

CHAPTER SEVEN

Urbanization and Peri-Urban Development in Minna, Nigeria

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INTRODUCTION:

Urbanization in Nigeria: Pre-colonial Era

Urbanization is not a modern phenomenon in Africa. It has been occurring since about 10,000 years back when Africans began founding permanent settlements, which paved the way for the first urban revolution around the Nile Valley in the region of Alexandria in Egypt (Muhammed 2011). Urbanization in Nigeria can be traced back to the involvement on the country in medieval international trade. These trading activities resulted to the growth of the grassland areas of the north and the forest land in the south-western area of the country (Wanda and Ayuba-Umahi, 2009).

Urbanization in Nigeria: colonial Era

Nigeria is one of the few countries in Africa which had many large pre-industrial cities before the colonial period. The country was inhabited by about 450 ethnic groups prior to colonization (Fourchad, 2003; Otto, 2008). These ethnic groups engaged in trading in and across their borders. Some cities like Kano, Ibadan and Benin among others were well known for trading

activities and had large concentration of people even before colonization. Infact, amongst the countries in West Africa, Nigeria was the first to experience major urbanization (CEPED, 2009).

In 1914, the British government under the leadership of Lord Fredrick Lugard formally united the Niger area as the Colony and Protectorate of Nigeria (CGD, 2013). However, Nigeria remained divided into the northern and southern provinces and Lagos Colony administratively (Figure 1.0). With the subsequent amalgamation of the Northern and Southern protectorates in 1914, a platform was created for Britain to further the exploitation of the economic potentials of Nigeria. Basically, it is this commercial interest that explains the pattern of urbanization and city development in the colonial era (Otto, 2008).

The largest concentration of urbanized towns was found in the south-western zone (NISER 1997). According to Fourchad, 2003, by mid-19th century, only 6 towns out of the 36 towns in the area had populations of more than 40,000 people each. The administrative structure created by the colonial government at the beginning of the 20th century changed the pattern of distribution of towns in Nigeria. For instance, towns like Kaduna and Nsukka appeared as administrative headquarters while Jos and Enugu appeared as industrial settlements. The presence of railway stations and an administrative headquarters helped in reinforcing the positions of a few towns like Ibadan, Ilorin and Ogbomosho in the southwest zone of the country (Fourchad, 2003). The railways ran neatly from the groundnuts pyramids of Kano through the tin-ore rich Jos, to the coal deposits of Enugu down to Port Harcourt harbour where the ships were stationed ready to evacuate these products. The colonial administration also provided other infrastructure to ease administration and accommodate its officers within and around the areas of

their operation. (Otto, 2008). These development attracted more people to such areas. However, with all these development, the proportion of people living in urban areas was still considerably lower to those living in rural areas. By 1931, less than seven percent of Nigerians lived in urban centres. The proportion rose to ten percent in 1952; 19.2 percent in 1963 (Fourchad, 2003).

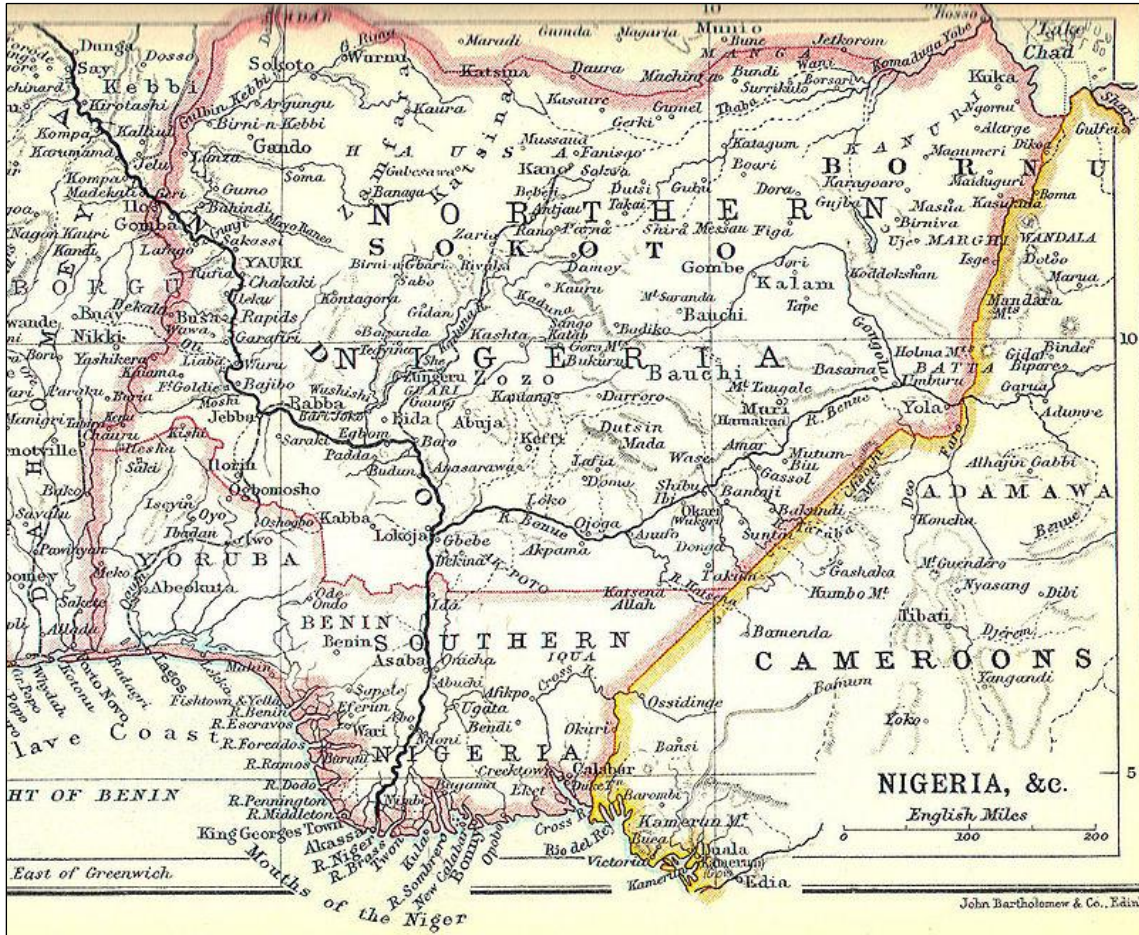


Figure 1: Southern and Northern Nigeria c. 1914 Public Domain view terms
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Source: http://en.wikipedia.org/wiki/Colonial_Nigeria 9/7/14 2.12PM.

Urbanization in Nigeria: Post-colonial Era

In 1967, the military administration of General Yakubu Gowon created 12 states to replace the former regional structure of North, West, East and Mid-west. Additional seven states were

created to bring the number of states to nineteen. By 1986, the country had 21 states and by 1996 the states rose to 36 states with Abuja as the Federal Capital. Resources were channeled towards infrastructural provisions within these newly created states leading to influx of rural residents who are in search of in modern sector employment and decent housing accommodation amongst others (Otto, 2008).

Urbanization in Nigeria is however plagued with a lot of problems such as infrastructural shortage; traffic congestion, housing deficit and proliferation of slums amongst others. These problems need to be addressed in a holistic manner if the desired sustainable development is to be achieved.

Urbanization and Peri-urban Development in Minna

Peri-urban settlement is associated with urbanization in many cities around the world. The Nigerian urban centres are faced with rapid growth and development, which contribute to land use change (Fabiya, 2006). The explosive nature of urbanization, resulting in unplanned and uncontrolled growth of large cities has had dramatic negative effects on urban dwellers and their environment (Masakazu, 2003). The spatial expansion of Minna began with the advent of rail line in 1905 and further consolidation by the introduction of town planning in 1910 (Sanusi, 2006). Since then, Minna has grown and developed into a modern city. The most vivid evidence of the growth could be seen at the urban fringe with the large and rapidly growing informal and squatter settlements at the peripheral areas (Popoola, 2015). The chronological order of urbanization process in Minna is presented in Table 1.

Table 1: Chronological Stages of Urbanization in Minna (1905-1991)

S/N	Urbanization Stage	Year
1	Advent of Railway in Minna.	1905
2	Southwest Expansion and the Emergence of Heterogeneous Ethnic Residential Camps	1909
3	Introduction of Town Planning	1910
4	Designation of Township Status to Half of the Town	1917
5	The Seat of Colonial Administration was moved to Minna	1924
6	Emerging Urban Centre with Pockets of Developments and Isolated Villages	1928
7	Minna became Headquarters of Kuta Division	1933
8	Population of 5000	1934
9	Increased Population to 20200	1954
10	Connection to Electricity Supply	1956
11	State Capital of Niger State	1976
12	Increase in Built-Up Area by 30%	1976-1983
13	Increase in number of political wards from 6 to 11	1990
14	Urban Population of 190750(based on National Population Census)	1991

Source: Adapted from Sanusi (2006)

Profile of the Study Area.

Minna, the capital of Niger State is located between Longitude 3°30' E and 7°20' N and Latitudes 8°20' N and 11°30' N (figure 3). Minna is about 135km away from the Federal Capital Territory and 300km away from Kaduna city. Within Niger State, it is about 90km away from Bida, 100km away from Suleja and about 130km from Kotangora. The town lies on a relatively high land with a site height of between 240m-270m above sea level. It is surrounded by a range of hills that stretch from north east westward towards Bosso and Tudun Fulani (Sanusi, 2006). The town is dissected at the lower part by River Suka and its tributaries. In the Southeast part of the town lays River Chanchaga which has been dammed to provide water for the greater part of the town. The division of Minna based on neighbourhoods shows that Minna has twenty-five (25) neighbourhoods.

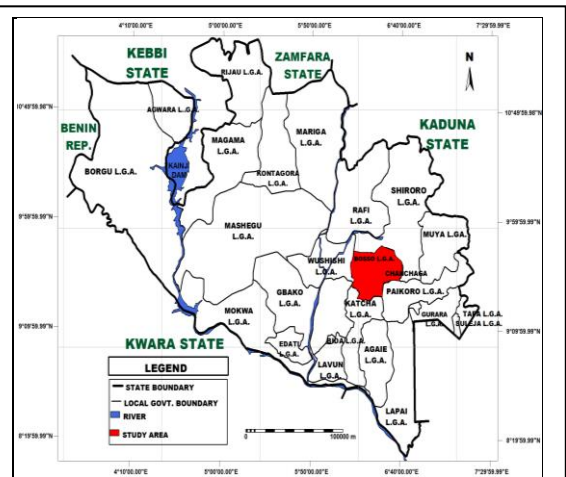
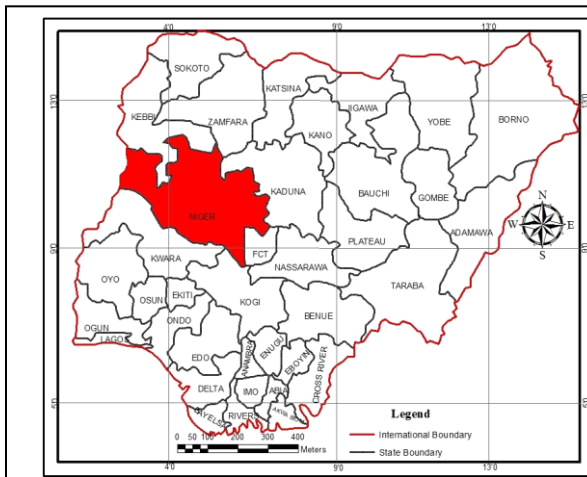


Figure.2.:Location of Niger State in Nigeria

Figure.3: Location of Minna in Niger State.

Source: Federal Ministry of Lands, Housing and Urban Development, Abuja.(2013); Ministry of Lands and Housing, Minna.(2013).

Peri- urban Land Changes in Minna (1996- 2012)

The influence of urbanization on spatial development of peri-urban areas in Minna was assessed using selected peri-urban neighbourhoods. The assessment covers a period of 16 years beginning from 20 years after declaration of Minna as the State Capital.

Land Use Changes in Barkin-Sale (1996 – 2012)

Barkin-sale has a total land coverage of about 26.06km² of which built-up area constitute 4.06km² of the total land area in year 1996 and increased to an area of 16.09km² in year 2012. Disturbed vegetation reduced in area coverage from 17.16km² in 1996 to an area of 8.04k² in 2012. (Table 2).

Undisturbed vegetation which represents the forest cover was on continuous decrease in area coverage within the study years. It reduced from an area of 4.67km² in the year 1996 to 1.90km² in 2012 (Table 2; Figures 4-6).

Table 2: Distribution of Land use Categories in Barkin-sale, Minna.

Classes	1996 Area (km ²)	%	2006 Area (km ²)	%	2012 Area (km ²)	%
Bare surface	0.17	0.65	0.43	1.65	0.03	0.12
Built-up Area	4.06	15.58	12.24	46.97	16.09	61.74
Disturbed Vegetation	17.16	65.85	11.82	45.36	8.04	30.85
Undisturbed Vegetation	4.67	17.92	1.57	6.02	1.90	7.29
Water Body	0.00	0.00	0.00	0.00	0.00	0.00
Total	26.06	100	26.06	100	26.06	100

Source: Popoola, 2015.

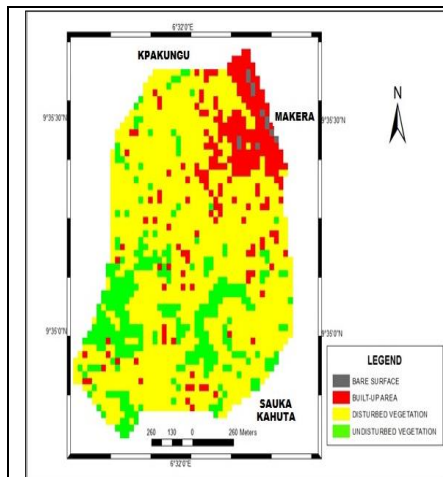


Figure 4: Classified Map of Barkin-sale, 1996
Source: Popoola, 2015

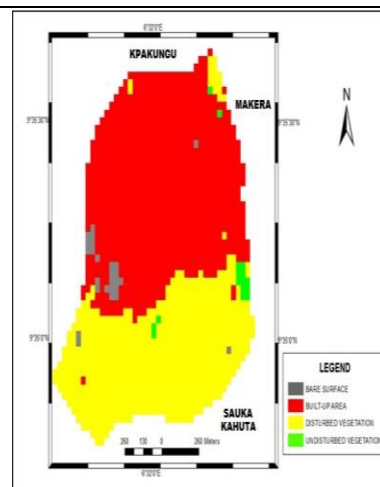


Figure 5: Classified Map of Barkin-sale, 2006
Source: Popoola, 2015

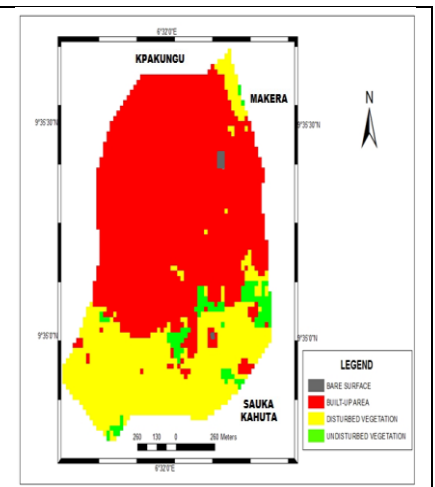


Figure 6: Classified Map of Barkin-sale, 2012
Source: Popoola, 2015

Land Use Changes in Bosso (1996 – 2012)

The neighbourhood had land area coverage of 137.24km² with bare surface area of 2.07km² in year 1996 which reduced successively through the study period to an area of 1.40km² in the year 2012. Built-up area increased all through the study period; from an area of 28.65km² in the year 1996 to an area of 53.63km² in 2012. Disturbed vegetation accounted for the largest portion of the total land area; it occupied land area of 79.83km² in 1996 and reduced to an area of 74.24km² in year 2012 while undisturbed vegetation increased from an area of 23.44km² in 1996 to an area of 6.77km² in 2012 (Table 3; Figures 7-9).

Table 3: Distribution of Land use Categories in Bosso, Minna

Classes	1996 Area (km ²)	%	2006 Area (km ²)	%	2012 Area (km ²)	%
Bare surface	2.07	1.51	1.92	1.40	1.40	1.02
Built-up Area	28.65	20.87	49.24	35.88	53.63	39.08
Disturbed Vegetation	79.83	58.17	68.98	50.26	74.24	54.10
Undisturbed Vegetation	23.44	17.08	16.96	12.36	6.77	4.93
Water Body	3.25	2.37	0.14	0.10	1.20	0.87
Total	137.24	100	137.24	100	137.24	100

Source: Popoola, 2015.

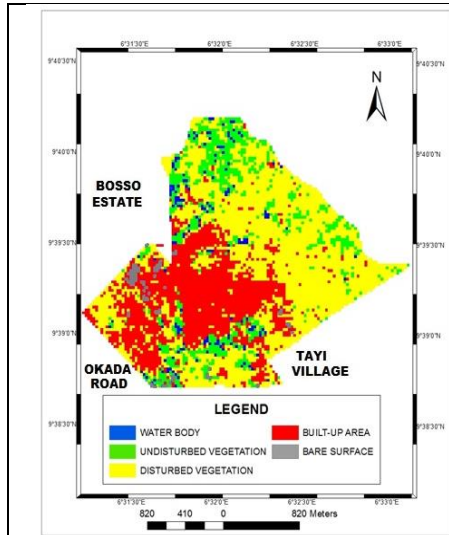


Figure 7: Classified Map of Bosso, 1996
Source: Popoola, 2015

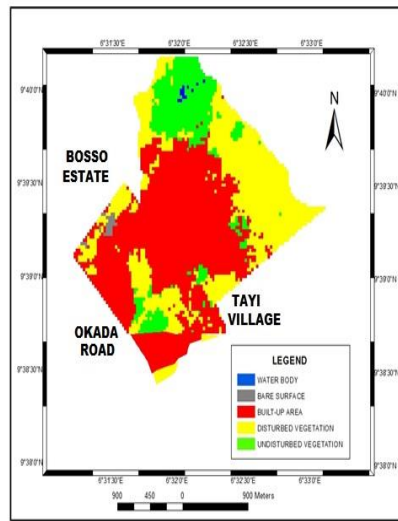


Figure 8: Classified Map of Bosso, 2006
Source: Popoola, 2015

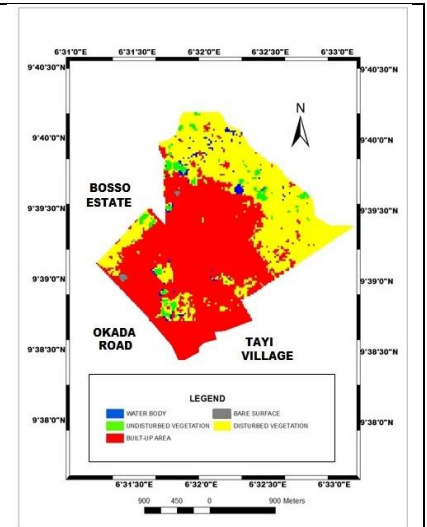


Figure 9: Classified Map of Bosso, 2012
Source: Popoola, 2015

Land Use Changes in Shango between 1996 and 2012.

Shango has the largest land area coverage amongst the selected neighbourhoods. It has bare surface occupying land area of 1.19km² in year 1996 which later increased to an area of 11.18km² in year 2012. Built-up area occupied land area of 15.61km² in 1996 which later increased to land area of 36.59km² in year 2012. Disturbed vegetation occupied land area of 118.60km² in 1996 and increase drastically to an area of 146.37km² in year 2006. It however experienced loss of land area between year 2006 and 2012; it represents 61.90% of the total land area. Undisturbed vegetation occupied an area of 80.01km² in 1996 and reduced to an area of 34.29km² in the year 2012; losing land area of 69.62km² within the period (Table 4; Figures 10-12).

Table 4 : Distribution of Land use Categories in Shango, Minna.

Classes	1996 Area (km ²)	%	2006 Area (km ²)	%	2012 Area (km ²)	%
Bare surface	1.19	0.55	1.69	0.79	11.18	5.19
Built-up Area	15.61	7.25	35.03	16.26	36.59	16.99
Disturbed Vegetation	118.60	55.06	146.37	67.95	133.35	61.90
Undisturbed Vegetation	80.01	37.14	32.32	15.00	34.29	15.92
Total	215.41	100	215.41	100	215.41	100

Source: Author, 2014.

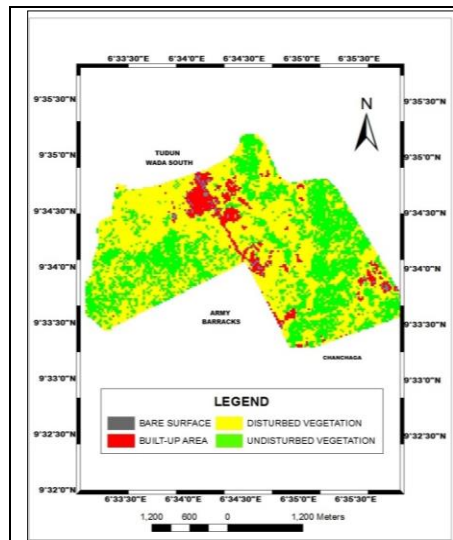


Figure 10: Classified Map of Shango, 1996
Source: Popoola, 2015

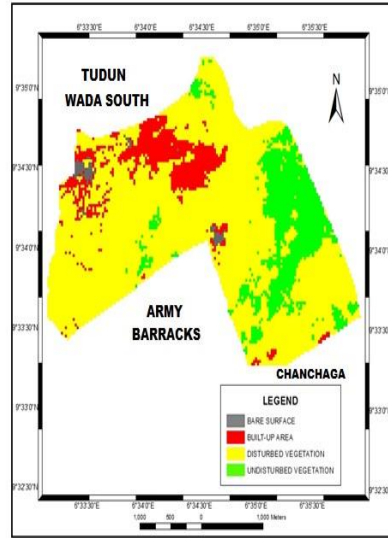


Figure 11: Classified Map of Shango, 2006
Source: Popoola, 2015

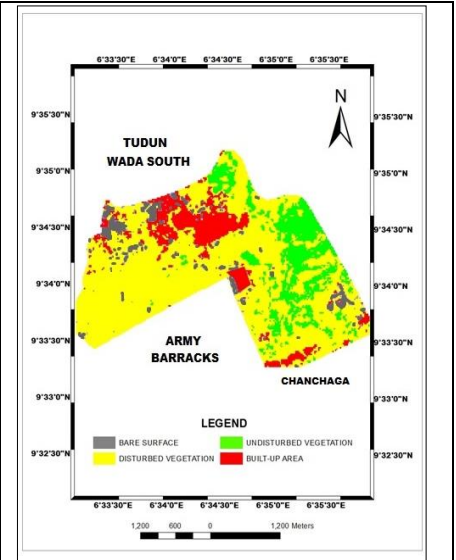


Figure 12: Classified Map of Shango, 2012
Source: Popoola, 2015

Analysis of Land Consumption Rate in Minna Peri-urban

The land consumption rates provide a measure of the spatial expansion in relation to population.

In table 5, the land consumption rates of Barkin Saleh increased exponentially from 0.956 to

2.088 within a ten year period (1996- 2006) and subsequently rose to 2.194 between year 2006 and 2012. When these indices are examined relative to the declining population densities for the same reporting periods of 1996 (1043 persons per km²), 2006 (479 persons per km²) and 2012 (456 persons per km²). This shows that the higher the rate of physical expansion as proxy by the land consumption rate, the lower the population density over an instant of time. It becomes evident therefore that population upsurge might have provided an impetus for the outward physical expansion of the built-up area over the 16 year period.

Table 5. Population density and Land Consumption rates in Barikin-sale using the built-up area

Year	Population	Built-Up Area (km²)	Population Density (Per km²)	Land Consumption rates
1996	4236	4.06	1043	0.959
2006	5862	12.24	479	2.088
2012	7333	16.09	456	2.194

*Note: 1996 is an estimation of 1991 population figure (projected @ 2.6%).
2012 population figure is an estimation of 2006 population figure (projected @ 3.8%).

Source: Analysis, 2015

The inverse relationship between population densities and land consumption rates for Bosso neighbourhood as provided in Table 6 however present a different interpretation from the foregoing. For instance, land consumption rose from 0.9038 in year 1996 to 1.1228 in year 2006, with this expansion in land consumption falling sharply to 0.9778 in year 2012. On the contrary, the corresponding population densities of 1106 persons per km² in year 1996 declined to 890 persons per km² in year 2006 but rose to 1023 persons per km² in year 2012. This result has important implications for the growth of peri-urban neighbourhoods. Firstly, this implies that for a 10 year period (1996 to 2006), Bosso neighbourhood witnessed tremendous spatial expansion precipitated by an initial population pressure. Secondly, a reverse trend however

occurred over the last 6 year period (2006 to 2012) where undue concentration of population has slowed down the demand for land and its rate of consumption in the neighbourhood.

Table 6. Population density and Land Consumption rates in Bosso using the built-up area

Year	Population	Built-Up Area (km ²)	Population Density (Per km ²)	Land Consumption rates
1996	31698	28.65	1106	0.9038
2006	43,856	49.24	890	1.1228
2012	54,863	53.63	1023	0.9778

*Note: 1996 is an estimation of 1991 population figure (projected @ 2.6%).

2012 population figure is an estimation of 2006 population figure (projected @ 3.8%).

Source: Analysis, 2015

Land consumption rates was highest in Shango neighbourhood, this is unconnected with the fact that the neighbourhood has the largest land area amongst the sampled neighbourhoods. Land consumption rose from 3.3291 in year 1996 to 5.3942 in year 2006, and fell slightly to 4.5039 in year 2012. However, the corresponding population densities of 300 persons per km² in year 1996 declined to 185 persons per km² in year 2006 but rose to 222 persons per km² in year 2012. This implies that the neighbourhood witnessed an increasing spatial expansion between 1996 and 2006. Even though the rate of land consumption decreased slightly in the neighbourhood in the year 2012; there was an increase in population concentration within the same period.

Table 7. Population density and Land Consumption rates in Shango using the built-up area

Year	Population	Built-Up Area (km ²)	Population Density (Per km ²)	Land Consumption rates
1996	4689	15.61	300	3.3291
2006	6494	35.03	185	5.3942
2012	8124	36.59	222	4.5039

*Note: 1996 is an estimation of 1991 population figure (projected @ 2.6%).

2012 population figure is an estimation of 2006 population figure (projected @ 3.8%).

Source: Analysis, 2015

Conclusion and Recommendation

Concentration of population in the Minna peri-urban is impacting greatly on the land use/ land cover changes in built-up areas. Built-up areas in the peri-urban were on the upward trend in all the sampled neighbourhoods. This is an indication of increase in development activities- majorly residential in Minna peri-urban. Continuous increase in demand for developable land in the peri-urban has great implication on other land uses like agricultural and forest. Also increase in population concentration per km² as observed in the land consumption rates analysis has great implication on environmental quality. The spatial development in the peri-urban which can be attributed to increase in population and demand for developable land calls for careful monitoring and development in the areas. It is recommended that bare surface land area be planned and manage to ensure sustainable living and working environment. Also, legislation for the management of peri-urban lands should be put in place to ensure proper management and preservation of land for future generations.

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