

ASSESSMENT OF HOUSING STANDARDS COMPLIANCE AND BUILDING REGULATIONS IN MINNA, NIGER STATE, NIGERIA

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It is well-known fact that the world is fast becoming urbanised and this process is unfortunately rife with the challenge of poor urban development mechanism by the planning authorities. This has led to problems such as slum development, housing deterioration and congestion. Thus, the quality of housing units, especially in the urban areas of developing countries, has continued to evoke considerable concern. Consequently, this study assessed housing standards and building regulations compliance in some selected residential neighbourhoods of Minna in Niger State, Nigeria. The study carried out reconnaissance survey to ascertain the level of compliance with housing standards and building regulations in Minna. A total of 378 questionnaires on household heads in the six randomly selected neighbourhoods of Minna, using simple random sampling techniques. The collated data were analysed with the aid of descriptive and inferential statistical tools which were adopted to summarize the data using of tables, charts and Chi-square. The result of the analysis revealed that there is no significant difference in the level of compliance with housing standards and building regulations in the low, medium and high densities residential neighbourhoods of Minna. It also revealed that the level of compliance to the housing standards and building regulations was very low in the study area, even with the existence of some planning schemes and approved building plans. This, as was observed, is due to lack of proper inspections and monitoring of construction activities by the Urban Board. Finally, the study recommended that the Niger State Urban Development Board (NSUDB) should be more alive to its responsibilities by enforcing building standards and regulations in order to have decent housing environment that is good for human habitation. Also, regular public sensitization and awareness programmes should be organized in order to enlighten the residents on the need and importance of adherence to building standards, especially in terms of securing plan approval and permits before starting any construction activities.

Keywords: Compliance Housing Regulations, Standards.

INTRODUCTION

The term housing is viewed and conceptualized in various ways by different authors (Usman, 2013). Hence, Jinadu (2007) opined that it is more than just a shelter, because a house may transcend the basic functionality of providing a roof over one's head. On the other hand, Agbola and Adeniji (2009) viewed it as a "process" or as a "product". In their view, it is a "product" because it is a finished entity that can be seen and touched, but a "process" because it involves the provision of functional shelter in a proper setting in form of a neighbourhood supported by sustainable maintenance of the built environment for the day to day living and activities of the individuals and families within the community. This therefore goes to show the importance of the availability of neighbourhood facilities and services in the built environment. However, the high rate of urbanization in Nigeria has, according to Onu and Onu (2012), led to an unprecedented increase in its urban population on the one hand, and results in the high demand for housing units on the other. Nigeria as a Nation is faced with the problem of housing deficit, the effects of which have manifested in the form of poor housing quality, congestions, the development of slums and squatter settlements, amongst others.

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Thus, owing to these problems, Onibokun (1990) asserted that both the governments and individuals have made concerted efforts in the provision of quantitative and qualitative housing to meet the demand of the ever increasing population in Nigerian cities. However, Israel and Bashiru (2008) stated that these efforts by the government at all levels (Federal, State and Local) and individuals are yet to be fruitful. In the Nigerian construction industry, it is generally believed that putting up a structure is beyond the capacity of the low income earners who form the bulk of the population. In view of this, Israel and Bashir (2008) stated that the issues of the quality of the building materials and inaccessibility to funds amongst others are the major constraints that led to price increases of housing and housing construction.

It is worthy of mention to note that housing units occupy geographical space, which makes them entities of the neighbourhood and the entire settlements. Hence, aside the issues of housing satisfaction and liveability (which are both relative), the development of housing units must also satisfy the issues of functionality and compatibility (Atebije, 2016). This functionality, according to Chana (2011), is considered in terms of the design and availability of its component (ancillary) parts and their compatibility with the adjoining land uses. The attainment of these is of paramount importance because they are what physical planning and standards seek to achieve. Physical planning, according to Keeble (1973) is an art and science of ordering the use of land, citing of buildings and other communication routes so as to achieve maximum degree of economy, convenient and beauty. On the other hand, Olujimi (2008) described planning standards as technical devices that states the maximum and minimum percentage of building variables such as coverage, setbacks, and density of housing (and all other forms of development). Thus, this study set out to assess the variations in housing standards compliance across neighbourhoods in the selected neighbourhoods of Minna.

The Study Setting and Methodology

Minna has a land area of about 885 hectares and it covers the whole of Chanchaga Local Government Area in the south and some part to Bosso in the North. It has a distance of 16km which spanned through and lies between latitude 6° to 9° N and longitude 37° to 33°E on the geographical base of undifferentiated basement complex of mainly gneiss and magmatite. To the North-East of the town, a more or less continuous steep outcrop of grain occurs limiting any urban development in that direction (Max Lock 1979). Figure 1 is a street map of the town and it also showed the randomly selected neighbourhoods of the town.

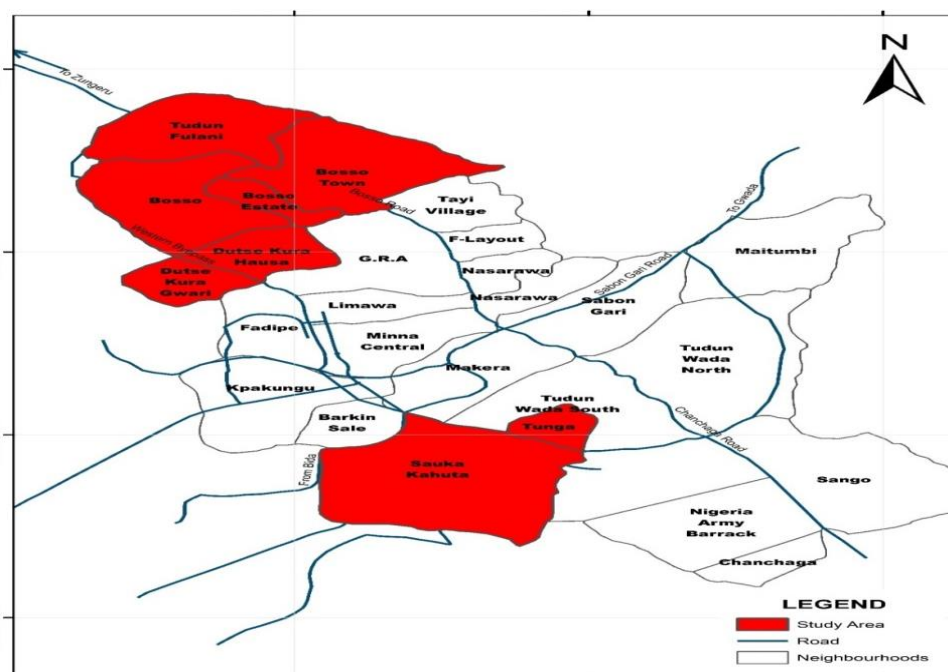


Figure 1: Minna and Selected Neighbourhoods
Sources: Niger State Ministry of Lands and Housing, 2017

RESEARCH METHODOLOGY

The study used data from primary sources. The primary data collected include housing tenure types, land titles, availability of building plans, permits and level off compliance with the standards. These data were collected from 378 households sampled randomly from six neighbourhoods. The neighbourhoods were sampled from a cluster of 24 High, Medium and Low residential areas in Minna. The randomly selected high density neighbourhoods are Tudun Fulani and Sauka Kahuta, the medium densities are Tayi and Dusten Kura, while the low densities area F-Layout and Bosso Estate. Thereafter, the questionnaires were proportionally distributed among the neighbourhoods, while the

systematic random sampling technique was employed in the distribution of the questionnaires to the household heads or their representatives.

The data collected for this research were analysed and presented using both the descriptive and inferential statistical tools. The household compliance Index (HCI) was calculated using the Excel platform while the variation in Neighbourhoods Compliance Index (NCI) was calculated using the chi-square analysis. The results of analysis were presented in frequency tables and charts.

RESULTS AND DISCUSSION

The discussions in this section are based on the results of data analysis on compliance with housing standards and building regulations across the low, medium and high density areas. Also variables obtained from the observations was analysed and discussed.

Housing Types by Neighbourhoods

The basic types of residential properties occupied by households in the study area as shown in Figure 2 were the face-to-face, semi-detached and detached bungalow. It is also important to note that the face-to-face type were mainly either single rooms or a room and parlour (sitting room) type, while the semi-detached and detached bungalows were majorly 1, 2 or 3 bedrooms flat. The data shown in Figure 2 revealed that 61.9% and 79% of the residential units in Dutsen-Kura and Sauka Kahuta respectively were face-to-face housing type, while F-layout (82.9%), Bosso estate (79.3%), Tudun-Fulani (64.3%) and Tayi (61.1%) have higher concentration of detached bungalows. The outcome of this therefore revealed that there were more face-to-face or row housing type in high density areas while the semi-detached and detached bungalows were the dominant housing type in the medium and low density areas of the city.

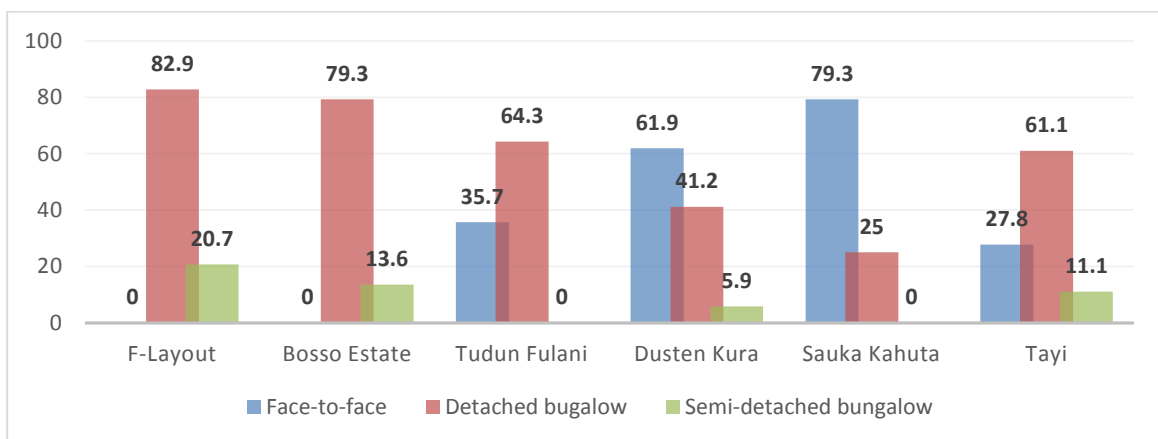


Fig. 2: Housing Types on Neighbourhoods Basis
Source: Author’s Field Survey, 2017

Type of Land Title in the Neighbourhoods

The data presented in Figure 3 revealed that 100% of lands in F-layout and Bosso estate had statutory title while 83.3% in Tayi and 63.9% in Dutsen-Kura had customary title of land. The figure also showed that 90.9% of the plots of land in Tudun-Fulani and Sauka-Kahuta respectively had customary title of land, with 5.8% of the plots of land in Dutsen-Kura having no land title. It is discernible from the result only plots of land in the low density areas of F-Layout and Bosso Estate had statutory deeds while medium and high density areas mostly had customary deeds of title.

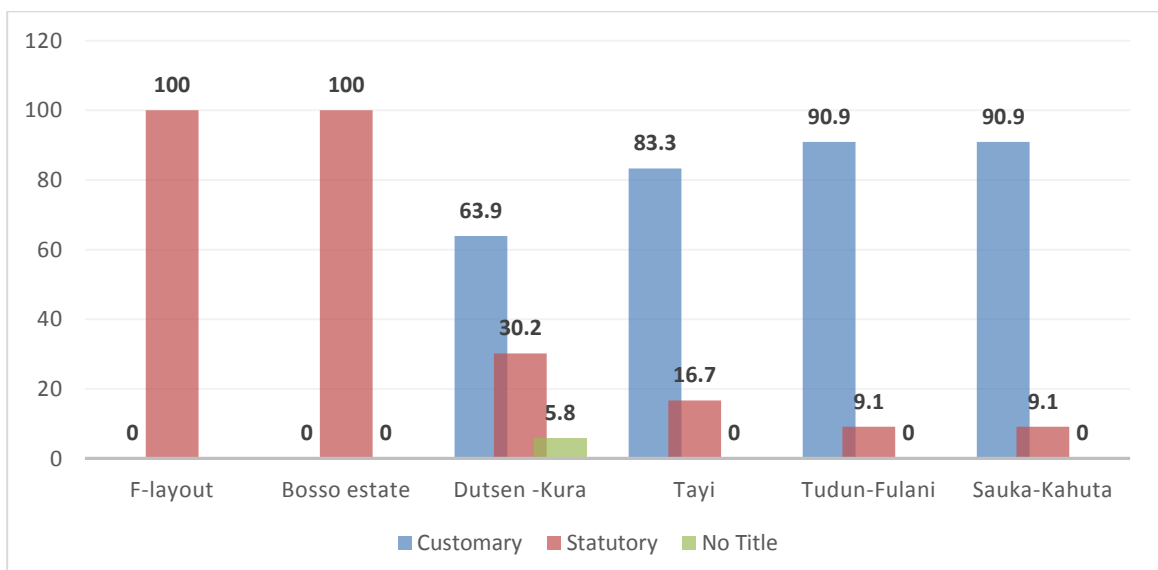


Fig. 3: Type of Land Title of respondents in the study area

Source: Author’s Field Survey, 2017

Availability of Building Plans and Development Permit

The level of housing standards and building regulation compliance in the area were examine using variables of building plan availability and development permit from Planning Authority

According to the results shown on Figure 4, all the houses in F-layout and Bosso estate had approved building plans from the Planning Authority. Thus, most of the houses in the areas meet up with the minimum building standards and regulations. However, all the houses in Sauka-Kahuta, 80.2% in Dutsen-Kura, 69.7% in Tudun-Fulani and 55.6% in Tayi do not have building plans. This has therefore affected housing quality in the medium and high density areas of Minna.

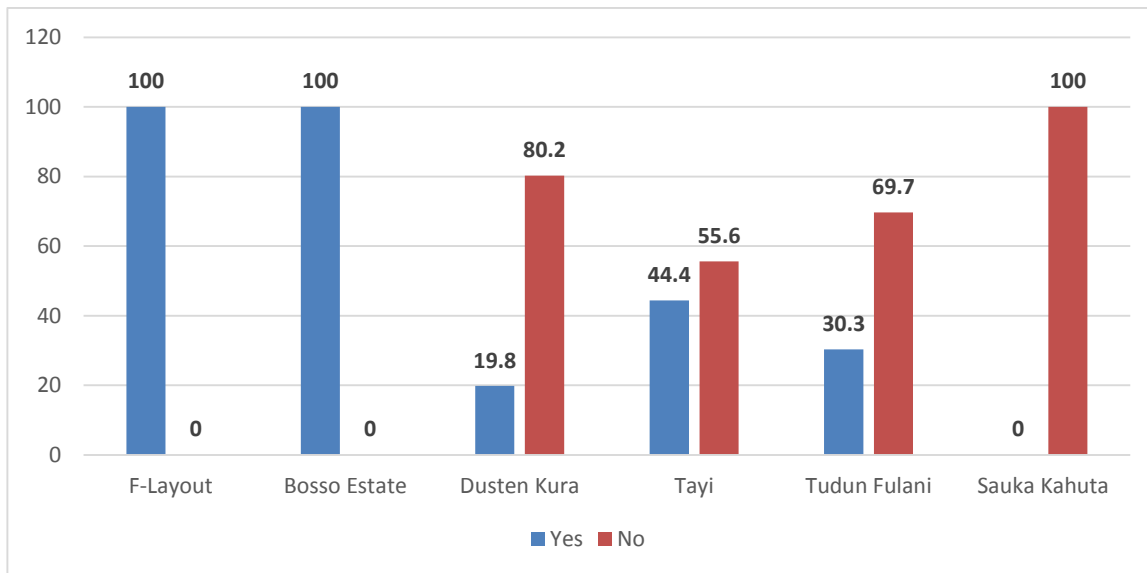


Fig. 4: Approval of Building Plan in the study area

Source: Author’s Field Survey, 2017

Building permits are usually granted by the relevant planning authorities upon the fulfilment of some conditions by the prospective developers.industry.The results presented in Figure 5, revealed that all the houses in F-layout and Bosso estate have building permits, while all the houses in Sauka-Kahuta do not had building permits. It was also foundout that 80.2% and 69.7% of houses in Tayi and Tudun-Fulani respectively had no building permits at the time of the survey. Hence, the findings showed that there were higher proportions of illegal structures and buildings in the medium and high density areas than in the low density areas of Minna.

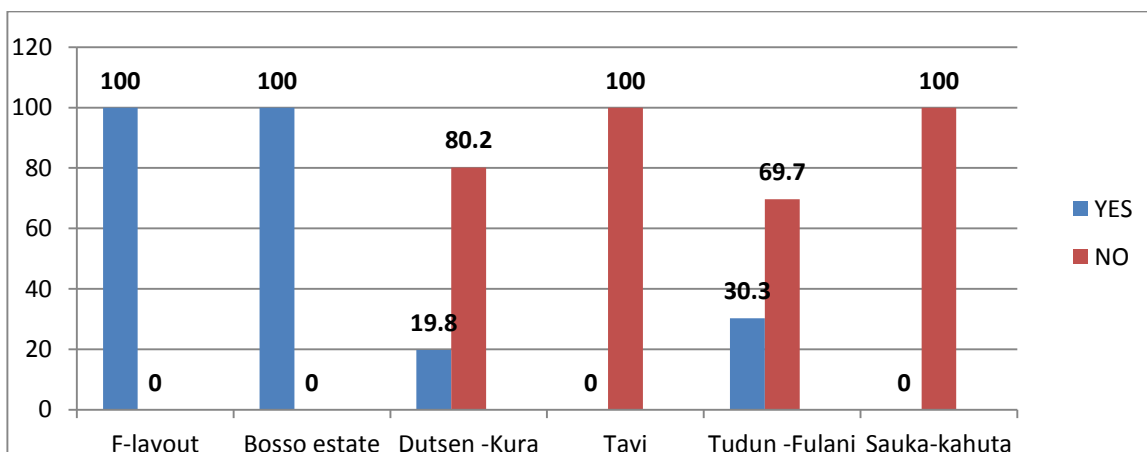


Fig. 5: Building Permits in the study area

Source: Author’s Field Survey, 2017

The level of housing standards and regulations compliance is function of development control and inspection activities of the Planning Authority. The results shown in Figure 6 revealed that all the sampled houses in F-layout and Bosso estate were inspected by officials of the NSUDB during their respective construction activities. These, the officials said, were made easy due to the fact that the areas are government approved layouts. The Figure also revealed that 88.8% of the respondents in Tayi, 57.7% in Sauka-Kahuta and 83.8 % in Tudun-Fulani confirmed their buildings were not inspected during construction. As a result of this, the neighbourhoods were characterized by the presence of many illegal and substandard buildings.

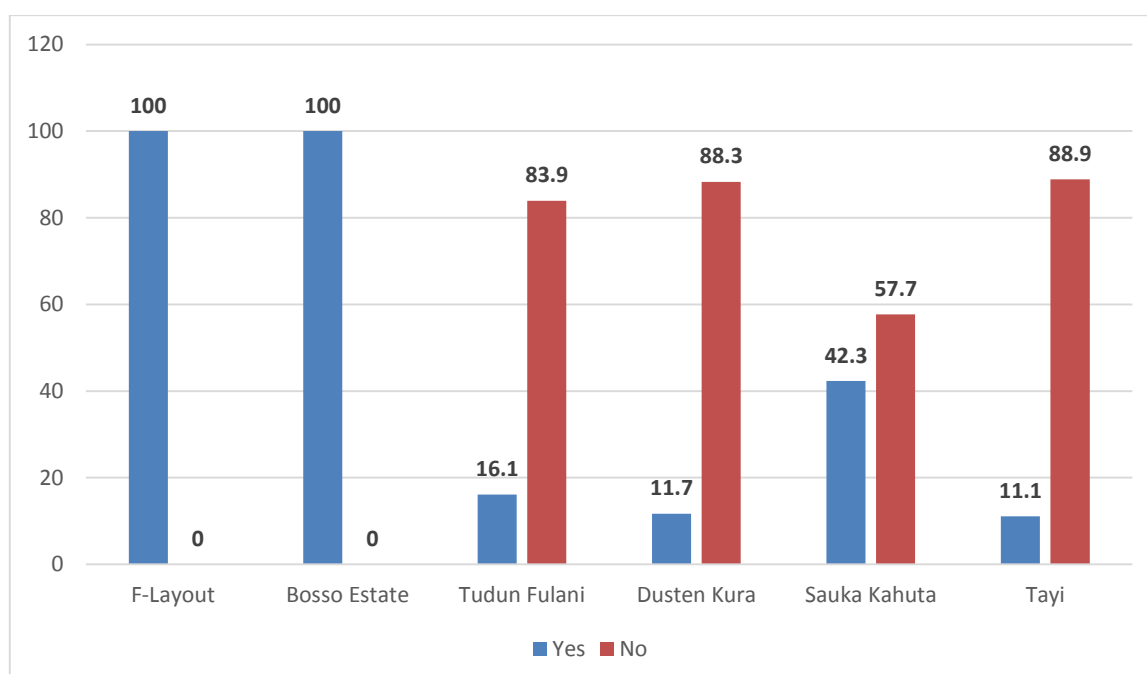


Fig. 6: Inspection of Construction activities by the Planning authority

Sources: Author's Field Survey, 2017

Analysis of the Level of Compliance with Building Standards

In order to determine the general level of compliance with building standards and regulations across the neighbourhoods, measurement on the variables that make up building components of the sampled houses were taken and analysed. The variables measured are building set back, plot coverage, density, building height, size of rooms, ceiling height, external windows, airspaces and height of fence. The outcome of the assessment of the aforementioned is shown in Table 1 which shows the respective minimum standards of the assessed building components of the low, medium and high density neighbourhoods.

Table 1: General Analysis on the Percentage Level of Compliance with Standards across the selected Neighbourhoods

Variables	Minimum Standard			F-Layout	Bosso Estate	Dusten Kura	Tayi	Tudun Fulani	Sauka Kahuta
	L	M	H						
Set back	8m	5m	3m	58	73	43	43	30	20
Plot coverage	35	45	60	70	79	40	25	25	15
Density	1:00	2:00		80	70	45	35	40	28
Building hgt.	3m			100	100	45	40	45	40
Size of Rm	3600mm			100	100	30	20	30	40
Ceiling hgt.	2.7m			90	100	35	15	35	61
Ext. windows	1400mm			90	100	40	42	25	15
Airspace	3m			100	100	35	45	20	10
Height of fence	2.5m			60	65	45	67	68	35

Sources: Author's Field Survey, 2017

As shown in Table 1, all the sampled houses in F-Layout and Bosso Estate met the minimum standards of building heights, size of rooms and airspaces, while only 40% of the houses in Tayi and Sauka Kahuta, 20% of houses in Tayi and 10% of houses in Sauka Kahuta met the minimum standards of building height, size of rooms and airspaces respectively. On the whole, it was found out that although there were instances of non-compliance with some building standards in the low density neighbourhoods of F-Layout and Bosso Estate, they generally performed better than the medium and high density areas respectively. In other words, the medium density (Tayi and Dusten-Kura) and high density areas of Minna (Tudun-Fulani and Sauka-Kahuta), had comparatively lower compliance level in all the assessed variables. This is because, most of the houses in these neighbourhoods were without approved building plans and permits. In the same vein, the lack of compliance with building regulations in these neighbourhoods is also as a result of poor monitoring and inspection by the concerned public agency (NUDB) as well as low level of awareness of some of these regulations and standards by the residents. In general, it was observed that the poor level of compliance with housing standards and building regulations in Minna is also as a result of the lack of planning schemes in most of these neighbourhoods.

Analysis of Variation in Housing Standards Compliance across the Neighbourhoods

In order to statistically determine the level of variation of housing standards compliance and building regulations across the six selected neighbourhoods, the Household Compliance Index (HCI) of each of the sampled houses was calculated by computing the observed values from the field work in an excel platform. This allowed for the calculation of the Neighbourhoods Compliance Index (NCI) of the households which was used to run the chi-square test. Thus, the analysis of the NCI showed that there is no statistically significant variation across the selected neighbourhoods because there is no much difference in the values obtained from the analysis (Table 2).

Table 2: Neighbourhoods Compliance Index

Neighbourhoods	Neighbourhood Compliance Index (NCI)	Level of Compliance (%)
F-Layout	0.90000	90
Bosso Estate	0.86667	87
Tayi	0.82623	83
Dusten Kura	0.84048	84
Tudun Fulani	0.82121	82
Sauka Kahuta	0.80364	82

Source: Author's Field Survey, 2017

The result of the Chi Square, $P = 0.224$, which is not significant at 0.05 with 95% confidence level as presented in Table 3. This revealed that there is no significant difference in the level of housing standards compliance and building regulations across the six selected neighbourhoods of low, medium and high densities.

Table 3: Chi-Square Tests for Level of Variation across Neighbourhoods

	Value	Df	P
χ^2	30.00	25	0.224
N	6		

Source: Author's Field Survey, 2017

CONCLUSION AND RECOMMENDATIONS

The importance of having healthy and functional housing units can never be overemphasized, especially owing to their roles of protecting their inhabitants as well as ensuring their comfort. But these functions of a housing unit are defeated if it did not meet the minimum required standards and regulations. It is important to note that improved quality of housing and its components will bring about healthy human habitation. In view of the findings of this study, there is therefore, the need for developers to provide and improve on the quality of housing and its components by effectively adhering to building standards and regulations.

Based on the research findings, the following recommendations have been put forward in order to ensure effective compliance with building standards and regulations in the study area in particular and the State in general.

- i. The NUDB should be more alive to its responsibilities by monitoring and enforcing building standards and regulations in order to have decent housing environment that is good for human habitation;
- ii. The NSUB should embark on regular public sensitization and awareness programmes in order to enlighten the residents on the need and importance of adherence to building standards and regulations and;
- iii. Incentives should be given to any would be developer that regularised his/her land documents as well as secured plan approval and permits before starting any construction activities.

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