urban structures into entities with a stronger degree of complexity. In a transition from a spatial composition formed by two or three distinct and legible urban districts or zones, the explosive socio-spatial processes of expansion that Nigerian cities underwent in the post-independence period caused a diversification in their urban form, reflecting the appearance of a multiplicity of functions, activities and social realities that were previously non-existent.

Urban structure under structural adjustment

In 1981, the effects of the global economic recession were strongly felt in Nigeria with the collapse of oil prices (Gandy, 2006). With a fall of revenues from oil, the economy plunged into debt; in turn, lacking resources, infrastructure programmes were abandoned. This effectively meant that cities suffered from a lack of appropriate means to address urban development and expansion.

In 1986, the military regime of General Ibrahim Babaginda adopted a structural adjustment programme (SAP) (ibid). Combined with the economic crisis, the institution of the SAP led to a severe decrease in social expenditure and investment in public services: in the period ranging from 1980 to 1988, revenues allocated to social expenditure in the Nigerian federal budget fell from 34 per cent to 11 per cent (Emordi and Osiki, 2008).

As a result, many urban dwellers had to appeal to informal organisations or networks to provide basic public services such as housing, water supply, security or waste management. The cost of property maintenance and building materials went through a period of increase, which then resulted in an escalation in the price of house rents (Braithwaite and Onishi, 2007). For instance, there is evidence of a 2,000 percent increase in house rents between 1988 and 1990 in Lagos, which caused evictions and the movement of urban inhabitants to informal settlements (Emordi and Osiki, 2008).

The decrease in the availability of public resources also had a major impact on the urban form by leading to an overall citywide decaying of urban infrastructure and public service provision, which strongly degraded the overall urban landscape (Fourchard, 2003). Within urban areas, the effects of changes that occurred during the 1980s increased socio-spatial fragmentation and polarisation: a strong divide emerged between communities with means and resources that benefited from appropriate planning and access to adequate social and physical infrastructure and ones that were simply excluded from this (Gandy, 2006).

Contemporary Nigerian urban structure

While there are a number of accounts describing the changes that Nigerian urban structures are undergoing at a national level (Falade, 2009; Bijimi, 2013, Olujimi, 2009), most of the analyses of contemporary urban expansion have tended to use a specific city as a case study, from which they have derived generalisations of transformations occurring at the

national level (Ade and Afolabi, 2013; Alabi, 2009; Aguda and Adegboyega, 2013; Tofowomo, 2008; Atu et al., 2008; Ajala and Olayiwola, 2013; Isma'il et al., 2010; Oriye, 2013; Ujoh et al., 2010).

Some of these studies have been supported by the mobilisation of GIS techniques to map out and visualise the way in which urban extension has occurred over time (Braithwaite and Onishi, 2007; Barredo et al, 2004.; Deokolo and Oduwaye, 2011; Eyoh et al., 2012).

As discussed previously, urban expansion driven by urban population growth has been marked and widespread, and is expected to continue and indeed likely go through a phase of strong increase in Nigeria: it was illustrated earlier that urban land cover could triple by 2030. Urbanisation (as urban population growth) has thus had profound consequences for the physical configuration of Nigerian urban settlements. As in the previous phases discussed above, present-day urban structures are undergoing transformation as new areas appear, typically on urban peripheries or fringes, and established areas adjust to accommodate increases in urban populations.

The detailed characteristics of contemporary urban expansion therefore require investigation, not least to inform urban policy, strategic spatial planning and the programming required to design and resource the provision of infrastructure and services for a burgeoning urban population.

Typically, the overall extension of land cover in Nigeria, as elsewhere in SSA (and elsewhere) is referred to perjoratively or dismissed as 'sprawl'. The term may well portray a perceived general trend, but is too limited and descriptive to give a proper account of the variety and complexity of urban expansion.

Nigerian cities, then, are no longer simple units characterised by the juxtaposition of two or three clearly distinct districts with specific functions and residential populations. Contemporary urban settlements in the country are multifaceted and dynamic entities marked by the – frequently unordered – assemblage of the traditional core city and its residential, commercial and industrial zones with numerous new, typically suburban or peripheral areas, which arise in a array of configurations and social realities, and which contain a wide range of economic functions and social activities.

Ibadan is a clear example of this. Originally studied in 1968 by Prof. Akin Mabogunje, who analysed the city's urban morphology and various districts within the old historic core, Ibadan is nowadays a multifaceted metropolis. From a city characterised by various distinctive districts and a differentiated historic core, Ibadan now incorporates a wide range of urban forms: the historic core, while still present, has undergone significant transformation through redevelopment and the appearance of informal settlements. Unplanned urban expansion along major transportation routes from the 1970s onwards has led to the emergence of industrial areas as well as peripheral informal settlements (Fourchard, 2003). Newly developed suburban residential or commercial areas geared to the middle class add to the diversity of urban forms. Ibadan illustrates how contemporary Nigerian urban structures are complex entities incorporating a wide array of residential spaces, as well as spaces of production, frequently juxtaposed in an unplanned manner.

Residential

The complexity and emerging social differentiation of contemporary Nigerian urban structures is strongly reflected in residential areas and types. Residential urban form emerges as a symbol of social distinction: residential types correspond to each segment of society. However, these residential types are by no means homogenous; they encompass a wide range of diversity and complexity – as reflected in informal settlements as well as residential areas geared to the burgeoning middle class.

Fourchard (2003) establishes a typology of informal settlements. He further develops Agbola's (1987) initial analysis which contrasted 'traditional' informal settlements, emerging from the deterioration of existing structures, to 'spontaneous' informal settlements, appearing as a result of the occupation of illegally acquired lands by squatters. Moving away from the use of the terms 'traditional' and 'spontaneous' and illustrating that informal settlements can in fact appear on legally acquired land, Fourchard establishes three categories:

- Informal settlements in the core area of cities. These tend to be the oldest and largest settlements, and are marked by the lowest quality residences and the highest population density. With the presence of markets and a wide range of commercial functions, they also tend to be congested and overcrowded. In Ibadan, for instance, this type of settlement can be found within the pre-colonial town, in wards such as Elekuro.
- Squatter settlements located at the periphery of areas originally planned to house newcomers (i.e., Sabo Gari). Fourchard argues that as these areas are marked by a degree of control by urban planning authorities, illegal squatting has only emerged to a limited extent at their edges.
- Informal settlements on the periphery. These settlements have frequently appeared through unplanned urbanisation along transport infrastructure, notably roads. The development of this type of informal settlement is associated with the emergence of a new labor market, which created employment opportunities without housing provision. While densities in peripheral informal settlements vary, they tend to be characterised by lower population densities than informal settlements in the inner city. In addition, in contrast to informal settlements in the inner city, the urban form is heterogenous in pattern: houses built with cement, mud or wood can all coexist within the same district. Finally, informal settlements in the periphery tend to house newcomers to urban areas and as such, they are ethnically, professionally, socially and religiously diverse. This type of informal settlement can be found throughout cities of all sizes such as Sharada in Kano, Kakuri in Kaduna and Wadata in Makurdi (Onu & Onu, 2012). These settlements accommodate a wide range of low-income earners such as factory workers, semi-skilled and unskilled construction workers, petty

traders and dwellers engaged in small-scale businesses, and are often adjacent to industrial areas or markets.

Informal settlements remain the preponderant physical form of urban areas throughout the country, and the emerging typology of informal settlements in the Nigerian urban landscape is thus marked by complexity: not only are there various forms of informal settlements, but these forms and their characteristic features also vary from city to city and are closely linked to the way in which urban development takes place within a particular urban area.

Complexity in urban typology and structure is also manifested in areas geared for the middle and upper classes. As cities have undergone a process of urban expansion, GRAs have been assimilated through redevelopment, often involving densification as housing on large plots is either converted to new residential stock, in the form of town houses, or converted into commercial uses. Formerly zoned as older or original 'inner city' suburban areas destined for the European colonial rulers and later inhabited by the Nigerian elite, GRAs have now become fully integrated within the urban fabric and host new inhabitants and activities.

Former GRAs are now effectively coupled with newly developed lower density residential areas on the periphery that emerge as the new suburbs of Nigerian cities. This development is associated with the emergence of a larger middle class: as economic growth has continued, and the country has been further integrated into the global economy, this has given rise to an urban middle class, wanting specific residential areas to live in – and to project its social values and aspirations. According to recent research, Nigeria is leading the growth of new middle class households on the continent. Nigeria's middle class grew by 600 percent between 2000 and 2014 giving the country 4.1 million middle-class households at present, which is 11 percent of its total population, with an estimated 7.6 million households to be added in the next 16 years (Standard Bank, 2014).

A recent survey of this emerging Nigerian middle class illustrated that owning a house represents one of its key aspirations (Renaissance Capital, 2011). This has given rise to tremendous real estate development, and the appearance of what Bloch (2014) calls Africa's new suburbs in Nigeria – as elsewhere on the continent. Whether in the form of new, purpose-built new towns or satellite cities, large-scale developer-built residential estates or owner-financed and built single family houses, the periphery of many, if not most, large and medium-sized Nigerian cities has witnessed an astonishing relative and absolute increment to its housing stock in the past decade.

Suburban residential development is now emblematic of the periphery of Nigerian cities, and a major contributor to urban expansion. Much For instance, the city of Enugu, which is experiencing considerable growth, is the site of major urban development projects geared to the Nigerian middle-class, such as "Enugu Lifestyle and Golf City". Set over 1,097 hectares, and developed with a US \$300 million investment through a public-private partnership between Private Estates International Limited and the government of Enugu State, Enugu Lifestyle and Golf City is planned as a new (gated) mixed-use community incorporating residential, commercial, industrial and educational uses. The development is destined

for various social segments (different land plot sizes and price ranges are offered) and diverse architectural styles are present, with the aim of satisfying the needs and aspirations of the rising middle class.

The urban fabric thus now consists of a collage of various types representing different histories and social realities: it is not uncommon to find middle class areas and informal settlements side by side. This urban form is a manifestation of social and economic differentiation, and (sub)urbanism in contemporary Nigeria is thus characterised by a strong interpenetration of diverse urban uses.

Commercial and industrial

Many (perhaps most) widely seen accounts of contemporary urban development in Nigeria typically deal only with the residential dimension of urban expansion. It is essential, however, to also view the Nigerian city as a space of production which concentrates a variety of economic functions that take specific physical manifestations, and which, in interplay with various forms of residential development, shape emerging urban structures.

Here, as mentioned above, the global economy is a key influence (Oduyawe 2011; Oduwaye and Enisan, 2011). This is particularly visible in the land use changes that have occurred to accommodate emerging forms of economic activity resulting from the increasing integration of Nigeria into the global economy in the last 15 years (Oduwaye, 2013). The process has not occurred at the same pace and in the same way in all urban areas. It has varied depending on the pace of urban growth and the character of the existing socio-spatial urban structure.

The impacts on land use patterns and the urban structure has been particularly studied for Lagos (Oduwaye, 2011, Oduwaye and Enisan, 2011). Analysis points to a shift in land use patterns through a decline in 'traditional' industrial uses and a proliferation of the informal sector as a preponderant component in the city and its region. This is simultaneously accompanied by the emergence of new forms of economic activity such as the strong rise of business services and ICT in the city, which have needed new spaces to occupy. In Ikeja, for instance, there was a strong shift of land use from residential use to commercial use, to accommodate for the strong rise of the service sector in the district in the past two decades.

Recent land use changes have also been studied in Enugu (Egbenta, 2010). The analysis points to an interpenetration of residential with commercial uses in the city: following a period of fast growth experienced in the city in the past two decades, residential areas located along major roads were progressively transformed into plots for commercial use. As the city grew, land along major infrastructure connections stopped being appropriate for residential use: they became strategic plots in terms of accessibility to markets for commercial purposes. This picture was further complicated since Enugu did not have a designated area for commercial development. The dynamics of property development have led to a situation in which residential areas sit alongside commercial areas that appeared organically due to development pressures.

The economically-driven urban expansion processes occurring in Nigerian urban centres can appear to occur in a random way: they arrange and amalgamate areas marked by intense, fast-paced development and increased density with areas characterised by lower density (Bloch, 2014). The densifying zones frequently encompass a wide array of forms and functions: they can comprise newly built commercial and retail areas and the transformation of previous residential uses into commercial uses in older suburban areas.

Industrial uses too, as well as commercial and trade activities, both formal and informal, coexist alongside both planned and unplanned residential areas. The various emerging physical spaces are interpenetrated by a diverse web of open spaces of various kinds, ranging from unused land and natural features to formal recreational areas. Infrastructure has played a major role in this, particularly roads that facilitate accessibility and connectivity, and support further development (Bloch, 2014; Olayiwola et al, 2006). In this process, nodes and points of intersection become sites of intensified activity. They are frequently congested and are marked by particular land specialisations: activities can range from formal and informal markets, government and educational facilities, mixed-use shopping and commercial structures to formal and informal industrial production sites.

In Abuja, for instance, mixed-use commercial and retail facilities have emerged along road infrastructure within the vicinity of newly-developed suburban areas. An example is the Abuja Mall, opened in 2012, and adjoining the Murtala Mohammed Expressway, to the east of the city. The structure is anchored by a supermarket, and also comprises diverse retail activities. Shopping centres of this type located along transport corridors often complement attached residential areas, and thus become stronger nodes of activity.

A polycentric metropolitan – and conurbation – structure

The development of such nodes often results in the emergence of new centres of activity which hold commanding functions for adjacent residential areas – as well as for the city as a whole. This process transforms the spatial organisation of socio-economic activity: with the appearance of new centralities having influence on the entire metropolitan area and operating alongside traditional hubs, the urban form in Nigerian cities is evolving into a polycentric pattern.

The Lagos metropolitan area, for example, now encompasses a wide array of urban districts including the island of Lagos, Ikoyi (the seat of traditional administration in Lagos State), as well as areas planned in the past such as Apapa, Ebute-Metta, Yaba, Ilupeju, Surulere and Ikeja, now marked, as seen above, by the increased presence of commercial activities and industries (Emoridi and Osiki, 2008). The urban fabric also incorporates newly planned towns and estates including Festac Town, Satellite Town, Gowon Estate, Ipaja, Amuwo-Odofin and Anthony Village, Mushin, Iwaya, Iponri, Maroko and Ajegunle which include older local villages that were absorbed and incorporated into the urban fabric as the city expanded. The urban structure thus incorporates multiple functional zones and terrains,

amalgamating them into an increasingly polycentric structure in which various cores hold different functions (Filani, 2009).

As the city continues its expansion, it has gone beyond the borders of Lagos State, forming an extensive urban corridor reaching to and beyond Ibadan – and anchoring the Southwestern conurbation discussed earlier. Similar polycentric/corridor/conurbation formations are, as discussed earlier, emerging elsewhere in the country, centred on Kano, Abuja and Port Harcourt.

While it is acknowledged that urban change in Abuja is leading to the formation of a polycentric metropolitan area due to the economic and residential linkages between the city with its satellite towns, an urban trans-border corridor has also emerged in the north of the country connecting Maradi, Katsina and Kano, and linking Nigeria and Niger (OECD, 2006). The K²M area, as it is known, concentrates a population of around 19 million, and with a population density of around 200 inhabitants per square kilometre, it is regarded as one of the most densely populated areas in West Africa. The area is an important industrial core in Nigeria, and the corridor is of strategic significance for food security in the region by allowing the circulation of agricultural productions and livestock between the two countries.

In a similar way, the rapid growth of the cities of Awka, Onitsha and Nnewi has led to strong interdependencies between them. In turn, this led to the emergence of a conurbation and an urban corridor (UN-HABITAT, 2009). The 2006 census figures point to a population of around 4 million in the urban area, covering 17 LGAs.

Nigeria is thus marked by the remaking of urban boundaries and functionalities at the metropolitan (or the city region) scale, and by the emergence of new, hitherto unprecedented scales of urbanisation in the form of complex conurbation-like urban systems – both of which are hallmarks of the current phase of what some analysts term planetary urbanisation (Brenner, 2013).

As this is the terrain whereupon urban change is occurring most intensely and rapidly, deciphering how urban spatial expansion occurs on the urban edge is essential to understanding and better managing the Nigerian urban growth and expansion experience. This urban edge is constantly moving in a process of persistent redefinition (Mabin et al., 2013). The process of urban spatial expansion on the urban edge, and the constant redefinition of urban and rural spatial categories (and linkages) it entails has been documented in cities throughout Nigeria. Box 2 below discusses some of the implications for climate-related risks.

In Calabar, for instance, urban expansion in the past two decades has resulted in land conversion through the redevelopment of what was peri-urban agricultural and farm land into increasingly urban uses (Out et al., 2012). The process of spatial growth has followed a pattern of the incorporation of outlying rural lands and settlements into the existing urban fabric, and has led to a mixed-use pattern of development in the periphery, incorporating residential, industrial and commercial areas. It is estimated that in the period from 1991 to 2010 local authorities have approved the conversion of over 4,772 hectares of peri-urban agricultural

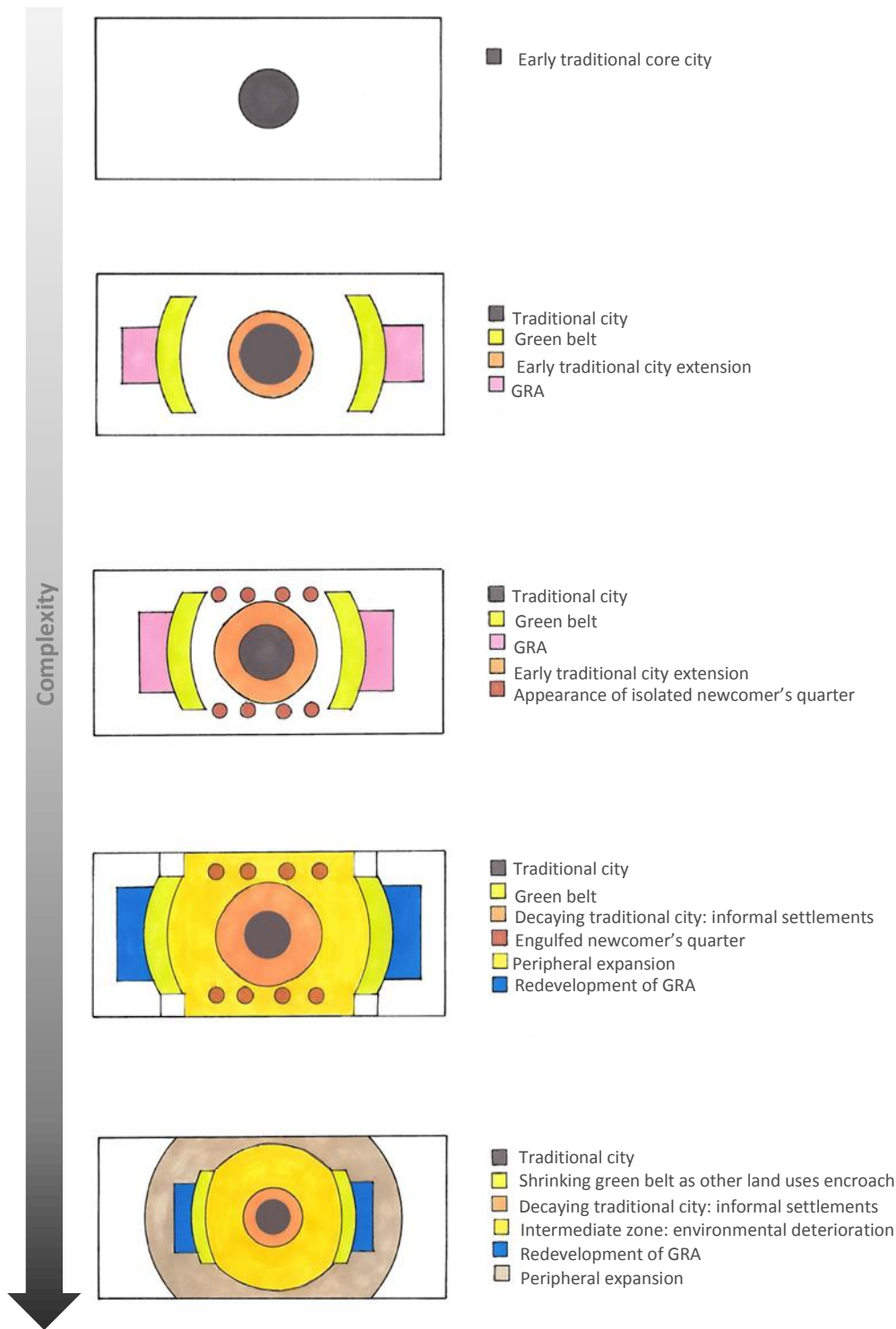
lands for residential development, 607 hectares for commercial use, and 90 hectares for industrial use.

The process of urban spatial expansion in the past three decades in Katsina illustrates a similar story. Rapid spatial growth has led to the conversion of undeveloped per-urban land around Katsina such as farmlands, plantations and open spaces (Isah, 2011). Urban land conversion has occurred in all radial directions and has resulted not only in the incorporation of attached agricultural lands, but also in the transformation of designated and planned residential areas into commercial and industrial ones.

This urban expansion process changes the conceptualisation and nature of urban-rural linkages: on the urban edge, where spatial extension occurs, land uses are transformed and agricultural land is frequently absorbed to accommodate urban uses (Aguda and Adegboyega, 2013; Atu et al., 2012; Ujoh et al., 2010; Kyom Bijimi, 2013; Tofowomo, 2008). This has changed the relationship between urban and rural areas, and resulted in the appearance of new spaces that emerge as the physical manifestation of this process. Often categorised as peri-urban given the rural and urban dimensions they encompass, small and medium-sized villages and towns are drawn into an urbanised fabric, which surpasses and redraws municipal borders, thus further contributing to the redefinition of what is 'rural' and what is 'urban' (Bloch, 2014).

Figure 14 below provides a visual illustration summarising the evolution of Nigerian urban structures described above – from the simple traditional core city, to colonial era cities with separate low density GRAs for the European settlers and isolated newcomers' quarters for internal migrants from other areas of the country, and finally to contemporary urban structures categorised by peripheral expansion and informal settlements surrounding the traditional core.

Figure 14. The evolution of Nigerian urban structure



Source: Copyright © Ogu, 2005. The model of stages of urban development proposed by Ogu was taken and subsequently modified and adapted with the phases described in the present report. Color was added to the key.

Box 2: Spatial expansion and urban risk

Unprecedented physical growth, frequently unplanned, combined with tenure insecurity and the proliferation of urban poverty has given rise to complex linkages between spatial expansion and urban risk. In other words, urban development has been an enabler of risk for a large part of the urban population in Nigeria: due to the non-existence or inapplicability of planning instruments and often lacking resources, new urban dwellers frequently settle in high-risk areas (Adelakan, 2009).

In effect, this means that the urban poor are disproportionately exposed to the adverse effects of climate variability and change, such as floods. Because of the devastating impacts it has on urban livelihoods and dwellings, flooding has been placed as one of the main reasons that stops Africa's urban population to escape from poverty.

The connection between spatial expansion, tenure insecurity, urban poverty and risk has been well documented in some coastal Nigerian cities. In Port Harcourt, for instance, spontaneous and uncontrolled physical growth driven by rapid urbanisation in the past four decades gave rise to the appearance of high-risk settlements, notably alongside swamps in the waterfront. Faced with high-cost inner city rentals and a shortage of housing, many new urban dwellers were forced to settle in high risk neighborhoods, exposed to flooding and the adverse effects of climate change (Max Lock Consultancy Nigeria, 2009). A similar situation has been reported for Lagos (Adelakan, 2009).

In Ibadan, spatial expansion associated by a lack of public service provision and the rise of irregular settlements has resulted in the emergence of urban risk (Adeniji and Ogundiji, 2009). Ibadan has been constantly exposed to flooding: in 2011 it caused the devastation of 2,100 homes, the disruption of transport through the destruction of bridges and culverts, and damage to livelihoods. The total cost of the events was placed at around \$40 million (World Bank, 2014). Poorly controlled urban development has been cited as a major driver of flood risk.

EMERGING POLICY AND PLANNING CHALLENGES

A number of significant challenges for policy and planning arise from the contemporary Nigerian urban reality.

Accurate demographic data to assess urban land needs

The availability of accurate data is of the utmost importance, as it is accurate population projections that in turn allow undertaking realistic projections of urban land needs. These two elements are intertwined, and the latter could not be derived accurately without the former.

There is much debate around the accuracy of demographic data in Nigeria and the pace of urbanisation. Our findings point to strong urban growth and urban expansion, but thorough estimations in Nigeria are still lacking. Proper population projections informing accurate land needs and the improvement of access to accurate geo-referenced data could thus support informed decision and policy-making regarding the actual needs for urban expansion.

This also calls for the consideration of an evidence-based population policy to ease demographic pressure. The widespread adoption of policies designed to restrict or discourage rural-urban migration in SSA have frequently proven ineffective and misguided. While effective rural development programs are valuable in their own right and should be pursued, these will not necessarily reduce rural-urban migration. Indeed, successful rural development initiatives may in fact encourage migration if they raise incomes and education levels, as these are known to be positively correlated with the propensity of individuals to migrate to an urban centre.

The complexity of the Nigerian urban system

Our analysis depicts the complexity of the Nigerian urban system: as seen earlier, in addition to a rising Lagos megacity of likely well above 10 million people, Nigeria is marked by the presence of other large-scale metropolitan cities, hosting between 1 and 5 million (Abuja, Benin City, Ibadan, Kano and Port Harcourt), at least 14 rapidly expanding or secondary cities of between 500,000 and 1 million, some 18 medium-sized cities in the 300,000 to 500,000 range, many smaller cities, and a huge number of towns that are exponentially emerging as urban centres. These categories amalgamate and merge to form more complex regionally-scaled urban systems. Developing a true understanding of this complexity is essential for the development of policy frameworks to address spatial planning in Nigeria.

This would certainly complement and augment the existing policy directions set forth in the National Urban Development Policy (2012). As a core strategic policy document providing overall guidelines for development, the National Urban Development Policy sets out the main

challenges that Nigeria is facing in terms of managing its urbanisation process. It is the first policy dedicated exclusively to the issue of urban development in the country.

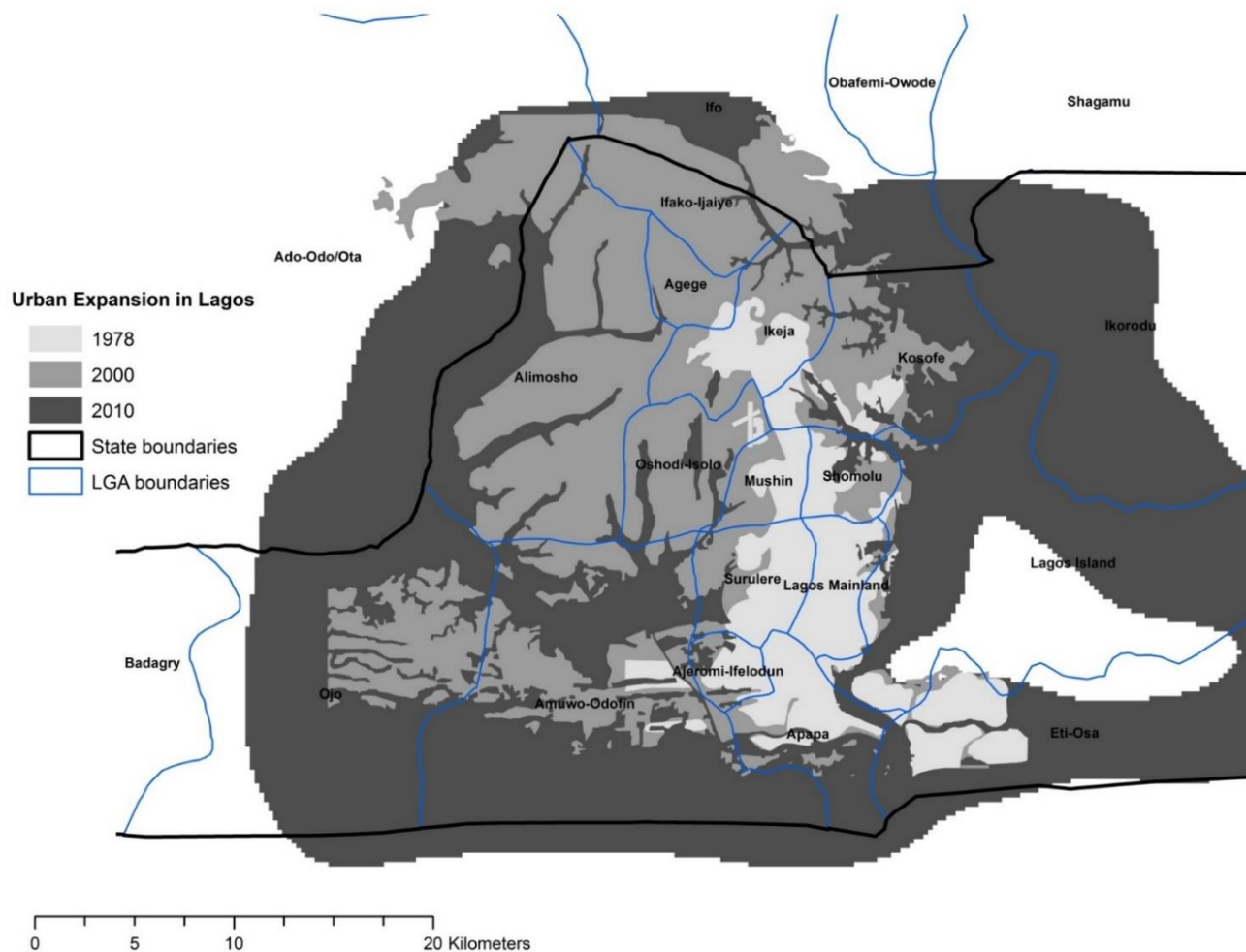
Managing urban growth and spatial expansion is acknowledged as a foremost priority and it is recognised that the technical and financial ability to develop and implement land use plans is a key challenge. The policy contains a specific chapter dedicated to “Urban Planning” in which the adoption of land use plans is proposed as a priority to counter the emergence of *“non-functional, disorderly, unhealthy, unsafe and aesthetically unappealing cities and urban areas”* (Government of Nigeria, 2012). The core emerging goal is then to reinforce the capabilities of spatial and land use planning authorities to adopt instruments orienting the growth of cities in order to contribute to overall economic performance.

Linkages between urbanisation, spatial expansion and urban governance

The last emerging issue revolves around linkages between urbanisation, urban expansion and urban governance. The reality is that there is now a mismatch between the extent of the land cover occupied by the built fabric and the existing administrative and institutional boundaries of Nigerian local governments. Spatial expansion is frequently not contained within municipal limits but often overlaps between various LGAs, as existing urban settlements grow and attach to themselves adjacent peri-urban or even rural areas, or as cities or rural towns grow into greater urban centres which cover different municipalities – or frequently states. Figures 15 to 19 illustrate in indicative fashion how urban expansion has occurred beyond municipal boundaries in Lagos (1978-2010), Calabar (1990-2010), Enugu (2000-2010), Ibadan (1990-2010) and Zaria (1990-2010).⁵

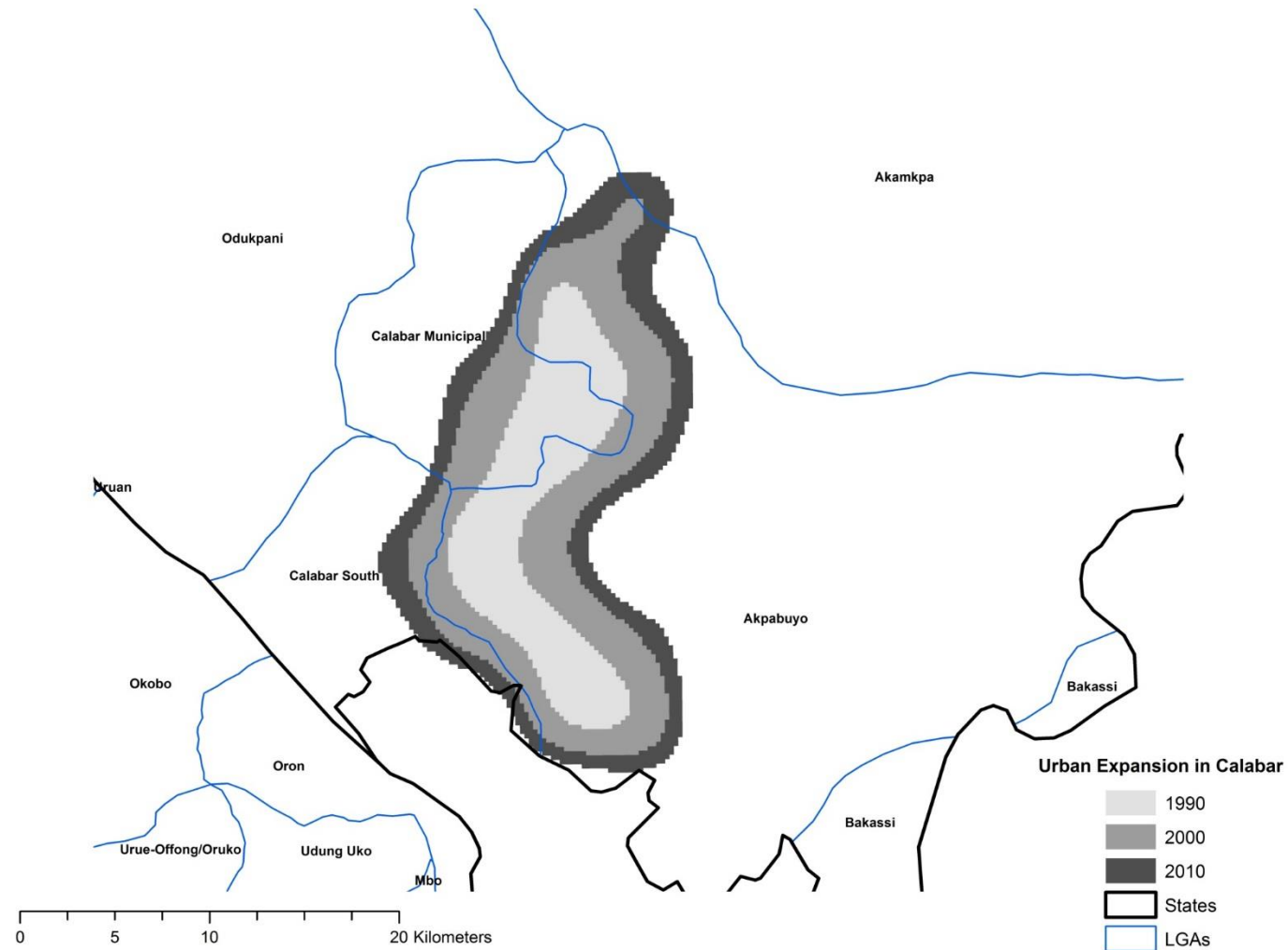
⁵ Maps of urban expansion were constructed based on the current definition that classifies settlements with a population of 20,000 or more as urban.

Figure 15. Spatial expansion in Lagos (1978-2010)



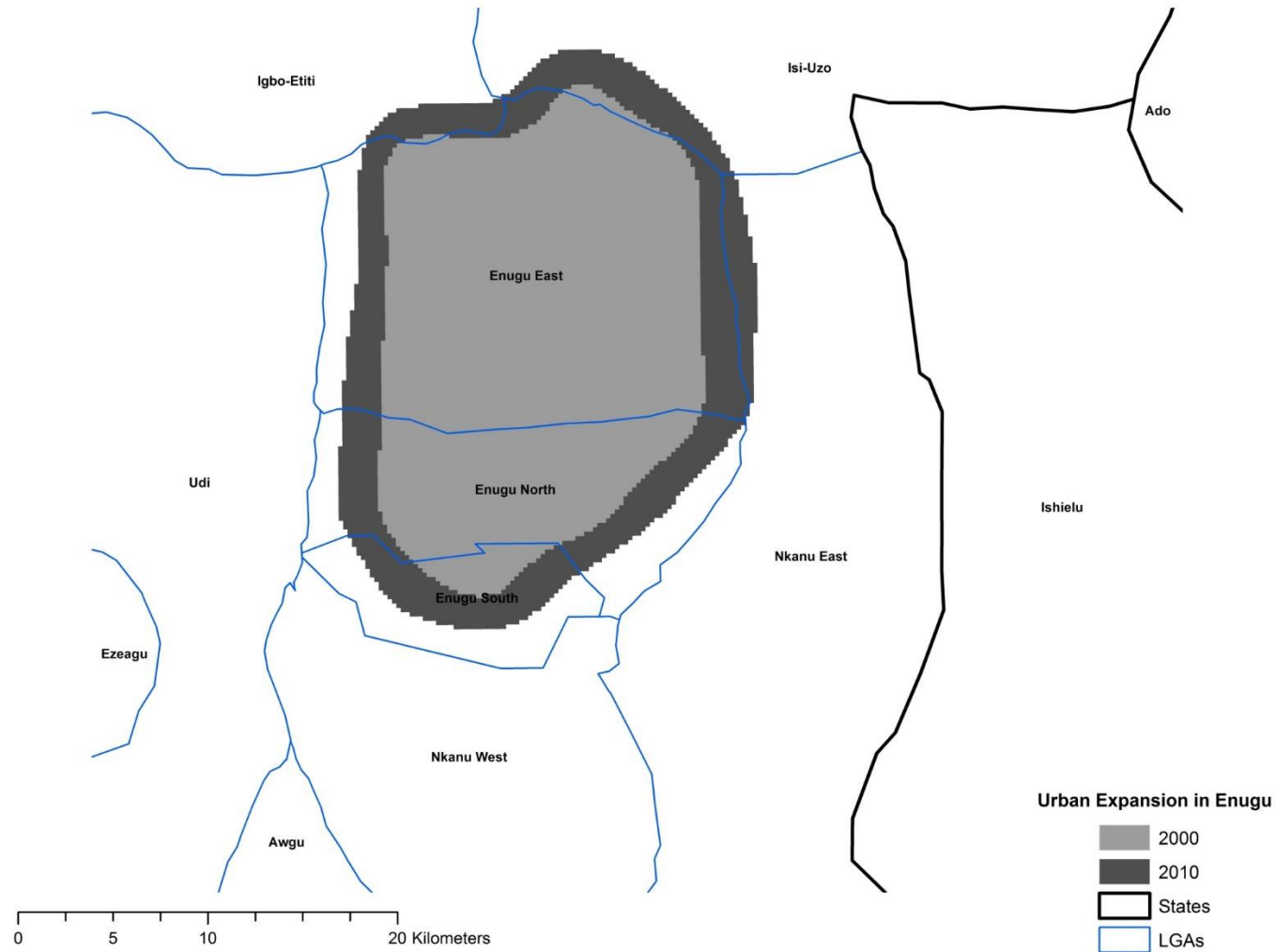
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Figure 16. Spatial expansion in Calabar (1990-2010)



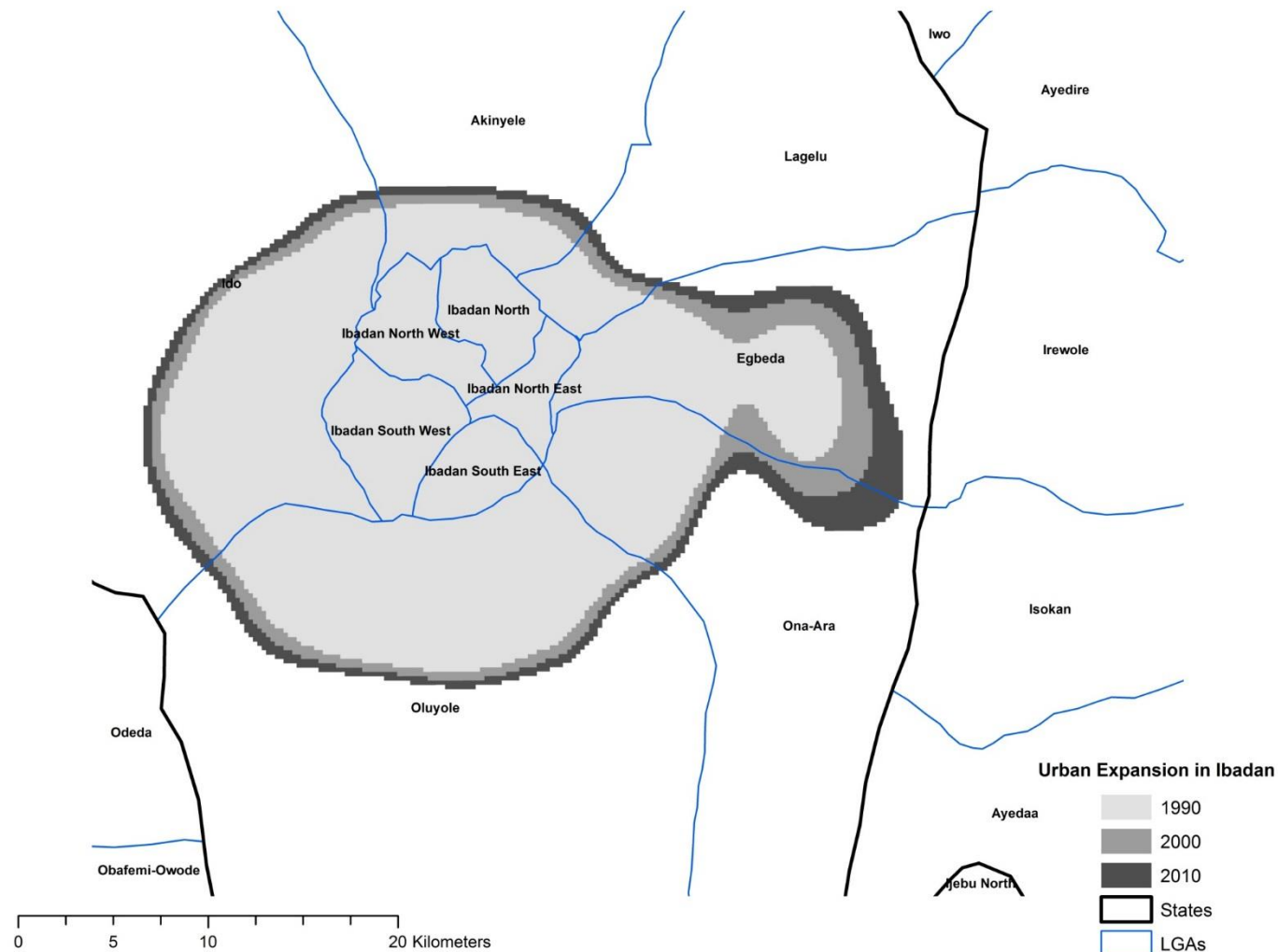
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Figure 17. Spatial expansion in Enugu (2000-2010)



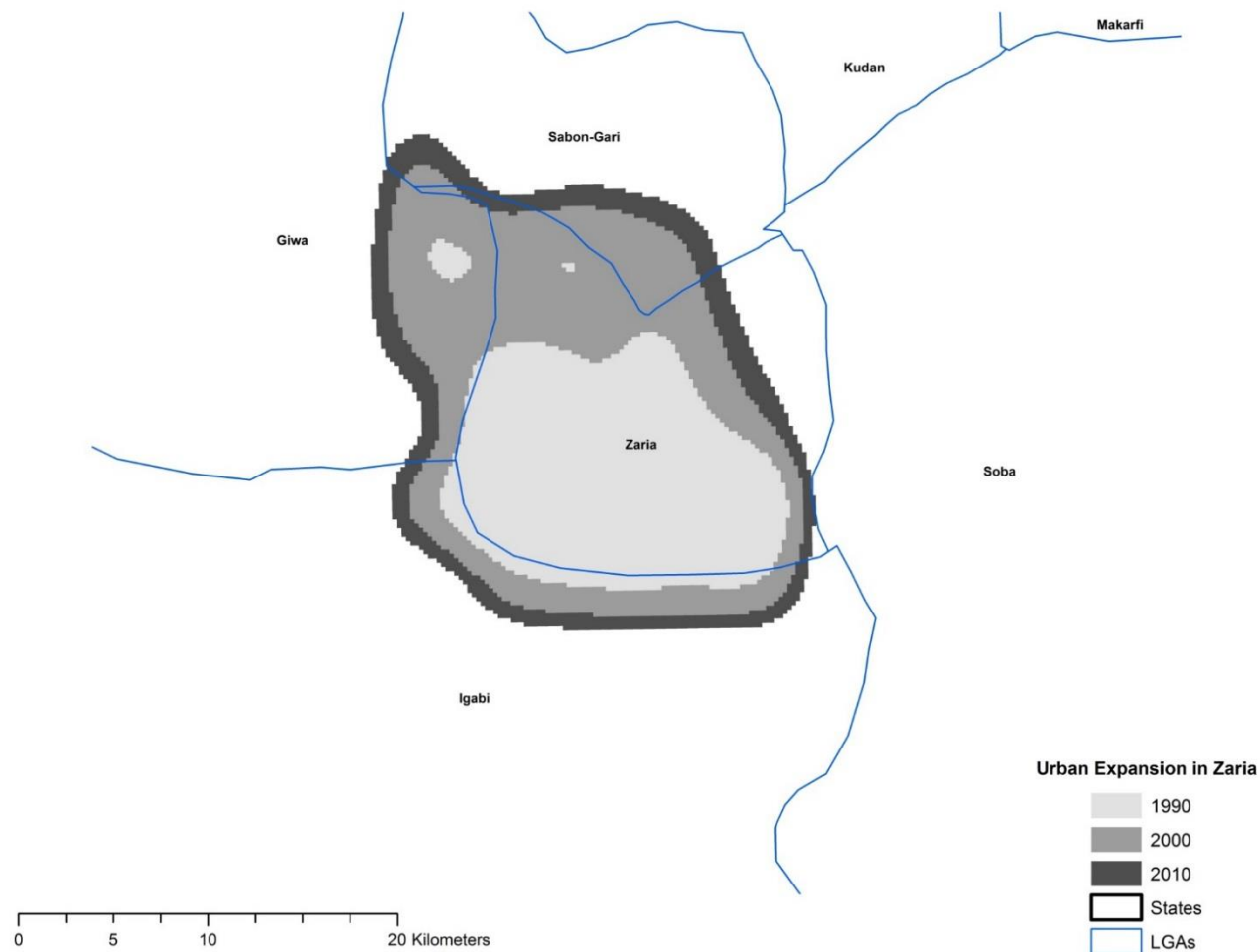
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Figure 18. Spatial expansion in Ibadan (1990-2010)



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Figure 19. Spatial expansion in Zaria (1990-2010)



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This picture is further complicated by the characteristics of institutional and administrative structures: while the 1999 Constitution establishes three clear levels of government – Federal, State and Local Government Area – there are currently no dispositions for establishing institutional structures able to encompass an overall metropolitan area when it spreads across various LGAs.

In this context, spatial expansion and urban change processes are closely intertwined with urban governance capabilities: because of the way in which urban growth occurs, existing urban governance structures are often unable to cope with the pace of expansion and provide the strategic guidance required for it.

Given the institutional weakness that is visible at the local government level, the constructive role that state governments could play in orienting strategic planning and urban spatial expansion emerges as a reality. Federal states in Nigeria appear as strong institutional entities, deeply enshrined within existing constitutional stipulations (World Bank, 2002). The place that they hold within the institutional structure is further reinforced by the long-standing demand on their side for stronger decentralisation: the powers granted to the states in the current constitution is vague, which leaves an open door for them to demand a transfer of powers from the federal centre.

This issue became evident with the introduction of the National Urban Policy. The policy also aimed at establishing a typology of urban centres as towns, cities, metropolitan centres and megacities in order to appropriately support and design governance structures as well as the required capabilities for the various types of urban centres. In effect, the enactment of this policy stipulated that while the country has an enshrined federal system, it would be the Federal Government that would legislate for the state level on urban planning issues. This stipulation was short-lived: the Lagos State Government put forward a legal challenge to the Nigerian Supreme Court, which eventually decided that the Federal Government cannot legislate for any of the states on urban planning.

The realities of urban growth and urban expansion in Nigeria (urban metropolitan areas often overlapping over several LGAs or even States), combined with the dynamics of existing institutional arrangements (weaknesses of LGAs and an emerging role attributed to states in urban planning) could situate state governance as entities with the appropriate capabilities to address emerging challenges in urban growth and expansion.

Some states, notably Lagos, have actually assumed a more active role in strategic planning. Meanwhile, some cities, closely interacting with the state level, have been at the forefront of establishing innovative governance frameworks to address issues at the metropolitan (and wider) scale. For instance, the Port Harcourt City Development Authority was created in 2009 to implement a masterplan for the wider metropolitan area, as well as to support the delivery of the New City, a major real estate development project to usher in the transition of the city to a world class metropolis.

Established in the early 1960s, the Metropolitan Kano Planning and Development Board was designed to deal with larger-scale planning issues in the Kano metropolitan area. While the Board holds powers in development control and physical planning, it suffers from technical and coordination capabilities to truly implement policy at the metropolitan level.

The adoption of a local state law established the Enugu Capital Development Authority (ECDA) in 2009. Incorporating the various LGAs that comprise Enugu as an urban area, the ECDA operates under the mandate of state government and is responsible for updating Enugu's masterplan and for providing advice on the development of Enugu's Capital Territory. The ECDA does not have a separate budget, however, to enact and deliver policy; all ministries at the State level have to agree to work with and allocate resources accordingly with the new unit.

CONCLUSION

This report intends to contribute to the debate on the dynamics and drivers of the urbanisation process in Nigeria. By providing an integrated analysis combining the various sources of information available on urbanisation and urban expansion and their drivers, as well as the impact that expansion is having on the structure of Nigerian cities, the following findings emerged:

- While sources differ on its pace, it is expected that urbanisation and urban growth will increase rapidly in Nigeria in the decades to come. The underlying cause of rapid urban population growth (and spatial expansion) in Nigeria is rapid population growth driven by declining mortality and persistently high fertility: urban natural increase plays a significant (and possibly dominant) role in driving urban population growth. While rural-urban migration contributes to urban growth, the significance of urban natural increase and reclassification due to rural densification have been widely underappreciated while the role of rural-urban migration has likely been overstated in Nigeria.
- Fast-paced urban expansion has had a profound impact on the physical structure of Nigerian cities. Urban growth and expansion has transformed them into complex urban formations. Contemporary urban settlements in the country are dynamic entities marked by the – frequently unordered – assemblage of the traditional core city and its residential, commercial and industrial zones with a variety of new, typically suburban peripheral areas, which arise in an array of configurations and social realities, and which contain a diverse range of economic functions and social activities.
- Urban change concentrates in the periphery: with ongoing urban expansion, there is a constant redefinition of what is ‘urban’ and what is ‘rural’. Urban expansion frequently occurs beyond municipal borders, and through a process of the deconcentration of both population and economic activity, polycentric urban structures, urban corridors and urban conurbations, are all emerging at different spatial scales. These processes of urban change are characterised by the dispersion of population and economic dynamism through a physical pattern of low density which typically links together various urban centres.
- Planning frameworks which strategically address spatial expansion are currently limited in Nigeria. The country also lacks appropriate population projections to accurately estimate urban land needs.
- Such planning should be informed by a thorough analysis of the way in which urban expansion is occurring in specific metropolitan areas, cities and towns. Given the characteristics of government structure

in Nigeria (Federal states hold strong powers and functions compared to LGAs), and the observed trend in spatial expansion (urban areas spreading over several LGAs and even states), state governments – and purpose-built metropolitan-level agencies – could well play increasingly enhanced roles in strategic spatial planning.

Further research projects under the *Urbanisation and Urban Change Processes* theme will further examine the findings and key issues presented in this report. By producing specific research on the core trends elucidated – the relationships between urban population growth and spatial expansion, the processes of expansion on the urban edge, and the changing pattern of rural-urban linkages – the URN programme will aim at building the knowledge base to provide a better understanding of the drivers and dynamics of the urbanisation process in Nigeria.

The following research projects will be conducted:

- *Spatial expansion and the periphery in Nigerian cities: the new Nigerian suburbs* will investigate the drivers and patterns of urban spatial expansion by examining the overlooked contribution of suburbanisation to urban growth;
- *Urban change in Kaduna* will provide a longitudinal analysis of urban growth and spatial expansion over the past 30 years;
- *Rural-urban linkages within the Benue Basin* will analyse rural-urban linkages in the Benue Basin, including rural-urban production systems, redirected population flows/mobility and reshaped social inter-relationships between urban centres within the basin, and;
- *The urbanisation process in Lagos and Nairobi in comparative perspective* will provide a comparative dimension by mapping the physical and social configurations and urban expansion of two of the largest city regions in sub-Saharan Africa.

It is intended that this work will produce new evidence that will inform the establishment of policy and planning instruments to address strategic spatial and urban planning in Nigeria.

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