Housing Quality of Residential Neighbourhoods in Nigeria: Focus on Low Density Areas of Birnin Kebbi, Kebbi State

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***Abstract*:** Low density residential areas in Birnin Kebbi are distinct from other residential zones because of the high status of the residents, the nature of materials used in construction and the amount of space designated for housing purposes. This study aims at examining the quality of low density residential areas in Birnin Kebbi. 353 households were surveyed across 6 locations employing cluster sampling technique in order to generate data on the physical, social and economic characteristics of households. 1/3 of the households across all the locations were randomly taken to make up the sample size.The analysis revealed that residents of low density zone are predominantly people of high status. The occupation of householders served as basis for establishing status. It was assumed that the status of a person translates into his earning, which also influence his choice of location and type of housing to reside. It was observed that most residents of low density residential areas live in housing with considerable facilities that could pass for a qualitative housing at a glance. The study also revealed flagrant disregard to provisions of development control standards. The condition of the general surrounding of the low density neigbourhoods under study allow for the conclusion that low density residential areas also exhibit inadequate housing.
Based on the findings of the study suitable recommendations were made.

***Key Words*:** Housing quality, low density residential areas, infrastructure and facilities

Introduction

Housing is an essential and fundamental component of the overall land use activities in both rural and urban centres. Housing is considered as a bundle of services such as neighbourhood services (parks, schools); a location (accessibility to jobs and amenities) and proximity of certain types of neighbours (a social environment). It embraces more than shelter or lodging for human habitation. The quality of housing is being used to measure the quality of life even at International level (Aribigbola, 2001; Bourne, 1981; Daramola 1996; Daramola, 2006). Besides, it has a tremendous positive influence on the health, safety and economic and social welfare of any residents of any community.

Generally, most people in the world take shelter as some form of housing, but shelter itself is certainly one part of housing.

This study seeks to identify sundry underlying housing characteristics that sum up the quality of housing in the low density residential areas of Birnin Kebbi. This is because it is common to regard housing in the low density residential areas as being adequate, qualitative and ideal, yet, this to a greater extent is subjective,

A good housing should consider the location of dwelling places as they relates to the various places of interaction. The physical appearance and the social reputation of the neighbourhood are significant aspect of a good housing.

All housing need to achieve to be successful are:

- It needs to be socially and culturally valid
- It should be sufficiently economical to ensure that the greatest number can afford it
- It should ensure the maintenance of the health of the occupants
- There should be a minimum of maintenance over the life of the building (Rapoport, 1969; Australian Bureau of Statistics, 2006)

In developing countries studies have shown that many residents in urban areas live in inadequate housing and in neigbourhoods that lack the basic requirements of liveable environments (Rojas 2000; McLeod, 2001, 2003). Ooi and Phua (2007) have observed that most cities in developing world have become centres where vast numbers of people compete for the most basic social services and infrastructural facilities. Serious challenges continue to exist in urban settlements ranging from scarcity of public services,

marked social inequalities in habitat conditions, social and spatial segregation, inequality, poverty, unemployment and increased economic vulnerability, environmental degradation, complexities in the governance structures for urban environmental service provision, pollution, and vulnerability to technological and natural disasters (UN Commissions of Sustainable Development, 2004).

This study examines housing quality of the low density residential neigbourhoods in Birnin Kebbi metropolis. Data on physical, economic and social characteristics of residents was generated from households and neigbourhoods within the study area. In the context of this study, the term "household" refers to all the persons who occupy a dwelling unit. A "dwelling unit" is a house, an apartment, a group of rooms, or a single room that is occupied as separate living quarters. A "separate living quarters" is a dwelling unit which provides facilities for exclusive use of its occupants. The term "neighbourhood" is defined as a residential area in a particular location of city.

The Concept of Housing Quality

The issue of housing quality or qualitative housing is generally subjective in nature and a function of many variables. Ranging from the design to the condition of housing, and the relative environment in which the housing unit is part. The physical-structural efficiency of a dwelling unit per se is not enough determinant of a qualitative housing. There must be a relative level of satisfaction of people with their housing. A housing unit that is adequate from the engineering or design point of view may not necessarily be adequate or satisfactory from the inhabitant's point of view. According to Onibokun (1973), the concept of "a habitable home" or "an ideal home" is related in addition to the physical, architectural, and engineering component of the home, to: the social, behavioural, cultural, and personal characteristics of the inhabitants; the component of the environment of which the home is a part; and the nature of the institutional arrangement under which the house is managed.

Housing quality is related to adequate housing as well as habitable housing. This is a function of the ratings of the individual tenant's level of satisfaction with his dwelling unit in relation to his neighbourhood. That, assessing

habitability would mean evaluating the level of satisfaction of a tenant, living in a particular community and managed under a type of institutional management.

Minimum standards are generally imposed to guide development and maintain quality, but minimum standards are not adequate yardsticks in measuring housing quality, because an urban housing with complete plumbing system, good sanitary system, well ventilated but poorly managed could still be old and dilapidated. What is acceptable as minimum standards in developed countries may not be the same as in developing countries. Alan Gilbert (1992), as quoted in Drakakis (1997), has argued that what is acceptable as adequate shelter to a poor household in Sao Paulo may be quite different from that of a similarly disadvantaged family in Singapore or Lagos. Hence, housing quality or qualitative housing, adequate shelter and habitable homes are relatively used to connote housing that satisfies the basic physiological needs of the tenant.

Criteria for Measurements of Housing Quality

For the purpose of clarity and simplicity, this paper shall examine the major elements in measuring the quality of housing mainly in urban areas. These are:

- The housing condition and accommodation
- The ancillary services and facilities
- The environment/ neighbourhood
- Location

Housing Condition and Accommodation: Onibokun (1990), stated that the major determinant of urban housing condition in Nigeria are:

i. The age of the dwelling
ii. The types of buildings and the materials used in their construction
iii. The varieties and adequacy of facilities provided in dwellings
iv. The modes of handling various aspects of housing construction such as site preparation, laying of foundation, construction of walls and roofing.

Hence, in determining the quality of a housing unit, the structure, the various components, facilities within, and the aesthetical rendering of the unit should be considered:

Accommodation: The social aspect of housing is considered here in assessing housing quality, issues of privacy within households and between households. The notion will vary from society to society. Here

consideration is given to privacy within households and privacy between households.

Ancillary Services and Community Facilities: Because quality of housing is largely a subjective concept, the issue of ancillary services and community facilities becomes more difficult to prescribe. This is concerned not only with the basic amenities such as toilets and washing facilities but also with less essential amenities such as the existence of a garden, the state of repair of the dwelling, the height of the building above the ground floor, the public transport facilities and services, parking facilities, the outside "private space" that the family can use, garbage disposal and other community facilities such as health service, police protection (Colin, 1979).

The Environment and the Neighbourhood: This refers to the nature of the physical, social and psychological variables which are extended to the dwelling and the tenants. This includes all the other components which make up the societies or the community of which the housing unit, dwelling, and the tenant are a part; these have an influence, positive or negative, on satisfaction with the particular housing unit which is part of that environment (Onibokun, 1973).

Location: A household is part of an urban system and when it chooses a residential location, it also selects a set of spatial relationships within this system. There are clearly numerous aspects to this factor; a few are: convenience for getting to work, for traveling to school for shopping, for getting to place of worship, for public transport, convenience to friends, to parks and convenience to the country side.

Low Density Residential Zones: "Low density residential zones" are locations intended for housing that include a lot of open space. These zones are meant for a small number of residential homes, and exclude large industries, apartment complexes, and other large structures. Home businesses, community organizations, and some types of commercial and agricultural use are allowed if they meet specific standards (Eric Novinson, 2006).

A common example is that of single family homes on large lots, with four or fewer units per net acre. Buildings usually have fewer stories and are spaced farther apart, separated by lawns, landscaping, roads or parking lots. Lot sizes are larger, and because more automobiles are used much more land is designated for parking

(Pmediana, 2008; jccegov, 2011).

Housing Estates in Birnin Kebbi

This study recognizes the existence and critical role of housing estates in the provision of housing in Birnin Kebbi. Most of these housing estates have been found to private sector contributions to the housing stock in Birnin Kebbi which were not common in the recent past as observed in the Birnin Kebbi Master Plan (2005-2015.)

While several number of the housing estates abound, their records are skyrocketing due to increased interest on the part of the private developers to make more economic gains. Agbola, 2004 states that private sector housing is that which is conceived, planned and constructed through the customary and modern institutional channels and subsequently offered for sale, lease or rent in the open housing market.

Several of the housing estates surveyed indicate a fair attempt at meeting the housing needs of tenants that desire some level of privacy and can afford the rent. It was observed that the most of the facilities in the housing estates are substandard; they also, generally lack adequate space. This is because, most of the parcels of land used for housing estates were not originally designated for such purposes.

However, this research excludes the various housing estates due to their economic posture and their rapid growth within these short periods which require careful considerations for adequate data generation for better analysis.

Brief Overview of the Study Area

Location : Kebbi State as a whole is located approximately between Latitudes 10^{o} and 30^{o}N and Longitudes 3^{o} and 6^{o}W. It occupies most of the western and southern portions of the former Sokoto State. Birnin Kebbi (12°27′13″N 4°12′01″E) is located on the northwest axis of the State further down stream along the extensive valley of the Rima River. It is the capital city of Kebbi State and headquarters of the Gwandu Emirate. As of 2007 the city has an estimated population of 115,547. Formerly it was the capital of the Kebbi Emirate, which relocated to Argungu after the conquest by Gwandu in 1831. Birnin Kebbi is connected by road to Argungu (45 km northeast), Jega (35 km southeast), and Bunza (45 km southwest). The town is also approximately 150km southwest of Sokoto and 500km northwest of Abuja

History: Historically, Birnin Kebbi, the administrative headquarter and capital of Kebbi State, is one of the oldest settlements in the State, believed to have been established by the Kabawa ethnic group many centuries ago. Upon the creation of Kebbi State on 27th August, 1991, Birnin Kebbi not only remained the seat of Gwandu Emirate as well as the administrative headquarters of Birnin Kebbi Local Government but also became the state capital; the triple role it has been playing till date.

Methodology: Residential neighbourhoods with characteristics of low density were identified and sampled. Six (6) locations; DG Quarters, Gesse Housing Estate I, Gesse Housing Estate II, Polytechnic Quarters, Sokoto-Rima River Basin Development Authority (S.R.R.B.D.A.) Quarters and GRA were identified as low density residential areas. These locations were treated as the entire population required for this study out of which one-third (1/3) of the households across all the locations were randomly taken to make up the sample size.

The survey of low density residential areas in Birnin Kebbi covered all the six (6) identified locations. The following samples were taken of the six (6) low density residential areas: DG Quarters (8); Gesse I (199); Gesse II (63); Polytechnic Quarters (17); S.R.R.B.D.A. (7); and, G.R.A (59). In all, 353 households were sampled and surveyed, and the Closed-ended questionnaire were employed for data collection.

Cluster sampling (area sampling) technique was employed to establish the number of households to be surveyed across the six (6) locations which make up the sample size. This technique was chosen to overcome the problem of non availability of record on the number of households in the residential locations. The study also assumed that people of similar characteristics tend to "cluster" or live together in designated residential areas – referred by sociologists as "cultural areas" (Ibanga, 2006).

Data analyses involved examination of the characteristics of the identified low density neigbourhoods, determining the adequacy of facilities provided in houses in relation to household sizes, compliance to development control standards, as well as assessing the conditions of the residential neigbourhoods. Simple percentage was used in the analysis of data and tables were employed in summarizing data and presentation.

Data Presentation & Analysis

Classification of Residential Areas in Birnin Kebbi Metropolis

The Kebbi State Urban Development Authority Building Regulations of 1995 stratified residential neigbourhoods in Birnin Kebbi into three (3) categories of residential zones. These are the Low Density, Medium Density and High Density zones with varying planning and site requirements. The planning and site requirement will serve as the basis for evaluating the quality of low density residential neigbourhoods as would be seen in subsequent analysis.

Table 1: Planning and site requirement in Birnin Kebbi

Items		**Low Density Area**
Plot size		At least 900m^2
Plot coverage		Not exceed 70% of the total area
Building Height		1 – 2 storey
Setbacks	Front	6m
	Sides	3m
	Rear	3m
Front edge of plot to front of road		4m
Fence wall height		Not exceed 1.8m
Temporary structures		Not allowed
Landscaping		Plant atleast 6 trees
Commercial uses		Neighbourhood shops only
Conversion of uses		Not allowed
Industrial uses		Not allowed
Accessibility		Well defined access roads of 7-10m, but without drainage in most places

Source: Kebbi State Urban Development (1995)

Householders' Status

The survey of households revealed that civil servants, traders/ businessmen, political office holders, farmers and some self employed professionals are the residents of the low density residential areas of

Birnin Kebbi. This class of people in Nigeria is considered to be of high socio-economic status. Furthermore, they have renter or ownership affordability for bungalow and duplex housing types, which happened to be common in the low density zone.

Table 2: Householders' Status

Category		**Number**	**Percentage**
Civil Servants		256	72
Self employed	Farmer	18	5
	Artisans	11	3
	Trader/ Businessman	43	12
Political office holder		25	8
TOTAL		**353**	**100**

Author's Field Survey (2011)

Materials Employed in Construction of Houses

Most of the houses surveyed are constructed with conventional materials such as sandscrete cement blocks or bricks. House owners in low density zone can afford the cost of these materials unlike those in the high density zone.

Coloured long span aluminium roofing sheet which is durable, exotic and expensive compared to most of the corrugated iron roofing sheets in the Nigerian markets was found to be a common roof covering to houses in the low density zone. 78.9% of the surveyed houses were covered with coloured long span roof sheets while 21.0% are covered with corrugated iron sheets. All the houses in Gesse II and DG Quarters are covered with coloured long span roofing sheets; 60% of the houses in Gesse I are covered with variety of coloured long span roofing sheets; while 40% are covered with corrugated iron sheet. 85% of the houses in GRA are covered with long span roofing sheets while, 15% are covered with corrugated iron sheets. All houses in the SRRBDA are covered with corrugated iron sheets, 56% of the houses in the polytechnic quarters are covered with long span roofing sheets while 44% are covered with corrugated iron sheets.

With regard to external wall finishing, all the houses surveyed are finished in different sort of paints, bricks and wall materials.

Figure 1: Blocks of Bungalows at the Gesse II Housing Estate Birnin Kebbi

Source: Author's Fieldwork,2013

Availability of Amenities in Households

The analyses as regards the amenities available to households are limited to source of water and power (electricity) supply, alternative source of power supply, drainage, vegetation (trees, flowers and grasses) in and around households. The sources of water supply to low density households in Birnin Kebbi are presented in table 3. The household survey carried out revealed that 40% of the households have tap water within their houses, 33% rely on the public tap for their supply while, 21% have boreholes as their source of water supply. It is worthy to note that, 75% of households that are connected to the public tap within, also have boreholes as an alternative means of water supply. Those that depend on the well and water vendors for their water supply form a paltry percentage of 1% and 5% respectively.

The research reveals that water supply in Birnin Kebbi is still a big challenge because of the inability of the water board to efficiently and adequately distributes water to residential areas that are fast growing, also the capacity of the water board's treatment plant has become inadequate due to urbanization and increased population. Also, the epileptic supply of power (electricity) has become big problem for the smooth

operation of the water board. This has led to the growing number private boreholes within households in the low density areas.

Table 3: Availability of Amenities in Households

Amenities /Source		**Number of houses**	**Percentage**
Water	Well	3	1
	Public tap outside	117	33
	Tap within	142	40
	Boreholes	74	21
	Water vendors	17	5
TOTAL		**353**	**100**

Source: Author's Field Survey (2011)

With regard to electricity supply, all households surveyed are connected to the grid. 58% are connected using two (2) phases, while, 42% are connected using only single phase. Most of the houses connected using two phases are driven with the desire to getting constant supply of the commodity and also, they are among households that possesses varying electrical gadgets. But due to the epileptic nature of power supply from the grid, some residents have to often augment inadequate power supply with power generators of different sizes despite the associated problems of noise and air pollution.

Provision of Sanitation Facilities in Households

On the types of toilets and baths facilities as well as solid waste collection and disposal of the households surveyed, the analysis revealed that 100% of the households are using water system toilets and baths connected to septic tank and soakaway. These households have provision for solid waste collection in form of refuse bins except that some of the residents lack proper arrangement for disposal of waste. The Kebbi Urban Development Authority has been responsible for collection and disposal of solid waste from the city. Its activities and that of the Kebbi State Environmental Protection Agency have helped in clearing heaps of garbage disposed around the city indiscriminately and also regulating harmful environmental practice. The Authority is however yet to scale up its operations to cover the entire

city.

The development control standards and regulations for development in Birnin Kebbi have not set standards on number of persons allowed to share facilities such as toilets and bathroom in residential buildings. However, this study has observed that 100% of the households surveyed are occupied as separate living quarters having two or more toilets and bathrooms. All houses surveyed have household sizes of less or equal to 10 persons.

Availability of Drainage: Data was collect on how the households and the neighbourhoods in general are drained of their excess water. It was found that 43% of the households surveyed have one form of drainage system of the other. 40% of the households surveyed has open drainage as a channel for draining their excess water. 3% of the households have closed drainage system and is free flowing, while 57% of the households do not have any form of drainage. This explains the reasons for flooding of these neighbourhoods during heavy downpours. It is also an indication that the surroundings are fertile breeding grounds for mosquitoes and other pests.

Figure 2: Type of Open Drainage in the Study Area

Source: Author's Fieldwork,2013

Availability of Vegetation (trees, flowers and grasses)

To enhance the quality of the surrounding environment of the

study area, the research revealed that 50% of the households surveyed have trees in their houses, 5% have flowers, 2% have lawn low-lying grasses/ carpet grass within the houses. 22% of the houses have both trees and flowers within and around their houses while, 21% have neither trees nor flowers within and around their houses.

Assessment of Residential Neighbourhoods

This aspect of the study presents the perceived level of compliance to development control standards and regulations as provided by KUDA in table 1. The assessment is based on physical observation of neigbourhoods covered during household survey and the finding is presented in table 4.

Table 4: Assessment of Residential Neighbourhoods

Items		Level of compliance
Plot size		Within standard in most houses except for some houses in Gesse I which are above standards
Plot coverage		Within standard in most places, except for some houses in GRA and Gesse I which are below standard
Building height		Within standard
Setbacks	Front	Within standard in most houses except for Gesse I
	Sides	Within standard in most houses
	Rear	Below standard in most places except for Polytechnic quarters which is within standard
Front edge of plot to edge of road		Within standard in most places except for some part of Gesse I and GRA
Fence wall height		Above standard in most houses
Temporary structures		Visible in Gesse I, GRA
Landscaping		Available in some houses
Commercial uses		Base on standard
Conversion of uses		Few cases in GRA, Gesse I and Gesse II
Industrial uses		Not common
Accessibility		Up to standard with front drainage in most places

	except most part of GRA and Polytechnic quarters

Author's Field Survey (2011)

There is significant violation of development control standards and regulations across the low density residential areas in Birnin Kebbi with little or no action by the relevant statutory regulatory bodies. The most noticeable situation exists in Gesse I and GRA areas where houses occupy over 70% of the plots without provision for adequate access and drainage.

Summary of Findings

i) The common types of residential housing of the low density areas in Birnin Kebbi are bungalow and duplex housing types.

ii) Residents of low density zone in Birnin Kebbi are people considered to be of high status who are mostly civil servants, traders/ businessmen, political office holders, farmers and some self employed professionals.

iii) The roof of most of the houses in the low density areas surveyed are covered with coloured long span aluminium roofing sheets, with few having corrugated iron sheets.

iv) With regard to sanitation facilities, all the houses surveyed in the low and medium density zones have provisions for water system toilets and bathrooms.

v) All the buildings surveyed in the low density zone are separate dwelling units with provisions for one or more toilet and bathroom each. Most of the buildings have 10 or less occupants or users of facilities.

vi) As regards to setbacks, the areas surveyed showed that there is blatant disregard to the observance of setbacks between edge of road to front of plots, and between houses both at the sides and at back. This is common in Gesse I and GRA

vii) Most of the houses are without drainage. This underscores the relevance of drainage in the control in the control of flood and the maintenance of a sanitary surrounding.

vii) In terms of vegetation cover in and around houses, a good number of houses plant trees and flowers to enhance the aesthetic quality of the environment.

ix) There is gross violation of development control standards across the residential areas surveyed with limited or no action by relevant statutory bodies

Conclusion and Recommendation

The data generated in the survey of 353 households across 6 residential locations in Birnin Kebbi gave rise to the conclusion that residents of low density residential ares of Birnin Kebbi are people of high status. It is also concluded that despite the adequate plot sizes available to residents of low density areas, residents do not give adequate space between buildings. Also, it can be concluded that while most of the inputs in terms of building materials are considered adequate, little attention is given to the general aesthetic outlook of the surrounding environment. The research concludes that there is significant violation of development control standards in the low density residential areas of Birnin Kebbi. Hence, the study as well allow the conclusion that residents of low density residential areas lives in inadequate housing that lack some basic physical infrastructures for a good livable and sanitary environment. A housing unit without cracked wall, leaking roof and is located in a spacious plot of land does not necessary amount to adequate and qualitative housing.

The following recommendations are however submitted:

i) There is need for studies on household characteristics of low residential areas of Nigerian cities. This is to allow for holistic approach to understanding quality problems of areas hitherto regarded as possessing adequate housing which will benefit Government in terms of urban development policy formulation and effective urban governance.

ii) The study recommends for Public Private Partnership in not only infrastructure develop, but also, provision of qualitative housing in Birnin Kebbi and Nigerian cities at large.

iii) Community participation approach should be initiated across residential neigbourhoods with particular reference to Low density residential areas in Birnin Kebbi where individuals will be involved in upgrading their housing conditions and provision/maintenance of shared facilities.

iv) There is need to undertake a holistic survey of households characteristics in Birnin Kebbi in order to generate and document data for policy formulation and implementation. It is necessary so as to continually update existing records in the reviewed Birnin Kebbi Master Plan 2005 - 2015.

This can be recommended for every other fast growing city in Nigeria.

v) The statutory body responsible for development control in Birnin Kebbi should take action against individuals that have violated development control standards in the residential areas, irrespective of their status in the society.

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