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HOUSING CONDITION IN CORAL BARRACKS, NIGERIA

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HOUSING CONDITION IN CORAL BARRACKS, NIGERIA

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Abstract

Housing conditions in the coral barracks become interesting as research subjects to find out that the housing condition covers all-encompassing in both the dwelling's physical attributes and housing satisfaction. Generally, having satisfactory housing accommodation is among the most prized aspects of human beings' lives and a key component of people's material living standards. The aim of this study was to assess the attributes and level of housing conditions in Coral Barracks, Nigeria to explore housing conditions and their attributes and cover only the non-commissioned officers' quarters. A quantitative method using a questionnaire survey was used and the population size was 774 apartments with a sample size of 260, while the data were analyzed using descriptive statistics as well as parametric measurements. A total number of 194 questionnaires retrieved from the respondents were used in the analyses. The findings from the physical condition attributes showed that the number of bedrooms, walls, and floors were in fair condition, while the roof, kitchen, and toilet/bath were in poor condition. Neighborhood attributes of hospitals, worship centers, sports facilities, and schools were in fair condition, building services attributes of security, water supply, fire protection, sewage & solid waste disposal and road networks were in fair condition, while laundry, internet, and drainage are in poor condition. The study recommends that a standard strategic plan for efficient barrack housing construction, management, and maintenance be designed. Dealing with the study, it can be concluded that housing conditions in coral barracks, Nigeria, are in the condition that requires rehabilitation to revitalize the standard of the housing condition implied that the management of Coral Barracks through the Logistics Department and Engineering Maintenance Group (EMG) is requested to expeditiously carry out general renovation of the soldiers' accommodation as well as improve on the provision of auxiliary building services and neighbourhoods amenities in the study area with this it may still be part of the conclusion that the housing condition in the study is not fair.

Keywords: Housing condition; Housing attributes; Barrack housing; Housing quality.

1. Introduction

Glaeser and Gyourko (2018), Nawawi and Khalil (2008), Ruonavaara (2018), and Schwartz (2021), agreed that housing is one of the trio necessities of all human projects far more than bricks and mortar but consists of houses in neighborhoods whose characteristics can affect people's livelihood opportunities and outcomes in many ways, including health, education, work outputs and access to wider resources. the housing comprises much more than physical shelter, encompassing "a complex bundle of considerations, including privacy, location, environmental amenities, symbolic characteristics, and investment" that contributes to a range of societal outcomes that go beyond providing shelter (Heins et al., 2019). Furthermore, Mohammedani (2018) argues that housing is a composite item that satisfies so many needs of human beings. The principal requirement is said to be a place to live, it is also a space for a social gathering with family and friends alike to attain aspired social ladder which could be the goal of individuals required housing services.

According to Hussain et al. (2021) and Nawawi and Khalil (2008), the concept of housing condition is all-encompassing in both the dwelling's physical attributes and housing satisfaction. Generally, having satisfactory housing accommodation is one of the most valuable aspects of human early life and a key component of people's material living standards. It is, therefore, necessary to fulfil certain basic needs which include protection from weather elements, provide a sense of personal security, personal space, and privacy. Adequate housing conditions are very important for the health of residents and also may affect the development of children. Another essential element of the quality of housing conditions is the availability of sufficient space within. The principal pointer developed to describe space problems is overcrowding rate, which is determined by the available number of rooms and space to the household size. Housing quality depends on several other factors such as pedestrian occupancy and the quality of dwelling in itself.

However, the Nigeria Social Insurance Trust Fund (NSITF) in 2014 reported that the quality of housing can directly affect the mental and physical health as well as productivity of people. The study shows that diseases, disability, and death develop under conditions of overcrowding, deficient infrastructure and sanitation arising from inadequate or poor housing put pressure on social services provision (NSITF, 2014).

Soldiers housing accommodations are called barracks which are “large building or group of buildings used to house soldiers (Camerin et al., 2021). Barracks are greatly unique from other housing types and by nature very different in that their design evolved in response to a temporary and highly controlled activity by a group of people in service to a specific placed-based function separate from where they originate from. The main purpose of barracks housing accommodation for soldiers is to ensure safe, habitable, and sufficient housing for soldiers, allow unfettered control and command by the units and reduce off-post housing allowance and associated costs.

Barracks are a group of permanent buildings built to accommodate military personnel. They are residential housing units that are not only one of the basic military needs, but also the indicator of the living standard of the military personnel. The housing according to Henilane (2015) has to be comfortable, economical, and reasonably maintainable, as well as architecturally pleasant and in accordance with the environment, which provides the occupants with sound social status and residential fulfilment.

Housing condition in barracks is a very important issue because it relates to the soldiers’ social life, status, happiness, morale building, and information to policymakers and planning of interventions. As it has been revealed, measures of housing conditions provide additional insights regarding individuals’ experience with housing and can be used to evaluate the success of the provided housing programs (Leskinen et al., 2020; Rudnicka-Bogusz, 2018). Then, soldiers’ objective and subjective evaluations of their housing units determine how they respond to the residential environment and form the basis of demand for government action. However, these ideal situations are not always tenable. In Nigeria, the explosion in soldiers’ population and un-proportional availability of resources compared with an increase of population generally, has led to a shortage of barracks and excessive use of few available barrack housing units, barracks’ facilities, and use of “off barrack” housing all over Nigeria (Rudnicka-Bogusz, 2018). This has resulted in unprecedented pressure and overutilization of few available essential services bringing lag in required specifications and socio-cultural preservation of the residents of Nigerian Military barracks and the users of available essential services, which indicates a low measure in the quality of some essential services provided (Langlet, 2021).

There is a correlational relationship between the previous studies conducted and this study, in terms of study conducted by [Olokesusi and Okunfulure, \(2000\)](#) the strategic issues in housing cover all the attributes in housing condition, this shows a clear relationship and [Konadu-Agyemang \(2001\)](#) study the housing condition in Acra that there is relation as the variable relation appears in both studies it also goes with all other mentioned similar studies.

Similarly, previous studies that were conducted on housing attribute conditions were mainly on private and public housing both in Nigeria and other countries ([Arku et al., 2011](#); [Baker, et al., 2013](#); [Ilesanmi, 2010](#); [Konadu-Agyemang, 2001](#); [Nawawi & Khalil \(2008\)](#); [Olokesusi & Okunfulure, 2000](#); [Ugochukwu & Chioma, 2015](#); [Yoade et al., 2020](#)). For instance, [Ishiyaku \(2016\)](#) evaluated the housing performance of public estate based on occupants' experience and satisfaction using Structural Equation Modelling (SEM). The study confirms the attributes and level of housing conditions in Coral Barracks, Nigeria.

The term “housing” has been viewed differently by various professionals but is at the core of each definition in its role of providing protection and comfort to its inhabitants ([Bhuyan et al., 2020](#)). It is a structure designed as a residence for one or more persons ([Daramola, et al., 2005](#)). Housing is an inevitable essential for human existence after food, the basic need of man is housing. Housing embraces all the social services and utilities that are used to make a community or neighborhood a liveable environment ([National Housing Policy, 1991](#)). In the same vein, the [National Housing Policy of the ST Lucia government \(2008\)](#) considers housing as a multidimensional commodity that includes physical shelter, the related services and infrastructure, and the inputs such as land and finance required to produce and maintain it. Housing also covers the solutions directed at the improvement of the shelter and the environment in which it exists.

Housing is also considered an integral part of human settlement that fulfills the basic need and has a profound impact on the quality of life, health, welfare as well as productivity of man ([Eziyi & Amole, 2010](#)). Housing is not a mere shelter or household facility but includes environmental amenities like waste disposal, water supply, access to road, socio-cultural and behavioral characteristics of the user ([Jiboye, 2010](#); [Oladapo, 2006](#)).

Housing is the process of providing a large number of residential buildings permanently with adequate physical infrastructure and social services in planned, decent, safe, and sanitary neighbourhoods to meet the basic and social needs of the population and is intended to

provide security, comfort, and convenience for the users (National Housing Policy [NHP], 1991). Housing is one of the three basic needs of mankind that is required for the physical survival of man after the provision of food (Jiboye, 2010; Nawawi & Khalil, 2008). It is described as a residential environment, which includes the physical structure used for shelter, all necessary services, facilities, equipment, and devices needed or desired for the physical and mental health and social well-being of the families and individuals (Omole, 2010).

1.1. Investment and Economic Aspect of Housing

Housing as an investment has a significant role in the individual, local and national economy. In most cases, it is the first major capital investment and life ambition of individuals (Nnamdi et al., 2021). Economically, housing represents a major portion of the family budget or that of an establishment, yet in the realm of private and public investment, the built environment represents a man's most tangible material asset (Ibem & Amole, 2013). The significant contribution of housing to man particularly in the area of psychological satisfaction and socio-economic wellbeing cannot be overemphasized. Thus, housing does not only contribute to the mental and physical development of man, but it contributes to the growth of culture and human morals (Jiboye, 2010).

In specific terms, the provision of housing is achieved through the interaction of different but related crucial factors in the economy comprising land, building material, finance, and labor. The interaction of these factors creates a series of social and economic opportunities. Socially, housing provides accommodation and shelter to mankind thereby facilitating his wellbeing. Homeownership imposes a civic and social commitment to the owner (Saunders, 2021). Economically, it provides the incentive to owners; employment opportunities to labour; business opportunities to financial institutions; the market for building material and the completed houses; as well as providing opportunities to real estate and construction professionals in terms of its construction, acquisition, valuation, management, and maintenance.

1.2. Public Housing

According to Ishiyaku (2016) and Nawawi and Khalil (2008) public housing is the provision of cheap housing by governments for civilian housing directed towards the satisfaction of

housing occupants. This definition is, however, narrowed to civil occupancy. Public housing is beyond just houses constructed or developed by the government for civilian use but encompasses the housing accommodation provided by the government for servicemen occupancy. This includes housing accommodation provided in Military Barracks, Police barracks, and other paramilitary barracks.

A more encompassing definition of public housing is considered public housing as a method whereby housing accommodations are developed by government authorities at both central and local levels for people's uses (Hutchison, 2009). This definition considered all classes of people, civilian and non-civilian alike, who could benefit from housing accommodation provided by the government at all levels. Various causes have been put forward for government participation in the provision of public housing. Some of these reasons include redistribution of resources, standard control, and public service delivery (Badejo, 2005; Balchin et al., 1995; Elgin, 2010; Ishiyaku, 2016; Lee, 2010; Sheppard, 2011).

These reasons are highlighted such as redistribution of resources, standard control, public service delivery, and security. For redistribution of resources, the resources are mostly unevenly distributed among people with varying levels of access to available resources. While others have in abundance, others do not. Some many people under consume housing and remain ill housed. Government intervention ensures that such a class of people have access to decent housing. For standard control, public housing ensures housing consumption achieves minimum standards because poor standards portend an environmental health risk to the occupant and the immediate environment. Public supply of housing can be regarded partly as an alternative to controlling the standard of the lower end of the private housing sector and could prevent market failure.

For public service delivery, housing is considered a necessity of mankind which has been adjudged to be scarce and costly (Windapo & Cattell, 2013). Thus, the provision of adequate and affordable housing to the public is part of the public service delivery to the people. Public housing also helps housing policy design. And for security, military personnel, by nature of their calling, are segregated from the civilian population. Thus, the government provides housing accommodation for them and their family to enable them to perform their national duties of protecting people's lives and properties. In addition to the aforementioned, the government has the comparative advantage in the acquisition of "development land,

regulating housing market indicators such as interest rate, tax, exchange rate, initiating price, subsidies, formulation, and implementation of housing policies and regulations, and regulating output distribution between urban and rural areas” (Ishiyaku, 2016).

1.3. Housing Condition Attributes

Housing condition refers to the adequacy of the physical state of the housing fabrics that incorporate the immediate physical building components and the neighborhood situation. The condition of housing has serious impact on the residents and the environment. Australian Bureau of Statistics (2006) affirmed that inadequate housing can pose serious health risks. Housing conditions play a major role in individual health status, as a wide variety of housing features have been reported to influence the physical, social, economic, and mental well-being of occupants (Baker et al., 2013; Nawawi & Khalil, 2008). WHO (2009) stated that housing should be in a condition that provides:

- 1) Protection against communicable diseases,
- 2) Protection against injury, poisoning, and chronic diseases
- 3) Reduce psychological and social stresses to a minimum

A healthy housing condition provides a liveable place to live, clean environment with a minimum acceptable space, and environmental health. Environmental health is defined as the control of all those factors in a person’s physical environment that cause or are likely to have a deleterious effect on his physical, mental, or social well-being. In essence, it refers to, among other things, the control of methods for disposal of excreta, sewage, and community wastes to ensure that they are adequate and safe; water supplies to ensure that they are pure and wholesome; and housing to ensure that it is of a character likely to provide least opportunities for the direct transmission of diseases especially respiratory infections and encourage healthful habits of the occupants (Baker et al, 2013).

The nature of housing, its environment, and its location plays a crucial role in determining its occupants’ ways of life. It affects the way they spend their income, leisure time, health, and attitudes to social relations (Okoye & Ngwu, 2021). Most scholars on Nigeria’s housing situation have assessed the condition of housing in urban centers as inadequate. The housing

conditions in the urban centers were found to be worsening instead of improving (Arku et al., 2011; Konadu-Agyemang, 2001; Olokesusi & Okunfulure, 2000).

Several studies were conducted on housing conditions. For instance, Olotuah (2006) evaluated the physical characteristics of the buildings and the determining factors that influence the condition of the building stocks. The study was based in Akure in Nigeria. Using descriptive analysis, the study found that buildings were in poor condition, dilapidated, or requiring major repairs to make them sound. The findings indicated that about two-thirds of all buildings in Akure are substandard, a very high proportion even for a developing country like Nigeria. In another study, Olotuah (2006) developed a linear model through multiple regression analysis for the prediction of the housing condition and quality. Twelve independent variables were entered and regressed against housing quality, the dependent variable. Of these, three independent variables (use of a toilet, age of buildings, and frequency of collection of refuse) were found to be determining factors for housing condition and quality.

Ugochukwu and Chioma (2015) noticed a rapid deterioration of the housing situation in the Nigerian urban centers due mainly to population explosion and massive rural-to-urban migration. The effect of this is a severe shortage of housing units as well as overcrowding and poor quality of extant dwellings. The authors assert that to achieve the goal of adequately housing the urban poor, the strategy should be extensive mass housing development and the use of indigenous materials and methods. Based on two case studies, from Oke-Ola (Ado-Ekiti State) and Kano, the authors have shown that using local, traditional construction materials could be cost-saving.

Yoade et al. (2020) examined the physical and environmental characteristics of the traditional core area of Ife-Ile city in Nigeria. He found that more than half of the dwellings in the core area are in very poor condition, the majority of these being more than 30 years old. The building materials used may also be responsible for the deplorable state in which most of these dwellings are. Thus, 70% of all houses were found to be made of mud while another 20% are made of a combination of mud and brick. Based on these findings, Yoade et al. (2020) concludes that housing conditions in the inner core of Ife-Ile are not suitable for human habitation. Ogu (2002) developed a systematic spatial assessment of urban satisfaction with housing quality using Benin City, a traditional West African city, as a case study. Based on the physical condition of houses, housing and population density, socioeconomic status of residents, environmental variables, and

phases of urban development, he identified four residential zones in Benin City: the core area, the intermediate zone, the planned settlement zone, and the suburban zone.

Okoye and Ngwu (2021) assessed the level of qualitative adequacy of newly constructed dwellings in urban centers of Ogun State, Nigeria. They found the overall quality of housing to be inadequate. However, it was mainly the poor neighbourhood facilities that deemed the housing quality to be inadequate while the housing unit attributes were, in general, found to be satisfying. The main practical and policy implication resulting from here is that authorities and private investors should pay more attention to the provision of adequate infrastructure facilities. This could increase the level of satisfaction with the quality of housing. The study by Olaniran and Yusuff (2019). evaluated the physical characteristics of buildings and the residential environments of several low-income and medium-income public housing estates in Lagos, Nigeria. The assessment revealed several building defects and aspects of housing in which maintenance intervention, repairs, and renovations were considered urgent.

Bello and Egresi (2017), using Ogbomoso (Nigeria) as a case study, examined housing adequacy in terms of space and privacy. He found that, although most residences were overcrowded by western standards with 8-12 people cramped in one or two rooms, residents did not see this as a problem but rather as a reflection of a lifestyle based on Yoruba customs and traditions. The author concluded that the adequacy of housing reflects its capacity to meet an individual household's needs. Okeke et al. (2020). examined the decay of the Nigerian urban built environment and its impacts on the health of city dwellers. The authors found that the main problems leading to decay were inadequate basic infrastructure amenities, substandard housing, overcrowding, poor ventilation in homes and workplaces, poor sanitation, and non-compliance with buildings' byelaws and regulations. The paper also asserted that the deterioration of housing conditions could have serious adverse effects on the health of city dwellers.

A study done by Yakubovich et al. (2021) showed that housing conditions and overcrowding could have a significant impact on children's immediate and long-term effects on health, education, safety, and behaviour. In another study, Green (2011) found that physical housing conditions such as the presence of roaches, plumbing defects, and heating/cooling problems contribute significantly to mental health dysfunction such as being depressed, feeling worried, feeling sad, feeling helpless, and feeling emotionally upset. Pevalin et al. (2008) in his study cited some research to show the link between poor building design to mental health problems,

such as stress and alcohol/drug problems, infestation, and noise whereas unpopular housing areas and high-rise flats have been linked to depression, anxiety, and generic psychological distress. As generally discussed, housing condition attributes can be categorized into physical attributes, neighbourhood attributes, and services as discussed in the following subsections.

1.4. Physical Housing Condition Attributes

Physical attributes of housing are referred to as the characteristics of such a building itself which is known as dwelling features. For dwelling characteristics, [Jegade et al. \(2021\)](#) identified various dwelling characteristics that influence the social life of the occupants. These attributes that are highlighted include the forms and quality of estate related to its layout, structure and design, age, condition of dwelling facilities, fences and gates, number of rooms, floors adequacy of ventilation, availability of garage, swimming pools, landscape, material type and quality used for construction, quality of finishing and available land area. [Lee \(2010\)](#) studied the impact of leisure and sports facilities on house value with an increased number of dwelling characteristics variables. The variables include the living area, number of rooms, building age, number of stories, number of floors, and house structure as explanatory variables for the dwelling characteristics.

Responding to the study of literature, this research found that the physical qualities of housing products are the first attribute to be noticed by the consumer when buying a house. These factors were studied, though by different researchers, such as [Akalın et al. \(2009\)](#), [Hoffman et al. \(2010\)](#), and [Riccardo et al. \(2010\)](#). The facade, infrastructure condition, the width of the road, roofing physical qualities, product specification, and building design are influencing their perception toward whether the current housing price is appropriate. The most common structural attributes that included in property built-up area, size of living area or dining area, number of bedrooms or bathrooms in a house, car porch, and internal or external structure of a house ([Hui et al., 2007](#); [Jim & Chen, 2009](#); [Poudyal et al., 2009](#); [Redfearn, 2009](#)).

[Kain and Quigley \(1970\)](#) undertook the first major study to investigate the impact of housing quality on housing prices. They used measures such as the condition of drives and walks, exterior structure, condition of floors, windows, walls, and levels of housekeeping. These quality features were found to have as much effect on the social life of occupants as

the number of rooms, number of bathrooms, and lot size. However, [Chau et al. \(2001\)](#) classified the physical conditions of the property such as size, floor level, age, and so forth as tangible attributes, whereas attributes such as environmental quality and developer's goodwill are regarded as intangible attributes. Numerous studies have revealed that the number of rooms and bedrooms ([Fletcher et al., 2000](#); [Li & Brown, 1980](#)), the number of bathrooms ([Chau et al., 2001](#); [Garrod & Willis, 1992](#); [Linneman, 1980](#)), and the floor area ([Carroll et al., 1996](#)) are positively related to the morale.

1.5. Neighbourhood Housing Condition Attributes

Neighbourhood attributes are the facilities that make housing feasible and lively. [Beckers and Boschman \(2019\)](#). in their study of neighbourhood attributes on social life, identified two categories of neighbourhood variables that could positively or negatively influence housing. The positive neighbourhood variables outlined by these researchers which are termed neighbourhood amenities include schools, playgrounds, hospitals, and health centers, parks and recreational facilities, sporting facilities, shopping centers, community services. The negative neighbourhood variables termed as "disamenities" include industrial noise, neighbourhood crime rate, air pollution, heavy traffic on streets, and contaminated environment. A home is part of a neighbourhood and should be viewed in the community setting. Each occupant has needs that must be met in the larger community. Facilities for education, transport, worship, health care, shopping, and recreation are factors to be considered when making housing choices ([Aluko, 2011](#)).

Neighbourhoods are geographic units within which certain social relationships exist, although the intensity of these relationships and their importance in the lives of residents vary tremendously. Initially, the neighbourhood unit was both a social and planning concept. On one hand, it had to provide convenience and comfort and direct, face-to-face contact to restore some sense of community that has been disturbed or destroyed by the specialization and segmentation of urban life ([Baldassare, 2021](#)).

Neighbourhoods' attributes as we all know are important due to their spatial linkage to the housing purchase ([Aluko, 2011](#)). Once settled in a location, one is subject to the externalities that neighborhood effects imposed. Neighborhoods are geographic units within which certain social relationships exist, although the intensity of these relationships and their importance in

the lives of residents vary tremendously. Initially, the neighborhood unit was both a social and planning concept. On the other hand, it had to provide convenience and comfort and direct, face-to-face contact to restore some sense of community that has been disturbed or destroyed by the specialization and segmentation of urban life. On the other hand, it was to constitute a special sub-part of a larger, more complex totality.

While the literature measuring externality from occupants or publicly and privately produced environmental good has been burgeoning (Aluko, 2008; Anderson & Crocker 1971; Li & Brown, 1980; Nelson, 1978), little has been said about the extent of neighbourhood effect of nonconforming structures/uses, such as commercial or industrial buildings, on housing. The paucity of evidence on this is surprising because the presumed presence of this externality has often been used as one of the pretexts for zoning regulations. Also, existing studies are inconclusive on the extent of externality and there has been little effort to integrate neighbourhood externality into models of urban spatial structure.

Places of worship, such as mosques and churches, irrespective of denominations and size, are amenities that generally enhance the moral behaviour of the occupants within the neighbourhood properties (Carroll et al., 1996; Chau, et al., 2001). However, Parker, & Spennemann, (2021) dissented by suggesting that the presence of churches meant increased traffic and noise from church bells. Hence, social lives were reduced.

1.6. Services Condition Attributes

Building service attributes are systems installed in building to make them comfortable, functional, efficient, and safe. Building services might include essential services that are necessary for the effective functioning of the houses. These services include electricity, road, and ports. This helps to produce items that are consumed by households (e.g., water, sanitation and electricity, building control systems). These services can further be subdivided into three categories: utilities (power, piped gas, telecommunications, water and sanitation, sewerage and solid waste disposal), public works (roads and water catchments in dams, irrigation, and drainage), and other transport sub-sectors (World Bank, 2014).

This study is required by the concern of the management regarding housing in the country, the current administration has shown concern about the standard of living of all the security sectors in the nation, the study is also necessitated by the alarming rise by the management

over the housing condition where most of the soldiers will like to have better housing condition that will have an impact on their morale with these this study with title housing condition in coral barracks, Nigeria, become necessary to explore the housing condition in the study are with the view of taking actions.

2. Methods

The study adopted the use of exploratory and descriptive design because it will use objective methods to reveal facts about its background and problems. The study approach considered most appropriate for this study is quantitative as numerical data was collected and analyzed. A survey research strategy that uses a questionnaire as the instrument of data collection was adopted in this research. This study covered non-commissioned officers' dwelling units. The target respondents were the junior non-commissioned officers of the study area from each of the selected apartments. A Non-Commissioned Officer is a Military officer who has not earned a commission and usually obtains their position of authority by promotion through the enlisted ranks. The probability sampling method was employed in this study to provide fair inference and enable a statistical statement made about the size of sampling errors.

Thus, the total population size for this study was 774. Against this population, the total sample size was 260 (two hundred and sixty), which questionnaires were administered as recommended by Bartlett et al. (2001). Data collected were analyzed using descriptive (mean ranking). The study has the attributes & level of housing conditions as the independent variable and soldiers' social life and morale is dependent variables this study was conducted in the Lagos state of Nigeria and coral barrack in 2019/2021 where the problem was identified calling for research in the early January 2018 and the research commence in December 2018 investigation the background where from January 2018 to June the background was compelled by the researcher and literature review to commence from July 2018 to April 2019 and the methodology of the study was drafted from June 2019 to September 2019 and data collection commence from September to February 2020 was the result analysis started on march 2020 to august and the reporting and discussion took place simultaneously and to December 2020 where validation and proofreading took place from January 2021. And paper drafting to date.

3. Results and Discussions

Standard categories for poor, fair, and good categories for the variable is that whenever in the study variable is classified as poor the variable is not good for use to extends and when it is classified as fair the variable condition can be acceptable for use but it is a bot in good state and lastly when even in this study variable is classified as good it accepted to standard and can be used.

Table 1. Attributes and level of housing condition

Rank	Variables	Mean	Standard Deviation	Remark
A	Physical Attributes			
1	Bedroom	3.29	1.195	Fair
2	Wall	3.08	1.255	Fair
3	Floor	3.02	1.348	Fair
4	Ceiling	2.97	1.171	Poor
5	Roof	2.95	1.352	Poor
6	General Maintenance	2.70	1.215	Poor
7	Sitting Room	2.58	1.368	Poor
8	Kitchen	2.51	.962	Poor
9	Toilet/Bath	2.06	1.304	Poor
B	Neighborhood Attributes			
1	Hospitals	3.60	1.049	Fair
2	Worship Centre	3.60	1.347	Fair
3	Sports Facilities	3.41	1.176	Fair
4	Emergency Response	3.17	1.085	Fair
5	Schools	3.16	1.243	Fair
6	Market/Shopping Centre	2.92	1.112	Poor
7	Pollution	2.69	1.077	Poor
8	Playground	2.57	1.169	Poor
9	Parks	2.53	.983	Poor
10	Traffic	2.02	1.313	Poor

Rank	Variables	Mean	Standard Deviation	Remark
11	Crime	1.95	1.220	Poor
C	Building Services Attributes			
1	Security	3.54	1.044	Fair
2	Water Supply	3.42	.985	Fair
3	Telecommunications	3.41	1.135	Fair
4	Mess/Restaurant	3.35	1.129	Fair
5	Fire Protection	3.21	1.246	Fair
6	Sewerage and Solid Waste Disposal	3.16	.982	Fair
7	Road Networks	3.04	1.007	Fair
8	Laundry	2.67	1.113	Poor
9	Internet	2.53	.945	Poor
10	Drainage	1.88	1.243	Poor

Table 1 shows that the physical housing attributes such as bedroom, wall, and floor with the mean scores of 3.29, 3.08, and 3.02, ranked 1st, 2nd, and 3rd respectively are in Fair condition. However, ceiling, roof, general maintenance, sitting room, kitchen, and toilet/bath with a mean score of 2.97, 2.95, 2.70, 2.58, 2.51, and 2.06 ranked, 4th, 5th, 6th, 7th, 8th, and 9th respectively are in Poor condition. The results also indicate that Neighbourhood attributes which include hospitals, worship centers, sports facilities, emergency response, and schools with a mean score of 3.60, 3.60, 3.41, 3.17, and 3.16 ranked 1st, 2nd, 3rd, 4th, and 5th respectively are in Fair condition, while market/shopping centers, pollution, playground, parks, traffic and crime with a mean score of 2.92, 2.69, 2.57, 2.53, 2.02 and 1.95 ranked 6th, 7th, 8th, 9th, 10th and 11th respectively are in poor condition.

The findings on Building services attributes such as security, water supply, telecommunications, mess/restaurant, fire protection, sewerage, and solid waste disposal, and road networks with mean scores 3.54, 3.42, 3.41, 3.35, 3.21, 3.16, and 3.04 ranked 1st, 2nd, 3rd, 4th, 5th, 6th, and 7th respectively are in fair condition, while laundry, internet, and drainage with a mean score of 2.67, 2.53 and 1.88 ranked 8th, 9th and 10th respectively are in poor

condition. Meanwhile, the attributes were grouped as presented in Table 4.6 to identify their collective mean.

Table 2. Housing Condition Attributes Group Ranking

Variables	Mean	Standard Deviation	Rank	Level of Housing Condition
Building Services Attributes	3.02	1.148	1	Fair
Neighbourhood Attributes	2.87	1.233	2	Poor
Physical Attributes	2.79	1.199	3	Poor

The results in Table 2 reveal that building services attributes with a collective mean score of 3.02, ranked 1st is in fair condition, while neighborhood attributes and physical housing attributes with a collective mean score of 2.87 and 2.79 are ranked 2nd and 3rd respectively and are in poor condition. The fair condition indicates that the identified elements need repairs and Continuous Maintenance, while poor condition on the other hand signifies that the features so identified need to be changed, replaced, improved, and or redeveloped.

Physical housing attributes of the bedroom, wall, and floor were in “fair condition” and ranked 1st to 3rd respectively (see Table 1). This result contradicts the results of [Abel \(2016\)](#), in their studies which do not consider wall and floor. The reason may be due to differences in the locations and periods of the research. However, it agrees with that of [Baker et al. \(2013\)](#), [Bhuyan et al. \(2020\)](#). Physical housing attributes of the ceiling, roof, general maintenance, sitting room, kitchen, and toilet/bath provided were found to be “poor” and also ranked 4th to 9th respectively (see Table 1).

This result is in line with ([Arku et al., 2011](#); [Konadu-Agyemang, 2001](#); [Olokesusi & Okunfulure, 2000](#)), they found in their assessment the condition of housing in most urban centers within Nigeria as inadequate. The housing conditions in the urban centers were found to be deteriorating rather than improving. Neighbourhood amenities such as health facilities, worship centers, sports facilities, emergency response, and schools were found to be in “fair condition” in terms of the level of provision in Coral Barracks (Table 1).

This does not meet up with the suggestion of [Aluko \(2008\)](#), [Anderson \(1971\)](#), [Li and Brown \(1980\)](#), [Nazire \(2017\)](#), and [Nelson \(1978\)](#), that good public infrastructure and amenities should

be provided in public housing estates. However, agree with the findings of [Eziyi and Amole \(2010\)](#), [Jiboye \(2010\)](#), [Oladapo \(2006\)](#), and [Osuide \(2004\)](#) that basic neighbourhood amenities need to be provided that meet the social needs of the population. Neighbourhood attributes of market/shopping centers, pollution, playground, parks, traffic, and crime were ranked “poor” (see Table 1). This finding is in line with [Abel \(2016\)](#), in their study which found neighborhood facilities to had met with the minimum requirement and therefore suggested that they were in “fair condition” (see Table 1). However, research conducted by [Aluko \(2011\)](#), do not consider playground and parks.

Building services such as security, water supply, telecommunications, mess/restaurant services, fire protection services, sewage & solid waste disposal, and road networks were ranked “fair”. This finding is in line with ([Fletcher et al., 2000](#); [Li & Brown, 1980](#)), who emphasize security services, adequate Water provisions, Telecommunications, Fire protection services, and cleaning services/Waste disposal in his study. Services which include laundry, internet provision, and drainage were ranked “poor” (see Table 1). This result is not in line with ([Olokesusi & Okunfulure, 2000](#)) who emphasized the services such as internet provision, drainages, and electricity supply as ranking good among other services in their study. the interconnection of the research to theory is viewed from the perceptive of the users and the assessment of their feelings on the housing condition because the housing under assessment is occupied by the public workers

4. Conclusion

This research project aimed to assess the attributes & level of housing conditions on soldiers’ social life and morale in Coral Barracks Nigeria to explore housing conditions and their attributes. The findings from the survey indicated that physical housing attributes of the bedroom, wall and floor were in “fair condition”, while ceiling, roof, general maintenance, sitting room, kitchen, and toilet/bath provided were found to be “poor”. Neighbourhood amenities such as health facilities, worship centers, sports facilities, emergency response, and schools were found to be in “fair condition”, whereas market/shopping centers, pollution, playground, parks, traffic, and crime were ranked “poor”. Building services such as security, water supply, telecommunications, mess/restaurant services, fire protection services, sewage

& solid waste disposal, and road networks were ranked “fair”. However, Services that include laundry, internet provision, and drainage were found to be poorly provided.

The management of Coral Barracks through the Logistics Department and Engineering Maintenance Group (EMG) was asked to immediately carry out general renovation of the soldiers’ accommodation as well as improve on the provision of auxiliary building services and neighbourhood amenities. Quartering and Asset Management Departments should be the task to design a standard strategic plan for efficient barrack housing construction, management, and maintenance that would ensure the resourceful usage of barrack accommodations and its neighbourhood facilities. This study is limited to the assessments of the housing condition and soldier morale gap are wide open for the future research to fill such as the standard of the housing, life span of the housing and its effects, etc

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Author Contribution

Conceptualization, M.K.; Methodology, M.K, J.B.N and S.Y.; Software, M.K.; Validation, M.K., J.B.N. and J.W.M.; Formal Analysis, M.K, J.B.N.; Investigation, M.K and S.Y.; Writing – Original Draft Preparation, M.K, J.B.N and J.W.M.; Writing – Review & Editing, J.B.N and M.K.; Visualization, M.K., J.B.N and J.W.M.; Supervision, M.K.

References

- Abel, A. A. (2016). Accessibility to Public Health Centres: [The Case of the Urban and Rural Poor in Delta State, Nigeria](#). *Archives of Current Research International*, 1-9. <https://doi.org/10.9734/ACRI/2016/18534>
- Akalin, A., Yildirim, K., Wilson, C., & Kilicoglu, O. (2009). [Architecture and engineering students' evaluations of house façades: Preference, complexity, and impressiveness](#). *Journal of environmental psychology*, 29(1), 124-132.
- Aluko, O. (2008). *Housing and Urban Development in Nigeria*. KINS.

- Aluko, O. (2011). [The effects of location and neighbourhood attributes on housing values in metropolitan Lagos](#). *Ethiopian Journal of Environmental Studies and Management*, 4(2), 69-82. <https://doi.org/10.4314/ejesm.v4i2.8>
- Anderson Jr, R. J., & Crocker, T. D. (1971). [Air pollution and residential property value](#). *Urban Studies*, 8(3), 171-180. <https://doi.org/10.1080%2F00420987120080391>
- Arku, G., Luginaah, I., Mkandawire, P., Baiden, P., & Asiedu, A. B. (2011). [Housing and Health in three contrasting neighborhoods in Accra, Ghana](#). *Social Science and Medicine*, 72(11), 1864-1872. <https://doi.org/10.1016/j.socscimed.2011.03.023>
- Australian Bureau of Statistics (2006). [2006 census Data](#).
<https://www.abs.gov.au/websitedbs/censushome.nsf/home/historicaldata2006?opendocument&navpos=280>
- Badejo, F. (2005). Theoretical Premises: Housing Corporations in a Privatising Africa. In Kimani, M. W. & Okonkwo O. (Eds.). *Proceedings of Shelter-Afrique Annual Symposia 1991-2004*, 103-111 (Nairobi, Kenya, Shelter-Afrique Publications).
- Baker, E., Bentley, R., & Mason, K.B. (2013). [The mental health effects of housing tenure: causal or compositional?](#) *Urban Studies*, 50(2), 462-442.
- Balchin, P. N., Bull, G. H. & Kiev, J. L. (1995). *Urban land economics and public policy*. Macmillan International Higher Education.
- Baldassare, M. (2021). *Residential crowding in urban America*. University of California Press.
- Bartlett, J., Kotrlik, J., Higgins, C., & Williams, H. J. P. R. (2001). Exploring factors associated with research productivity of business faculty at National Association of Business Teacher Education. *Published Report*.
- Beckers, P., & Boschman, S. (2019). [Residential choices of foreign highly skilled workers in the Netherlands and the role of neighborhood and urban regional characteristics](#). *Urban Studies*, 56(4), 760-777. <https://doi.org/10.1177/0042098017741262>
- Bello, A., & Egresi, I. (2017). [Housing conditions in Kano, Nigeria: a qualitative assessment of adequacy](#). *Annals of the University of Oradea, Geography Series/Analele Universitatii din Oradea, Seria Geografie*, 27(2).
http://geografie-uoradea.ro/Reviste/Anale/Art/2017-2/5.AUOG_748_Egresi.pdf

- Bhuyan, M. R., Lane, A. P., Moogoor, A., Močnik, Š., & Yuen, B. (2020). [Meaning of age-friendly neighborhood: an exploratory study with older adults and key informants in Singapore](https://doi.org/10.1016/j.cities.2020.102940). *Cities*, 107, 102940. <https://doi.org/10.1016/j.cities.2020.102940>
- Camerin, F., Camatti, N., & Gastaldi, F. (2021). [Military Barracks as Cultural Heritage in Italy: A Comparison between before-1900-and 1900-to-1950-Built Barracks](https://doi.org/10.3390/su13020782). *Sustainability*, 13(2), 782. <https://doi.org/10.3390/su13020782>
- Carroll, T. M., Clauretie, T. M., & Jensen, J. (1996). [Living next to godliness: Residential property values and churches](https://doi.org/10.1007/BF00127540). *Journal of Real Estate Finance and Economics*, 12, 319-330. <https://doi.org/10.1007/BF00127540>
- Chau, K. W., Ng, F. F. & Hung, E. C. T. (2001). [Developer's good will as significant influence on apartment unit prices](https://doi.org/10.1080/00959310108839000). *The Appraisal Journal*, 69(1), 26.
- Daramola, S. A., Alagbe, O. A., Aduwo, B., & Ogbiye, S. A. (2005). Public-private partnership and housing delivery in Nigeria. In *Proceedings of African Union of Architects Congress* (pp. 23-28).
- Elgin, J. E. (2010). *The Impact of Neighbourhood Characteristics and Support on Well-being, Housing Satisfaction, and Residential Stability for People with a Mental Illness*. University of Canterbury: Master's Thesis.
- Eziyi, O. I., & Amole, O. O. (2010). [Evaluation of public housing in Ogun State, Nigeria](https://doi.org/10.1080/00959310108839000) (Doctoral dissertation, Covenant University).
- Fletcher, M., Gallimore, P., & Mangan, J. (2000). [Heteroskedasticity in hedonic house price models](https://doi.org/10.1080/00959310108839000). *Journal of Property Research*, 17(2), 93-108.
- Garrod, G., & Willis, K. (1992). [Valuing the goods characteristics – an application of the hedonic price method to environmental attributes](https://doi.org/10.1016/S0301-4797(05)80110-0). *Journal of Environmental Management*, 34(1), 59-76. [https://doi.org/10.1016/S0301-4797\(05\)80110-0](https://doi.org/10.1016/S0301-4797(05)80110-0)
- Glaeser, E., & Gyourko, J. (2018). [The economic implications of housing supply](https://doi.org/10.1016/j.jeop.2018.03.001). *Journal of Economic Perspectives*, 32(1), 3-30.
- Green, R. D. (2011). [The Impact of housing stressors on the mental health of a low-income African-American population](https://doi.org/10.1007/s12114-011-9109-z). *The Review of Black Political Economy*. <https://doi.org/10.1007/s12114-011-9109-z>

- Heins, B. J., Sjostrom, L. S., Endres, M. I., Carillo, M. R., King, R., Moon, R. D., & Sorge, U. S. (2019). [Effects of winter housing systems on production, economics, body weight, body condition score, and bedding cultures for organic dairy cows.](#) *Journal of dairy science*, 102(1), 706-714. <https://doi.org/10.3168/jds.2018-14582>
- Henilane, I. (2015). [The evaluation of housing situation in Latvia.](#) In *XVI Turiba University Conference Towards Smart, Sustainable and Inclusive Europe: Challenges for Future Development* (p. 93). <https://m.turiba.lv/storage/files/xvi-konfraksti-final.pdf#page=93>
- Hoffmann, H. C., Byrd, A. L., & Kightlinger, A. M. (2010). [Prison programs and services for incarcerated parents and their underage children: Results from a national survey of correctional facilities.](#) *The Prison Journal*, 90(4), 397-416. <https://doi.org/10.1177%2F0032885510382087>
- Hui, E. C. M., Chau, C. K., Pun, L., & Law, M. Y. (2007). [Measuring the neighboring and environmental effects on residential property value: using spatial weighting matrix.](#) *Build. Environ.*, 42(6), 2333-2343. <https://doi.org/10.1016/j.buildenv.2006.05.004>
- Hussain, T., Abbas, J., Wei, Z., Ahmad, S., Xuehao, B., & Gaoli, Z. (2021). [Impact of Urban Village Disamenity on Neighboring Residential Properties: Empirical Evidence from Nanjing through Hedonic Pricing Model Appraisal.](#) *Journal of Urban Planning and Development*, 147(1), 04020055.
- Hutchison, R. (2009). *Encyclopedia of urban studies* (Ed.). Sage Publications.
- Ibem, E. O., & Amole O. O. (2011). [Assessment of the qualitative adequacy of newly constructed public housing in Ogun State, Nigeria.](#) *Property Management*, 29(3), 285-304. <https://doi.org/10.1108/02637471111139437>
- Ibem, E. O., & Amole, D. (2013). [Residential satisfaction in public core housing in Abeokuta, Ogun State, Nigeria.](#) *Social indicators research*, 113(1), 563-581. <https://doi.org/10.1007/s11205-012-0111-z>
- Ilesanmi, A. O. (2010). [Post-Occupancy evaluation and residents' satisfaction with public housing in Lagos, Nigeria.](#) *Journal of Building Appraisal*, 6, 153-169.
- Ishiyaku, B. (2016). *Evaluation of Nigerian public housing performance using occupants' experience and satisfaction* (Doctoral dissertation, Universiti Tun Hussein Onn Malaysia).

- Jegade, F. O., Ibem, E. O., & Oluwatayo, A. A. (2021). [The influence of location, planning and design features on residents' satisfaction with security in public housing estates in Lagos, Nigeria](#). *Urban Design International*, 26(2), 174-196.
- Jiboye, A. (2010). [Evaluating users' household size and housing quality in Osogbo, Nigeria](#). *Ethiopia Journal of Environmental Studies and Management*, 3(2), 77-85.
- Jim, C. Y., & Chen, W. Y. (2009). [Value of scenic views: Hedonic assessment of private housing in Hong Kong](#). *Landscape and urban planning*, 91(4), 226-234.
- Kain, J. F., & Quigley, J. M. (1970). [Measuring the value of housing quality](#). *Journal of the American Statistical Association*, 65, 532-548.
- Konadu-Agyemang, K. (2001). [A Survey of housing conditions and characteristics in Accra, and African City](#). *Habitat International*, 25, 15-34. [https://doi.org/10.1016/S0197-3975\(00\)00016-3](https://doi.org/10.1016/S0197-3975(00)00016-3)
- Langlet, M. (2021). Public Housing in France: The HLM. In *Public Housing in Europe and America* (pp. 37-51). Routledge.
- Lee, C. C. (2010). [The impact of facilities of leisure and sports on housing prices in taiwan: An application of hierarchical linear modeling](#). *Journal of Real Estate Practice and Education*, 13(2), 159-175. <https://doi.org/10.1080/10835547.2010.12091674>
- Leskinen, N., Vimpari, J., & Junnila, S. (2020). [A review of the impact of green building certification on the cash flows and values of commercial properties](#). *Sustainability*, 12(7), 2729. <https://doi.org/10.3390/su12072729>
- Li, M. M., & Brown, H. J. (1980). [Micro-neighborhood externalities and hedonic housing prices](#). *Land Economics*, 56(2), 125-140. <https://doi.org/10.2307/3145857>
- Linneman, P. (1980). [Some empirical results on the nature of the hedonic price function for the urban housing market](#). *Journal of Urban Economics*, 8(1), 47-68.
- Mohammedani, R. M. (2018). *SPACE STANDARDS AND SOCIO-CULTURAL ASPECTS OF HOUSING DESIGN* (Doctoral dissertation, Sudan University of Science and Technology).
- National Housing Policy of the ST Lucia government. (2008). [National Housing Policy](#). <https://www.semanticscholar.org/paper/SAINT-LUCIA-NATIONAL-HOUSING-POLICY-MINISTRY-OF-AND/58a229da74ab41ddfe02a04cb72070cad72fbaf7>

National Housing Policy. (1991). *Housing Policies*.

<https://www.osgf.gov.ng/resources/policies/housing>

Nawawi, A. H., & Khalil, N. (2008). *Post-occupancy evaluation correlated with building occupants' satisfaction: An approach to performance evaluation of government and public buildings*. *Journal of Building Appraisal*, 4(2), 59-69.

Nazire, H. (2017). *A study on characteristics of informal settlements and effects of upgrading from aspects of houses, land acquisition, and social factors in Kabul City, Afghanistan*.

Nelson, J. P. (1978). *Residential choice, hedonic prices, and the demand for urban air quality*. *Journal of Urban Economics*, 5(3), 357-369.

Nigerian Social Insurance Trust Fund. (2014). *Housing condition in Nigeria*. <https://www.nsitfweb.com.ng/html/AboutUs.cfm>

Nnamdi, U. A., Uzoamaka, O. E., & Chisom, N. C. (2021) *Challenges of International Real Estate Investment amidst COVID-19 Pandemic: Nigeria Perspective*.

Ogu, V. I. (2002). *Urban residential satisfaction and the planning implication in a developing world context: The example of Benin City, Nigeria*. *International Planning Studies*, 7, 37-53. <https://doi.org/10.1080/13563470220112599>

Okeke, F. O., Sam-Amobi, C. G., & Okeke, F. I. (2020). *Role of local town planning authorities in building collapse in Nigeria: evidence from Enugu metropolis*. *Heliyon*, 6(7), e04361. <https://doi.org/10.1016/j.heliyon.2020.e04361>

Okoye, P. U., & Ngwu, C. (2021). *Assessing the adequacy and sustainability performance of multi-family residential buildings in Anambra State, Nigeria*. *Regional Sustainability*, 2(1), 23-35. <https://doi.org/10.1016/j.regsus.2021.01.003>

Oladapo, A. A. (2006). *A study of tenant maintenance awareness, responsibility and satisfaction in institutional housing in Nigeria*. *International Journal of Strategic Property Management*, 10(4), 217-231.

Olaniran, M., & Yusuff, M. (2019). *Ilaro Housing Quality: Implication For Actionable Policy*. *Lasu Journal Of Management Sciences (Lasujms)*, 5(2), 1-10.

Olokesusi, F., & Okunfulure, O. J. (2000). Strategic issues in housing, in Ajakaiye, O., Akinbinu, A. (Ed.). *Strategic Issues in Nigeria Development*, 169-207. NISER, Ibadan.

- Olotuah, A. O. (2006). [Housing quality in sub-Urban Areas \(an empirical study of Oba- Ile, Nigeria\)](#). *Dimensi Teknik Arsitektur*, 34(2), 133-137.
- Omole, K. F. (2010). [An assessment of housing conditions and socio-economic lifestyles of slum dwellers in Akure, Nigeria](#). *Contemporary Management Research*, 6(4), 273-290. <https://doi.org/10.7903/cmr.2980>
- Osuide, S. (2004). *"Strategies of Affordable Housing Stock Delivey in Nigeria"* the 18th Inaugural Lecture of Ambroce Ali University, Ekpoma, Benin City. *Florad System*, 5, 15.
- Parker, M., & Spennemann, D. H. (2021). [Classifying Sound: A Tool to Enrich Intangible Heritage Management](#). *Acoustics Australia*, 1-17. <https://doi.org/10.1007/s40857-021-00257-y>
- Pevalin, D. J., Taylor, M. P., & Todd, J. (2008). [The dynamics of unhealthy housing in the UK, A panel data analysis](#). *Housing Studies*, 23(5), 679-695.
- Poudyal, N. C., Hodges, D. G., & Merrett, C. D. (2009). [A hedonic analysis of the demand and benefits of urban recreation parks](#). *Land Use Policy*, 26(4), 975-983. <https://doi.org/10.1016/j.landusepol.2008.11.008>
- Redfearn, C. L. (2009). [How informative are average effects? Hedonic regression and amenity capitalization in complex urban housing market](#). *Regional Science and Urban Economics*, 39, 297-306. <https://doi.org/10.1016/j.regsciurbeco.2008.11.001>
- Riccardo, F., van Oel, C., & de Jong, P. (2010), "Redesign of affordable housing facades: preparation of visual experiment", *2010 ERES Conference*, 23-26 June, Conference Publications, Milan.
- Rudnicka-Bogusz, M. (2018). [INNOVATIVE USE IN ADAPTATION OF POST MILITARY BARRACK COMPLEXES](#). *International Multidisciplinary Scientific GeoConference: SGEM*, 18(6.3), 611-618.
- Ruonavaara, H. (2018). [Theory of housing, from housing, about housing](#). *Housing, Theory and Society*, 35(2), 178-192. <https://doi.org/10.1080/14036096.2017.1347103>
- Saunders, P. (2021). *A nation of home owners*. Routledge.
- Schwartz, A. F. (2021). *Housing policy in the United States*. Routledge.
- Sheppard, L. (2011). *Construction Management and Economics Improving Healthcare through Built Environment Infrastructure Book Reviews*, (December 2012).

- Ugochukwu, I. B., & Chioma, M. I. B. (2015). [Local building materials: affordable strategy for housing the urban poor in Nigeria](#). *Procedia engineering*, 118, 42-49.
- WHO. (2009). [Housing And Health Guidelines](#).
<http://apps.who.int/iris/bitstream/handle/10665/276001/9789241550376-eng.pdf>
- Windapo, A. O., & Cattell, K. (2013). [The South African construction industry: perception of key challenges facing its performance, development and growth](#). *Journal of Construction in Developing Countries*, 18(2), 65-79.
- World Bank. (2014). *World Development Report*. Washington D.C
- Yakubovich, A. R., Bartsch, A., Metheny, N., Gesink, D., & O'Campo, P. (2021). [Housing interventions for women experiencing intimate partner violence: a systematic review](#). *The Lancet Public Health*.
- Yoade, A. O., Olanrewaju, S. O., & Adeyemi, S. A. (2020). [Assessment of Road Rehabilitation in Ibadan, Nigeria](#). *The Indonesian Journal of Geography*, 52(2), 135-142.