

Factors Affecting Implementation and Compliance with Housing Standards for Sustainable Housing Delivery in Bayelsa State, Nigeria

Eugene Ehimatie Atamewan,

Department of Architecture,
Cross River University of Technology, Calabar, Nigeria

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Abstract

In the quest to find solutions to the ever increasing housing shortages in Nigerian cities, developers, especially the low-income groups, embark on housing construction which in the eye of the government housing agency circumvent compliance to housing standards and are therefore illegal. This research evaluates factors affecting the implementation and compliance with housing standards for sustainable housing delivery in Bayelsa State, Nigeria. The methodology employed was a qualitative research approach involving in-depth interviews, physical observations and detailed, systematic and thorough review of literatures on the subject matter from published works of renowned authors. In addition, 20 housing units were selected using purposive sampling technique for detailed study; while respondents of 20 selected housing units used were also interviewed including housing professionals and personnel of housing agencies in the state using both random and expert sampling techniques. From these responses, other factors peculiar to Bayelsa State were outlined. Data collected were analyzed using content analysis. Findings listed factors such as administrative practices, uncertainty of standards, socio-economic, demographic and socio-cultural factors. Recommendation is that these factors should be considered in developing housing standards for a given area and making the standards flexible in order to make compliance practicable and enforceable.

Keywords: Housing standards, low-income, compliance, housing delivery

Introduction

There is an urgent need to re-organize the degenerated urban setting across developing countries including Nigeria. Specifically, the required urban infrastructure occasioned by the chaotic developments, which are substantial evidences of rapid urbanization, cannot be over emphasized. This issue is

because the problems have become a persistent phenomenon over the last few decades. The people, especially the low-income groups living in cities, want to build to solve their housing problems. However, the legal framework seems to be the main stumbling block towards the realization of their dream and aspiration to be addressed as landlords or house owners. Thus, there is frequent battle of either deliberate or unconscious action of noncompliance with the existing housing standards in this regard.

To operationalize and help understand some major components, the following items are described:

- **Housing Standards:** A compilation of a set of laws and guiding principles approved by government, agency or establishment to manage the planning, design, erection and maintenance of buildings with the ultimate goal of promoting the health and safety of occupants and achieve human comfort (Jinadu, 2007). On the other hand, compliance according to Arimah & Adeagbo (2000) is the setting of limits, specifications and standards for residential development within a city.
- **Sustainability:** Sustainability is a concept promoting synergistic practices and techniques of design, construction and maintenance of buildings that are in harmony with nature. This practice promotes the use of local eco-friendly materials (earth, bamboo, etc.), re-use or recycling of materials, promotion of energy efficiency through renewable energy (passive and active), water efficiency and replenishing (rain water harvesting, use of asphalt or permeable concrete) and promotion of day lighting and natural ventilation for a healthy environment today, tomorrow and the future (Atamewan, 2017). This concept is one that describes the improvement, progression and growth that tend to satisfy and accommodate the desire and aspiration of the present generation of humans while also ensuring that future generations are not deprived of same benefits thereof. Essentially, the basic fundamental argument supporting sustainable development is the fact that the built environment and growth/development are in harmony, complementary, mutually dependent and reinforcing but not exclusive of one another (Oriola, 2009; Atamewan, 2017).

It is no longer news that the informal segments in Nigerian cities constantly and increasingly dominate the housing sector's information. Thus, in attempting to proffer solutions to the current housing deficit in Nigeria and Bayelsa State in particular, the low-income groups acquire lands; construct buildings outside the legal stipulation, which render their construction illegal

and substandard (Atamewan & Olagunju, 2017). Hence, there is the urgent need for developing countries to revisit their building standards and regulations with a view to fine-tuning it to reflect the environmental and socio-economic realities of the area (Alnsour & Meaton, 2009). This study is aimed at examining factors affecting implementation and compliance with housing standards for Sustainable housing Delivery in Bayelsa State, Nigeria.

Literature Review

Several authors have carried out studies at different times and at various locations on the factors that affect the noncompliance with building regulation and housing standards in developing countries by developers in quest of finding solutions to the ever increasing housing shortages. Thus, a number of the studies have been reviewed in this research work as follows.

The review begins with the study carried out by Arimah & Adeagbo (2000) investigated the level of compliance of private residential dwellings with urban planning and building regulations in Ibadan, Nigeria. These authors assessed housing units from three residential zones of the city namely low-density (high quality), medium-density (medium quality) and high-density (low quality) neighbourhoods respectively. The aim of their study was to carry out evaluations of the compliance level of private housing developments with planning and building standards. A purpose was to identify the areas of the building regulation standards with which were difficult to comply. Their study attempted to ascertain the effectiveness and relevance of the building regulations in relation with present day economic realities in Nigeria. Findings by these authors showed that although the awareness of the existence of the planning standards was high, the level of compliance with building and planning regulations was low. Also, their study further revealed that set back requirements, plot coverage, provision of utilities, room size and change of house form (to include commercial usage) were the most violated aspects of the building and planning regulations in the study area. Their study further outlined the factors affecting the low compliance level to include: (a) poor coordination and implementation of the administrative machinery for physical planning, (b) high poverty rate of the general populace, (c) the institutional context of urban development and planning regulations (d) disregard and lack of concern of the people towards planning agencies in the State. These authors then recommended a review of the existing land policy to improve access to land, improved inter-agency coordination by planning authorities, public involvement in planning process and most importantly modifications of the existing planning and regulation standards that is functionally acceptable, realistic and enforceable. The recommendations made in this study very relevant in this study and therefore adopted.

Similarly, Sarkheyli (2012) in his study, examined factors affecting the compliance or reasons for noncompliance to building/housing standards using floor area ratio as a yardstick for measuring compliance in Tehran. The study outlined factors such as income level of developers, awareness level, economic (profit) motives and compared their significant level with compliance with building standards. The findings of his study revealed that of the factors outlined, the most significant factor responsible for non-compliance was level of awareness. The second finding was determined to be the economic motives and level of income of developers respectively. The findings/recommendations made in his study were very applicable and therefore adopted in this research.

Another study carried out by Gyau, Awuah, & Hammond, (2014) employed a single factor of public awareness/ignorance in an effort to evaluate the compliance level of the people to housing standards from a community in Ghana. The authors' work was to establish or disprove the hypothesis that "lack of public awareness or ignorance of the residential development standards significantly determines the rate of compliance with the development standards". The findings of the study showed that compliance to existing housing standards was intentional in the study area among the poor and that only the elites had high level of compliance for the singular reason of meeting the requirement for obtaining loans. The study recommended that people should be persuaded by the regulating authorities to attain high level of compliance.

A further study on housing standards compliance by Offiong, Offiong & Ekpe, (2014) examined "Socio-economic characteristics of property owners and level of compliance with building regulations in Calabar, South-Southern Nigeria." The study employed multi-stage sampling technique, using purposive sampling of residential districts making up the study areas at stage one and systematic sampling to select the streets and buildings. Data collected for the study was based on factors such as income, awareness level with building regulation, education status and professional status from residents of residential buildings, the State building regulations including direct measurement of buildings variables. The data collected was analyzed using multiple correlation statistical analysis involving both regression models and regression coefficient to determine the relationship between socio-economic characteristic of building owners and their compliance level with building regulations.

The housing unit types used in the study include informal improvised dwelling, semi-detached, flat in block of flats and traditional hut structure. In the second stage of the study, a sample frame was defined for each street at the interval of 20 buildings according to the number of buildings on separate stand/yard with a target of not less than five percent in mind. The last stage

involved systematic sampling in districts where there was less than five percent housing units due to initial refusal by some respondents to provide the needed information.

Findings revealed a strong relationship exist between socio-economic status and level of compliance with building regulations in Calabar, Cross River State. Also, the study showed that among the socio-economic predictors of compliance with building regulation, the most dominant is awareness level of building owners. The study concluded that awareness of existence of building regulations alone is insufficient to guarantee total compliance but both income and education levels of the people have to improve.

The study by Abubakar, Lizam & Yassin, (2013) which is seen as more detailed is given preference in this review. The aim of the study was to review models of compliance with building regulation and housing standards and therefore, propose a simple and comprehensive model of compliance. The authors employed qualitative research method using extensive literature review of about thirty relevant paper published by reputable journals for the study so as to identify the main factors affecting compliance with minimum housing standards in Nigeria. The authors, based on the review of literatures grouped the factors affecting compliance with minimum planning standards into four recognizing the impact of demographic factors (population growth by birth, rural-urban migration). Finally, the study developed a conceptual model (framework) for identifying the affecting compliance with development standards in Nigeria. These findings in studies are relevant to this study and are therefore adopted.

Methodology

This research study employed the qualitative research approach involving systematic review of literature, content analysis of this review, in-depth interviews, physical observations and detailed studies of the housing units in the study area. Also, a combination of purposive and expert sampling techniques was used.

Purposive sampling in qualitative techniques requires that the researcher only sought for respondents with information relevant to the study and is willing to release such information in order to achieve the objectives of the study. Also, sample size in purposive sampling for qualitative research requires between 15-20 samples. That is the point in any data collection when new information is no longer available, implying that information being received becomes familiar and similar, therefore is negligible (Kohlbacher, 2005; Kumar, 2011).

Conversely, expert sampling technique was used in choosing the key informants for in-depth interview because of their perceived knowledge in the field of study under review (Kumar, 2011; Greener, 2008).

From the literature reviewed, some factors were outlined, which formed the bases for both the physical observation carried out and oral in-depth interviews from experts in housing issues, professional and staff of relevant agency including Bayelsa State ministry of Lands, Housing and Urban Development, Bayelsa Capital Development Authority. Respondents of 20 selected housing units used for detailed study were also interviewed and from the responses, other factors peculiar to Bayelsa State were outlined.

The data collected from the field were analyzed using content analysis since the research method was majorly qualitative. Content analysis was carried out by critically analyzing the information collected from the respondents and the observation notes taken by the researcher during the field work. Thus, the main themes that formed the hub of the field work were identified and quantified so as to give their occurrence and thus importance (Kumar, 2011). Finally, the study developed a conceptual framework of determinants for compliance and implementation of housing standards for Bayelsa State, Nigeria.

Results and Findings

The analysis from the interviews from both the experts in housing studies, staff of relevant housing agencies and respondents of selected housing units and detailed study of selected housing units in the study area constitute the following findings from the research. These findings include: (a) housing standard compliance knowledge, (b) existing spatial standards, (c) planning and design of these housing units, (d) locations of kitchens and bathrooms and (e) factors influencing implementation and compliance. These are discussed next.

1. Analysis of Housing Standard Compliance

This study show that most of the respondents lack the awareness of the existence of minimum housing standard as it concerns the construction of housing units. Higher number of respondents expressed shock as to what constitutes minimum housing standard and how it affects their houses in their neighbourhood. Only a small proportion of the respondents agreed they had knowledge of the existence of minimum housing standard. The key informant agreed that the government and agencies responsible for the enforcement has not done enough in areas of creating adequate awareness stating that some members of the public get to know about it at the point of getting approvals for their buildings. This reveals that the awareness level of the existence of the minimum housing standards was very low. This implies that compliance and implementation of the minimum housing standards cannot be effectively carried out.

2. Analysis of Existing Space Standards

The result in Table 1(see Table 1) reveal that most housing units studied do not observe the stipulated minimum housing standards either in space sizes or in the provision and location of some required useful spaces like bedrooms, living room/dining room, kitchen, store, toilet and bathroom spaces. A small proportion of the housing units complied, while a very small proportion had half of the compliances meaning that the compliance level was not total. On the reasons for non-compliance, some of the respondents claimed non-awareness, high standards beyond their level and cultural influence.

Table1: Existing Space Sizes Compared to Minimum Areas by Building Standards in the Study Area

Housing units no.	Living.Rm existing (m ²)	Required Min.Area (m ²)	Bedroom existing (m ²)	Required Min area (m ²)	Kitchen existing (m ²)	Required Min area (m ²)
1	9.0	15.0	9.0	13.6	3.4	6.0
2	9.4	15.0	9.0	13.6	5.4	6.0
3	13.0	15.0	10.8	13.6	5.8	6.0
4	10.8	15.0	9.0	13.6	4.0	6.0
5	8.1	15.0	8.1	13.6	5.0	6.0
6	15.0	15.0	10.8	13.6	5.0	6.0
7	8.0	15.0	7.2	13.6	3.8	6.0
8	8.6	15.0	7.2	13.6	4.4	6.0
9	9.0	15.0	9.0	13.6	3.4	6.0
10	13.0	15.0	9.0	13.6	4.5	6.0
11	9.0	15.0	7.2	13.6	5.8	6.0
12	9.0	15.0	7.5	13.6	4.8	6.0
13	9.4	15.0	9.0	13.6	Nil	6.0
14	9.0	15.0	9.0	13.6	Nil	6.0
15	10.8	15.0	8.6	13.6	5.5	6.0
16	8.6	15.0	8.6	13.6	nil	6.0
17	9.0	15.0	9.0	13.6	4.4	6.0
18	9.0	15.0	7.2	13.6	nil	6.0
19	9.0	15.0	7.2	13.6	3.0	6.0
20	10	15.0	9.0	13.6	3.6	6.0

Source: Atamewan, 2017

3. Element of Planning and Design of the Housing Units

The study also analyzed some selected housing units observed in the study areas, in order to ascertain the level of housing standard compliance in terms of the design and planning of the units. The result show that only 16.5% expressed some elements of planning and design by professionals while a larger 83.5% lacks planning and design as shown in Figure 1(see Figure 1). The existing basic spaces as provided by the housing standard were used for the evaluation of functional areas such as bedroom, living room, dining room,

kitchen and bathroom. Most of the housing units studied were far from being regarded as houses by standard definition.

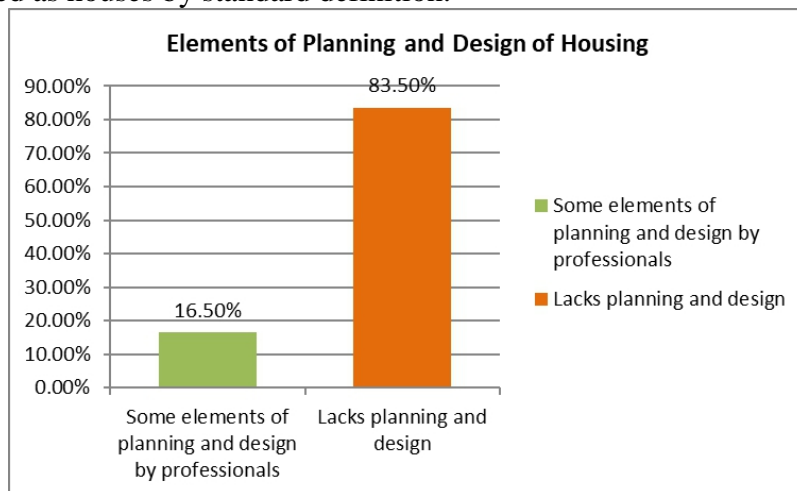


Figure 1: Element of planning and design of the housing units
Source: Atamewan, 2017

4. Locations of Kitchen and Toilets/Bathroom

The location of kitchen, toilets and bathrooms as service facilities was also carried out. In the case of kitchens, a higher proportion of the housing units (70.2%) had their kitchens located outside the housing units, 18.6% of them were located within and 11.2% had no kitchen at all. For toilet/bathrooms, the study shows a slight difference; hence 86.3% had their toilet/bathrooms outside the dwelling units (see Figure 2), 13.2% had theirs within the housing units and a small proportion of the houses (0.5%) had no toilet/bathroom.

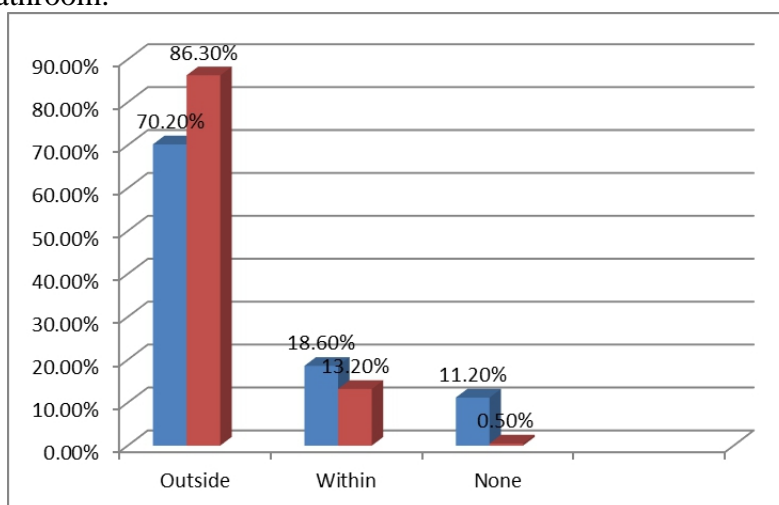


Figure 2: Locations of Kitchen and Toilets/Bathroom
Source: Atamewan, 2017

5. Factors Affecting Implementation and Compliance With Housing Standards In Bayelsa State and Development of Conceptual Framework

From the literatures reviewed and responses from experts on housing issues, the staff of relevant housing agencies from Bayelsa State, as well as housing owners from selected housing units in the study area, the factors affecting implementation and compliance with housing standards in Bayelsa State- developed into a conceptual framework in Figure 3(see Figure 3) follow.

a. Socio-economic Factors

These types include factors such as challenges posed by large family size, poor income levels, low public awareness of planning and building regulations and lack of access to housing finance facilities. These factors are usually accompanied by an escalating demand for limited housing supply, thus providing the low-income individuals the opportunity to build houses without regard to planning and housing standards. In addition, this study has already established the fact that the awareness level of the public especially the low-income populace to the existence of the minimum housing standards is very low in Bayelsa State. This reality makes compliance with the existing standard difficult unless the housing standard is made flexible.

b. Administrative Practices

Effective administrative control mechanisms for building regulation compliance, enforcement and monitoring which rest with the Town planning Authorities is needed. In Bayelsa State, this responsibility rests on Bayelsa Capital City Development Authority. Weak management practice and control mechanism from this agency usually result to poor compliance with planning and housing standards. This weakness can only be overcome when the housing provision becomes a part of the priority of the government as studies have indicated that housing issues for the low-income populace have never received the desired attention by government.

c. The Uncertainty of Housing Standards

The problem of poor compliance and implementation of minimum housing standards was also traceable to the uncertainties of planning and housing standards applicable in the State and the result manifest in poor compliance and implementation of the said standards. Thus, there is a strong relationship between the level of compliance, implementation of minimum housing standards and the uncertainty or otherwise of the standards being enforced. This realization is why every part, sentences or clauses embedded in the building regulation must be well spelt out and very clear in simple language that can be understood by all stakeholders in housing issues.

d. Demographic Factors

Demographic factor relates to human population growth. This factor has to do with high birth rate and rural-urban migration. Increases in population exert pressures on existing housing stock and because it is fundamental that humans have to be housed, solving this affordable and in-compliance problem means the affected individuals must build anything called a house for safety and protection. This unadvisable solution is usually the case where all infrastructure and opportunities are concentrated in the urban centres especially capital city like Yenagoa, affecting the occupancy ratio of the housing unit.

e. Socio-cultural Factors

The socio-cultural factors include culture lifestyle, religion, belief systems, social interaction, occupation and house forms. Architecture, and by extension housing, speak the language of the people as well as expresses the cultural traits of a people. Thus, cultural values of the people must form part of the building regulation for it to be practical and realistic for the communities they serve. The social interaction and ways of life of the people manifests in the housing forms are expressed in spatial arrangements and location of functional spaces. This expression is evident in the locations of functional spaces like kitchen (cooking outside and using firewood) and bathroom/toilets (sharing with neighbours). These factors affect the level of compliance and implementation of housing standards because humans will always resist cultural displacement.

The factors outlined above have been used to develop a conceptual framework (see Figure3) of factors affecting implementation and compliance with housing standards in Bayelsa State.

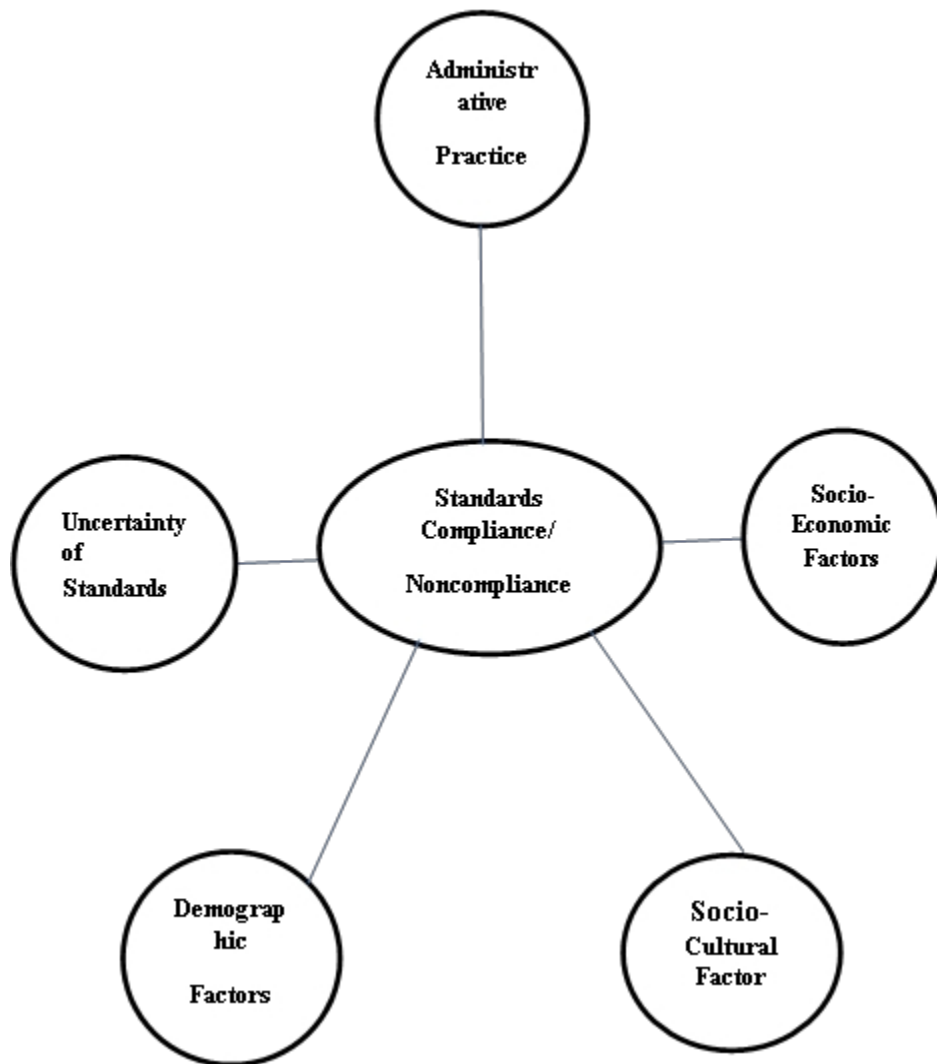


Figure 3: Conceptual Framework of Factors Affecting Implementation and Compliance with Housing Standards in Bayelsa State, Nigeria.

Source: Atamewan, 2017

Conclusion

The rising and increasing spate of informal housing developments in Bayelsa State, Nigeria and other developing countries may not be unconnected with the fact that the existing minimum housing standards is unrealistic. This gap is in part due to the economic status of the developers who are mostly low-income earners who cannot cope with the demands required by the standards. Also, the level of awareness of the existence of housing standards is quite low.

Thus, this study has shown that even though architectural taste has been dynamic experiencing several changes to date, it does not erode the fact that traditional style of architecture propelled by culture should also go into

extinction. This last suggestion is because the way of life and traditions of the people should always be preserved by the architecture of the area. Therefore, this study recommends that for sustainability and practicality of housing standards especially for the low-income group in Bayelsa State, flexible and realistic housing standards is required. Also, government and housing policy makers should ensure that the factors outlined above are considered seriously in the formulation of housing standards taking the peculiarity of the low-income group into consideration in order to make compliance and enforcement of the standards easy and practicable.

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