

## **COMPARATIVE ANALYSIS OF COMMERCIAL AND PRIVATE RESIDENTIAL HOUSING QUALITY IN SAMARU AREA ZARIA NIGERIA**

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### **ABSTRACT**

*Urban-based housing in developed countries is higher in quality than those in developing countries, even though there has been a universal outcry for poor housing conditions. According to Knox and Marton (2007), already 10 million people are dying annually in densely populated urban areas from conditions produced by substandard housing and poor sanitation. The research aimed to comparatively analyze the commercial and private residential housing quality in Samaru, Zaria. Hayindogo was purposely selected as private residential area while Danraka was also purposely selected as commercial, residential area. One hundred forty questionnaires were used in the research, and purposive sampling technique was adopted for the selection of respondents and questionnaire administration. Seventy questionnaires were distributed to both private and commercial residential areas. 60% of the respondents from Danraka and 74.3% of the respondents from Hayindogo share toilet facilities. 30.9% and 38.6% depends on borehole water as their major source of water supply in Danraka and Hayindogo respectively. The result also shows 57.1% from Danraka, and 67.1% from Hayindogo of the respondents used a pit latrine. Regarding waste disposal, both residential areas dump their waste in unprotected dump sites. The null hypothesis was therefore rejected indicating a significant difference in the quality of Danraka and Hayindogo residential houses. Some of the Recommendations made include; government should provide adequate water supply, electricity, incinerators and good roads.*

**Keywords:** Private housing, Commercial housing, quality, Samaru, Danraka, Hayindogo

### **INTRODUCTION**

A house according to Atubi and Orier (2002), is a residential environment which man uses for shelter and the environs of the structure needed or designed for his physical and mental health as well as his social well-being. Housing is a basic requirement or an essential need of human ranking in priority with food and water which is very much essential for human being. (Knox, 2005).

Quality housing contributes to the attainment of the physical and moral health of a nation and stimulates the social stability, work efficiency and the development of the individuals. It is also the best indicator of a person's standard of living and his place in the society. Housing quality, both in units or multiple forms is a significant component of the physical form and structure of a community, while the human and family contents of the house is part of the very spirit and prosperity of the society (Adeleye, et al., 2005). Housing quality is a matter of great



concern, especially in less developed countries (LDC's). The magnitude of the housing needs of the populace in these countries rises phenomenally by the day. This is an account of rapid growth and urbanization and the lack of a commensurate increase in housing stock (Payne, 1977; Lewin, 1981).

Needleman (1964) defines housing needs as the number of conventional dwellings that need to be constructed or repaired to bring housing conditions at a particular point in time to nationally adopted standards. Housing needs encompass among other things, the total number of dwelling units required their distributions among various socio-economic groups and the quality and adequacy of the dwellings and their environment.

Walker (1980), observed that higher income households occupy larger, higher quality dwellings which have better facilities and public services but that are in short supply. Thus, owing to rapid population growth, the low economic capacity of most urban households, the inadequacy of public resources and a general increase in the cost of building acute housing and environmental conditions abound in urban centers in Nigeria. The deplorable quality of housing in Nigeria is reflected in the predominance of structurally unsound and substandard houses in the urban and rural areas (Mabogunje, 1985).

Standards of housing are difficult to set, as there are variations about climate, culture and people's values. It is taken to mean minimum situations about the quality of dwellings and is usually expressed in physical terms as materials of construction, the age of dwellings, sewage and waste disposal, occupancy ratio, power supply, fire protection, roads, water supply, etc (Mukhtar, 2005).

The quality of housing to a large extent depends on the material of construction and technology. This is particularly important in determining the structural and aesthetic quality of such houses since they are vital components of what constitutes a good house (Adeleye, et al., 2005).

The spatial pattern of urban housing is a physical expression overlain with local topography and transport variation of the age and economy of the city as well as the socio-political system in which that housing is produced and consumed. Housing quality and price also tend to be differentiated concerning distance from the city center, but the principal distinction being between sectors of different social status (Bourne, 1981). Rapid population growth has led to a vast expansion of squatter settlements and slums within planned residential areas (United Nations, 1970 in Mairo, 2001).

The situation is not different in Nigeria where the housing quality is very poor with varying degree of over space. Mukhtar (2005) in describing the situation said it is more helpful to think of the housing question as something that would always be with us, a kind of a dilemma, rather than a problem. Our policies and programmes should be geared towards ameliorating and improving rather than finding solutions. Zaria is also not left out of this trend of variation in housing quality. The quality of commercial housing tends to differ from that of private housing in Zaria. Hence the need for this work to compare between commercial and private residential housing quality in Zaria.



## **METHODOLOGY**

Reconnaissance field survey of the study area was first conducted to be well acquainted with the study area and to identify the method of sampling best suited for the study. Different sources of data were used to obtain information for the research.

## **STUDY AREA**

Samaru is located within Zaria urban setting. It is situated on latitude  $11^{\circ}12'N$  of the equator and longitude  $07^{\circ}37'E$  of the green which meridian. It is about 15km northwest of Zaria city along the Zaria-Sokoto trunk 'A' road, 8km from Shika and 9km from Basawa. It is about 2,200ft above sea level (Mortimore, 1970).

Samaru Urban area is an active area dominated by educational functions. It is the resident for many ABU staffs, students, traders, as well as farmers that are directly or indirectly linked to the university or any of the nearby institutions. The university absorbs the bulk of Samaru's population regarding employment.

## **Primary Sources**

The primary data collection method used in this research was questionnaire survey. The questionnaire was designed to elicit a response on pertinent issues of the research variables, which measured the factors of the research. These variables include the type of residential houses, type of toilet, bathrooms, sources of water supply, the source of power supply, mode of waste disposal, information on demographic characteristics of the respondents were also obtained.

The questionnaire comprises of three sections, the first section, which is the demographic and socio-economic characteristics. This includes; sex, age, occupation, income. The second section of the questionnaire is the housing conditions which includes; type of construction materials, the source of water supply, the source of power supply and the method of waste and refuse disposal.

The third section of the questionnaire is the housing facilities, this include; type of toilets; type of bathrooms, kitchen types, and mode of sharing. These variables were subjected to investigation in the field survey, and the outcome of the variable constituted the data for the research. The questionnaire comprised of both close-ended and open-ended questions. A total of one hundred and forty (140) questionnaires were administered.

## **Secondary sources**

Information collected from the field was through questionnaire was compared to work done by other researchers and authorities on the subject matter. Additional information was obtained

from relevant texts, journals, seminar papers, conference and workshop proceedings and the internet.

### **Sampling techniques**

Purposive sampling technique was used to select the respondents for questionnaire administration. A total of one hundred and forty respondents were selected only residential houses were considered. Due to the dominance of private residential houses in Hayindogo, the area was used to sample the private residential areas, and Danraka was used to sample the commercial, residential houses. In other words, only private residential houses were sampled at Hayindogo, and the only commercial, residential houses were sampled in Danraka area all in Samaru. Seventy (70) copies of questionnaire each will be administered in both the residential areas (both private and commercial).

### **DATA ANALYSIS, PRESENTATION, AND DISCUSSION**

Table 1 shows results of persons per household, per sleeping room and duration of stay of the respondents in the study area. From the result above 42.9% of Danraka's respondents have 1-2 persons per household against 4.3% in Hayindogo. This is followed by 24.3% against 8.6% in Danraka and Hayindogo respectively between the range of 3-4, another significant difference in the number of persons occurred within the range of 11 and above where Danraka has 8.6% against Hayindogo with 48.6%.

Taking the number of persons per sleeping room, Danraka has 44.3% of the respondents within 2-4 persons per room against 7.1% of respondents from Hayindogo, 24.3% against 15.7% between 5-6 in Danraka and Hayindogo respectively, another difference occurred within the range of 11 and above where 5.7% of Danraka's respondents have 11 and above persons per room against 38.6% in Hayindogo.

Regarding the duration of stay, 35.7% against 7.1% falls within the range of less than a year in Danraka and Hayindogo respectively; this may likely be students or people who tend to change their current/present residence due to the difference in price or facilities. This is followed by 21.4% against 14.3% in Danraka and Hayindogo respectively within 2-3 years, 17.1% against 57.1% in Danraka and Hayindogo respectively.

**Table 1: Number of Persons Per Household, number of persons per sleeping room, and Duration of stay**

No. of persons per household	Danraka		Hayindogo	
	Freq.	%	Freq	%
1-2	30	42.9	3	4.3
3-4	17	24.3	6	8.6
5-6	9	12.9	3	4.3
7-8	5	7.1	9	12.9
9-10	3	4.3	15	21.4
11 above	6	8.6	34	48.6
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>
<b>No. of Persons per sleeping room</b>				
2-4	31	44.3	5	7.1
5-6	17	24.3	11	15.7
7-8	12	17.1	13	18.6
9-10	6	8.6	14	20.0
Above 11	4	5.7	27	38.6
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>
<b>Duration of stay</b>				
Less than a year	25	35.7	5	7.1
2-3 years	15	21.4	10	14.3
4-5 years	18	25.7	15	21.4
6years and above	12	17.1	40	57.1
<b>Total</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>

**Source: Field survey, 2010.**

Table 2 below shows the type of construction materials used in the construction of walls, roofing and the kitchen facilities in the study area. From the table above, 60% of the houses in Danrakawere built from mud and 40% from cement. On the other hand, 48.5% of the houses in Hayindogo were built from mud and 51.4% from cement, this indicates that there are more of mud houses in Danraka than in Hayindo.

Majority of the houses in Danraka were roofed with zinc, having 42.9% of the total sample, 22.9% thatch. 20.0% aluminum, on the other hand, 54.3% of the roofing in Hayindogo is made from zinc, and 25.7% is thatched, 12.9% has Aluminium roofing. 57.1% of the sampled houses have a kitchen in Danraka, while 42.9% does not have a kitchen in their houses. On the other hand, 78.6% of respondents from Hayindogo have a kitchen in their houses while 21.4% do not have a kitchen in their houses. In this regard,

Regarding the sharing of kitchen facilities 40% of the respondent's shares kitchen with others. While 60% do not share a kitchen with others in their house. On the other hand, 25.7% of the respondents from Hayindogo share a kitchen with others against 74.3% of the respondents who don't share a kitchen with others.

**Table 2: Housing Types and Characteristics**

CONSTRUCTION MATERIALS	Danraka		Hayindogo	
	Freq.	%	Freq	%
Mud	42	60	34	48.6
Cement	28	40	36	51.4
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>
<b>Roofing Materials</b>				
Thatch	16	22.9	18	25.7
Zinc	30	42.9	38	54.3
Aluminum	14	20.0	9	12.9
Asbestos	7	10.0	4	5.7
Others	3	4.3	1	1.4
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>
<b>Kitchen</b>				
Yes	40	57.1	55	78.6
No	30	42.9	15	21.4
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>
<b>Sharing Kitchen</b>				
Yes	28	40	52	71.3
No	42	60	18	25.7
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>

**Source: Field survey, 2010**

From table 3, we could see that 32.9% of the total respondents depend on borehole as their major source of water supply, 31.4% use well water all in Danraka. On the other hand, 38.6% of the respondents use borehole water in Hayindogo, 22.9% from well, 20.0% from pipe-borne and 18.6% others. This result shows that most of the respondents do not have access to pipe-borne water in the study area.

For those that have access to pipe-borne water, only 30% of the respondents get water daily in Danraka, 50% after three days, 20% after five days. On the other hand, 42.9% of the respondents from Hayindogo get water daily, 50.0% after three days and 7.1% after five days.

**Table 3: Water supply**

Source Of Water Supply	Danraka		Hayindogo	
	Freq.	%	Freq	%
Well	15	21.4	16	22.9
Pipe-borne	10	14.3	14	20.0
Borehole	23	32.9	27	38.6
Others	22	31.4	13	18.6
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>
<b>Those That Use Pipe-borne Water</b>				
Within the house	8	80	11	78.6
Outside the house	2	20	3	21.4
<b>TOTAL</b>	<b>10</b>	<b>100</b>	<b>14</b>	<b>100</b>
<b>Rate of water supply</b>				
Daily	3	30	6	42.9
3 days	5	50	7	50.0
5 days	2	20	1	7.1
Weekly	-	-	-	-
Others	-	-	-	-
<b>TOTAL</b>	<b>10</b>	<b>100</b>	<b>14</b>	<b>100</b>

**Source: Field Survey, 2010**

From table 4, Danraka has 38.6% of their respondents depending on electricity, 22.9% on Gas, 15.7%, kerosene, 14.3% others and 8.6% on candles. On the other hand, 35.7% of the respondent from Hayindogo also depends on electricity for their light, 24.3% on Kerosene, 20% candles and 14.3% on other sources of lightning energy. The result is indicating that there is a similarity in the source of lightning energy. Electric supply in the area as 7.4% of the respondents from Danraka obtain light from 6 hours and above, 25.9% less than 3 hrs and 66.7% daily.

Taking waste into consideration, as it determines the quality of any environment, the mode of waste disposal in the study area varies. 42.9% of the respondent in Danraka dump their refuse in an unprotected dumpsite, 25.7% in a protected dumpsite, 22.9%, 25.9% burn their refuse. While 40% of the respondents from Hayindogo disposes of their refuse in an unprotected dumpsite, 30% burn their refuse, 21.4% in a protected dumpsite, 5.7% in drainages. The results show a similarity in the form of refuse disposal between Danraka and Hayindogo as both of the areas dump their refuse in an unprotected dumpsite.

**Table 4: Power supply and waste disposal**

Source Of Lightening Energy	Danraka		Hayindogo	
	Freq.	%	Freq	%
Candle	6	8.6	14	20
Kerosene	11	15.7	17	24.3
Gas	16	22.9	4	5.7
Electricity	27	38.6	25	35.7
Others	10	14.3	10	14.3
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>
<b>Rate of electric supply</b>				
Less than 3 hrs daily	7	25.9	9	36
3-6hrs daily	18	66.7	15	60
Above 6 hrs	2	7.4	1	4
<b>TOTAL</b>	<b>27</b>	<b>100</b>	<b>25</b>	<b>100</b>
<b>Waste Disposal</b>				
Collect	-	-	-	-
Burn	16	22.9	21	30
Dump in an unprotected dumpsite	30	42.9	28	40
Protected dumpsite	18	25.7	15	21.4
Drainages	6	8.6	4	5.7
Others	-	-	2	2.9
<b>Total</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>

Source: Field survey, 2010

Table 5 shows toilet facilities, open space and the accessibility of the study area, where 57.1% of the respondents from Danraka use a pit latrine type of toilets, water closet and others like those that excrete in the bush takes 17.1% each. On the other hand, most of the respondents from Hayindogo use a pit latrine type of toilet, with 67.1% of the total sample, 20% use water closet, 11% others and 1.4% bucket latrine.

In Danraka, 40% of the respondents fall within the range of 11 and above in terms of number of persons per toilet, 30% between 5-7, 20% between 2-4 and 10% falls within 8-10 persons per toilet, on the other hand, Hayindogo has 35.7% of its respondents to have fall within the range of 11 and above, 24.3% within the range of 5-7, 22.9% within the range of 8.10 persons per toilet and 17.1% within the range of 2-4 persons per toilet. This result shows that, in both Danraka and Hayindogo, there is pressure on the existing facilities resulting in the deterioration of the facilities and therefore affecting the quality of housing in the study area.

In case of open space, 78.6% of the houses in Danraka do not have open space, 21.4% has open space while 62.9% of the respondents of Hayindogo does not have open space and 37.1% have open space. This shows that there is no sufficient ventilation in both the two areas under study. Access to roads is part of the quality of any environment and contribute to the development of such area. 50% of respondents from Danraka do not have access to roads, and 50% of the respondent has access to roads while 57.1% of respondent from Hayindogo have



access to roads and 42.9% do not have access to road, and even for those that have access to roads, most of them are untared and in a very bad condition.

**Table 5: Toilet Facilities, Open space, and Accessibility**

Type Of Toilet	Danraka		Hayindogo	
	Freq.	%	Freq	%
Water closet	12	17.1	14	20
A pit latrine	40	57.1	47	67.1
Bucket latrine	6	8.6	1	1.4
Others	12	17.1	8	11.4
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>
<b>Number Of People Per Toilet</b>				
2-4	14	20	12	17.1
5-7	21	30	17	24.3
8-10	7	10	16	22.9
Above 11	28	40	25	35.7
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>
<b>OPEN SPACE</b>				
Yes	15	21.4	26	37.1
No	55	78.6	44	62.9
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>
<b>Access To Roads</b>				
Yes	35	50	40	57.1
No	35	50	30	42.9
<b>TOTAL</b>	<b>70</b>	<b>100</b>	<b>70</b>	<b>100</b>

**Source: Field Survey, 2010**

## **DISCUSSION**

From the result above, it could be seen that private residential houses (Hayindogo) are more populated (about 49%) with 11 persons and above. This is in line with the findings of Acquaye, 1985 In Ghana, The target figure considered desirable is ten persons per dwelling.

Majority of private residents (Danraka) were built from Mud (60%) while Commercial residents (Hayindogo) were built from cement (51.4%). Abimbola (2000) studied housing problems in an unplanned settlement or slum, which show that the conditions of structures were 60% bad and 40% good. Most of the houses were in dilapidated conditions and unsuitable for habitation and were in need of urgent repair. This was because housing types in his study area (Malali village) composed of both traditional and modern houses.

Most of the Houses have kitchen facilities in both commercial and private residential areas(57.1% and 78.6%) respectively. Regarding access to water, 30% in Danraka and 42.9 % in Hayindogo have access to pipe-borne water. Both residential areas used undesignated dumpsites for their waste disposal.

Mairo (2001) generality of housing facilities such as kitchens and bathrooms were exclusive to the respondents; only a few percent shared with the extended family. Most toilets were water closet system, and water supply was only pipe-borne water.

Concerning the refuse disposal, her results show that there is lack of refuse bin and incinerators to unauthorized dumping along the roadside and open spaces. Also, the sewage disposal was not proper which was polluting the environment and resulting in different kinds of infectious diseases.

## **CONCLUSION**

Housing in any environment, has a great impact on the health, social behavior, satisfaction and general welfare of the community (Abimbola, 2000). This research attempted a comparative analysis of the quality of commercial and private residential houses in Samaru. In its attempt, it has discovered that most of the construction materials were from mud, against many of the buildings constructed from cement in Hayindogo.

It also discovered that majority of the respondents in Danrakadoes not share a kitchen with anyone in their house while the majority of the respondents from Hayindogo shares kitchen with others. This indicates pressure on the private kitchen facilities which will affect the quality of their houses. A major source of water supply in both Danraka and Hayindogo is borehole water (32.9% and 38.6% respectively). Pipe borne water which is purer and safer for human consumption is insufficient. It could also be seen that majority of the respondents have electricity as their major source of water supply, which is very erratic and unreliable. Regarding waste disposal, similarities exist in between the two areas under study as 42.9% of the respondents in Danraka dispose their waste in an unprotected dumpsite and 40% from Hayindogo also in an unprotected dumpsite indicating how vulnerable the environment regarding the risk of disease like fever, malaria, etc. Looking at the toilet facilities Danraka has 57.1% of its population using pit latrine type of toilet, 67.1% in Hayindogo also use pit latrine type of toilet in their houses. Lastly, Based on this findings it can be seen that both Danraka and Hayindogo have a similar Housing type and characteristics which in turn explains why they tend to have a similar response and will experience the same housing quality deterioration.

## **RECOMMENDATIONS**

Based on the results obtained from the research, the following recommendations were made:

- Government and community should be more responsible environmental sanitation by making sure that proper refuse disposal is adequately carried out.
- People should embark on a perfect approach towards constant upgrading and modification of their houses to keep up with the current change in housing quality.
- The government should take all necessary measures to reduce the prices of construction materials such as cement as well as roofing material such as zinc, to accelerate the construction of good and affordable housing.

- The government should provide a standard housing scheme that will be made available to the low-income earners to make sure that many of the populace are housed, and overcrowding is reduced.
- Proper urban planning should be provided in other to ensure access to roads, water supply, and open spaces.

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