

Original Article

Urban Growth and Housing Problems in Kubwa District of Bwari Area Council, Abuja, Nigeria

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ABSTRACT

This study examined the nature of urban growth and housing problems in Kubwa District of Bwari Area Council in Abuja. The pattern of growth was determined using spatial analysis, and the housing problems were identified through questionnaire and field surveys. Data were collected from primary and secondary sources. These include images of the study area for two periods (2002 and 2012). Using polygon overlay, these images were analyzed to determine the growth pattern in the area. Findings revealed that the area of Bwari District increased by 1034.8 hectares which is equivalent to 38.5% expansion between 2002 and 2012. It was found that new settlements have evolved over the period, especially in the eastern side. However, the northern and northwestern parts of the district witnessed the largest urban growth rate in the area. The expansion of road network is another evidence of urban growth in the district. It was also observed that the current expansion has changed the settlement pattern of Kubwa from radial to irregular. Although there are mixed feelings among the respondents, it appears that overpopulation, high cost of rent and poor ventilation are the major urban growth and housing problems in the area. These can be attributed to the fact that housing demand exceeds the housing supply in the area. Other problems include overcrowding, dirty toilet, poor sanitation, inadequate water supply, irregular electricity supply, and ill health. One approach to the challenges of urban growth in the area is to enhance basic amenities such as water supply, electricity as well as refuse collection and management in the area. There is also the need to review the masterplan of Kubwa District to accommodate the current and future expansion in the area.

Keywords: Spatial analysis; urban growth; housing; Bwari District.

INTRODUCTION

Urban growth is the increase in the number of people living in towns and cities. The rapid increase in the population of urban centers has resulted into rising cost of living because of higher demand for urban commodities¹. Urbanization in developing countries has exerted pressure on infrastructural facilities such as housing which has a significant effect on the other basic needs of the urban residents. Since population keeps increasing, the need for more shelter cannot be neglected. The World Health Organization (WHO 1992)² describes housing as residential environment which includes the physical structure used for shelter, all necessary services, facilities, utilities required for the physical and mental health and social well being of the people. Therefore, basic amenities like waste disposal system, water supply, roads and location services are part of housing. Likewise, recreational facilities, health and educational infrastructures are all considered as parts of housing³. Housing is a critical component of social and economic foundation of a nation, and represents one of the most basic human needs as a unit of the environment. There are many ways government can meet the housing needs of its people. The starting point of proper housing development could be the development of appropriate space planning and building standards that reflect and meet the needs and aspirations of users⁴.

In Nigeria, the process of urbanization has been exceptional. This is because urban development takes up before planning in many towns and cities. The Thematic Committee⁵ reported that in 1950, less than 15% of the total population of Nigeria was living in urban centers; this increased to 23.4%, 43.5% and 50% respectively in 1975, 2000, and 2010. Nigerian cities experience rapid population growth and urban explosion which translate

into high pressures on available lands. Basorun and Fadairo⁴ observed that housing problems in many Sub-Saharan African countries arise mainly from urban growth without economic growth, hence, creating a new type of housing demand in a complex policy framework. For quite long, the rapid rate of urbanization in Nigeria and the substantial growth of urban population have not been matched by a corresponding socioeconomic and technological development⁶. Nigeria has one of the largest annual population and urban growth rates of 3.1 percent and 5.3 percent in Africa⁷. Consequently, urban areas in the country are characterized by an increasing shortage of urban services and infrastructure (particularly housing) which are only available to a small fraction of the population⁸. In addition, the provision of new housing stock is not proportional to the demand for housing in almost all nations of the world⁴.

Although studies have shown that the problem of housing is worldwide, it is however more serious in less developed countries⁹ of Africa. Housing problems for the growing population could result into problems of rising cost of living in terms of rent, transportation, environmental pollution, and high rate of social vices. Ononugbo *et al.*¹⁰ observed that in most of the third world countries like Nigeria, urban populations have expanded without any commensurate expansion in the basic amenities for adequate healthy urban environment. Moreover, rapid urbanization has resulted into housing related problems such as rising cost of affordable housing, environmental pollution, and inadequate basic amenities. The increasing cost of affordable housing has made it gradually more difficult for low-income households to live in decent accommodation, thereby pushing them to live in slums¹¹ that are not up to the standard

of quality housing. It is reported that many of the cities in developing countries have insufficient affordable housing and their housing units are commonly characterized as slums. Ononugbo *et al.*¹⁰ found that rapid urbanization and industrialization in Enugu city of south-eastern Nigeria from the 1960s through 1989 have resulted into the shortage of low-income housing units, and the increasing cost of affordable housing in the area. Similarly, it is reported that most of the houses in Ile-Ife town in south-western Nigeria were deficient of the basic requirements of standard housing and therefore remain unfit for human occupation¹². Furthermore, it was discovered that poor housing quality has serious adverse effects on environment and the health of city residents¹. Hence, there is the need for governments to consider the issue of housing as a top priority.

The creation of Abuja, the new Federal Capital Territory of Nigeria in 1991, and the relocation of headquarters of government agencies from Lagos to Abuja have attracted migrants from different parts of the country. The high rate of migration, coupled with population increase triggered rapid urbanization in the territory. This has resulted into many urban and housing problems within the city. Tolufashe¹³ observed that housing problem is one of the major problems experienced in Abuja due to high rate of rural urban migration that contributes to population growth of the city. The problem of housing is not restricted to the city of Abuja but has spillover effects on neighborhoods such as Kubwa District. However, previous studies on urban growth and housing problems have focused on Abuja city. In addition, most of these studies used field survey to hypothesize the rate of urban growth which does not give the exact rate of growth of the area. The aim of this study is to employ hybrid approach which combines spatial analysis and field survey to

examine the spatial aspects of urban growth and housing problems in Kubwa District of Bwari Area Council in Abuja. The findings of the study will provide important information to guide policy making as well future planning and development of the area.

The Study Area

Kubwa District of Bwari Area Council is situated on the northern part of Abuja along Abuja-Suleja expressway as shown in Fig. 1. It is bounded on the north by lower Usman Dam, on the south by Jabo village and on the west by Zaba town as shown in Fig. 2. Geographically, Kubwa falls between latitude 9^o 09" North, longitude 6^o 44" and 7^o 20" East. It is one of the areas designated for resettlement within the Federal Capital Territory¹⁴. It covers an area of approximately 860 hectares.

The land of Kubwa is generally low, undulating and speckled with rock outcrops. The soils in the district are typically deep and well drained having only local constraints where they are high in clay or stones. They contain large amount of humus making them considerably fertile and suitable for farming. The onset of rainy season is usually experienced in April, and most of the annual rainfall is recorded between the months of July and September. The temperature ranges between 21^oC and 32^oC in the area¹⁴.

According to year 2006 census, the population of Kubwa is about 12,183 people¹⁵. The dominant tribe in the area is Gwari. The Gwari people are the indigenous tribe in the area but various other Nigerian tribes from different parts of the country moved to Kubwa as a result of resettlement scheme in the area. The area is now socially heterogeneous with people divergent tribes exhibiting divergent cultures and traditions. Other minority tribes in the area include Koro, Gwardara, Gada, Hausa/Fulani, Igbo and Yoruba. The people in the area engage

in agricultural activities, cattle rearing, crafting and civil service.

MATERIALS AND METHODS

Data used for this study were collected from primary and secondary sources. These include Google images of the study area for two periods (2002 and 2012). The images were georeferenced based on UTM projection, digitized in GIS environment, and classified based on maximum likelihood classifier to distinguish between the land cover types in the area. The two images were overlaid. Using polygon overlay, these images were analyzed to determine the growth pattern in the area. The objective of polygon overlay is to determine whether two area objects overlap, the area of overlap, and to define the area formed by the overlap as one or more new area objects¹⁷. This operation is useful to determine the extent of growth of Bwari District over the period of study.

In addition, questionnaire and field surveys were employed to identify the housing problems in the area. Secondary data were sourced from published works, Federal Capital Development Authority and Bwari Area Council. Other sources of information include personal observations, interviews with private developers and traders of building materials, as well as five government officials. The officials were selected from Federal Capital Development Authority, Abuja Environmental Protection Agency, and Bwari Area Council. A record of the existing public and private housing stock was used to determine the extent of residential development in the area. Also, a reconnaissance and landuse survey of the area was carried out to update the existing structures in the area of study.

Stratified random sampling of households was adopted based on administrative zones in the area to select the respondents for the questionnaire survey. In

order to obtain a representative sample of the whole population, the number of questionnaires administered in each zone is proportional to the population size of the zone. A total of one hundred and twenty questionnaires were administered to respondents across the five administrative zones in Kubwa using random sampling technique; and fifteen questionnaires were administered to government officials using purposive sampling technique. Table 1 below shows the number of questionnaire administered in each administrative zone.

RESULTS AND DISCUSSION

Urban Growth in Kubwa District

Results of the overlay analysis as shown in Fig. 3 illustrate the urban growth pattern in the area between 2002 and 2012. Findings revealed that the area of the district was 826.5 hectares (30.75%) in 2002 but expanded to 1861.3 hectares (69.25%) in 2012. An increment of 1034.8 hectares of the area which is equivalent to 38.5% expansion is highly significant over the period of study. It can be seen that new settlements have evolved over the period, especially in the eastern side bordering Dutse toward Usuman Dam. However, the largest growth is experienced in the northern and northwestern parts of the district adjacent Dede Village. The expansion of road network as can be seen in Fig. 3 is an evidence of urban growth of Kubwa District. It is observed that the current expansion has changed the settlement pattern of the district from radial to irregular. But there is no doubt the population of the district has increased, the volume of socioeconomic activities in the area has also increased leading to significant landuse/landcover changes in the area between 2002 and 2012.

Results from Field Survey

The socio-economic characteristics of respondents

Findings revealed that 62% of the respondents were males and 38% were females, in which 45% of the respondents are married and expected to bear children, so there is every tendency of population growth in the area. While 42.5% and 12.5% of the respondents are single and divorced respectively. About 53% and 37% of the respondents respectively belong to 31-45 and 16-30 age groups as presented in Table 2, which shows that the respondents are reasonable and can provide vital information on the subject of study.

Since majority of the respondents attended tertiary institutions as shown in Table 3, it is believed that majority of them would have more accurate information about urban growth and housing problems in the study area.

Occupation is an important socio-economic variable as it is used to determine the standard of living of the respondents. Table 4 shows that majority of the respondents (39%) are civil servants, while about 33% are self-employed, 12% are traders and about 6% are farmers. It is worrisome that about 10% are unemployed and cannot cater for their housing and other needs. However, some of the unemployed people are engaged in miscellaneous jobs in the area.

The level of income is a determining factor of the type of house one occupies because it determines what he can afford for house rent. High income earners in most cases would prefer to live in more descent houses unlike low income earners who cannot afford such package. Hence, they would go for less quality and cheaper houses. The income distribution of the respondents as presented in Table 5 shows that a large number of the respondents constituting 55% earn N30, 000 and above (equivalent to \$200 USD and

above) per month. The monthly income of 17.5% of the respondents ranges from N21, 000 – 30,000 (equivalent to \$150 - \$200 USD); while 15% of them earn average of \$150 USD monthly.

Housing conditions in Kubwa

Results from questionnaire survey indicate that 63% of the respondents are living in rented houses that are usually overcrowded, with poor sanitation which result to ill health because environment has great and obvious effects on human health¹⁸, comfort and well being. In addition, due to the high cost of rent in the area, many people occupy a single room to share the rent in some cases. Consequently, they exert high pressure on the available housing facilities in the area. This is in agreement with the findings of Mabogunje *et al.*⁶ who observed that lack of adequate housing in Nigeria is one of the factors responsible for large proportion of the urban population living in high density housing units, in spite of the environmental conditions which constitute serious threat to human health and their productivity. Moreover, the influx of immigrants into Kubwa, the high cost of urban land and building materials are the reasons for more people living in rented houses in the area. Results also showed that only about 17% of the respondents live in their owned houses. While about 14% of the respondents reside in government quarters. About 50% of them live in single rooms, 45% live in flat house apartments, while 5% of the respondents live in other types of accommodation. Although majority of the respondents (73%) complained that electricity and water supply in the area is irregular, most households (67.5%) get their water supply from pipe borne, while 21% depend on borehole and water vendors, about 7.5% of the respondents depend on the stream as their source of water, while 4% get their water from wells in the study area.

Tables 6 and 7 indicate that although a very large number of the respondents have exclusive toilets and bathrooms, a large number of them constituting about 30% use shared toilets and bathrooms making them vulnerable to toilet infectious diseases. It can be seen in the tables that about 8% and 5% of the respondents respectively use open toilets and bathrooms thereby polluting the environment and making it harmful to human health.

Similarly, information obtained from the questionnaire survey revealed that about 64% of the respondents have exclusive kitchen, 24% use shared kitchen, and 12% cook in the open mostly in front of their houses. This has implication on air quality in the area.

The fact that 65% and 48% of the respondents respectively used concrete in building their houses and galvanized sheet in roofing their houses is an indicator that the physical conditions of the houses is average. Other materials used for roofing and construction in the area can be seen in Tables 8 and 9. However, only about 11% of the respondents are fully satisfied with the physical condition of the buildings, 28% are satisfied, 48% are fairly satisfied, while 13% of the respondents are not satisfied with the state buildings in the area. Therefore, about 83% of the respondents need the government to come to their aid to improve the standard of the houses in Kubwa District.

Waste management is one of the most important urban growth issues which must be handled appropriately to avoid other environmental problems. This is because if waste is not properly disposed, it blocks water channels which could lead to flooding and environmental pollution. It can be seen in Table 10 that about 41% of the respondents dispose their refuse privately, while only about 30% dispose their wastes in government dump sites. The fact that about 30% of the respondents dump their refuse

indiscriminately in unauthorized places is a matter of serious concern. This cannot be unconnected with the fact that the condition of urban infrastructure in most Nigerian cities is unsatisfactory because most urban environments are characterized by poor drainage and sewage system, uncollected garbage from industrial, commercial and domestic establishments¹¹.

Table 11 outlines the housing problems of the area as mentioned by the respondents in the area. Although there are mixed feelings among the respondents, it appears that overpopulation, high cost of rent and poor ventilation are the major urban growth and housing problems in the area. These can be attributed to the fact that housing demand exceeds the housing supply in the area. Other problems include overcrowding, dirty toilet, poor sanitation, inadequate water supply, irregular electricity supply, and ill health.

CONCLUSION

The creation of Abuja in 1991 has attracted people from different parts of Nigeria and overseas. The high rate of migration, coupled with population increase triggered rapid urbanization in the Federal Capital territory. This has resulted into many urban and housing problems within the territory. This study examined the nature of urban growth and housing problems in Kubwa District of Bwari Area Council in Abuja. The pattern of growth was determined using spatial analysis, and the housing problems were identified through questionnaire and field surveys. Findings revealed that the area of Bwari District increased by 1034.8 hectares which is equivalent to 38.5% expansion between 2002 and 2012. It was found that new settlements have evolved over the period, especially in the eastern side bordering Dutse toward Usuman Dam. However, the largest growth is experienced in the northern and northwestern

parts of the district adjacent Dede Village. The expansion of road network is another evidence of urban growth in the district. It was also observed that the current expansion has changed the settlement pattern of Kubwa from radial to irregular. Although there are mixed feelings among the respondents, it appears that overpopulation, high cost of rent and poor ventilation are the major urban growth and housing problems in the area. These can be attributed to the fact that housing demand exceeds the housing supply in the area as established by government officials, developers and other stakeholders in the area. Other problems include overcrowding, dirty toilet, poor sanitation, inadequate water supply, irregular electricity supply, and ill health.

Housing problems cannot be separated from urban growth. But the nature of the problems depends on the pattern of growth which varies from one geographical location to the other.

Recommendations

Based on the findings of this study, the following recommendations are hereby proposed:

- Government should build low-cost houses as none is found in Bwari District, in order to provide good and adequate housing units in the area. This can be achieved through public private partnership.
- The low-cost houses can be given to civil servants in the area through housing loan scheme in order to help them own their houses.
- Commercial and mortgage banks should help in provision of loans for housing to the general public as it will help in increasing the number of people who own houses in the area.
- The Ministry of Housing and Urban Development should address the high cost

of rent in the area through appropriate legislations.

- Power supply in the area could be improved by harnessing the available solar or wind energy resources in the area. Also, more boreholes are required to supplement the pipe borne water supply in the area.
- Abuja Environmental Protection Board (AEPB) should improve and monitor refuse collection to avoid indiscriminate disposal of waste in the area. More refuse collection sites that should be managed regularly are required at strategic locations in the area.
- Government should control all developments within Kubwa to avoid the current irregular growth pattern, overcrowding, and poor ventilation in the area. There is also the need to review the masterplan of Kubwa District to cater for the current and future changes in the area.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Table 1. Administrative zones in Kubwa

Zones	Population size	No. of questionnaire	Percentage
Kubwa town	3,002	28	21%
Gbanzango	3,012	28	21%
Bhyzin	1,077	22	17%
Phase 1	1,063	22	17%
Phase 2	4,029	35	24%
Total	12,183	135	100

Source: Bwari Area Council (2013)

Table 2. Age of the respondents

Age	Percentage
0 – 15	0
16 – 30	36.7
31 – 45	53.3
46 – 60	10
61 and Above	0
Total	100

Table 3. Educational qualification

Qualification	Percentage
Primary	7.5
Secondary	30.8
Tertiary	55.9
No Formal Education	5.8
Total	100

Table 4. Occupational status of respondents

Occupation	Percentage
Civil Service	39.2
Farming	5.8
Trading	11.7
Self Employed	33.3
Unemployed	10
Total	100

Table 5. Income level of the respondents

Income In Naira Per Month	Frequency	Percentage
0 – 10,000	15	12.5
11,000 – 20,000	18	15
21,000 – 30,000	21	17.5
30,000 and above	66	55
Total	120	100

Table 6. Type of toilet facility

Toilet Type	Respondents	Percentage
Shared	34	28.3
Exclusive	52	43.3
Bush	5	4.2
Water System	29	24.2
Total	120	100

Table 7. Bathroom type

Type	Frequency	Percentage
Exclusive	77	64.2
Shared	30	25
Open space	8	6.6
Others	5	4.2
Total	120	100

Table 8. Materials used for constructing houses

Mode	Respondents	Percentage
Mud	8	6.7
Cement and Mud	34	28.3
Concrete	78	65
Total	120	100

Table 9. Materials used for roofing

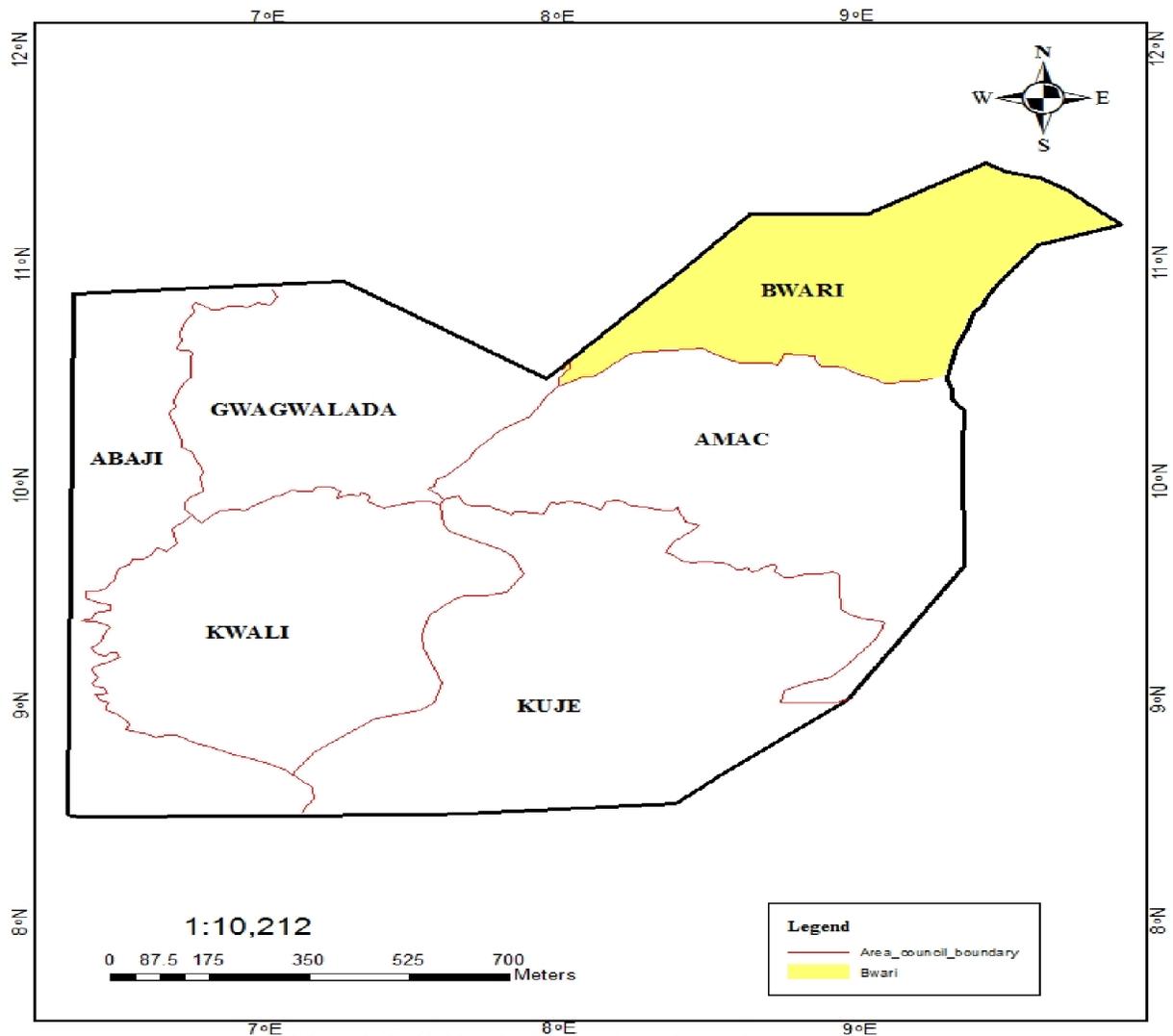
Roof Material	Frequency	Percentage
Galvanized Sheet	58	48.3
Materials Sheet	30	25
Asbestos Sheet	23	19.5
Concrete Roof	9	7.5
Others	0	0
Total	120	100

Table 10. Respondents' refuse dump sites

Site	Frequency	Percentage
Unauthorized Place	35	29.2
Private Ownership	49	40.8
Government Allocated Place	36	30
Total	120	100

Table 11. Nature of housing problems in Kubwa District

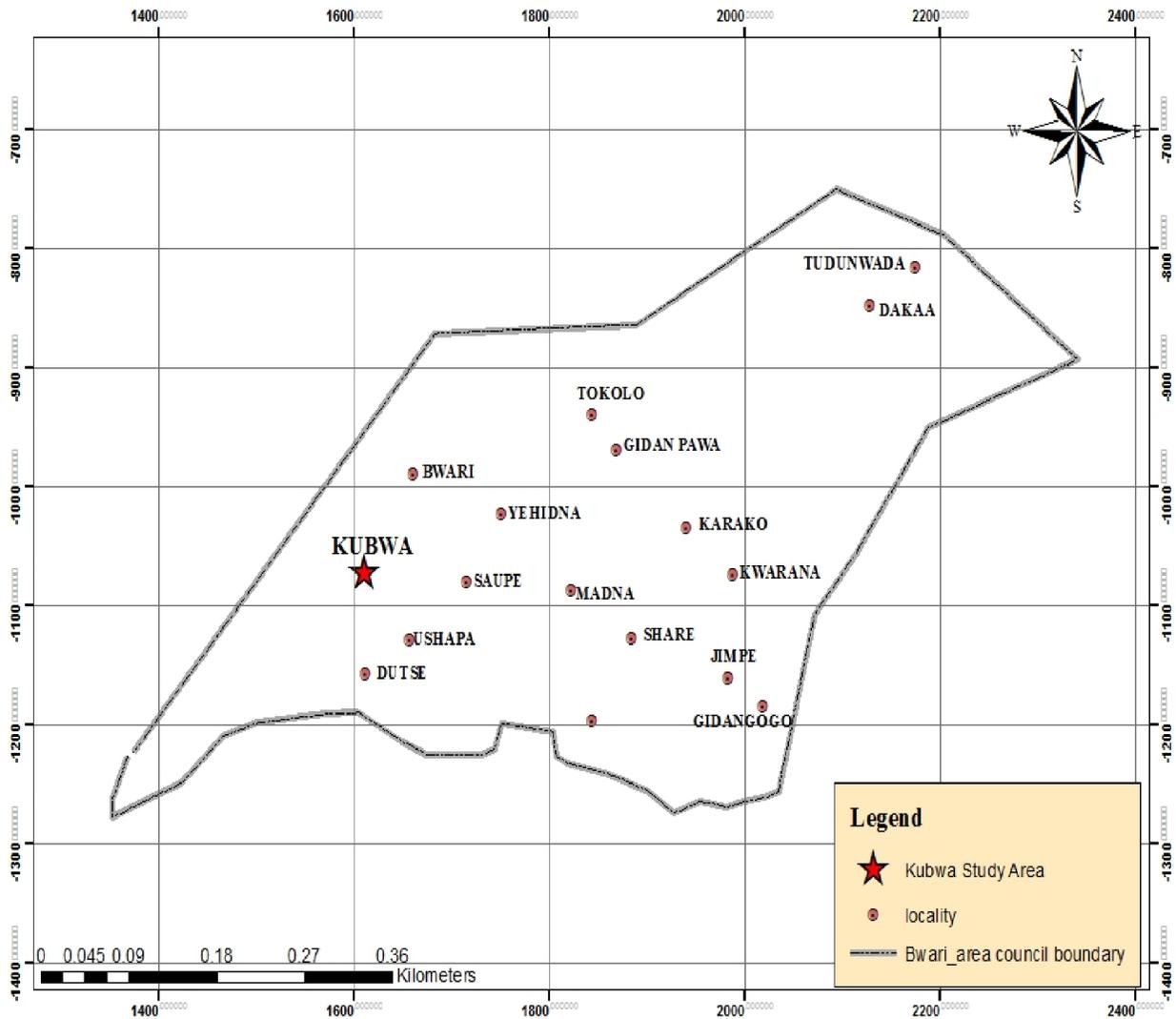
Housing problems	Frequency	Percentage %
Over population	17	14.2
Poor ventilation	13	10.8
High cost of rent	23	19.2
Over population and high cost of rent	18	15
Over population, high cost of rent and poor ventilation	28	23.3
Poor ventilation and high cost of rent	21	17.5
Total	120	100



Map of Abuja Showing Bwari Area Council
Source: Department of Land Survey, FCDA, Abuja

Figure 1. Map of Abuja showing Bwari area council

Source: Department of Land Survey, FCDA, Abuja¹⁶



MAP OF BWARI AREA COUNCIL SHOWING KUBWA STUDY ARE

Source: Modified from administrative map of Abuja

Figure 2. Map of Bwari area council showing kubwa

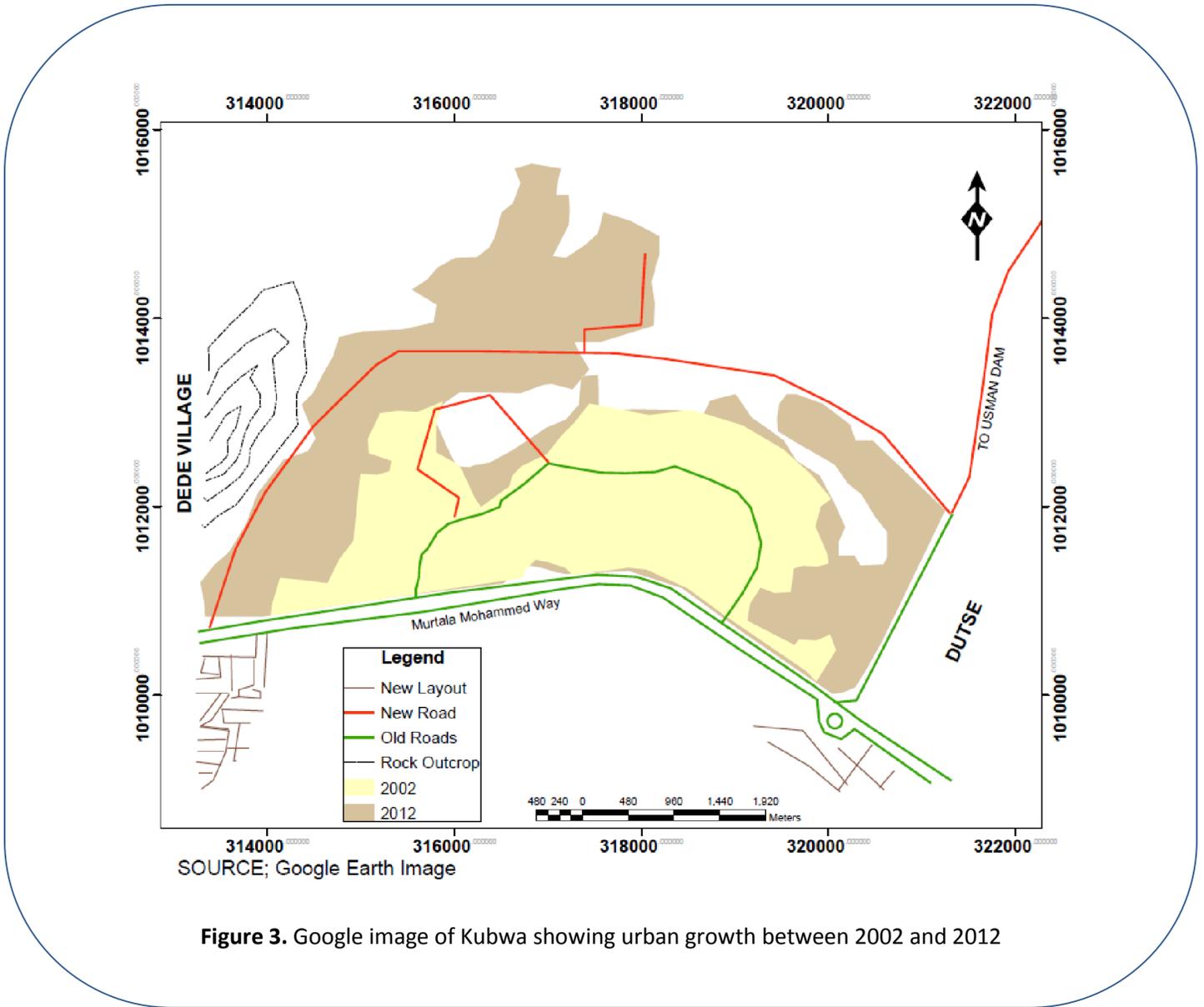


Figure 3. Google image of Kubwa showing urban growth between 2002 and 2012