IMPACTS OF KOGI STATE UNIVERSITY ON HOUSING DEVELOPMENT AND ENVIRONMENTAL QUALITY OF ANYIGBA, KOGI STATE, NIGERIA

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Abstract
Liberalisation of the establishment of tertiary institutions across Nigeria in recent times has created new growth poles as places or settlements where the institutions are located have benefitted from several associated social and economic opportunities. However, the establishment of several of these new tertiary institutions has not been accompanied with the required investment in the building of on-campus student housing or hostel accommodation. This study, therefore, seeks to analyse the effects of the establishment of Kogi State University (KSU), Anyigba on housing development and environmental quality of the town. Amongst others the study examines the pattern of housing development and level of adherence to physical development regulations in the study area and the characteristics of neighbourhoods around the KSU campus where most of the off-campus student hostels are situated. As part of the study a total of 364 questionnaires were administered on heads of households and landlords of the houses where students reside using a systematic random sampling approach. The focus of the questionnaires is to determine factors that influence housing development in neighbourhoods around the campus of KSU and the level of adherence to extant physical planning regulations in the development of these housing, particularly off-campus student hostels. Personal observation was also used to obtain data on the visual quality of the study area. Descriptive and inferential analytical techniques are adopted for the analysis of data obtained with the aid of the Statistical Package for Social Sciences (SPSS). Among others, the study reveals that 68% of housing used for off-campus student hostels did not observe the required plot ratio and setbacks, while 26% of the houses did not have toilets and other required conveniences such as kitchens and bathrooms. The study further establishes that toilets are inadequate in 61.6% of the houses that had such facility. Amongst others, the study recommends a more rigorous physical development control in the area to stem the ugly scenario of unwholesome housing development and poor environmental quality.

Keywords: Environmental quality, Housing development, Impacts, Kogi State University, Off-campus students housing

1.0 Introduction

In recent years, the Federal government of Nigeria has demonstrated enormous enthusiasm to the growth of tertiary education sector thereby establishing more institutions, especially universities and the liberalisation of their ownership. While liberalising the ownership of higher institutions, adequate attention has not been accorded to the provision of commensurate

students housing accommodation in the institutions so established to cater for the teeming student populations. In view of this inadequacy in complimenting on-campus housing accommodation, substantial percentages of the students take succour in sourcing for off-campus alternative accommodation. In addition, many housing developers have also considered such inadequacy of on-campus housing as a veritable investment opportunity to be harnessed. However, it has been observed that a plethora of problems are associated with off-campus student housing in many parts of the country.

The establishment of Kogi State University (KSU) Anyigba in 1999 has exacerbated the rate of immigration of people into Anyigba in recent times (Ifatimehin and Ufuah, 2006). It has equally engendered an unprecedented rate of land-use change in the entire University's host community through massive residential and rental housing development and renovation of existing housing stock to attract demand. The situation has also led to the proliferation of unapproved and haphazard housing development.

2.0 The Study Context

This study intends to explore the housing development trend alongside the assessment of physical environmental quality as it affects the growth of Anyigba. It also seeks to identify pattern of housing development and suggest how housing development can be made more sustainable and a more conducive environmental quality can be achieved within Anyigba with a view to relieving the housing stress of the residents of the town, especially the students. The aim of this study is to assess the effects of the location of Kogi State University (KSU) on housing development and the environmental quality of Anyigba town. This is with a view to assessing emerging physical development challenges in the area. Pursuant to this aim, the evolved objectives of the study are to examine the relationship between the establishment of KSU and housing development in the study area; determine the influence of off-campus student housing development on the environmental quality of Anyigba; and identify emerging physical development challenges arising from the pattern of housing development for off-campus students' accommodation in Anyigba town.

Anyigba town is located on latitude 7° 15'N and longitude 7° 32'E (Ifatimehin and Ufuah, 2006). It has an average altitude of 420m above mean sea level (MSL). The estimated population of Anyigba is 18,907 persons as at 2002 based on a growth rate 3.25% (UNDP, 2002). Using the exponential growth formulae, the population of the town is projected to reach 34,494 in 2019. According to Ifatimehin and Ufuah (2006), the presence of KSU in Anyigba has engendered the growth of the town on the one hand, and significant socio-economic transformation and improved literacy level of the residents on the other. Furthermore, Ifatimehin *et al.* (2009) stated that Anyigba is located in the tropical region with both wet and dry climate; in terms of vegetation, it is located in the guinea savannah region, with average annual temperature of 25°C and 1600mm precipitation. It is located on sedimentary configuration of the Anambra basin, the predominant soil type is lateritic in nature with combination of hydromorphic and loamy soils. The sitting of Kogi State University in the town is apparently affecting housing development and environmental quality of the town. The location of Anyigba in Nigeria is presented in Figure 1.
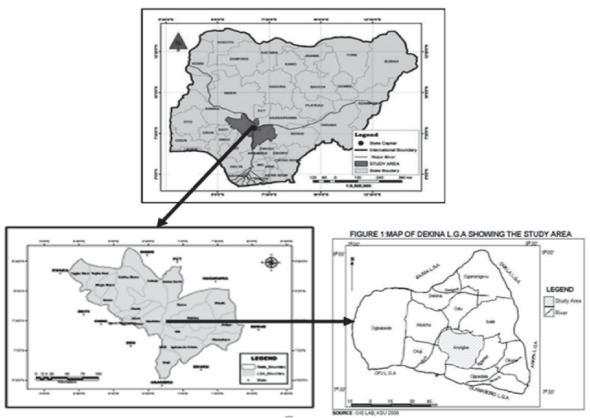
***Figure 1*:** Location of the study area.
Source: Bureau of Lands and Urban Development, Lokoja, Kogi State (2019).

3.0 Review of Related Literature

Housing is a basic necessity for the survival of man, ranking second on the hierarchy of human needs after food. The definition of what constitute housing has been subject to several debates. It has been noted that contrary to popular opinion, house and housing are not synonymous terms (David, *et al.*, 2012). A house denotes just the building consisting of walls and roof that protects the inhabitants from harsh elements of weather (Sulyman, 2015). As a result, Agbola and Alabi (2000) noted that a house is a symbol of physical protection, security, respect, psychological wellbeing and economic value to the family or individual. In other words, a house is a mere shelter. On the other hand, housing transcends mere shelter (Jinadu, 2007; David *et al.*, 2012).

Agbola and Kassim (2007), Ndubueze (2009) and Ademiluyi (2010) argue that the concept of housing incorporates the environment, safety and the wellbeing of the residents. It is a major component of a household's consumption (Chatterjee, 1981); as such, it is regarded as a bundle of goods and services (Bourne, 1984). It has further been argued by Henilane (2016) that housing is the most important component of human life and survival.

A more holistic definition of housing is the one offered by FRN (2012). It defines housing as the process that entails the provision of secure, comfortable, beautiful, serviceable, inexpensive and exclusive habitation in a serene location or environment in a neighbourhood, sustained by constant protection of the built environment for the day-to-day activities of individuals and households within the neighbourhood, while showing their socioeconomic and cultural desires and preference.

Housing is now seen as a fundamental need and an inalienable human right (Amole, 2009b; David *et al.,* 2012). For example the UN Declaration of human rights in the 1940s recognised housing as a right. Similarly, the United Nations Millennium Development Goals (MDGs) and consequently, the Sustainable Development Goals (SDGs) recognises the right to decent and affordable housing. Again, the Constitution of the Federal Republic of Nigeria (1999) stated unequivocally that the major responsibility of the government is to provide welfare services (including decent and affordable or subsidised housing) to its citizens. Section 16(1) (d) of 1999 constitution under the Fundamental Objectives of State Policy mandates the government "to provide suitable and adequate shelter for all citizens". However, the right to housing is a 'non-justiciable' right, meaning that claims cannot be laid on them in the law courts. Notwithstanding, Ebie (2009) still contends that housing is the first and most essential of all human rights.

Globally, the issue of student housing has attracted concerted concerns from academics, policy makers and non-governmental organisations (Jiboye, 2011). This is so because majority of the higher institutions of learning, particularly in developing countries, do not have enough on-campus accommodation for its students (Amole, 2009b; Mohit *et al.,* 2010). The problem becomes more worrisome in sub-Saharan Africa where majority of the higher institutions only has hostel accommodation for a minute proportion of their students (Jiboye, 2011). In Nigeria, students' hostel accommodations in higher institutions are grossly inadequate; thereby increasing the rate of hostel squatting and consequently, overcrowding of hostel rooms. Therefore, students have devised alternative means of meeting their housing needs through off-campus housing.

Mohit *et al.* (2010) have demonstrated that off-campus student housing is a significant contributor to the housing market globally. Similar opinion was offered by Jiboye (2011) who argued that in Nigeria, rental housing development around tertiary institutions is a widespread practice. In fact, Jiboye (2009), Amole (2009a) and Mohit *et al.* (2010) have established a link between students seeking accommodation off-campus and housing development in neighbourhoods where higher institutions are located.

It has been noted that housing development is associated with a plethora of ecological impacts (Jaafar *et al.*, 2014). Similarly, Junnila and Horvath (2003) argued that housing development contributes to more than 50% of global human energy consumption. Furthermore, Dong *et al.* (2005) contended that the only way to minimise or mitigate the environmental impacts of housing is through the adoption of the philosophy of sustainable housing development. In other words, environmental sustainability forms a core issue in modern housing development.

WCED (1987) argued that while environment is where humans live, development is whatever human beings do in order to change, alter or improve the environment in which humans

live. They argued further that environment and development are two interlocking and interdependent concepts. For example, in attempting to supply sufficient and decent housing for humanity, the environment is usually altered.

Duruzoechi (2015) noted that the process of housing development involves tempering with the natural environment through cutting down of trees, clearing the bushes, excavation of the soil and superimposition of buildings in places that were initially vacant and occupied by flora and fauna. The effect of the aforementioned activities that are related to housing development is an undeniable loss of biodiversity. However, biodiversity losses have been linked to a reduction of the earth's bio-capacity.

WHO (2009, 2012) submitted that more than 7% of global carbon emission result from the construction or development of housing. Similarly, Sulyman *et al.* (2017) in their investigation of the ecological footprint of housing in Minna reported that housing has a significant level of ecological footprint. In fact, they stressed that buildings have the highest ecological footprint. They concluded that all the materials used in housing development (including timbers, sand and water) has significant amount of ecological footprint.

Furthermore, although cities occupy only about 4% of the earth surface, they house over 50% of global population, consume more than 33% of ecological resources and generate more than 35% of global pollution. As Olatubara (2008) observed, housing is one of the foremost elements of cities. Therefore, the relationship between housing and environmental quality cannot be overemphasised.

4.0 Research Methodology

This study obtained the required data from primary and secondary sources. The primary data were obtained with the aid of structured questionnaire and observational rating. The questionnaire was used to obtain the socio-economic and demographic data of the residents of Anyigba; while the observational rating method was used by the researcher to rate the physical conditions of the housing units in the study area and the sanitary condition of their surrounding environments. 364 respondents were chosen as the sample size for this study using Dillman, 2007 technique of determining sample size from a given population. The systematic random sampling approach was adopted for the administration of questionnaires to the respondents. However, only 323 (that is, 88.74%) questionnaires were duly completed and successfully retrieved for analysis in this study. The secondary data utilised in this study were obtained from Bureau of Lands and Urban Development, Lokoja, and scholarly publications. All secondary sources have been duly acknowledged in the reference section of this paper. Qualitative and quantitative techniques of data analysis were adopted to analyse the socio-economic, demographic, sanitation and housing data collected for the study since the research is exploratory and descriptive in nature. The research hypothesis was tested using the Pearson Correlation analysis technique. Data analysis was conducted with the aid of Statistical Package for Social Sciences (SPSS).

5.0 RESULTS AND DISCUSSIONS
5.1 Socio-Eeconomic Characteristics of the Households

The analysis of the socio-economic attributes of the respondents presented in Table 1 revealed that both gender are fairly represented in the study (57.3% male and 42.7% females). On

the aggregate, about 81.4% of the respondents were above 18 years old, while 36.8% reported that they were between 28-37years old. In terms of marital status, about 36.8% of the respondents reported that they were single, while only 15.5% affirmed that they were married. Others were divorced (24.8%) and widowed (22.9%). The dominance of respondents who were single may not be unconnected to the massive students' population in the study area. Surprisingly, only about 29.4% of the respondents reported that they earned below the minimum wage of Nigeria (N30,000:00). This indicates that the study area is economically viable.

Table 1: Socioeconomic characteristics of the households

Attribute	Frequency	Percentage
GENDER		
Male	185	57.3
Female	138	42.7
AGE		
Less than 18years old	60	18.6
18-27years old	92	28.5
28-37years old	119	36.8
38-47years old	52	16.1
48-57years old	0	0
58years old and above	0	0
MARITAL STATUS		
Single	119	36.8
Married	50	15.5
Divorced	80	24.8
Separated	74	22.9
Widowed	0	0
MONTHLY INCOME		
Less than ₦30,000	95	29.4
₦30,000-₦45,000	38	11.8
₦46,000-₦60,000	80	24.8
₦61,000-₦75,000	110	34.1
> ₦75,000	0	0

5.2 Household Size

A probe into the household size of the respondents (Table 2) indicates that majority (63.2%) of the respondents had more than 7 members, while 36.8% of the respondents' households were occupied by 5-6 residents. The implication of this is that majority of the households in the study area have exceeded the average household size of Nigeria which is 5 persons per household. Therefore, the residents of Anyigba experiences high occupancy status, which is an indication of overcrowded housing condition in the study area. This may expose the residents to negative health outcomes.

	Frequency	*Percent*
1-2 persons	0	0
3-4 persons	0	0
5-6 persons	119	36.8
7 persons and above	204	63.2
Total	323	100.0

5.3 *Housing Ownership Status*
The housing ownership status of the respondents is presented in Table 3. As the result indicates, 49.2% of the respondents were renter-occupiers. However, 38.4% were owner-occupiers; while 12.4% resided in family houses. The dominance of renter-occupiers in Anyigba may be linked to the high student population in the study area. The students were mostly non-indigenes whose residence in the community is temporary (that is, only for the period of their academic pursuit).

Table 3: Housing Ownership Status

	Frequency	*Percent*
Owner-occupied	124	38.4
Renter-occupied	159	49.2
Family house	40	12.4
Total	**323**	**100.0**

Source: Authors' Field Survey (2020)

5.4 Determinants of Housing Choice
Table 4 indicates that the major determinant of housing choice of the residents of Anyigba was affordability (57.0%). This was followed by the proximity (24.8%). The weakest determinant of housing choice of the residents of the study area was neighbourhood quality (18.3%). None of the respondents reported the aesthetic feature of the community as a determinant of their housing choice.

Table 4: Determinants of Housing Choice

	Frequency	Percent
Affordability	184	57.0
Aesthetics	0	0
Neighbourhood quality	59	18.3
Proximity	80	24.8
Total	323	100.0

Source: Authors' Field Survey (2020)

5.5 *Condition of the Surrounding Housing Environment*

The physical conditions of the housing environments in the study area were also rated on the scale of 1 to 5, where 1 represented very bad score and 5 represented very good score. As shown in Table 5, the landscape conditions of 53.9% of the residential environments were just fair. More so, 12.7% the landscape condition of their residential environment were rated as very good, 25.7% were rated as just good, while only 7.7% were rated as just bad. Interestingly, none of the housing units scored a very bad rating. The implication of this is that majority of the residences has a satisfactory landscape condition.

Table 5: Condition of the Surrounding Housing Environment

	Frequency	*Percent*
Very good	41	12.7
Good	83	25.7
Fair	174	53.9
Bad	25	7.7
Very bad	0	0
Total	323	100.0

Source: Authors' Field Survey (2020).

5.6 *Proportion of Plot Built or Occupied by Housing Structure*

The proportion of the plots occupied by the housing structures in the study area was measured by the researcher. It was discovered that majority (68.4%) of the households do not have adequate plot ratio. Only about 31.6% of the households maintained adequate plot ratio (Table 6). The implication is that majority of the houses in Anyigba do not have enough floor and air spaces. Consequently, this may expose the residents to negative health challenges.

Table 6: Proportion of Plot Occupied by Housing Structure

	Frequency	*Percent*
Adequate	102	31.6
Inadequate	221	68.4
Total	323	100.0

Source: Authors' Field Survey (2020).

5.7 *Sanitary Condition of the Study Area*

Table 7 presents the sanitary condition of Anyigba. Although toilets were available in 74% of the houses, toilets in up to 61.6% of the households were inadequate. More so, 63.2% of the households in the study area depended on pit latrines. Furthermore, the toilets in about 59.7% of the households were in bad and deplorable condition. This shows that residents of Anyigba experience sanitation problem. In terms of the wastewater drainages, 81.4% of the households surveyed had sewage system. However, on the aggregate, only about 42.4% of the households had good and functional sewage system. Again, this is a pointer to sanitary problem in Anyigba – an indicator of poor environmental quality.

Table 7: Sanitary Condition of the Study Area

Attribute	*Frequency*	*Percentage*
Availability of Toilet		
Available	239	74.0
Not Available	84	26.0
Adequacy of Toilet		
Adequate	124	38.4
Inadequate	199	61.6
Type of Toilet		
Pit latrine	204	63.2
Water closet 35	10.8	
Aqua privy	35	10.8
Open defecation	49	15.2

Condition of Toilet

Very Good	40	12.4
Good	50	15.5
Fair	40	12.4
Bad	168	52.0
Very bad	25	7.7
Availability of Sewage System		
Available	263	81.4
Not available	60	18.6
Condition of Sewage System		
Very good	52	16.1
Good	85	26.3
Fair	87	26.9
Bad	35	10.8
Very bad	64	19.8

Source: Authors' Field Survey (2020).

5.8 *Nexus between Housing Ownership and Condition of the Housing Environment*

Analysis of the relationship between housing ownership status and the landscape condition of the housing environment is presented in Table 8. Pearson's correlation analysis revealed that there is a strong and positive correlation between housing ownership status and the landscape quality of the housing environment of Anyigba ($r = .742$, $N = 323$, $p = <.0005$). This means that home-ownership is a statistically significant determinant of residential landscape quality in the study area.

Table 8: Correlations Analysis of the Relationship between Housing Ownership and Condition of the Housing Environment

		Housing ownership status	*Landscape Condition of the Housing Environment*
Housing ownership status	Pearson Correlation	1	**.742**[**]
	Sig. (2-tailed)		.000
	N	323	323
Landscape Condition of the Housing Environment	Pearson Correlation	**.742**[**]	1
	Sig. (2-tailed)	.000	
	N	323	323
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Authors' Field Survey (2020).

6.0 Conclusion and Recommendation

      Housing is a basic necessity for human survival. It is a necessary factor for the realisation of social, economic, spiritual and psychological satisfaction and wellbeing. Student housing is one of the most important housing typology in areas where tertiary educational institutions are located. The inability of most tertiary educational institutions to provide the required housing units in terms of quantity and quality has engendered the development and growth of off-campus housing. However, in the process of developing student off-campus housing, the private developers do not pay adequate attention to ensuring the minimum environmental quality that is required for healthy living.

      This study has shown that residents of Anyigba are exposed to health hazards owing to the poor sanitary conditions of their residential environments. Furthermore, the study indicated that the developers do not maintain adequate plot ratio in the study area. More so, the incidence of high occupancy ratio and consequent over-crowding of households is widespread in Anyigba. In terms of landscape quality, the study revealed that homeownership is a significant determinant of landscape quality in the study area.

      Drawing from the aforementioned findings, this study suggests the need to improve the sanitary condition of Anyigba by providing better [public] toilets in the study area on the one hand, and constructing quality drainage systems on the other hand. It is also recommended that measures should be put in place by Kogi State Town Planning and Development Board (KSTPDB) to ensure that developers maintain standard plot ratio. The National Orientation Agency (NOA) should also ensure that the residents of Anyigba are educated on the dangers of living in overcrowded housing conditions. Finally, Kogi State Government should endeavour to implement subsidised Site and Services Housing Scheme in Anyigba in order to ensure that higher homeownership rate and better landscape quality are attained.

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