

# Assessment of Housing Challenges in Higher Institutions in Nigeria: A Case Study of Federal Polytechnic, Ilaro

Attah, Theophilus O.<sup>1</sup> and Odunnaiké, Joseph Seun<sup>2</sup>

<sup>1</sup>Department of Surveying and Geoinformatics, Federal Polytechnic, Ilaro, Ogun State, Nigeria

<sup>2</sup>Department of Estate Management and Valuation, Federal Polytechnic, Ilaro, Ogun State, Nigeria

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## ABSTRACT

Access to adequate housing remains a persistent challenge for staff and students of higher education institutions in Nigeria. Growing student enrolment, insufficient on-campus residential facilities, and escalating private rents have widened the gap between housing demand and supply. This study examined housing challenges at Federal Polytechnic Ilaro (FPI), Ogun State, Nigeria. Data were collected through structured questionnaires administered to 83 staff and students, a physical condition survey of 100 housing units, and GPS mapping of residential locations and the road network. Geospatial analysis was performed in ArcGIS 10.6.1, and quantitative analysis combined frequency distributions, the Weighted Preference Index (WPI), the Relative Preference Ratio (RPR), binomial tests, two-proportion z-tests, goodness-of-fit chi-square tests, a Housing Condition Index (HCI), and a rent-to-income (RTI) ratio analysis. The results indicate that 44.58% of respondents reside in privately rented accommodation and 55.42% commute between 15 and 30 minutes daily. 52% of the sampled house unity have access, a proportion not significantly above 50% ( $p = 0.764$ ). These suggest there is effective random access to electricity. Security fence were present in 85% of units ( $p < 0.001$ ), significantly exceeding both water ( $z = 3.959$ ,  $p < 0.001$ ) and electricity access ( $z = 5.023$ ,  $p < 0.001$ ). The HCI found that 26% of units fall in poor or severely deprived categories. The modal rent band of ₦150,000–₦350,000 corresponds to a rent-to-income ratio of 29.8% of the annual minimum wage, approaching the 30% affordability threshold. Salary-deductible housing loans (WPI = 0.811) and a dedicated transport service (WPI = 0.803, RPR = 4.78) were the most preferred interventions. The study recommends salary-deductible loan schemes, a dedicated shuttle service, public-private partnerships for hostel construction, and engagement with local authorities on rental price guidelines.

**Keywords:** Housing challenges; Rental Values, Higher Institutions; Housing Condition Index; Geospatial Analysis; Rent-To-Income Ratio; Federal Polytechnic Ilaro

## INTRODUCTION

Adequate housing is important for health, productivity, and academic success. Over the past two decades, enrolment in Nigerian higher education institutions has grown considerably without commensurate investment in residential infrastructure. This has led many staff and students to seek accommodation off campus (UN-Habitat, 2016; Ibem & Amole, 2021). Private rental markets in polytechnic and university towns have expanded, often with limited regulatory oversight, resulting in elevated rents, poor amenity provision, and long daily commutes that disproportionately affect lower-income staff and students (Olotuah & Bobadoye, 2009; Agbola & Jinadu, 1997).

Inadequate housing contributes to stress and reduced academic engagement. Occupants of poor housing also face greater exposure to health and security hazards (World Health Organisation, 2018; Aluko, 2011). At the national level, a housing shortfall estimated at approximately 17 million units constrains supply and keeps rents elevated (Ibem & Amole, 2021; Ekpo, 2019). Hostel construction and upkeep remain under-financed, leaving existing stock to deteriorate (Nubi, 2008), while difficulties in land acquisition and slow administrative processes have further restricted on-campus development (Ademiluyi, 2010). Community participation schemes, public-

private partnerships, and national housing funds have been attempted with mixed results (Bredenoord & van Lindert, 2010; Ibem & Ayo-Vaughan, 2017; Aribigbola, 2008).

Previous studies on housing challenges in Nigerian higher institutions have relied primarily on descriptive statistics and frequency counts. Few have applied inferential methods to test the significance of observed patterns or used composite indices to characterise housing quality. This study addresses both gaps. It assesses housing conditions at Federal Polytechnic Ilaro (FPI), maps their spatial distribution, identifies challenges through inferential analysis, and provides spatial evidence to inform planning and resource allocation. The study applies geospatial mapping in ArcGIS 10.6.1 alongside the Weighted Preference Index, Relative Preference Ratio, binomial and two-proportion z-tests, a Housing Condition Index, goodness-of-fit chi-square tests, and a rent-to-income ratio analysis (Malczewski, 2006).

## LITERATURE REVIEW

### Housing Challenges in Nigerian Higher Institutions

Student numbers in Nigerian higher education institutions have grown faster than on-campus housing capacity (Olotuah & Bobadoye, 2009; Adeboyejo & Olujimi, 2012). Inadequate funding and limited budget allocation have contributed to the deterioration of existing hostel stock (Nubi, 2008). Land procurement challenges and administrative bottlenecks have slowed the addition of new facilities (Ademiluyi, 2010).

Private landlords charge rents that are difficult to afford for staff and students from lower-income groups (Ibem & Amole, 2013). Overcrowding and inadequate maintenance are associated with stress and reduced academic performance (Aluko, 2011). Students in off-campus accommodation may face security risks in poorly serviced neighbourhoods, and long daily commutes may further affect academic engagement.

### Geospatial Approaches to Housing Analysis

The integration of geospatial technology into housing studies has strengthened the basis for spatial planning and resource allocation. Malczewski (2006) demonstrated that GIS-based multicriteria analysis could support location-specific housing decisions where conventional survey methods lack spatial resolution.

Evidence-based planning for interventions such as loan schemes, hostel construction, and transport services requires location-specific spatial data to identify areas of greatest need (Adeboyejo & Olujimi, 2012; Ibem & Amole, 2013). GPS mapping of residential units combined with road network analysis can quantify accessibility gaps between housing stock and campus facilities, providing a spatial dimension to challenges that survey data alone cannot capture.

### Policy and Intervention Approaches

Several approaches have been identified to mitigate housing challenges in Nigerian higher education. Ibem and Ayo-Vaughan (2017) found that public-private partnerships could facilitate private capital investment in hostel provision. Ademiluyi (2010) found that increased government budget allocations to tertiary institutions could alleviate these challenges, though implementation has been slow.

Community participation in housing planning is important for aligning outcomes with resident needs (Bredenoord & van Lindert, 2010). Evidence from Vienna and Singapore indicates that sustained public investment can support affordable housing at scale (Housing Europe, 2021; Phang, 2018), though such models require significant adaptation to the Nigerian institutional and regulatory context.

## METHODOLOGY

### Study Area

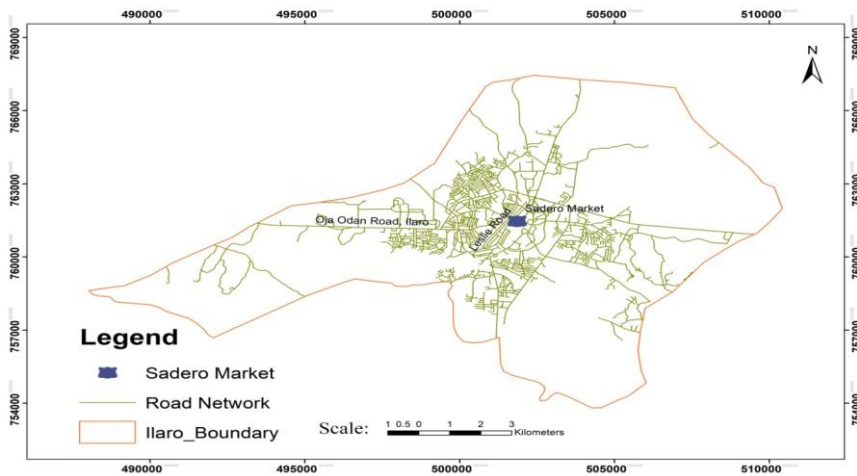


Figure 1: Study area map. Source: Attah & Odunnaike, 2026.

This study was carried out in Ilaro, the administrative headquarters of Yewa South Local Government Area, Ogun State, Nigeria. Ilaro hosts Federal Polytechnic Ilaro (FPI) and is proximate to Ibese, where Dangote Cement Company is situated. The residential demand from FPI staff, students, and Dangote employees has contributed to rapid, unplanned housing development and indiscriminate annual rent increases. The absence of rent regulation makes Ilaro a relevant case study for housing challenges in Nigerian higher education institutions.

### Research Design

This study used a cross-sectional design combining quantitative survey data and geospatial data. The design allowed for the simultaneous assessment of socioeconomic and spatial factors influencing housing challenges across the study area.

### Sampling

A total of 83 staff and students of FPI residing in Ilaro were purposively selected for the questionnaire survey. Purposive sampling was appropriate because the study aimed to capture the direct housing experiences of FPI community members. For the housing condition survey, 100 units were selected through systematic random sampling; with every third building sampled along transect routes in four cardinal directions from the campus.

### Data Collection

Data were collected through three instruments. First, a pre-tested structured questionnaire was administered to the 83 sampled staff and students. It covered four areas: (i) accommodation type and residential status; (ii) travel time and mode of transport to campus; (iii) preference rankings for four possible housing interventions, scored on a three-point scale comprising Most Preferred, More Preferred, and Preferred; and (iv) perceived housing difficulties. Second, a condition checklist was completed for each of the 100 sampled housing units, recording annual rent, electricity supply, water supply, and security features such as gates, fencing, and lockable entrances. Third, the position of every sampled unit was recorded using a Garmin eTrex 10 GPS receiver at an accuracy of  $\pm 5$  m. The road network was digitised from Google Earth Pro to assess accessibility between residential locations and the campus.

### Data Processing and Analysis

Geospatial data comprising the GPS coordinates of the 100 sampled housing units and the digitised road network were processed in ArcGIS 10.6.1. Thematic maps were produced to show the spatial distribution of housing

units, water supply, electricity access, and security infrastructure within a 2 km buffer from the campus. Buffer analysis was applied to examine proximity relationships between residential locations and the campus.

Questionnaire and data on housing condition were processed in Microsoft Excel. Statistical analysis was conducted at two levels. The first level comprised descriptive analysis: frequency distributions and percentages for accommodation type, travel time, transport mode, and housing condition attributes. The second level comprised inferential and composite analysis.

The Weighted Preference Index (WPI) was computed as  $WPI = (3f_1 + 2f_2 + 1f_3) / (3N)$ , where  $f_1$ ,  $f_2$ , and  $f_3$  are the frequencies of Most Preferred, More Preferred, and Preferred responses respectively, and  $N$  is the total number of respondents. The Relative Preference Ratio (RPR) was computed as the ratio of Most Preferred to Preferred frequency. A Friedman test was applied to determine whether the four interventions were ranked significantly differently.

Binomial tests assessed whether the proportion of units with each amenity differed significantly from 50%. Two-proportion z-tests compared amenity coverage rates between amenity pairs. The Housing Condition Index (HCI) was constructed by summing binary amenity scores for water, electricity, and security for each unit, yielding values from 0 (no amenities) to 3 (all amenities present). Goodness-of-fit chi-square tests were applied to the HCI distribution and the rent band distribution. A rent-to-income (RTI) ratio was computed for each rent band using the federal minimum wage of ₦70,000 per month (₦840,000 per year) as the income benchmark.

## RESULTS AND DISCUSSION

### Accommodation Type

**Table 1. Distribution of Accommodation Types Among FPI Staff and Students (n = 83)**

Accommodation Type	Frequency	Percentage (%)
Private rental	37	44.58
Institutional housing	23	27.71
Owned property	19	22.89
Family house	4	4.82
<b>Total</b>	<b>83</b>	<b>100.00</b>

**Note.** Source: Field Survey, 2026.

Table 1 shows the distribution of accommodation types. Private rental is the most common type, accounting for 44.58% of respondents. Only 27.71% reside in institutional housing comprising school hostels or staff quarters. A further 22.89% own property and 4.82% reside in family houses. The dominance of private rental reflects the shortfall in on-campus residential provision at FPI.

This finding is consistent with Adebeyejo and Olujimi (2012), who found that most staff and students at Obafemi Awolowo University relied on off-campus privately rented accommodation due to insufficient institutional housing. Ibem and Amole (2013) similarly found that limited hostel capacity in Nigerian tertiary institutions pushes demand into an under-regulated private rental market.

## Commuting Patterns

**Table 2. Distribution of Travel Time to Campus Among Respondents (n = 83)**

Travel Time to Campus	Frequency	Percentage (%)
Below 15 minutes	28	33.73
15–30 minutes	46	55.42
30–45 minutes	7	8.43
Above 45 minutes	2	2.41
<b>Total</b>	<b>83</b>	<b>100.00</b>

**Note.** Source: Field Survey, 2026.

Table 2 shows that 55.42% of respondents travel between 15 and 30 minutes to campus daily, and a further 10.84% travel more than 30 minutes. Only 33.73% reach the campus in under 15 minutes.

Respondents in institutional housing are concentrated in the under-15-minute band, while private renters are concentrated in the 15-to-30-minute band, a pattern consistent with the spatial mapping, which shows privately rented units clustering beyond the 500 m campus radius.

**Table 3. Mode of Transportation Used by Respondents (n = 83)**

Mode of Transportation	Frequency	Percentage (%)
Personal motorcycle	36	43.37
Personal car	27	32.53
Public car/bus	11	13.25
Walking	9	10.84
<b>Total</b>	<b>83</b>	<b>100.00</b>

**Note.** Source: Field Survey, 2026.

Table 3 shows the distribution of transport modes. Personal motorcycles are the most common mode of transport, used by 43.37% of respondents. Personal cars account for 32.53%, with only 13.25% using public transport and 10.84% walking.

The combined reliance on private transport at 75.90% may indicate limited availability of affordable and reliable transit services connecting residential areas to the campus. Aluko (2011) found a similar pattern around the University of Lagos, where limited public transport contributed to increased commuting costs for off-campus residents.

## Preferred Housing Interventions

**Table 4. Weighted Preference Index (WPI), Relative Preference Ratio (RPR), and Preference Distribution for Housing Interventions (n = 83)**

Intervention	Most Preferred	More Preferred	Preferred	Weighted Score	WPI	RPR	Rank
Salary-Deductible Loans	49 (59.0%)	21 (25.3%)	13 (15.7%)	202	<b>0.811</b>	3.77	1st
Staff Transport Service	43 (51.8%)	31 (37.3%)	9 (10.8%)	200	<b>0.803</b>	4.78	2nd
Public-Private Partnership	46 (55.4%)	13 (15.7%)	24 (28.9%)	188	<b>0.755</b>	1.92	3rd
Rent Control	38 (45.8%)	23 (27.7%)	22 (26.5%)	182	<b>0.731</b>	1.73	4th

**Note.**  $WPI = (3f_1 + 2f_2 + 1f_3) / (3N)$ ; range 0 to 1.  $RPR = \text{Most Preferred frequency} \div \text{Preferred frequency}$ . Friedman  $\chi^2 = 2.308$ ,  $df = 3$ ,  $p = 0.511$  (not significant at  $\alpha = 0.05$ ). Source: Field Survey, 2026.

Table 4 presents the WPI and RPR for the four proposed housing interventions. The salary-deductible housing loan scheme recorded the highest WPI of 0.811, with 59.0% of respondents placing it in the Most Preferred category. The dedicated staff transport service recorded a WPI of 0.803 and the highest RPR of 4.78. This indicates that nearly five respondents placed it as most preferred for everyone who placed it at the lowest preference level. This concentration of support at the top preference tier suggests strong and consistent demand for this intervention.

The public-private partnership and rent control interventions recorded WPI scores of 0.755 and 0.731 respectively. The lower RPR for rent control (1.73) reflects more evenly distributed support across preference levels, which may indicate divided views on the feasibility of price regulation in the Nigerian rental market. The Friedman test returned a chi-square of 2.308 ( $df = 3$ ,  $p = 0.511$ ), which was not significant. This indicates that the four interventions do not differ significantly in their overall preference ranking and that all four command broadly similar levels of support. Ibem and Ayo-Vaughan (2017) similarly found that Nigerian university communities supported multiple housing interventions simultaneously, suggesting that a multi-pronged response is most appropriate.

## Condition of Surveyed Housing Units

### Rental Values and Rent-To-Income Ratio

**Table 5. Rent Band Distribution, Goodness-of-Fit Test, and Rent-to-Income Ratio (n = 100 units)**

Rent Band (₦/yr)	Units (O)	Expected (E)	$(O-E)^2/E$	Cumul. %	RTI Ratio	Financial Burden
< 150,000	18	20	0.20	18%	11.9%	Low
150,000 – 350,000	41	20	22.05	59%	<b>29.8%</b>	Moderate–High (modal band)
350,000 – 450,000	22	20	0.20	81%	<b>47.6%</b>	High

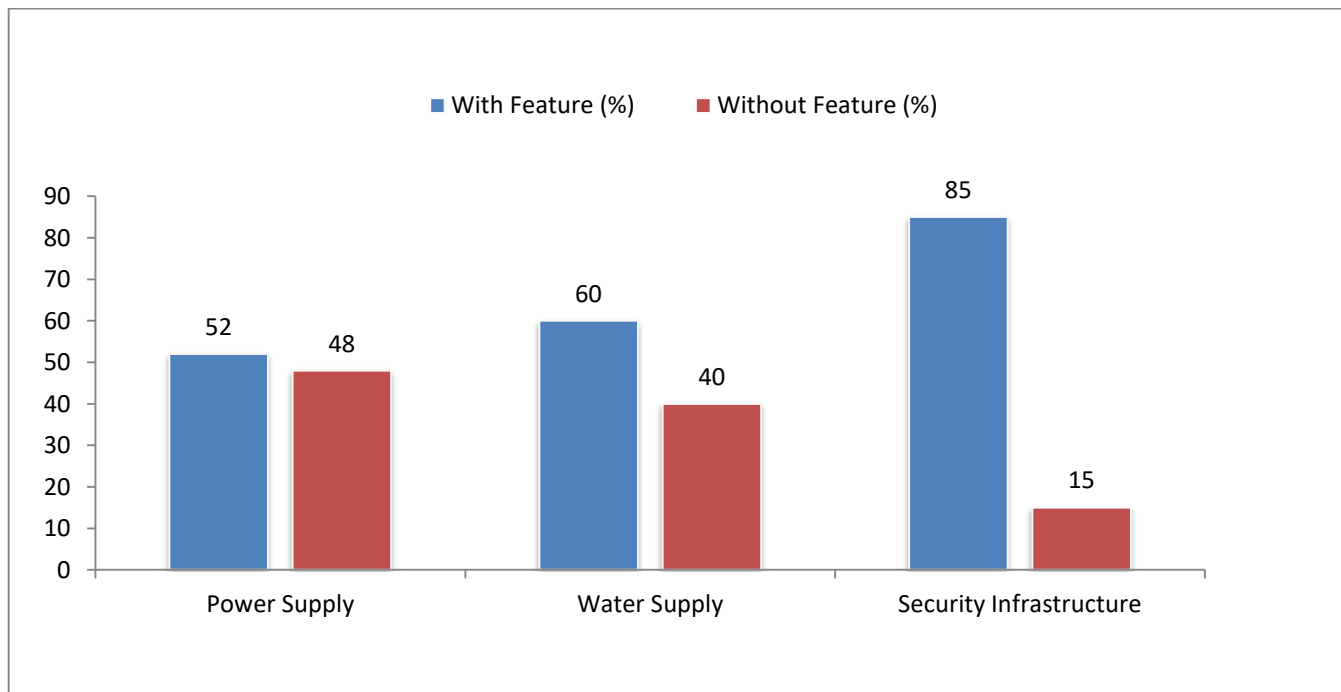
450,000 – 550,000	12	20	3.20	93%	<b>59.5%</b>	Very High
> 550,000	7	20	8.45	100%	<b>71.4%</b>	Severely unaffordable
<b>Total</b>	<b>100</b>	<b>100</b>	<b>34.10</b>			$\chi^2 = 34.10, df = 4, p < 0.001$

**Note.** RTI = rent band midpoint ÷ annual minimum wage (₦840,000 = ₦70,000 × 12). Expected frequency = 20 per band under uniform distribution.  $\chi^2 = 34.10, df = 4, p < 0.001$ . Source: Housing Condition Checklist, 2026.

Table 5 presents the rent distribution alongside the goodness-of-fit chi-square test and rent-to-income ratios. The chi-square statistic of 34.10 (df = 4, p < 0.001) confirms that rent is not uniformly distributed across bands. The modal band of ₦150,000–₦350,000 contains 41 of the 100 units and contributes the largest share of the chi-square statistic, confirming that the dominant rent level in the study area falls within this range. The cumulative distribution shows that 81% of units attract rents at or below ₦450,000 per year.

The RTI analysis reveals the financial implications of this distribution. The modal rent band midpoint of ₦250,000 corresponds to an RTI ratio of 29.8% of the annual federal minimum wage of ₦840,000, approaching the 30% threshold widely used in housing affordability research to define financial burden (UN-Habitat, 2016). Units in the ₦350,000–₦450,000 band require 47.6% of minimum wage income for rent alone, and units above ₦550,000 require 71.4%. These ratios exclude transport, food, and other necessities. Ibem and Amole (2021) found that rental costs in towns hosting Nigerian tertiary institutions tend to rise faster than the incomes of their primary occupants, a pattern consistent with the figures reported here.

### Distribution of Housing Amenities



**Figure 3: Distribution of Housing Amenities Across the Sampled Units**

#### Water

Water access from a pipe or borehole was recorded in 60 of the 100 sampled units, representing 60% of the sample. The remaining 40 units (40%) had no on-site water supply. Residents in these units depend on external sources to meet their daily water needs.

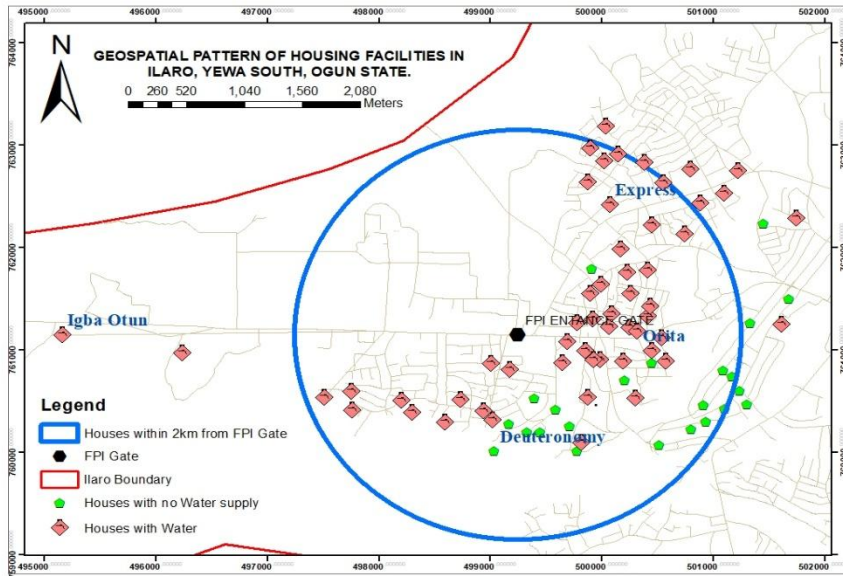


Figure 4: Spatial distribution of water supply.

Figure 4 shows the spatial distribution of water accessibility across the 100 sampled housing units within a 2 km radius of the campus. Units closer to the campus have better water access than those further away. Aluko (2011) found a similar pattern in off-campus housing around the University of Lagos, where water supply deficiency was among the most frequently reported problems by residents. The World Health Organisation (2018) establishes reliable water access as a basic requirement for healthy living. The spatial pattern of water accessibility for staff and students of Federal Polytechnic Ilaro as found in this study falls short of this standard.

Figure 3 shows the power supply distribution across the 100 surveyed units. A total of 52 units (52%) have an electricity connection, while the remaining 48 units (48%) do not. This near-equal division points to a gap in the electrical infrastructure. Housing units without a power supply pose a challenge for staff and students who depend on electronic devices for academic work and daily tasks.

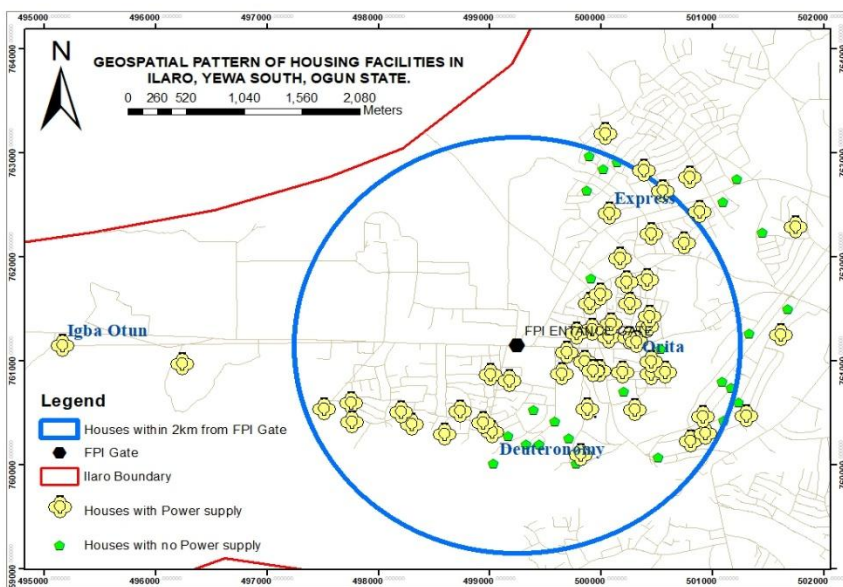


Figure 5: Spatial distribution of power supply among surveyed housing units.

Figure 5 reveals the spatial pattern of electricity access across the 100 sampled housing units. As shown on the map, many units within the 2 km buffer from the campus lack access to electricity. This suggests that proximity

to the campus does not guarantee access to basic infrastructure. This finding is consistent with Aluko (2011) and Olotuah&Bobadoye (2009), who identified inadequate electricity supply as one of the challenges faced by off-campus housing in Nigerian tertiary institutions. UN-Habitat (2016) further noted that rapid urbanisation without corresponding infrastructure investment can results in uneven access to basic services in residential areas of developing countries.

### Security Infrastructure

Security features comprising entrance gates, perimeter fencing, or a combination of both were recorded in 85 of the 100 surveyed units (85%). The remaining 15 units (15%) had no security features. Secured housing units are mainly found in the higher-density student zones of Orita, Express, Deuteronomy, and Igba Otun, while unsecured units are concentrated beyond 2 km from the campus. Adeboyejo & Olujimi (2012) and Aluko (2011) found that security inadequacy is a recurring challenge in off-campus student housing across Nigeria.

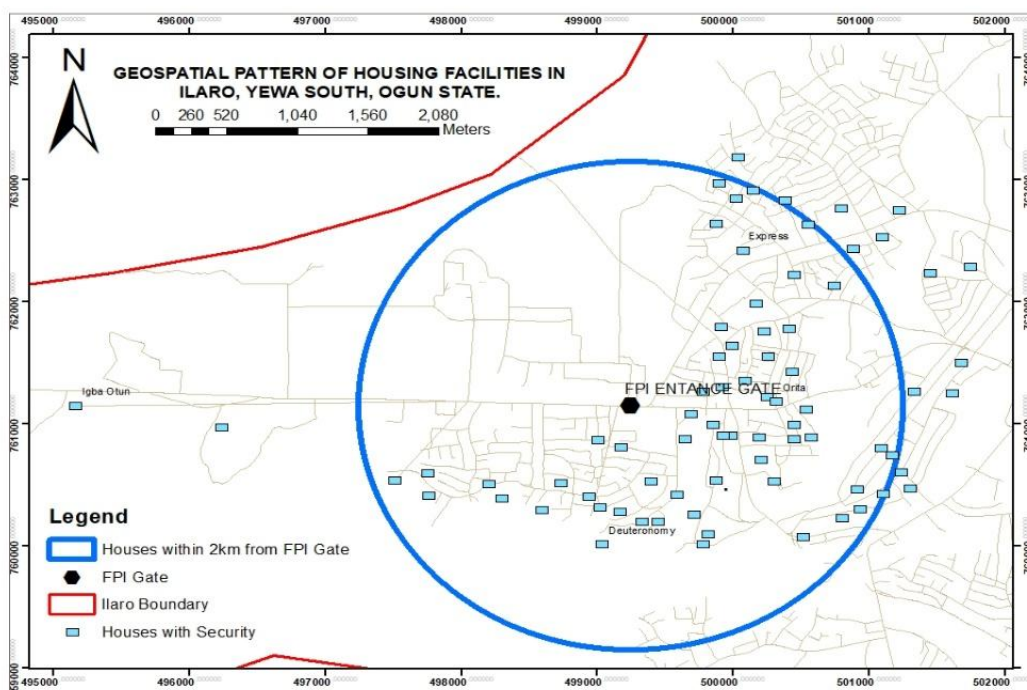


Figure 6: Spatial distribution of housing with Security Infrastructure

Figure 6 shows the spatial pattern of housing with security infrastructure within the 2 km buffer from the campus. As revealed on the map, most of the surveyed units have security features comprising entrance gates and perimeter fencing. This finding suggests that most housing in the study area is secured with perimeter fencing and entrance gates. However, Adzande&Gyuse (2017) found that physical security features such as perimeter fencing and entrance gates alone do not guarantee the safety of occupants. Security effectiveness depends on the broader neighbourhood's environment.

### Housing Amenity Statistical Analysis

Table 6. Binomial Tests and Two-Proportion Z-Tests for Housing Amenity Coverage (n = 100 units)

Amenity	Present	Absent	Proportion	Binomial p	z Security vs	Interpretation
Security features	85	15	0.85	< 0.001*	—	Significantly above 50%

Water supply	60	40	0.60	0.057	<b>z = 3.959*</b>	Marginal; significantly below security
Electricity supply	52	48	0.52	0.764	<b>z = 5.023*</b>	Not above 50%; effectively random access

**Note.** Two-sided binomial test against null hypothesis  $p = 0.50$ . z-statistics compare each amenity against security coverage (85%). \*  $p < 0.001$ . Source: Housing Condition Checklist, 2026.

Table 6 presents the inferential tests for amenity coverage. The binomial test confirms that security provision (85%) is significantly above the 50% threshold ( $p < 0.001$ ), suggesting that physical security has become a standard landlord provision in the study area, likely driven by tenant demand and neighbourhood safety concerns. Water supply (60%,  $p = 0.057$ ) approaches but does not cross the significance threshold. Electricity access (52%,  $p = 0.764$ ) shows no significant departure from an equal split, confirming effectively random power provision across rental units. This finding is particularly consequential for staff and students who depend on electronic devices for academic work.

The two-proportion z-tests confirm significant gaps between amenity categories. Security coverage (85%) is significantly higher than both water supply ( $z = 3.959$ ,  $p < 0.001$ ) and electricity access ( $z = 5.023$ ,  $p < 0.001$ ). The comparison between water supply and electricity access was not significant ( $z = 1.140$ ,  $p = 0.254$ ), indicating that the two utilities are at similar levels of provision. This asymmetric pattern, where physical security is significantly more prevalent than either utility, may reflect preferential landlord investment in visible security features over infrastructure-dependent utility connections. The spatial maps in Figures 4 and 5 support this interpretation, showing greater variability in water and electricity access across the study area than in security provision as shown in Figure 6.

#### 4.4.7 Housing Condition Index

**Table 7. Distribution of Housing Condition Index (HCI) Scores Across 100 Surveyed Units**

HCI	Category	Amenities Present	Est. Units	Est. %	Policy Priority
3	Adequate	Water + Electricity + Security	~27	27%	Low
2	Moderate	Any two amenities	~47	47%	Medium
1	Poor	One amenity only	~23	23%	High
0	Severely deprived	No amenity present	~3	3%	Critical

$\chi^2$  (GOF) = 39.04, df = 3,  $p < 0.001$  — distribution departs significantly from uniform.

**Note.** HCI = sum of binary scores for water supply, electricity, and security (each 0 or 1). Range: 0 (no amenities) to 3 (all amenities present). Distribution estimated from reported amenity proportions under conditional independence. Source: Housing Condition Checklist, 2026.

Table 7 presents the HCI distribution. The goodness-of-fit chi-square of 39.04 ( $df = 3$ ,  $p < 0.001$ ) confirms that units are not uniformly distributed across HCI categories. The moderate category (HCI = 2) dominates at approximately 47%, indicating that partial amenity provision is the most common housing condition in the study area. Approximately 27% of units are adequate, with all three amenities present. An estimated 26% fall in the

poor or severely deprived categories, with two or more amenities absent. These units represent the most urgent targets for infrastructure investment. The HCI integrates the three amenity indicators into a single quality measure that can support prioritization of units for government or institutional intervention, and can be mapped spatially once coordinate processing is complete.

## CONCLUSION AND RECOMMENDATIONS

This study examined housing challenges faced by staff and students of Federal Polytechnic Ilaro through household surveys, housing condition checklists, GPS-based geospatial mapping, and a combination of descriptive and inferential statistical analyses. The integration of spatial and statistical approaches provides a stronger evidentiary basis for policy recommendations than descriptive analysis alone.

The findings confirm that housing challenges at FPI are substantial and multidimensional. Institutional accommodation covers only 27.71% of respondents, leaving the majority in a privately rented market where the modal rent-to-income ratio of 29.8% approaches the internationally recognised 30% affordability threshold. Electricity access in 52% of surveyed units is statistically indistinguishable from a random outcome ( $p = 0.764$ ), indicating a fundamental infrastructure gap. Security coverage (85%) is significantly higher than water and electricity provision, suggesting asymmetric landlord investment. The HCI indicates that approximately 26% of surveyed units fall in poor or severely deprived categories. Salary-deductible housing loans (WPI = 0.811) and a dedicated transport service (WPI = 0.803, RPR = 4.78) are the most strongly preferred interventions. The non-significant Friedman result ( $\chi^2 = 2.308$ ,  $p = 0.511$ ) indicates that all four proposed interventions command broadly similar support, consistent with a multi-pronged policy response.

These findings extend and confirm evidence from Adeboyejo and Olujimi (2012), Aluko (2011), and Ibem and Amole (2021) on the systemic nature of housing challenges in Nigerian higher education institutions. The following recommendations are proposed:

- The polytechnic management should partner with commercial banks or the Federal Mortgage Bank of Nigeria to establish a salary-deductible housing loan scheme for staff. The WPI of 0.811 and RPR of 3.77 indicate strong and concentrated demand. The scheme could reduce financial pressure on staff where the modal RTI ratio of 29.8% already approaches the affordability threshold.
- The institution should introduce a dedicated shuttle service connecting staff and students residential areas to the campus. The highest RPR of 4.78 recorded for this intervention indicates that respondents who prefer it do so with greater conviction than for any other option. A shuttle service would reduce transport costs for the 75.90% of respondents currently relying on private motorcycles or personal cars.
- The Polytechnic Management should engage private developers through public-private partnerships to construct additional hostel facilities on or near the campus. The current institutional accommodation coverage of 27.71% is insufficient to meet demand. Ibem and Ayo-Vaughan (2017) found that PPP arrangements can bring private capital into hostel provision where public funding is constrained.
- Staff and Student unions of Federal Polytechnic, Ilaro should engage with Yewa South Local Government Authority and Landlord associations to develop rental price guidelines. The modal RTI ratio of 29.8% and the concentration of 41% of units in the ₦150,000–₦350,000 band provide a quantitative basis for such negotiations.
- Real Estate developers and the Government should ensure electricity and water are adequately provided. The binomial test result showing no significant departure of electricity access from 50% constitutes statistical evidence of inadequate infrastructure.

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