Full paper

International Journal of Real Estate Studies

INTREST

An Examination of the Physical Characteristics of Privately Developed Student Housing in Studentified Neighbourhood of Calabar, Nigeria

Emmanuel Elijah Bassey[1]*, Daramola Thompson Olapade[2]

[1]*Department of Estate Management, Faculty of Environmental Sciences, University of Cross River State, Calabar, Nigeria*
[2]*Department of Estate Management, Faculty of Environmental Design and Management, Obafemi Awolowo University, Ile-Ife, Nigeria*

*Corresponding author's email: emmybassey2016@gmail.com

Article history: Received: *22 October 2024* Received in revised form: *16 February 2025*
Accepted: *14 March 2025* Published online: *30 Jun 2024*
DOI: https://doi.org/10.11113/intrest.v19n1.396

Abstract

In recent years, off-campus student housing has gained significant attention in developing countries like Nigeria, driven by the surge in students' enrolment into tertiary institutions. As investments in this sector grow rapidly, students are placing greater emphasis on specific characteristics of their accommodations, seeking satisfaction and value. Hence, this study investigates the physical characteristics of the off-campus, privately developed student housing with a view to providing information on the physical attributes of this asset class to aid investment decisions. This research employed a descriptive case study approach. The results and discussions were limited to quantitative evidence. A census sampling technique was adopted in gathering the study data from 73 individual student housing units out of the 92 units that were available in the studentified neighbourhood of Calabar. To ensure targeted data collection, the studentified neighbourhood was stratified into three distinct categories based on proximity to major tertiary institutions: the University of Calabar stratum, the University of Cross River stratum, and the College of Health Technology stratum. This stratification allowed for a comprehensive analysis of student housing physical characteristics within each institutional context. The findings reveal that student housing in the study area primarily features ensuite rooms (91.78%), with most measuring 9m2-11.99m2. Again, the results showed that student housing units typically have 21-40 rooms and are of flat-style designs (60.28%). Further analysis of student housing building contents, facilities and services led to the categorisation of the student housing into three groups. The groups are high-tech/premium, middle-end, and low-end student housing units. For strategic investment decisions, student housing investors should consider a holistic review of student housing building contents, facilities and services. This will enable the investors to align their investment motives to a particular student housing unit category.

Keywords: Housing, Student housing, Building physical characteristics, Categorisation.

1.0 INTRODUCTION

A house is a dwelling space for individuals that reflects personal and cultural significance. It exists in different forms and serves specific functions for daily activities. House are of various types, designs, and sizes that create a sense of belonging and express living identity (Aluko, 2004; Wanjiku et al., 2020). House may be designed as single-family units, office spaces, warehouses, or Student Housing (SH), among other types. Student Housing (SH) is a multi-single-unit accommodation for students in tertiary institutions of learning, provided by tertiary institutions, tertiary institution-private sector partnerships, and private real estate developers "on and off" tertiary institution campuses (Norwich City Council, 2017). Off-campus student housing (SH) comprises specific property types, such as Purpose-Built Student Accommodation (PBSA), Houses-in-Multiple Occupation (HMO), cluster flats, and modern dormitories with en-suite bedrooms, shared kitchen/bathroom facilities, dining room, and living spaces (Appau et al., 2023; Jones & Blakey, 2020).

These housing options' perceived benefits and characteristics determine their value to users (Fields et al., 2013). Users attach some level of value to housing characteristics based on the satisfaction derived. Historically, tertiary institutions of learning have predominantly provided students with access to accommodation "on and off campuses". As a result, students' accommodation has evolved over time and witnessed rapid growth in the sophisticated SH asset class, offering safe and spacious rooms with customized amenities (Bassey & Olapade, 2024; Smith & Pinkerton, 2020; Tiwari, 2023). Student housing has unique characteristics. These characteristics are seen from its purpose-built design (Bassey & Olapade, 2024), and facility components (Gbadegesin et al., 2022; Pinkerton, 2020). Fields et al. (2013) noted that these characteristics in SH are specifically tailored to meet students' expectations and demand for modern amenities. This is reflected in the physical features/services provided, leasing, and management processes. Student housing typically consists of low-rise walk-up buildings with an average of four floors. Each floor comprises eight to ten bedrooms located along a corridor walkway (Amole, 2011).

Student housing has evolved over time, modelling specific basic types and patterns from the earliest prototypes of tertiary institutions' accommodation to the most modern students' accommodation. Before the era of industrialization, student accommodation facilities were basically spaces for sleeping, studying, and storage (Popov, 2018). However, in recent times, SH has been influenced by the growing accommodation preferences of tertiary students, production principles, and societal structures. These principles have led real estate developers to respond by providing PBSA (Ann et al., 2016; Aziabah et al., 2022), leading to a new form of SH distinct from HMO (Hubbard, 2009). Currently, there is intense competition between different categories of SH providers: those providing PBSA and landlords offering off-street shared houses in the form of HMO.

Researchers have focused their studies on different aspects of SH. Most of these studies have focused on SH preferences (Amole, 2011), the characteristics of SH and its implications on urban development (Charbonneau et al., 2006; Smith, 2005), the extent of innovation diffusion in SH (Appau et al., 2022; Tiwari, 2023), categories of SH attributes (Oladiran et al., 2023), and SH facilities (Jones & Blakey, 2020). However, the focus of these studies was not on privately developed SH. For instance, Charbonneau et al (2006) study focused on urban renewal. In the light of earlier studies, this current study examines the physical characteristics of privately developed SH in the context of purpose-built student accommodation in the studentified neighbourhood of Calabar, Nigeria.

■2.0 LITERATURE REVIEW

2.1 Design Characteristics of Student Housing

Suite-style and apartment housing has become the trend in modern SH (Bassey & Olapade, 2024). The purpose-designed nature of SH is reflected in its room type, room size, room layout, kitchen facilities/type, bathroom facilities/type and flat-styled construction (Jones & Blakey, 2020; Norwich City Council, 2017). The rooms are classified as standard, ensuite and studio type. The room size for standard SH ranges from 8m2 - 25m2, ensuite room size ranges from 10m2 - 15m2, and that of studio type ranges from 16m2 - 35m2 (Jones & Blakey, 2020). Private investors provide SH in a variety of forms such as ensuite bedrooms with private facilities, multiple bedrooms with shared facilities, and modern halls of residence comprising ensuite bedrooms with a shared kitchen and living room.

2.1.2 Facilities and Services Characteristics of Student Housing

Previous research has established the SH market as a concentrated market that targets student consumers within the age range of 18 -26 years (Aziabah et al., 2022). The choice of amenities in this asset class indicates the lifestyle priorities of its users (Ackermann & Visser., 2016; Fields et al., 2013). A number of traditional university students' accommodation lacks some basic facilities and amenities offered by modern privately developed SH. Studies have shown that privately developed SH provides students with private space, facilities and amenities such as beds, study-desks, wardrobes, ergonomic chairs, televisions, heating systems, fitness centres and, functional kitchen facilities that enrich students' experiences (Norwich City Council, 2017; Property Partner, 2018). These facilities meet tertiary students' unique needs and preferences (Aziabah et al., 2022), while the services provided in this asset class are broadly grouped into operational and welfare services. A study conducted by Simpeh and Shakantu (2019); Hassanain (2008), and Wanjiku et al. (2020) have listed these services into ten distinctive components broadly classified as functional and technical services. Under functional services and characteristics, the authors listed these as interior and exterior systems, room layout and furniture, space circulation efficiency, proximity to other facilities on-campus, and support services such as water supply and waste discharge systems, laundry, private bathrooms, showers, and water closets. The technical services/characteristics are visual comfort, thermal comfort, acoustical comfort, indoor air quality and fire safety. Kitchen facilities were listed to include cooker, microwave, freezer, cutlery and crockery amongst others (Jones & Blakry, 2020). A study by Charbonneau et al. (2006) identified interior SH attributes such as room size and appliances as part of the facility characteristics that are important to student renters. However, Lam and Chen (2022) regrouped these services/characteristics as security, on-site amenities support services and a sense of belonging.

2.1.3 Locational and Lease Characteristics of Student Housing

Studies have established the spatial monocentric concentration of SH as one of its major characteristics (Bassey & Olapade, 2024; Fields et al., 2013). The locational concentration of SH reflects its proximity to tertiary institutions and public transportation hubs (Aziabah et al., 2022; Fields et al., 2013). Students prioritize neighbourhoods that provide a combination of accessibility, social quality, safety, and proximity to their educational institutions. The neighbourhood that houses privately developed SH is often referred to as studentified neighbourhood due to its proximity to tertiary institutions of learning. Distance to campuses plays an important role as one of the leading factors in SH investment (Ghani & Suleiman, 2017). This offers students a short walking distance to lecture theatres, laboratories, libraries, as well as sports and recreational facilities. The advantage of this neighbourhood living attracts clustering of privately developed SH, and the demand for SH is often aligned to accessibility, commuting distances, and access to social activities. Again, this asset class has an essential operating model that reflects a single lettings cycle in consonant with tertiary institutions' academic year's calendar (Attakora-Amaniampon et al., 2014). The tenancy commences with the start of tertiary institutions' academic year and the rent payable usually depicts the quality of amenities and services provided (Jones & Blakey, 2020).

2.2 Classification of Student Housing

Student housing has been categorised in various ways based on several factors. For instance, a study by Agboola et al. (2001) classified SH into dormitory, hall of residence, and off-campus residence. Dormitories are corridor-styled SH with a minimum floor area of 36 m2-81m2 intended to accommodate many students (Popov, 2018), with facilities such as reading rooms, bedrooms, libraries, and a kitchen (Agboola et al., 2001). The university hall of residence type of SH is students' accommodation owned and operated by tertiary institutions (Popov, 2018). Accordingly, it promotes a sense of integration with the tertiary institution community and provides essential services and facilities such as maintenance and security services, furnished common-room, bedrooms, common cooking and dining facilities (Agboola et al., 2001), and the off-campus privately developed SH includes PBSA and HMO. Purpose-built student accommodation refers to a residential complex specifically designed to accommodate students' requirements for comfort, convenience, and community living (Bassey & Olapade, 2024). It offers modern amenities and services tailored to enhance students' experience (Verhetsel et al., 2017). Purpose-built student accommodation has emerged to address the growing demand for quality living spaces driven by expanding student populations. It is often designed as single ensuite-rooms with average floor areas ranging from 12m2, 16m2, 20m2, 25m2, and 30m2 (Verhetsel et al., 2017). In an attempt to meet up with accommodation demands from students, homeowners within the neighbourhoods of tertiary institutions convert their properties into HMOs. Traditionally, HMO are houses converted to accommodate multiple tenants. Tenants have personal rooms but shared facilities (Sulaiman et al., 2018). Houses-in-Multiple-Occupation caters for students seeking more affordable and flexible housing options. Students living in HMOs share the responsibility for maintaining the property. However, the housing type lacks basic student facilities and adequate maintenance (Donaldson et al., 2014) and comprises several detached houses with shared facilities.

Again, Hammad et al. (2013) categorised SH with respect to its location and management structure. The authors' classifications were on-campus students' hostel, off-campus school-managed hostel, off-campus in a leased property, and off-campus PBSA. However, Ghani and Suleiman (2017) categorised SH based on location irrespective of its management as "on-campus" and "off-campus" SH. Primarily, on-campus SH are owned/managed by tertiary institutions and the tenants' mix is strictly separated. The off-campus SH are often purpose-built student accommodation and house-in-multiple occupation, owned and managed by private real estate developers. Moreso, a report by the Cambridge Centre for Housing and Planning Research (2017) classified student housing as purpose-built student accommodation, shared housing and existing family housing. In the report, purpose-built student accommodation includes college/university-maintained property and private sector students' halls of residence. In a more recent scholarly work, Tiwari (2023) based the classification of SH on the ownership structure as institutional, joint ownership, and privately developed SH. In all the previous studies, the classification did not focus on privately developed SH, hence the need to classify this real estate sub-asset class based on its building contents, facilities and services provided.

2.3 Student Housing Accommodation Preferences

There have been few longitudinal studies that have examined SH accommodation preferences. A study conducted by Smith and Pinkerton (2020) examined the criteria adopted by college students in their choice of SH selection in the USA. The study found 17 SH physical characteristics that are determinant criteria for tertiary students. These characteristics were categorised as functional and emotional characteristics, and were listed as follows: washer/dryer, private bathroom, located close to school, friendly management staff, internet service, water closet, fitness facilities, and location close to restaurant and shopping centre. Others include private balcony, study room, security, shuttle to school, floor type, alarm system, and large bathtub. In a different perspective, Tiwari (2023) evaluates the existing situation of off-campus SH in Praygaraj using an exploratory research method. The study data were obtained from 721 respondents via an online semi-structured questionnaire together with 12 interviews. The study identified thirteen building characteristics and facilities available in SH. These include sanitary facilities, such as bathrooms and toilets, as well as kitchen facilities. Outdoor spaces, including terraces and porches, were also identified, along with natural light and drinking water supply. Additionally, ventilation systems, communal areas like common and recreation rooms, and educational resources like libraries were noted. Climate control features, such as air conditioners and fans, and water heating systems, including geysers, were also recognized as key facilities.

■3.0 METHODOLOGY

3.1 The Study Area

This study was conducted in Calabar, the capital of Cross River State, situated in the Southern geographical zone of Nigeria. (see, Figure 1).

Figure 1 Map of Nigeria Showing the Study Area
(Source: Cross River Geographical Information Agency)

Calabar houses the University of Calabar (UNICAL), University of Cross River (UNICROSS), and the College of Health Technology (COHTECH). These institutions are located within 3 kilometres to each other as reflected in the studentified neighbourhood Map provided in Appendix 1. These institutions build up an increasing student population living in off-campus privately developed SH in the studentified neighbourhood of Calabar. The scale of this SH in the study area makes it a contextual location for this study. The Studentified neighbourhood of Calabar was stratified based on the three major tertiary institutions in the study area. The strata are the University of Calabar (UNICAL stratum), the University of Cross River (UNICROSS stratum), and the College of Health Technology (COHTECH stratum). The stratification of this neighbourhood is justifiable for several reasons. First, the internal homogenous nature of each stratum reflects varying locational differences. Secondly, each stratum is relatively characterized with unequal numbers of SH units' stock, and varying levels of quality.

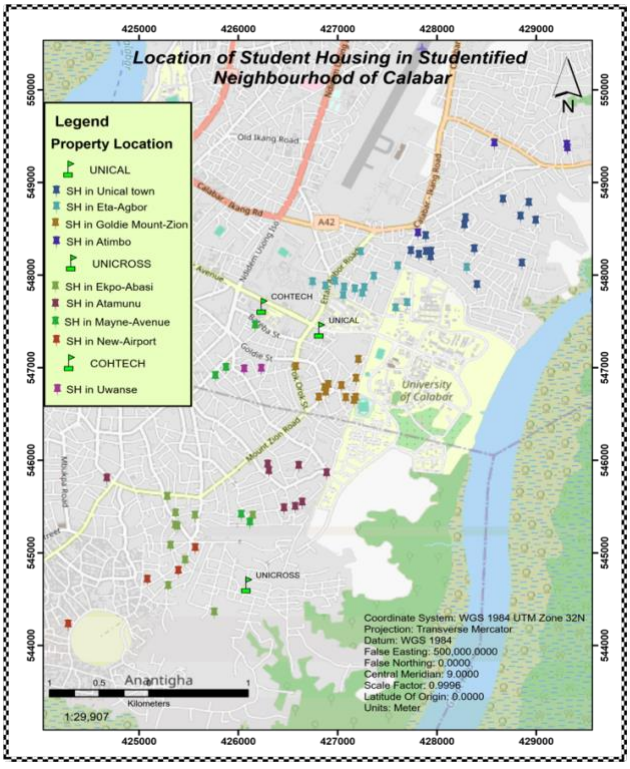

Figure 2 Location of Student Housing in the Studentified Neighbourhood of Calabar
(Source: Author's own work, 2024)

3.2 Data Source and Sampling Technique

A descriptive case study approach was adopted in carrying out this research. The results and discussion of findings were limited to quantitative evidence. Case studies are relevant when the research questions require an in-depth description of individuals, neighbourhoods, institutions, processes, organisations, and some phenomena (Yin, 2018). The method is used in investigating a contemporary case in-depth, and within its real-world (Patton, 2015: Yin & Davis, 2007), by adopting a combination of different appropriate data collection procedures. In this study, a census sampling technique was employed to collect data from individual SH-units which provide a complete and accurate picture of the SH physical characteristics in the studentified neighbourhood of Calabar. This approach was deemed appropriate because it eliminate the risk of sampling bias, and also the units of analysis (SH-units) were highly accessible, and could be regrouped based on their building contents, facilities and services provided. This enables the researcher to achieve a high level of accuracy and generalisation of the study findings.

3.3 Study Population

The population for this study consists of all SH units in the stratified studentified neighbourhood of Calabar. Student housing units were accessed individually. As presented in Table 1, out of the available 92 SH-units in the study area, 73 SH-units were surveyed yielding a response rate of 79.35%. The justification of this study population is based on the fact that individual case study of these SH-units provided detailed information on each SH-unit physical characteristic.

Table 1 Number of Student Housing Units Surveyed in the Study Area

Strata	SH-Units Available	SH-Units surveyed	Percentage (%)
UNICAL Stratum	55	44	80.00
UNICROSS Stratum	34	27	79.41
COHTECH Stratum	3	2	66.67
Total	**92**	**73**	**79.35**

SH = student housing

Presented in Table 1 is the information on the total number of SH-units in the studentified neighbourhood of Calabar and the total number surveyed in each of the Stratum. The researchers intended to cover all the SH-units in the study area, however, some SH property managers declined to grant the researchers access to conduct case study. The information presented in Table 1 shows that 44 (80%) of the total SH-units in the UNICAL stratum were surveyed, while 27(79.41%) in the UNICROSS stratum were surveyed. However, 2 (66.67%) were surveyed in the COHTECH stratum. By implication, the UNICAL stratum has the highest number of SH-units surveyed against the total SH-units available in each stratum. It is expected that many of these SH-units are located within the UNICAL stratum because the stratum houses the University of Calabar. The University has the highest number of students population which stands at 40,645 students (University of Calabar, 2024). Next to this stratum is the UNICROSS stratum that houses the University of Cross River State. The University has the second-highest student population of 18,915 (University of Cross River State, 2024), while the COHTECH stratum houses the College of Health Technology, Calabar with a student population below 3,000 (College of Health Technology, 2023). In general, 73 (79.35%) out of the 92 available SH-units in the studentified neighbourhood of Calabar were surveyed. This represents the units of analysis used in this study.

3.4 Method of Data Analysis

In line with the nature of the problem that this study investigated and the data set collected to achieve the study's aim, descriptive statistics were used to summarize, describe, and represent the data in a meaningful and concise manner using frequency, percentages, means and graphs to ensure fair comparison across the strata. In cases where raw numbers could have skewed the results, data were weighted based on the total number of student housing units in each stratum. Again, to have a comprehensive analysis of the physical characteristics of these SH-units across the study area, the building contents, facilities, and the quality of services provided were examined under four groups, as presented in Table 2. These variables were statistically synthesized and described using a dichotomous scale. This was done to provide information used in categorising these SH-units with the view to having a better insight of the various SH-unit options available across the study area. Previous studies such as Hassanain (2008) broadly classified these facilities into functional and technical facilities, while Kenna (2011) grouped these facilities and services into operational and welfare services.

Table 2 Building Contents, Facilities and Services in SH-units

Building Contents/Services	**Variables**
Operational Services	Wi-fi, restaurant service, laundry service, mart, social programmes, CCTV, porch/common room, car park, fitness centre, security service, security light, private source of water, on-site generator, and maintenance services
Bedroom facilities	Air-conditioner, television, bed, chair, desk, bookshelves, ceiling fan, and wardrobe.
Kitchen facilities	Toaster, Microwave, Fridge, Cooker, Kitchen cabinets, and sink.
Bathroom facilities	Hot water cylinder, Shower, Water-Closet (W/C), Wash-hand basin.

Table 2 shows the grouping of SH-unit building contents, facilities and services into four groups. These groups include those variables classified as operational services, bedroom facilities, kitchen facilities, and bathroom facilities.

4.0 RESULTS AND DISCUSSION OF FINDINGS

This section shows the descriptive analysis of the physical characteristics of SH-units, building contents, facilities and services across the three strata in terms of their frequency and percentages.

4.1 Distances of Student Housing units in Reference to a Tertiary Institution in each stratum

The location of student housing units in reference to a tertiary institution in each stratum within the studentified neighbourhood of Calabar is presented in Figure 2.

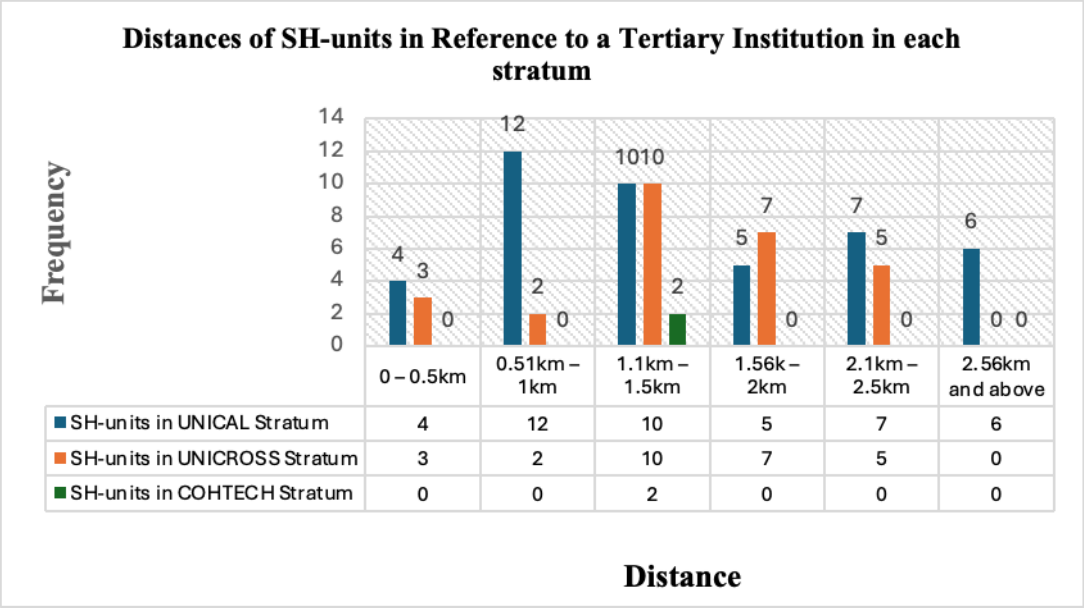

Figure 2 The distance of SH-units in referenced to a tertiary institution in each stratum

The UNICAL stratum had the most extended student housing units, with 44 units spread across various distances. The study found that 4 student housing units are within a distance of 0.5km, while 12 units are located within 0.51km–1km radius of the University of Calabar (UNICAL). 10 student housing units are within 1.1km – 1.5km, and 5 units fall within the radius of 1.56km - 2km radius. student housing units located at a radius greater than 2km include 7 units (2.1km – 2.5km), and 6 units (2.56km and above). The disparities suggest that UNICAL student housing units are dispersed throughout the stratum, offering students diverse living options in terms of proximity to the University of Calabar.

The UNICROSS stratum follows with 27 student housing units. The distances of these units in reference to the University of Cross River (UNICROSS) range from 0km – 0.5km (3-units), 0.51km – 1km (2-units), 1.1km – 1.5km (10-units), 1.56km – 2km (7-units), and 2.1km – 2.5km (5-units). The distribution shows that UNICROSS offers various student housing unit options at different distances from the institution. In contrast, COHTECH has only two student housing units, located within a 1.1-1.5 km radius.

4.2 Student Housing Room Types

The result from the field survey shows two classes of student housing room as: ensuite and shared room. Ensuite rooms are primarily designed for individual students while shared rooms are designed to accommodate multiple students.

Table 3 Student Housing Room Types in the studentified Neighbourhood of Calabar

Room Types	UNICAL Stratum	UNICROSS Stratum	COHTECH Stratum
	Frequency/(%)	Frequency/(%)	Frequency/(%)
Ensuite Rooms	41(93.18)	24(88.89)	2(100)
Shared Rooms	3(6.82)	3(11.11)	

Total	**44(100.00)**	**27(100.00)**	**2(100.00)**

From Table 3, in the UNICAL stratum, ensuite rooms account for 93.18% (41-units), while shared rooms account for 6.82% (3-units) of the total SH-student housing units inspected in this stratum. In the UNICROSS stratum, ensuite rooms account for 88.89% (24-units), while 11.11% (3-units) fall under the category of shared room type. However, the COHTECH stratum exclusively offers ensuite rooms, with 2-units accounting for 100.00% under this stratum. This finding shows that the majority of the student housing rooms were ensuite rooms. This is in consonant with the empirical evidence by Jones and Blakey (2020), whose study reported ensuite room type as the largest student housing room type in the United Kingdom. While the result from this study classified student housing as ensuite and shared room types, it however differs from the findings from Norwich City Council (2017), and Sulaiman et al. (2020) where student housing room types were classified as standard, ensuite and studio room types, and a single room, self-contained, 1-, 2-, and 3-bedroom flats respectively. The prevalence of the ensuite room type in the study area over the shared room is due to its ability to offer students a unique combination of privacy, comfort, and amenities that cater to their growing expectations.

4.3 Student Housing Room Sizes

The distribution of student housing room sizes in each of the stratum is presented in Table 4. This highlights the prevalence of various student housing room size based on room categorisation.

Table 4 Student Housing Room Sizes in the Study Area

	UNICAL Stratum	**UNICROSS Stratum**	**COHTECH Stratum**
Ensuite Room Sizes	**Frequency/(%)**	**Frequency/(%)**	**Frequency/(%)**
$9m^2$-$11.99m^2$	32(72.73)	12(44.44)	1(50.00)
$12m^2$-$14.99m^2$	7(15.91)	11(40.74)	1(50.00)
$15m^2$- >	2(4.55)	1(3.70)	
Shared Room Sizes			
$9m^2$-$11.99m^2$	1(2.27)	1(3.70)	
$12m^2$-$14.99m^2$	2(4.55)	1(3.70)	
$15m^2$- >		1(3.70)	
Total	**44(100.00)**	**27(100.00)**	**2(100.00)**

In the UNICAL stratum, 72.73% of ensuite rooms (32 units) have sizes ranging from 9m2-11.99m2. The next largest category is 12m2-14.99m2, with 15.91% (7 units), followed by 2 units accounting for 4.55% with sizes 15m2 and above. In the UNICROSS stratum, 44.44% (12 ensuite units) have room sizes between 9m2-11.99m2, while 40.74% (11 units) are within the 12m2-14.99m2 room category. Only 3.70% (1 unit) had a room size of 15m2. COHTECH stratum had 1 ensuite unit each in the 9m2-11.99m2, and 12m2-14.99m2 room categories, each representing 50.00% of the total ensuite room sizes inspected in this stratum. Again, in the UNICAL stratum, only 2.27% of shared rooms (1 unit) had a size between 9m2-11.99m2, while 4.55% (2 units) had room sizes within the room category of 12m2-14.99m2. UNICROSS stratum had 1 shared student housing unit each in the 9m2-11.99m2, 12m2-14.99m2, and 15m2- above categories, each representing 3.70% of the total shared room sizes inspected in this stratum. The findings of this study are slightly different from those of Jones and Blakey (2020), whose study reported ensuite student housing room sizes as ranging from 10m2–15m2, standard room sizes 8m2-25m2, and studio-type rooms from 16m2-25m2 in the UK.

4.4 Students Housing Room Units

This section shows the number of room units housed in each student housing unit in Calabar's studentified neighbourhood based on each stratum.

Table 5 Number of Student Housing Room Units Surveyed Based on Stratum

	UNICAL Stratum	**UNICROSS Stratum**	**COHTECH Stratum**
Room Units	**Frequency/(%)**	**Frequency/(%)**	**Frequency/(%)**
1-20 units	14(31.82)	7(25.93)	1(50.00)
21-40 units	11(25)	12(44.44)	1(50.00)
41-60 units	10(22.73)	5(18.52)	
61 -> units	9(20.45)	3(11.11)	
Total	**44(100.00)**	**27(100.00)**	**2(100.00)**

From Table 5, under the UNICAL stratum, 31.82% (14 units) houses room units between 1-20. This is followed by 25% (11 units) with 21-40 room units, 22.73% (10 units) with 41-60 room units, and 20.45% (9 units) with more than 60 room units. In the UNICROSS stratum, 25.93% (7 units) had room units between 1-20, and 44.44% (12 units) had room units within the range of 21-40 rooms. This is followed by 18.52% (5 units) having 41-60 room units, and 11.11% (3 units) having more than 60 room units. The COHTECH stratum shows a balance between the 1-20 room units and 21-40 room units' categories, with each having 50% (1 unit) respectively.

4.5 Student Housing Design Styles

The distribution of student housing units design styles across the three strata in the studentified neighbourhood of Calabar is presented in Table 6. The SH-units design styles are classified as flat and corridor styles.

Table 6 SH-units Design Styles in the Studentified Neighbourhood of Calabar

	UNICAL Stratum	**UNICROSS Stratum**	**COHTECH Stratum**
Design Styles	**Frequency/(%)**	**Frequency/(%)**	**Frequency/(%)**
Flat style	28(63.64)	15(55.56)	1(50.00)
Corridor style	16(36.36)	12(44.44)	1(50.00)
Total	**44(100.00)**	**27(100.00)**	**2(100.00)**

Table 6 shows that in the UNICAL stratum, 63.64% (28 SH-units) are of flat-style design, while 36.36% (16 SH-units) are of corridor-style design. In the UNICROSS stratum, flat-style SH-unit designs are the most prevalent, with 55.56% (15 SH-units), compared to 44.44% (12 SH-units) corridor-style designs in this stratum. COHTECH stratum had an even distribution between flat-style and corridor-style SH designs with each style having 50% (1 SH-unit) each. The information as shown in Table 6 established that flat-style design SH-units are the most prevalent SH-units in the study area. The finding is in consistent with the findings of Jones and Blakey (2020), who classified SH as Flat-style and Corridor style.

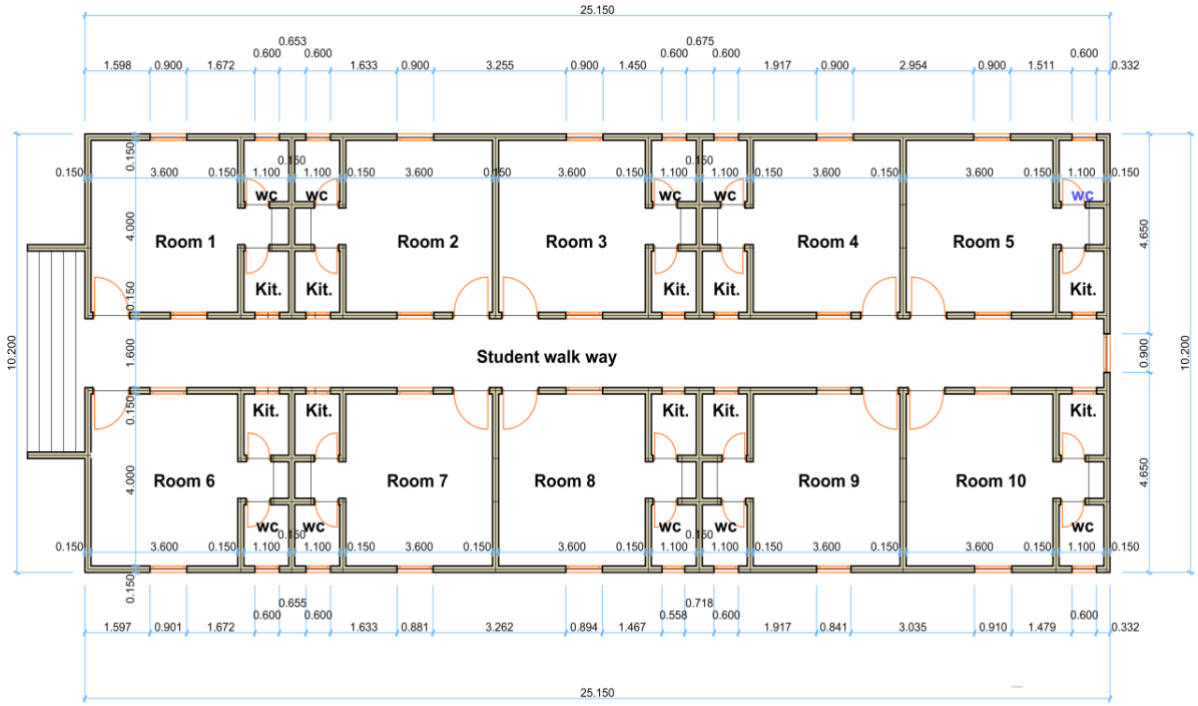

Figure 3 Typical sketch of corridor-style students housing room layout design

Figure 4 Pictorial view of a Corridor-Style students housing in the study area (UNICAL stratum)

Figure 5 Pictorial view of a Flat-Style 4-story student housing in the study area (UNICROSS Stratum)

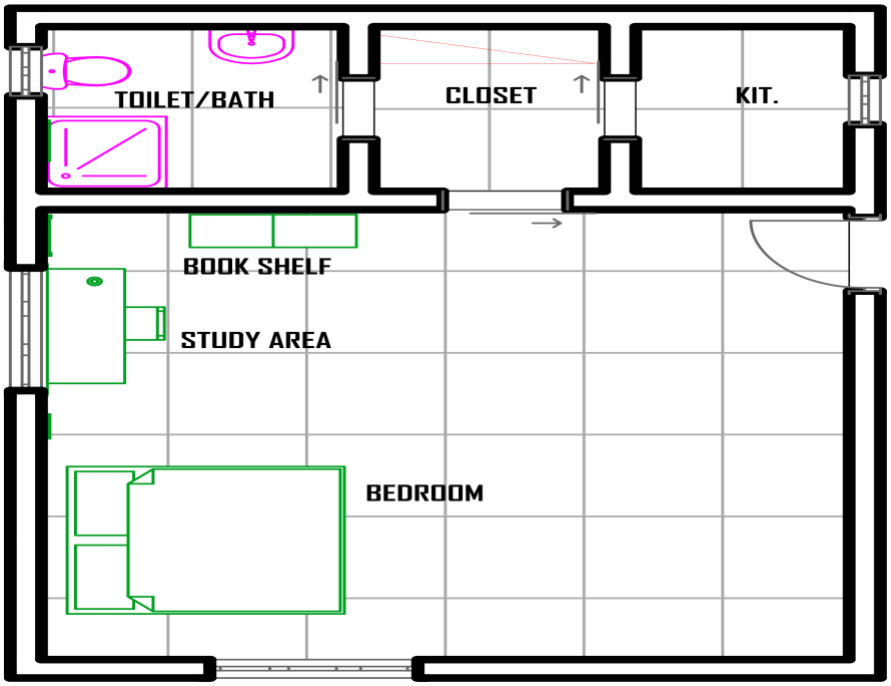

Figure 6 Floor lay-out of SH showing the basic amenities in the study area

The floor layout of the student housing, as shown in figure 6, incorporates essential amenities that cater to students' basic needs. Each unit has a bed, a table and chair for studying, and a bookshelf to store personal books and study materials. Additionally, the housing includes bathroom facilities, a wardrobe for storing clothes, and a kitchen to prepare meals.

4.6 Student Housing Number of Floors

Presented in Table 7 is the categorisation of SH-units by the number of floors across the studentified neighbourhood of Calabar based on each stratum.

Table 7 Categorisation of SH-units based on Number of Floors

Number of Floors	UNICAL Stratum	UNICROSS Stratum	COHTECH Stratum	Frequency/%
Single-Floor SH-Units	11	7	0	18(24.66)
2-Floor SH-units	5	6	0	11(15.07)
3-Floor SH-units	26	10	2	38(52.05)
4-Floor SH-units	2	4	0	6(8.22)
Total	**44**	**27**	**2**	**73(100.00)**

Out of 73 SH-units inspected, the majority are 3-story buildings, accounting for 52,05% (38 SH-units). Single-floor SH-units represent 24.66% (18 SH-units), while 2-story SH-units accounted for 15.07% (11 SH-units). The last category which is 4-story SH-units accounted for 8.22% (6 SH-units). The preference for 3-story SH-units suggests mid-rise structures in SH-units design, possibly due to factors such as cost-effectiveness, optimal land use, and local building regulation.

4.7 Building Contents, Facilities and Services in SH-units in the Study Area

Having examined the building contents and services in these SH-units, it was imperative to categorise these SH-units into different groups. Hence, Table 8 presents the categories of these SH-units into three groups based on their building contents, facilities, and services.

Table 8 Categorisation of SH Based on Building Contents, Facilities and Services

SH-unit categorisation	Variable	Facilities/Services Featured
High-tech/premium students housing	Operational Service	Wi-fi, restaurant service, laundry service, mart, social programmes, CCTV, porch/common room, carpark, fitness centre, security service, security light, private source of water, on-site generator, and maintenance services.
	Bedroom facilities	Air-conditioner, television, bed, chair, desk, bookshelves, ceiling fan, and wardrobe.

	Kitchen facilities	Toaster, microwave, fridge, cooker, kitchen cabinets, and sink.
	Bathroom facilities	Hot water cylinder, shower, water-closet (w/c), wash-hand basin.
Middle-end-students housing	Operational service	Porch/common room, car-park, fitness centre, security service, security light, private source of water, on-site generator, and maintenance services.
	Bedroom facilities	Ceiling fan, and wardrobe.
	Kitchen facilities	Kitchen cabinets, and sink.
	Bathroom facilities	Shower, water-closet, wash-hand basin.
Low-end students housing	Operational Service	Car Park, fitness centre, security light, private source of water, on-site generator and maintenance services.
	Bedroom facilities	Wardrobes.
	Kitchen facilities	Kitchen cabinets, and sink.
	Bathroom facilities	Shower, water-closet, wash-hand basin.

Presented in Table 8 are the categories of SH-units which are High-Tech/Premium SH, Middle-end SH, and Low-end SH-units. Each category is further divided into operational services, bedroom facilities, kitchen facilities, and bathroom facilities. These divisions show differences in contents, facilities and services mix in each category. This categorisation differs from earlier scholarly work by Asare-Kyire et al. (2016). The authors group SH-units into 1st-class-grade, 2nd-class-grade and 3rd-class-grade. However, the author's categorisation was based on the SH room layout and the rents charged. For instance, in their categorisation, all ensuite rooms were classified under 1st-class grade, while shared bathroom facilities were categorised either as 2nd-class grade or 3rd-class grade.

4.7.1 Distribution of SH-units based on their building contents, facilities and services

The distribution of SH-units in the study area based on their building contents, facilities, and services, into High-Tech/Premium, Middle-end, and Low-end SH-units are presented in Table 9. The Table shows the distribution of these categories across the UNICAL, UNICROSS, and COHTECH strata.

Table 9 Distribution of SH-units Based on Building Contents, Facilities and Services in the Study Area

Students Housing Units Categorisation	UNICAL Stratum	UNICROSS Stratum	COHTECH Stratum	Total	%
High-Tech/Premium	6	3		9	12.33
Middle-end	18	15	2	35	47.95
Low-end	20	9		29	39.72
Total	**44**	**27**	**2**	**73**	**100.00**

In the UNICAL stratum, the High-Tech/Premium category had 6 SH-units indicating that this type of SH-unit is less common in this Stratum. The Middle-end category had a moderate frequency of 18 SH-units, while Low-end SH had the highest, accounting for 20 SH-units. The analysis on the UNICROSS stratum shows that High-Tech/Premium SH had 3 SH-units, while the Middle-end category had 15 SH-units and the Low-end category had 9 SH-units. In COHTECH stratum, 2 SH-units that were surveyed are within the category of Middle-end SH. It could be inferred in summary that the most common type of SH-units category in the study area is the Middle-end SH units having a frequency of 35 (47.95%). This suggests that a significant number of SH in the study area are within this category, which offers a balanced mix of facilities. Second to this type of SH-unit is the Low-end SH with a frequency of 29 (39.72%), while the High-Tech/Premium SH is the less common type with a frequency of 9 (12.33%).

■5.0 CONCLUSION

Student housing has emerged as a niche real estate market characterised by customised features tailored to student needs. This study examined the physical characteristics of student housing, providing information for strategic investment decisions in Nigeria's growing off-campus student housing market. The examination of building contents, facilities, and services of these student housing units led to the classification of student housing units into three groups: High-Tech/Premium, Middle-end, and Low-end units. High-Tech/Premium units offer extensive amenities such as well-furnished ensuite rooms, common areas, Wi-Fi, restaurant services, and fitness centers, while Middle-end and Low-end units provide essential facilities and services such as water supply, maintenance services, parking, and security. The findings of the study show that Middle-end units constitute 47.95% of the total student housing units in the study area, followed by Low-end at 39.72% and High-Tech/Premium at 12.33%. These findings suggest that investors should focus on customised student housing that reflects specific categories of building contents and services. Additionally, further research is essential to evaluate how these physical

characteristics impact the financial performance of this investment asset class, as these complex interactions remain under-explored and would be essential for guiding student housing investment decisions.

Acknowledgement

The researchers would like to extend their sincere gratitude to the property managers of the student housing units in the study area for their invaluable support throughout this research project. Additionally, we appreciate the insightful feedback provided by our esteemed reviewers, which greatly enhanced the quality of this study.

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Appendix 1
Imagery of The Study Area