OPEN ACCESS

ISAR Journal of Multidisciplinary Research and Studies

Volume 4, Issue 10, 2026 | pp: 64-80

Abbriviate Title- ISAR J Mul Res Stud

ISSN *(Online)*- 2583-9705

https://isarpublisher.com/journal/isarjmrs

PhD Research Proposal

EVALUATION OF RESIDENTIAL DESIGN INEQUALITY AND HOUSING AFFORDABILITY IN PUBLIC SECTOR EMPLOYEE HOUSING SCHEMES IN LAGOS STATE, NIGERIA

Ugboh Moses Chukwudi

Department of Architecture, Anchor University, Lagos, Nigeria.

***Corresponding Author**

Ugboh Moses Chukwudi

Email: ugbohmoseschuks@gmail.com

Article History

Received: 11.08.2026
Revised: 18.09.2026
Accepted: 07.10.2026
Published: 27.10.2026

Abstract: This research proposes a quantitative evaluation of residential design inequality and housing affordability within public sector employee housing schemes in Lagos State, Nigeria. Despite substantial government investment in staff housing programmes under the Lagos State Staff Housing Board, persistent affordability gaps and design disparities suggest that intended beneficiaries—particularly low- and middle-income civil servants—remain underserved. The study adopts a cross-sectional survey design grounded in the positivist paradigm, targeting residents across selected public sector housing estates in Lagos State. Using structured questionnaires, data will be collected from household heads in six local government areas with high concentrations of public sector employee housing. Stratified random sampling will yield approximately 500 valid responses, representing a population of 1,148 dwelling units across 48 estates. Quantitative data will be analysed using descriptive statistics, Pearson correlation, multiple regression, and the Price-to-Income Ratio to assess affordability thresholds and design satisfaction indices. The research contributes a novel Design-Affordability Equity Framework that integrates residential design evaluation with affordability metrics, offering an empirically grounded model for assessing whether public housing schemes achieve equitable outcomes. Findings will inform policy recommendations for the Lagos State Staff Housing Board, the Ministry of Housing, and federal housing agencies, promoting evidence-based interventions that align housing design and pricing with the actual income realities of public sector workers. The study addresses a critical gap in the literature on residential design inequality in Nigeria's public housing sector, where design quality and affordability are typically examined in isolation rather than as interconnected dimensions of housing equity (Akinola et al., 2024; Oyedele, 2026).

Keywords: housing affordability, residential design inequality, public sector housing, Lagos State, civil servants, housing policy.

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License

Cite this article:

Chukwudi, U. M., (2026). EVALUATION OF RESIDENTIAL DESIGN INEQUALITY AND HOUSING AFFORDABILITY IN PUBLIC SECTOR EMPLOYEE HOUSING SCHEMES IN LAGOS STATE, NIGERIA. *ISAR Journal of Multidisciplinary Research and Studies*, *4*(10), 64-80.

1. Introduction and Background

Access to affordable and adequately designed housing remains one of the most pressing socio-economic challenges facing urban Nigeria, particularly in Lagos State, Africa's largest megacity and Nigeria's commercial nerve centre (Oyedele, 2026). With an estimated population exceeding 20 million and an annual housing deficit conservatively estimated at 3 to 5 million units, Lagos faces a structural housing crisis characterised by severe supply constraints, escalating land and construction costs, and persistent affordability gaps for low- and middle-income earners (Knight Frank, 2026; Oyedele, 2026). The public sector workforce—comprising civil servants, teachers, health workers, and other government employees—represents a critical segment of the urban labour force whose housing needs are directly implicated in public service efficiency, worker welfare, and broader urban development outcomes (Akinola et al., 2024).

The Lagos State Government has, over successive administrations, implemented various housing intervention programmes targeting public sector workers. The Lagos State Staff Housing Board administers 48 housing estates comprising 1,148 dwelling units across 11 local government areas, representing a substantial public investment in staff welfare (Akinola et al., 2024). These schemes were conceived as a mechanism to provide affordable housing solutions for civil servants, thereby reducing housing-induced economic stress, improving worker productivity, and ensuring that public sector employees can reside in decent accommodations within reasonable proximity to their workplaces (Oyedele, 2026). Similar federal initiatives, including the Federal Integrated Staff Housing (FISH) Programme and the Renewed Hope Civil Service Estate, have underscored the national policy emphasis on public sector housing as a component of workers' welfare and productivity enhancement (Federal Ministry of Housing and Urban Development, 2026).

Despite these interventions, a growing body of evidence suggests that the outcomes of public sector housing schemes fall short of their stated objectives. Studies on government housing policies in Lagos State have documented persistent affordability gaps, with housing costs rising disproportionately relative to stagnant worker incomes (Oyedele, 2026). Research on the Lagos residential market indicates that rental and property values have surged dramatically across all segments, with two-bedroom apartments in emerging middle-income corridors like Ajah-Sangotedo increasing by 313 percent between 2020 and 2025 (Knight Frank, 2026). These market dynamics create an affordability pressure that public sector housing schemes are ostensibly designed to alleviate, yet their effectiveness in achieving genuine affordability for their intended beneficiaries remains empirically under-evaluated.

Simultaneously, questions of residential design quality and equity have emerged as significant concerns. Residential design inequality—the systematic variation in housing design quality, space allocation, finishing standards, and amenity provision across different categories of public sector employees or different housing estates—represents a dimension of housing policy outcomes that has received insufficient empirical attention (Akinola et al., 2024). Studies on public sector employee housing satisfaction in Lagos State have examined neighbourhood socio-economic environments and maintenance satisfaction as distinct dimensions, but have not integrated design equity with affordability assessment in a unified analytical framework (Akinola et al., 2024). The implicit assumption in much housing policy literature is that providing "units" addresses the housing problem, without adequate consideration of whether those units are designed to adequate and equitable standards.

The intersection of design inequality and affordability is theoretically significant. Housing policy that provides affordable but poorly designed units may satisfy economic accessibility criteria while failing to deliver genuine welfare improvement. Conversely, well-designed housing that remains financially inaccessible to intended beneficiaries represents a different form of policy failure. Understanding how design quality and affordability co-vary across public sector housing schemes, and whether systematic inequalities exist in design provision relative to worker categories or estate characteristics, is essential for evidence-based policy reform. Yet the current evidence base for Lagos State's public sector housing is fragmented, with studies focusing on either neighbourhood satisfaction or maintenance management but not on the integrated evaluation of design equity and affordability outcomes (Akinola et al., 2024; Oyedele, 2026).

Furthermore, the conceptualisation of affordability in Nigerian housing policy discourse typically relies on simplistic income-to-cost ratios that fail to capture the multidimensional nature of affordability. International benchmarks, such as the widely used 30 percent of household income standard for housing expenditure, provide a useful reference point, but their application to the Nigerian context requires careful consideration of local income distributions, non-housing expenditure patterns, and the specific circumstances of public sector employment (Oyedele, 2026). Research on worker affordability assessment in Lagos State has revealed significant misalignment between housing costs and worker incomes, with government-backed schemes perceived as largely unaffordable despite their subsidised nature (The Guardian, 2026).

This proposed research therefore emerges from the convergence of three critical gaps in the current evidence base: (a) the absence of integrated evaluation frameworks that simultaneously assess residential design quality and affordability outcomes; (b) the lack of systematic analysis of design inequality across public sector housing schemes; and (c) insufficient application of rigorous quantitative methodologies to evaluate whether public sector housing interventions achieve equitable and affordable outcomes for their intended beneficiaries. By addressing these gaps, the research aims to contribute empirically grounded insights that can inform the Lagos State Staff Housing Board's policy development and the broader national discourse on public sector housing reform.

2. Statement of the Problem

Despite sustained government investment in public sector employee housing schemes in Lagos State, there is mounting evidence that the intended beneficiaries—low- and middle-income civil servants—are not being adequately served by these interventions. The specific problem this research addresses is the persistent and potentially systemic misalignment between the design standards and affordability characteristics of public sector employee housing and the actual needs and financial capacities of Lagos State civil servants.

Existing research indicates that government housing policies in Lagos State have failed to achieve intended affordability outcomes, with housing schemes remaining beyond the financial reach of most workers despite their subsidised pricing (Oyedele, 2026). A study assessing government housing policies and worker affordability in Lagos found that respondents widely perceived housing schemes as unaffordable relative to their income levels, with average affordability ratings exceeding global benchmarks and housing finance systems characterised by limited access, rigid repayment conditions, and ineffective government-backed financing mechanisms (Oyedele, 2026). These findings suggest that the policy design of public sector housing schemes is predicated on assumptions about worker incomes that do not reflect the reality of Lagos State's civil service.

Beyond affordability, there is a significant lacuna in understanding residential design inequality within public sector housing schemes. While studies have examined resident satisfaction with neighbourhood socio-economic environments and maintenance management, the systematic evaluation of design quality and its equitable distribution across schemes, worker categories, or estate locations has not been undertaken (Akinola et al., 2024). This omission is critical because housing design quality directly affects liveability, health outcomes, space utilisation, and overall welfare. If design inequality exists—manifested in differing space standards, finishing quality, amenity provision, or building configuration—it represents a form of housing inequity that compounds financial affordability barriers.

The problem is further exacerbated by the absence of an integrated analytical framework that examines the nexus between residential design and affordability. Current policy evaluation approaches treat design and cost as separate considerations, whereas the lived experience of housing beneficiaries is shaped by the interaction of these dimensions. A civil servant may be allocated a unit that is nominally affordable but poorly designed, or well-designed but financially burdensome. Neither outcome represents genuine policy success. Without empirical evidence on how these dimensions interact across Lagos State's public sector housing portfolio, policy reform remains uninformed by the actual outcomes experienced by intended beneficiaries.

This research addresses the problem by proposing a rigorous quantitative evaluation that simultaneously assesses residential design inequality and housing affordability in public sector employee housing schemes across Lagos State. The study will generate empirical evidence on whether design quality varies systematically across estates or worker categories, whether affordability outcomes meet international benchmarks and worker income realities, and whether there is a relationship between design characteristics and affordability perceptions. This evidence is essential for the Lagos State Staff Housing Board, the Ministry of Housing, and national housing agencies to design more effective, equitable, and genuinely affordable housing interventions for public sector workers.

3. Research Questions

The study seeks to answer the following central questions:

1. What are the residential design characteristics and quality standards of public sector employee housing schemes in Lagos State, and do these vary systematically across estates or worker categories?
2. How affordable are public sector employee housing schemes relative to the income levels of Lagos State civil servants, using both international benchmarks and actual worker perceptions?
3. What is the relationship between residential design quality and perceived housing affordability among public sector employee housing beneficiaries?
4. What is the nature and extent of residential design inequality across public sector employee housing schemes in Lagos State?
5. How do public sector employee housing schemes in Lagos State compare in terms of design quality

and affordability outcomes to government-stated policy objectives for worker housing?

4. Aim and Objectives

Aim: The aim of this research is to quantitatively evaluate residential design inequality and housing affordability in public sector employee housing schemes in Lagos State, Nigeria, with a view to generating empirical evidence for policy reform that enhances design equity and affordability outcomes for civil servants.

Objectives:

1. To assess the residential design characteristics of public sector employee housing schemes in Lagos State and identify whether systematic variations exist across estates or worker categories.
2. To evaluate the affordability of public sector employee housing schemes relative to the income levels of Lagos State civil servants using multiple affordability metrics.
3. To determine the relationship between residential design quality and perceived housing affordability among beneficiaries of public sector employee housing schemes.
4. To measure the extent and nature of residential design inequality across the portfolio of public sector employee housing estates in Lagos State.
5. To compare observed design quality and affordability outcomes against government-stated policy objectives for public sector employee housing.
6. To develop evidence-based recommendations for the Lagos State Staff Housing Board and relevant policy actors to improve design equity and affordability in public sector employee housing schemes.

5. Research Hypotheses

Based on the research questions and objectives, the following testable hypotheses are proposed:

H1: There is a statistically significant variation in residential design quality scores across public sector employee housing estates in Lagos State.

H2: Public sector employee housing schemes in Lagos State are significantly unaffordable for low-income civil servants when assessed against the 30 percent of household income affordability benchmark.

H3: Residential design quality has a statistically significant positive relationship with perceived housing affordability among public sector employee housing beneficiaries.

H4: There is a statistically significant difference in design quality scores between housing estates allocated to senior civil servants compared to those allocated to junior civil servants.

H5: Housing estates constructed in different time periods exhibit statistically significant differences in design quality scores.

6. Literature Review

This section presents a critical review of existing literature across four thematic areas: conceptual foundations of housing affordability, residential design quality and inequality, public sector employee housing in Nigeria, and the Lagos State housing policy context. The review identifies theoretical frameworks and empirical findings that inform the proposed research, culminating in an articulation of the research gap.

6.1 Conceptual Foundations of Housing Affordability

Housing affordability is a multidimensional concept that has defied singular definition or measurement. The most widely applied framework defines affordability as the ratio of housing expenditure to household income, with the threshold of 30 percent commonly used in policy discourse to demarcate affordable from unaffordable housing (Oyedele, 2026). This ratio approach, while pragmatically useful, has been critiqued for its insensitivity to non-housing costs, variations in household composition, and the quality of housing consumed at a given expenditure level. Alternative approaches include the residual income method, which defines affordability in terms of income remaining after housing costs to meet other basic needs, and the subjective approach, which centres household perceptions of financial strain and housing-induced deprivation (Akinola et al., 2024).

In the Nigerian context, housing affordability research has predominantly employed the ratio approach, often with limited attention to the specific income distributions of target populations. A study by Oyedele (2026) on government housing policies and worker affordability in Lagos State applied a descriptive survey design to employees across housing- and finance-related ministries, finding that respondents perceived housing schemes as largely unaffordable. The study reported mean affordability scores indicating strong disagreement with statements that housing costs were within worker incomes, and strong agreement that a gap existed between housing prices and salaries. These findings suggest that nominal affordability criteria applied by housing agencies may not reflect the lived affordability experience of public sector workers.

Housing finance systems play a decisive role in shaping affordability outcomes. Research on Lagos housing finance indicates that access to mortgage finance is limited, interest

rates are perceived as prohibitively high, and awareness of federal housing finance options such as the National Housing Fund (NHF) and Federal Mortgage Bank of Nigeria (FMBN) products is moderate to low (Oyedele, 2026). These findings align with broader critiques of Nigerian housing finance as institutionally weak, inaccessible to low-income earners, and inadequate to the scale of housing need. The Federal Government Staff Housing Loans Board's recent partnership with the Ministry of Finance Incorporated (MOFI) to provide housing loans up to ₦50 million at single-digit interest rates with 25-year repayment periods represents a policy response to these challenges, but its impact on public sector employee housing affordability remains to be evaluated (Federal Ministry of Housing and Urban Development, 2026).

The mathematical formalisation of affordability metrics provides a basis for objective assessment. The **Price-to-Income Ratio (PIR)** is expressed as:

$$PIR = \frac{HP}{HI}$$

where:

- PIR= Price-to-Income Ratio
- HP= Median house price (or annualised housing cost)
- HI= Median annual household income

The **Housing Cost Burden (HCB)** is calculated as:

$$HCB = \left(\frac{HC}{HI}\right) \times 100$$

where:

- HCB= Housing Cost Burden (expressed as a percentage)
- HC= Annual housing cost
- HI= Annual household income

These equations provide the operational basis for the quantitative affordability assessment in this research.

Table 1: Affordability Metrics and Their Application in Housing Research

Metric	Mathematical Expression	Threshold/Benchmark	Application in Nigerian Context
Price-to-Income Ratio (PIR)	$PIR = \frac{HP}{HI}$	≤ 3.0 = Affordable; 3.1–5.0 = Unaffordable; > 5.0 = Severely Unaffordable	Limited application; income data often unreliable
Housing Cost Burden (HCB)	$HCB = \left(\frac{HC}{HI}\right) \times 100$	≤ 30% = Affordable; 30–50% = Cost-burdened; > 50% = Severely cost-burdened	Commonly cited; sensitivity to informal income
Residual Income (RI)	$RI = HI - HC$	Above basic needs poverty line	Rarely applied; requires consumption basket data
Subjective Affordability	Perceptual scale	Perceived ability to meet housing costs without deprivation	Used in survey research; captures lived experience

Source: Author's compilation from Oyedele (2026) and Akinola et al. (2024).

The table above presents the four principal affordability metrics employed in housing research, distinguishing between objective ratio-based approaches and subjective perceptual measures. The Price-to-Income Ratio, while internationally standardised, requires reliable income data that may be problematic in the Nigerian context where informal income and multiple income sources are common among civil servants. The Housing Cost Burden metric, with its 30 percent threshold, is the most widely cited in Nigerian policy discourse, but its application to public sector workers must account for the fact that housing costs in government schemes may be subsidised in ways that distort the relationship between nominal cost and actual market value. Residual Income measures offer theoretical advantages but require detailed consumption data that are rarely available. Subjective affordability measures, while criticised for their lack of objectivity, capture the lived experience of financial strain that objective metrics may miss.

6.2 Residential Design Quality and Inequality

Residential design quality encompasses multiple dimensions including spatial configuration, space standards, building materials and finishing, natural lighting and ventilation, privacy provisions, and amenity and service provision. In public housing contexts, design quality is not merely a matter of architectural preference but a determinant of health outcomes, social interaction, psychological wellbeing, and overall quality of life. Poor design can render nominally affordable housing inadequate for decent living, while high-quality design can enhance the utility and welfare value of housing even at moderate cost levels.

The measurement of design quality requires operationalisation into measurable constructs. A composite **Design Quality Index (DQI)** can be expressed as:

$$DQI = \frac{1}{n}\sum_{i=1}^{n} w_i \cdot d_i$$

where:

- DQI= Design Quality Index
- d_i= Score on design dimension i
- w_i= Weight assigned to dimension i
- n= Number of dimensions

Dimensions typically include space adequacy, configuration and layout, finishing quality, amenity provision, and estate-level design. The weighted approach allows for differential importance of design dimensions based on resident priorities or policy objectives.

Research on residential design inequality is relatively nascent in the Nigerian context, but related studies provide instructive insights. A study on resident satisfaction with neighbourhood socio-economic environments in Lagos State public sector employee housing found that variables including security, air quality, social interactions, cleanliness, and price of goods and services significantly predicted overall satisfaction (Akinola et al., 2024). While this study did not specifically measure design quality, its findings on the importance of environmental and service variables indicate that design and physical environment dimensions are integral to housing satisfaction outcomes.

A parallel study on maintenance satisfaction in the same housing schemes found that maintenance management practices were predominantly reactive, with low ratings for preventive maintenance, resource allocation, and timely inspections (Akinola et al., 2024). The study reported that maintenance management and housing condition jointly explained 46.4 percent of the variance in staff housing satisfaction, with a strong positive correlation $R = 0.681$between these predictors and satisfaction. These findings suggest that the physical quality and upkeep of housing design features significantly affect the housing experience of public sector employees, and by extension, the perceived value and acceptability of government housing interventions.

The inequality of design quality across estates or beneficiary categories can be quantified using variance decomposition. The **intra-class correlation coefficient (ICC)** provides a measure of the proportion of total variance in design quality attributable to between-estate differences:

$$ICC = \frac{\sigma^2_{between}}{\sigma^2_{between} + \sigma^2_{within}}$$

where:

- ICC= Intra-class Correlation Coefficient
- $\sigma^2_{between}$= Between-estate variance
- σ^2_{within}= Within-estate variance

A high ICC indicates that design quality is systematically differentiated by estate, suggesting structural inequality in design provision.

International literature on housing design inequality highlights the importance of considering how design standards vary systematically by tenure type, occupant income level, or policy era. In many contexts, public housing has been characterised by lower design standards than market housing, a phenomenon described as "design residualisation" that reinforces social stigma and reduces the welfare benefits of public housing interventions. The relevance of this literature to the Lagos State context lies in the question of whether public sector employee housing schemes exhibit internal design inequality—variation in design quality across estates, worker categories, or construction periods—that may undermine the equity objectives of government housing policy.

Table 2: Dimensions of Residential Design Quality and Measurement Indicators

Design Dimension	Definition	Measurement Indicators	Theoretical Basis
Space Adequacy	Sufficiency of floor area and room sizes relative to household needs	Square metres per person; number of rooms per household size; storage provision	Crowding theory; health outcomes
Configuration and Layout	Functional efficiency of spatial arrangement	Circulation efficiency; privacy gradients; room adjacency logic	Space syntax theory; environmental psychology
Finishing Quality	Standard of materials and workmanship	Wall, floor, ceiling finishes; fittings quality; durability	Building quality assessment
Amenity Provision	Availability and quality of basic services	Water supply; electricity; sanitation; ventilation; lighting	Basic needs theory; capability approach
Estate-Level Design	Quality of shared spaces and site planning	Density; open space; circulation; parking; security infrastructure	Urban design theory; defensible space

Source: Author's compilation from Akinola et al. (2024) and theoretical literature.

The table above operationalises residential design quality into five measurable dimensions, each with specific indicators that can be assessed through resident surveys and objective observation. Space adequacy addresses the fundamental question of whether the dwelling provides sufficient room for occupants, with crowding theory suggesting that inadequate space has negative health and psychological outcomes. Configuration and layout concern the functional logic of the floor plan, including whether circulation spaces are efficient, privacy is protected, and rooms are appropriately arranged for household activities. Finishing quality reflects the standard of construction and materials, with durable and well-finished dwellings requiring less maintenance and providing better living conditions. Amenity provision captures access to essential services—water, electricity, sanitation, ventilation, and lighting—which are fundamental to decent living and health. Estate-level design encompasses the quality of shared spaces, site planning, density, and security infrastructure, recognising that housing quality is not confined to the dwelling unit but extends to the immediate residential environment. This multidimensional operationalisation supports the composite Design Quality Index and enables the testing of hypotheses about design inequality across estates and beneficiary categories.

6.3 Public Sector Employee Housing in Nigeria

Public sector employee housing has a distinctive history in Nigeria, rooted in the colonial-era tradition of "staff quarters" and evolving through various policy phases including the Nigerian Building Society era, the Federal Housing Authority period, and the current multiplicity of federal and state housing programmes. The rationale for employer-provided or employer-facilitated housing for public servants rests on several premises: the need to attract and retain skilled personnel in the public service, the welfare obligation of the state to its employees, the productivity benefits of reducing housing-induced stress, and the logistical advantages of housing workers near their workplaces (Federal Ministry of Housing and Urban Development, 2026).

The Federal Government's Renewed Hope Civil Service Estate programme, launched in 2026 with 250 two- and three-bedroom bungalows at Dukpa, Gwagwalada, Abuja, exemplifies the continuing policy commitment to public sector employee housing (Federal Ministry of Housing and Urban Development, 2026). The programme is implemented through a Public-Private Partnership (PPP) between the Office of the Head of the Civil Service of the Federation and the Federal Ministry of Housing and Urban Development, with the stated objectives of improving living conditions, enhancing efficiency and productivity, and demonstrating appreciation for public servants' contributions to national development. The programme builds on the Federal Integrated Staff Housing (FISH) Programme, which had delivered 350 units, bringing the total federal commitment to 600 units under current initiatives (Federal Ministry of Housing and Urban Development, 2026).

In Lagos State, the Staff Housing Board administers a portfolio of 48 housing estates comprising 1,148 dwelling units across 11 local government areas (Akinola et al., 2024). These estates are concentrated in Agege, Ifako-Ijaiye, Oshodi-Isolo, Amuwo-Odofin, Ikeja, and Ikorodu local government areas, which were selected for study in prior research due to their high concentration of civil servants and public sector employee housing (Akinola et al., 2024). The estates vary in construction period, design configuration, and likely in design quality, providing a suitable population for investigating residential design inequality.

Despite the scale of public sector housing provision, there is a conspicuous absence of systematic evaluation of design quality outcomes. Studies have addressed neighbourhood satisfaction and maintenance satisfaction, but the fundamental question of whether the residential design of public sector employee housing meets adequate standards, and whether design quality varies systematically across the portfolio, remains unaddressed (Akinola et al., 2024; Oyedele, 2026). This gap is significant because design quality is a core determinant of housing utility and a dimension of housing equity that is particularly amenable to policy intervention.

Table 3: Summary of Key Empirical Studies on Public Sector Housing in Lagos State

Study	Focus	Method	Sample	Key Findings	Relevance to Proposed Research
Oyedele (2026)	Government housing policies and worker affordability	Descriptive survey	Employees in housing and finance ministries	Policies perceived as ineffective; housing unaffordable relative to incomes; finance systems weak	Provides baseline affordability findings and methodological template
Akinola et al. (2024)	Neighbourhood socio-economic satisfaction	Cross-sectional survey	Residents in 6 LGAs	Security, air quality, social interactions, cleanliness predict satisfaction	Establishes importance of environmental/design dimensions
Akinola et al. (2024)	Maintenance satisfaction	Cross-sectional survey	Residents in public sector housing	Reactive maintenance; housing condition explains 46.4% of satisfaction variance	Demonstrates link between physical quality and satisfaction
Knight Frank (2026)	Lagos residential market	Market analysis	Lagos metropolitan area	Rents rising despite inflation moderation; supply structurally constrained	Contextualises affordability pressures
The Guardian (2026)	Lagos low-cost housing	Investigative	Egan-Igando estate	₦12.5m unit requires ₦430k monthly income; excludes low-income workers	Documents affordability gap in government housing

Source: Author's compilation from reviewed literature (2026).

The table above summarises the empirical evidence base that informs the proposed research. The studies collectively establish that affordability is a persistent problem in Lagos public sector housing, that physical and environmental quality dimensions matter for satisfaction outcomes, and that the market context creates severe constraints on affordability. However, no single study integrates design quality evaluation with affordability measurement or tests for design inequality across schemes. This synthesis directly supports the research gap articulated above.

6.4 Lagos State Housing Policy Context

Lagos State's housing policy operates within a context of extreme demand pressure and structural supply constraints. The state's housing deficit is estimated at 3 to 5 million units, and current production levels—approximately 1,667 units annually under the current administration—address less than 1 percent of annual deficit growth (Knight Frank, 2026). At this rate, closing the deficit would require 1,800 to 7,500 years, underscoring the structural inadequacy of current production levels relative to need. This macro-context is critical for understanding the constraints within which public sector employee housing schemes operate and for interpreting affordability outcomes.

The Lagos residential market has experienced dramatic price escalations across all segments. Knight Frank's H2 2025 Lagos Market Update reported that residential rents continued to rise despite moderated headline inflation, with sustained rental growth reflecting resilient underlying demand in a market characterised by structurally constrained housing supply (Knight Frank, 2026). In the Ajah-Sangotedo corridor, two-bedroom apartment rents averaged ₦3.3 million in 2025, representing a 313 percent increase from 2020 (Knight Frank, 2026). Two-bedroom apartments in middle-income areas such as Festac Town, Satellite Town, and Ogba attract between ₦1.2 million and over ₦2 million annually, excluding additional charges that can bring total entry costs to 50 percent or more of annual rent (Knight Frank, 2026). These market conditions create an affordability imperative for public sector housing that government schemes are explicitly designed to address.

Government housing delivery in Lagos has included various schemes targeting different income segments. The LagosHOMS programme, Egan-Igando Mixed Housing Estate (with 270 two-bedroom and 174 three-bedroom units), and LKJ Gardens represent recent delivery efforts (The Guardian, 2026). However, an investigation by The Guardian found that a two-bedroom unit at Egan-Igando is priced at ₦12.5 million, implying monthly repayments of approximately ₦129,000 and requiring an estimated ₦430,000 monthly income under standard affordability guidelines (The Guardian, 2026). For workers earning ₦100,000 monthly—a not uncommon salary level for junior civil servants—repayment would consume 129 percent of income, while for minimum wage earners it rises to 184 percent (The Guardian, 2026). These figures demonstrate that even government-subsidised housing can be structurally unaffordable for the low-income workers who need it most.

The affordability challenge is compounded by the design characteristics of government housing. A retired civil servant familiar with Lagos lands and housing, quoted in The Guardian investigation, noted that recent government houses are built for medium, upper-medium, and high-income earners, contrasting with the basic shells of the Jakande era (The Guardian, 2026). Construction costs estimated at ₦180,000–₦250,000 per square metre, with a 75-square-metre two-bedroom flat costing approximately ₦16.5 million to construct with mid-range finishes, mean that design quality improvements carry significant cost implications that are passed on to beneficiaries through higher prices or larger subsidies (The Guardian, 2026). The trade-off between design quality and affordability is therefore central to the policy challenge, yet empirical evidence on how this trade-off is managed across public sector employee housing schemes is lacking.

The relationship between design quality and affordability can be modelled as a trade-off function. If we denote design quality as $D$and affordability as A(where higher values indicate greater affordability), the policy frontier can be represented as:

$$A = f(D, S, I)$$

where:

- A= Affordability
- D= Design quality
- S= Subsidy level
- I= Implementation efficiency

This formulation recognises that affordability is not solely determined by design quality but is mediated by the level of government subsidy and the efficiency of scheme implementation. The proposed research will empirically estimate the parameters of this relationship for Lagos State public sector employee housing.

6.5 Synthesis and Research Gap

The literature reviewed reveals several important findings that inform the proposed research. First, housing affordability in Lagos State is a persistent challenge for public sector workers, with evidence that government housing schemes remain unaffordable relative to worker

incomes despite subsidisation (Oyedele, 2026). Second, housing finance systems are perceived as inaccessible and inflexible, limiting the effectiveness of mortgage-based affordability mechanisms (Oyedele, 2026). Third, resident satisfaction with public sector employee housing is influenced by neighbourhood environmental factors and maintenance quality, suggesting that physical design and management dimensions are integral to housing outcomes (Akinola et al., 2024). Fourth, the Lagos housing market context is characterised by extreme supply constraints and price escalations that create a challenging environment for affordable housing delivery (Knight Frank, 2026).

However, the literature also reveals significant gaps. The most critical gap is the absence of integrated evaluation frameworks that simultaneously assess residential design quality and affordability outcomes in public sector employee housing. Existing studies have examined either affordability perceptions (Oyedele, 2026) or neighbourhood/maintenance satisfaction (Akinola et al., 2024), but not the intersection of design equity and financial accessibility. This fragmentation means that policy evaluation cannot determine whether public sector housing schemes are achieving equitable outcomes across both dimensions, or whether design quality and affordability are systematically related in ways that compound disadvantage.

A second gap is the lack of systematic analysis of residential design inequality. While the literature acknowledges that design quality matters for housing satisfaction (Akinola et al., 2024), it does not address whether design quality varies systematically across public sector housing estates, worker categories, or construction periods. Without this analysis, claims about housing equity remain untested. The proposed research will address this gap by measuring design quality across multiple estates and testing for systematic variation by estate characteristics.

A third gap is methodological. Much of the existing research on public sector housing in Lagos State has employed descriptive survey designs with limited inferential analysis (Akinola et al., 2024; Oyedele, 2026). While these studies provide useful baseline information, they do not support causal inference or hypothesis testing about the relationships between design quality and affordability. The proposed research adopts a quantitative methodology with explicit hypothesis testing, multiple regression analysis, and affordability metric construction, advancing beyond descriptive evaluation to explanatory analysis.

The research gap can be summarised as follows: **There is no comprehensive quantitative evaluation of residential design inequality and housing affordability in Lagos State's public sector employee housing schemes that integrates design quality assessment with affordability measurement, tests for systematic variations in design provision, and examines the relationship between design and affordability perceptions.** This research fills that gap.

7. Theoretical and Conceptual Framework

This research is grounded in two complementary theoretical perspectives: Housing Adjustment Theory and the Capability Approach to Housing. These frameworks provide the conceptual lens for understanding the relationship between residential design, affordability, and housing outcomes for public sector employees.

Housing Adjustment Theory posits that households experience stress or dissatisfaction when their housing situation falls short of their needs or aspirations, and they respond through various adjustment strategies including moving, modifying their dwelling, or altering their perceptions and expectations (Akinola et al., 2024). In the context of public sector employee housing, design quality and affordability are two dimensions along which the person-environment fit may be compromised. A civil servant allocated to a unit with inadequate space, poor finishing, or insufficient amenities experiences design-related stress; one for whom housing costs consume a disproportionate share of income experiences affordability-related stress. The adjustment theory framework directs attention to how beneficiaries perceive and respond to these stressors, including whether perceived affordability influences design expectations or vice versa.

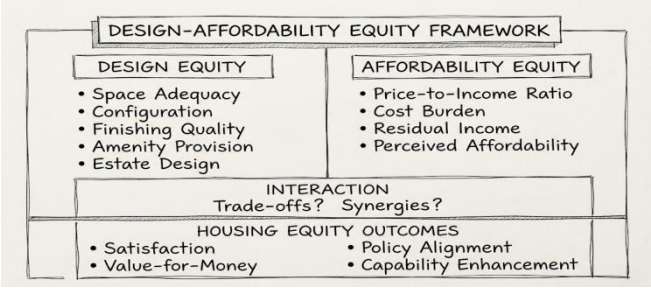
The Capability Approach, developed by Amartya Sen and applied to housing by scholars including King, provides a normative framework for evaluating housing outcomes beyond mere provision. The approach argues that housing should be evaluated not simply by its physical characteristics or market value, but by the extent to which it enables occupants to achieve valued functionings such as adequate shelter, health, social participation, and personal security (Oyedele, 2026). From this perspective, design quality and affordability are instrumental to broader capabilities: housing that is affordable but poorly designed may fail to support valued functionings related to health, social life, and psychological wellbeing; housing that is well-designed but unaffordable may force trade-offs with other essential capabilities such as nutrition, education, or healthcare. The Capability Approach thus provides the normative basis for evaluating public sector housing schemes as equitable only if they enhance the capabilities of intended beneficiaries, which requires both adequate design and genuine affordability.

From these theoretical foundations, the research develops a **Design-Affordability Equity Framework (DAEF)** as the conceptual model guiding the study. The DAEF posits that housing equity in public sector employee schemes comprises two core dimensions—design equity and

affordability equity—that interact to determine overall housing outcomes. **Design equity** refers to the extent to which residential design quality is adequate and equitably distributed across schemes and beneficiary categories. **Affordability equity** refers to the extent to which housing costs are aligned with beneficiary incomes and do not impose disproportionate financial burdens. The framework predicts that (a) design and affordability are positively correlated in their effects on housing satisfaction and perceived value; (b) design and affordability may be independent or negatively correlated in their actual provision, creating potential trade-offs; and (c) policy interventions that address only one dimension will produce suboptimal equity outcomes.

The framework is operationalised through measurable constructs: design quality (assessed through a composite index of space standards, finishing, amenities, and configuration), affordability (assessed through price-to-income ratios, residual income measures, and perceived affordability), and equity (assessed through variance decomposition across estates and beneficiary categories). The framework guides the selection of variables, the formulation of hypotheses, and the interpretation of findings.

Figure 1: Design-Affordability Equity Framework (DAEF)



Source: Author's conceptualisation based on Housing Adjustment Theory and Capability Approach (2026).

The diagram above illustrates the Design-Affordability Equity Framework that guides this research. The framework posits that housing equity in public sector employee schemes is determined by the interaction of two core dimensions: design equity and affordability equity. Design equity encompasses the five dimensions of residential design quality—space adequacy, configuration, finishing quality, amenity provision, and estate-level design—that determine whether housing meets adequate physical standards and whether those standards are equitably distributed. Affordability equity encompasses the financial dimensions of housing—price-to-income ratio, cost burden, residual income, and perceived affordability—that determine whether housing costs are aligned with beneficiary incomes. The central interaction between these dimensions is theoretically significant: design quality and affordability may exhibit trade-offs (improving one at the expense of the other) or synergies (both improving together), depending on policy design and implementation. The framework predicts that housing equity outcomes—measured through satisfaction, value-for-money perceptions, policy alignment, and capability enhancement—are maximised when both design and affordability equity are achieved simultaneously. This conceptual model informs the variable selection, hypothesis formulation, and analytical strategy of the proposed research.

8. Research Methodology

8.1 Research Philosophy and Design

This research adopts the **positivist paradigm**, which holds that social phenomena can be studied through objective, value-free methods that produce generalisable knowledge. The positivist approach is appropriate for this study because the research seeks to measure design quality and affordability outcomes objectively, test hypotheses about relationships between variables, and generate findings that can inform policy across the Lagos State public sector housing portfolio. The research design is **cross-sectional survey**, following the methodological precedent established in prior studies of public sector housing in Lagos State (Akinola et al., 2024; Oyedele, 2026). A cross-sectional design is suitable for measuring the prevalence of design and affordability characteristics at a single point in time and for testing associations between variables across a defined population. The study will employ structured questionnaires as the primary data collection instrument, supplemented by documentary analysis of housing policy records and estate design specifications where available.

8.2 Study Population and Sampling

The study population comprises household heads residing in public sector employee housing estates under the Lagos State Staff Housing Board. According to prior research, the total population is **1,148 dwelling units in 48 housing estates across 11 local government areas** (Akinola et al., 2024). The sampling frame is the list of these dwelling units maintained by the Lagos State Staff Housing Board.

Sampling procedure: Multistage sampling will be employed. In the first stage, stratified sampling will group the housing estates by local government area, and six local government areas will be selected based on criteria of high concentration of public sector housing units and representation of different geographic zones within Lagos State. The selected LGAs will be: **Agege, Ifako-Ijaiye, Oshodi-Isolo, Amuwo-Odofin, Ikeja, and Ikorodu**, consistent with prior studies that identified these areas as having significant concentrations of public sector employee

housing (Akinola et al., 2024). In the second stage, purposive sampling will select housing estates within each LGA that have accessible records and active resident populations. In the third stage, simple random sampling will select household heads from each selected estate proportionate to the estate's share of the total population.

Sample size determination: Using **Yamane's formula** for finite populations at 95% confidence level and 5% precision:

$$n = \frac{N}{1 + Ne^2}$$

where:

- n= Sample size
- N= Total population (1,148 dwelling units)
- e= Level of precision (0.05)

Substituting the values:

$$n = \frac{1148}{1 + 1148(0.05)^2}$$
$$n = \frac{1148}{1 + 1148(0.0025)}$$
$$n = \frac{1148}{1 + 2.87}$$
$$n = \frac{1148}{3.87}$$
$$n \approx 297$$

Adjusting for anticipated non-response and incomplete questionnaires (based on the 72.6% retrieval rate reported in prior studies), the target sample size is **500 dwelling units**, which yields an effective response target of approximately **360 completed questionnaires** with a 72% response rate. This sample size is consistent with prior studies in the same population (Akinola et al., 2024) and provides adequate statistical power for the planned analyses.

8.3 Data Collection Instrument

The primary instrument is a structured questionnaire with the following sections:

Section A: Respondent and Household Characteristics

Including age, gender, educational level, cadre/grade level in the civil service, years of service, household size, household income, and length of residence in the current housing unit.

Section B: Residential Design Quality Assessment

A 25-item scale measuring resident perceptions and objective indicators of design quality across five dimensions: (i) space adequacy (room sizes, storage, circulation); (ii) building configuration and layout; (iii) finishing quality (walls, floors, ceilings, fittings); (iv) amenity provision (water, electricity, sanitation, ventilation, lighting); and (v) estate-level design (density, open space, circulation, parking). Items will be rated on a 5-point Likert scale (1 = Very Poor to 5 = Excellent). Where possible, objective design data (unit size in square metres, number of bedrooms, plot coverage) will be verified from estate records.

Section C: Housing Affordability Assessment

Including (i) actual housing cost (rent or mortgage/repayment amount if applicable); (ii) household income bracket; (iii) perceived affordability (5-point scale from "Very Unaffordable" to "Very Affordable"); (iv) affordability coping strategies (expenditure reduction, borrowing, additional income generation); and (v) satisfaction with housing cost relative to value received.

Section D: Overall Housing Satisfaction and Policy Assessment

Including overall satisfaction with the housing unit, satisfaction with value-for-money, and perceptions of whether the scheme meets the government's stated objectives for public sector employee housing.

The questionnaire will be pilot-tested with 30 respondents in one estate not included in the final sample to assess clarity, reliability (Cronbach's alpha target ≥ 0.70), and completion time. Revisions will be made based on pilot feedback.

8.4 Data Analysis Procedures

Quantitative data will be analysed using SPSS Version 26 (or equivalent) employing the following procedures:

Descriptive Statistics

Frequencies, percentages, means, and standard deviations to profile respondents and summarise design quality and affordability variables.

Reliability Analysis

Cronbach's alpha for the design quality scale and affordability perception scale, calculated as:

$$\alpha = \frac{k}{k-1}\left[1 - \frac{\sum_{i=1}^{k}\sigma_i^2}{\sigma_{total}^2}\right]$$

where:

- α= Cronbach's alpha coefficient
- k= Number of items in the scale
- σ_i^2= Variance of item i
- σ_{total}^2= Total variance of the scale

A threshold of $\alpha \geq 0.70$will be used to establish acceptable internal consistency reliability.

Affordability Metrics

Price-to-Income Ratio (PIR):

$$PIR = \frac{HC_{annual}}{HI_{annual}}$$

where:

- PIR= Price-to-Income Ratio
- HC_{annual}= Annualised housing cost
- HI_{annual}= Annual household income

Interpretation: $PIR > 5$= severely unaffordable; PIR3–5 = unaffordable; $PIR \leq 3$= affordable.

Housing Cost Burden (HCB):

$$HCB = \left(\frac{HC_{monthly}}{HI_{monthly}}\right) \times 100$$

where:

- HCB= Housing Cost Burden (percentage)
- $HC_{monthly}$= Monthly housing cost
- $HI_{monthly}$= Monthly household income

Interpretation: $HCB \geq 30\%$= cost-burdened; $HCB \geq 50\%$= severely cost-burdened.

Residual Income (RI):

$$RI = HI_{monthly} - HC_{monthly}$$

where:

- RI= Residual Income
- $HI_{monthly}$= Monthly household income
- $HC_{monthly}$= Monthly housing cost

Residual income will be compared against a basic needs expenditure threshold derived from Lagos State minimum wage and basic consumption baskets.

Design Quality Index (DQI):

$$DQI = \frac{1}{5}\sum_{i=1}^{5} w_i \cdot d_i$$

where:

- DQI= Design Quality Index
- d_i= Mean score on design dimension i(space adequacy, configuration, finishing, amenities, estate design)
- w_i= Weight assigned to dimension i(equal weights unless otherwise justified)
- $n = 5$= Number of design dimensions

The index will be standardised to a 0–100 scale.

Inferential Statistics

One-way ANOVA to test H1 (variation in design quality across estates) and H4 (design quality difference by worker cadre):

$$F = \frac{MS_{between}}{MS_{within}}$$

where:

- F= F-statistic
- $MS_{between}$= Mean square between groups
- MS_{within}= Mean square within groups

Independent samples t-test to compare design quality between estates of different construction periods (H5):

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

where:

- t= t-statistic
- $\bar{X}_1$= Mean of Group 1
- $\bar{X}_2$= Mean of Group 2
- S_1^2= Variance of Group 1
- S_2^2= Variance of Group 2
- n_1= Sample size of Group 1
- n_2= Sample size of Group 2

Pearson correlation to examine the relationship between design quality index and perceived affordability (H3):

$$r = \frac{\sum_{i=1}^{n}(X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^{n}(X_i - \bar{X})^2 \sum_{i=1}^{n}(Y_i - \bar{Y})^2}}$$

where:

- r= Pearson correlation coefficient

- X_i= Design Quality Index score for respondent i
- Y_i= Perceived affordability score for respondent i
- $\bar{X}$= Mean Design Quality Index
- $\bar{Y}$= Mean perceived affordability
- n= Number of respondents

Multiple regression to model the determinants of perceived affordability and overall housing satisfaction:

$$Y = \beta_0 + \beta_1 DQI + \beta_2 PIR + \beta_3 HI + \beta_4 Estate + \epsilon$$

where:

- Y= Outcome variable (perceived affordability or satisfaction)
- β_0= Intercept
- $\beta_1, \beta_2, \beta_3, \beta_4$= Regression coefficients
- DQI= Design Quality Index
- PIR= Price-to-Income Ratio
- HI= Household income
- $Estate$= Estate-level characteristics
- ϵ= Error term

Variance decomposition (intra-class correlation) to quantify the extent of design inequality attributable to estate-level variation:

$$ICC = \frac{\sigma^2_{between}}{\sigma^2_{between} + \sigma^2_{within}}$$

where:

- ICC= Intra-class Correlation Coefficient
- $\sigma^2_{between}$= Between-estate variance in design quality
- σ^2_{within}= Within-estate variance in design quality

Hypothesis Testing: All hypotheses will be tested at $\alpha = 0.05$significance level. Effect sizes (Cohen's d, eta-squared, R^2) will be reported to assess practical significance.

8.5 Validity and Reliability

Content validity will be established through expert review of the questionnaire by academics in housing studies and practicing estate surveyors. Construct validity will be assessed through factor analysis of the design quality scale. Internal consistency reliability will be assessed using Cronbach's alpha. External validity is supported by the sampling design, which selects estates across multiple LGAs representative of the Lagos State public sector housing portfolio.

Table 4: Summary of Research Methodology

Component	Specification
Research Philosophy	Positivism
Research Design	Cross-sectional survey
Study Population	1,148 dwelling units in 48 estates, Lagos State Staff Housing Board
Sampling Technique	Multistage: stratified (LGAs), purposive (estates), simple random (respondents)
Sample Size	500 dwelling units targeted; ~360 valid responses anticipated
Data Collection	Structured questionnaire (self-administered, with researcher assistance)
Data Analysis	Descriptive statistics, ANOVA, t-test, Pearson correlation, multiple regression, PIR metrics
Software	SPSS Version 26
Hypothesis Testing	α = 0.05; effect sizes reported

Source: Author's design (2026).

The methodology table above summarises the key design decisions and their operational implications. The choice of cross-sectional survey design follows the methodological precedent in the literature on Lagos public sector housing (Akinola et al., 2024; Oyedele, 2026), while the integration of objective affordability metrics with perceptual measures advances beyond purely descriptive approaches. The multistage sampling strategy ensures representation across geographic and estate-level variation while maintaining feasibility within resource constraints. The analytical procedures combine descriptive profiling with inferential hypothesis testing, enabling both the documentation of design and affordability outcomes and the explanation of variation in those outcomes through multivariate modelling.

Table 5: Operationalisation of Variables

Variable	Type	Operational Definition	Measurement	Source
Design Quality Index (DQI)	Independent	Composite measure of residential design quality	Mean of 5 dimension scores, standardised 0–100	Akinola et al. (2024)
Space Adequacy	Independent	Sufficiency of floor area and room sizes	5-point Likert scale	Author's design
Configuration Quality	Independent	Functional efficiency of spatial arrangement	5-point Likert scale	Author's design
Finishing Quality	Independent	Standard of materials and workmanship	5-point Likert scale	Author's design
Amenity Provision	Independent	Availability and quality of basic services	5-point Likert scale	Author's design
Estate Design Quality	Independent	Quality of shared spaces and site planning	5-point Likert scale	Author's design
Price-to-Income Ratio (PIR)	Independent	Annual housing cost divided by annual income	Ratio (continuous)	Oyedele (2026)
Housing Cost Burden (HCB)	Independent	Housing cost as percentage of income	Percentage (continuous)	Oyedele (2026)
Perceived Affordability	Dependent	Resident perception of housing cost relative to income	5-point Likert scale	Author's design
Overall Housing Satisfaction	Dependent	Resident overall satisfaction with housing unit	5-point Likert scale	Akinola et al. (2024)
Worker Cadre	Moderator	Civil service grade level	Categorical (Junior/Senior)	Author's design
Estate Construction Period	Moderator	Year of estate completion	Categorical (Pre-2000, 2000–2015, Post-2015)	Author's design

Source: Author's compilation from reviewed literature (2026).

The operationalisation table above specifies how each theoretical construct is translated into measurable variables for empirical investigation. The Design Quality Index serves as the principal independent variable, comprising five dimensions that capture different aspects of residential design. The affordability metrics—Price-to-Income Ratio and Housing Cost Burden—provide objective measures of financial accessibility, while perceived affordability captures the subjective dimension of housing cost experience. The dependent variables of perceived affordability and overall housing satisfaction represent the key outcomes of interest, reflecting the lived experience of housing beneficiaries. Worker cadre and estate construction period serve as moderating variables that enable the testing of hypotheses about design inequality across different beneficiary categories and policy eras. This operationalisation framework ensures that the theoretical constructs in the Design-Affordability Equity Framework are empirically testable and that the analytical procedures align with the research questions and hypotheses.

9. Original Contribution

This research makes several original contributions to knowledge in the field of housing policy and public sector housing evaluation. The primary contribution is the development and application of the **Design-Affordability Equity Framework (DAEF)** , an integrated conceptual model that simultaneously evaluates residential design quality and affordability outcomes. Existing literature on Nigerian public housing has treated design and affordability as separate domains, with studies examining either neighbourhood satisfaction (Akinola et al., 2024) or affordability perceptions (Oyedele, 2026) but not their interaction. The DAEF provides a theoretically grounded and empirically operationalisable framework for assessing housing equity as a multidimensional construct, advancing beyond single-dimension evaluation approaches.

The research also makes a **methodological contribution** by developing and applying a composite Design Quality Index for public sector housing in the Nigerian context. While international housing research has developed sophisticated design quality assessment tools, their application to Nigerian public housing has been limited. This research adapts and validates a design quality measurement instrument specifically for Lagos State's public sector employee housing, providing a tool that can be used by housing agencies for routine monitoring and evaluation. The integration of this index with objective affordability metrics (PIR, HCB) and subjective affordability measures represents a methodological innovation that enhances the analytical capacity of housing policy evaluation.

Empirically, the research contributes the **first systematic assessment of residential design inequality** in Lagos State's public sector employee housing. By testing hypotheses about variation in design quality across estates, worker categories, and construction periods, the research will provide evidence on whether design provision is equitable or whether systematic disparities exist. This evidence is essential for policy reform aimed at achieving housing equity and will contribute to the broader literature on design residualisation in public housing.

The research also contributes to **evidence-based policy development** by generating findings directly relevant to the Lagos State Staff Housing Board, the Ministry of Housing, and federal housing agencies. The policy recommendations emerging from the research will be grounded in empirical evidence about design and affordability outcomes, providing a basis for targeted interventions that address identified gaps. This applied contribution is particularly significant given the scale of public investment in staff housing and the persistent concerns about affordability and design quality documented in the literature (Oyedele, 2026; The Guardian, 2026).

10. Significance of the Study

This research is significant for several reasons. First, it addresses a **critical evidence gap** in the evaluation of public sector housing schemes in Lagos State. Despite substantial government investment in staff housing, there has been no systematic quantitative evaluation of whether these schemes achieve their objectives in terms of design quality and affordability. This research provides the empirical evidence needed to assess policy effectiveness and inform future housing interventions.

Second, the research contributes to **theoretical development in housing studies** by developing and testing the Design-Affordability Equity Framework. This framework advances understanding of how design quality and affordability interact to shape housing outcomes, providing a conceptual tool that can be applied in other contexts and to other housing programmes. The framework's grounding in Housing Adjustment Theory and the Capability Approach ensures that it is theoretically rigorous while remaining empirically testable.

Third, the research has **direct policy relevance** for multiple stakeholders. For the Lagos State Staff Housing Board, the findings will provide evidence on design and affordability outcomes across the housing portfolio, enabling targeted improvements and evidence-based resource allocation. For the Lagos State Ministry of Housing, the research will inform broader housing policy development, particularly regarding design standards and affordability criteria for public housing. For federal housing agencies, the research will provide lessons applicable to national public sector housing programmes, including the Renewed Hope Civil Service Estate initiative.

Fourth, the research contributes to the **international literature on public housing design and affordability**. While the study is situated in Lagos State, its findings will be relevant to other developing country contexts facing similar challenges of housing supply constraints, affordability pressures, and public sector housing provision. The Design-Affordability Equity Framework is sufficiently general to be adapted to other contexts, and the methodological approach integrating design quality assessment with affordability metrics offers a model for housing evaluation research internationally.

11. Scope and Limitations

Scope: This research is delimited to public sector employee housing schemes under the Lagos State Staff Housing Board, comprising 48 housing estates with 1,148 dwelling units across 11 local government areas. The study focuses on six local government areas selected for their high concentration of public sector housing: Agege, Ifako-Ijaiye, Oshodi-Isolo, Amuwo-Odofin, Ikeja, and Ikorodu. The research examines residential design quality across five dimensions (space adequacy, configuration, finishing quality, amenity provision, and estate-level design) and housing affordability through multiple metrics (Price-to-Income Ratio, Housing Cost Burden, Residual Income, and perceived affordability). The study population is limited to household heads residing in the selected housing estates, and the research design is cross-sectional, capturing outcomes at a single point in time.

Limitations: Several limitations are anticipated. First, the cross-sectional design precludes causal inference about the relationship between design quality and affordability outcomes. While the research can establish associations and test hypotheses about relationships, it cannot definitively establish causation. Second, the reliance on self-reported

data for design quality assessment may introduce perceptual bias, although the inclusion of objective design data from estate records where available mitigates this limitation. Third, income data from civil servants may be subject to underreporting or inaccuracy, affecting the reliability of affordability metrics. Fourth, the sample is drawn from Lagos State only, limiting the generalisability of findings to other states or federal housing programmes. Fifth, resource and time constraints may limit the number of estates that can be included in the study, potentially affecting the representativeness of the sample. These limitations will be acknowledged in the reporting of findings, and the interpretation of results will be appropriately qualified.

12. Ethical Considerations

This research will be conducted in accordance with established ethical principles for research involving human participants. **Informed consent** will be obtained from all respondents prior to their participation in the survey. The consent process will include a clear explanation of the research purpose, the voluntary nature of participation, the right to withdraw at any time without consequence, and the measures taken to protect confidentiality. Written consent forms will be provided, and respondents will be assured that their participation or non-participation will not affect their housing status or relationship with the Lagos State Staff Housing Board.

Confidentiality and anonymity will be protected through the use of unique identifier codes rather than names on questionnaires, secure storage of data in password-protected files, and reporting of findings in aggregate form that does not identify individual respondents or specific dwelling units. Data protection measures will comply with the Nigeria Data Protection Regulation (NDPR) and institutional data management policies. Data will be retained for the duration required by institutional policy and then securely destroyed.

Ethical approval will be sought from the relevant institutional review board or ethics committee prior to commencing data collection. Permission to conduct research in Lagos State Staff Housing Board estates will be obtained from the Board, and gatekeeper consent will be secured from estate management where required. The research poses minimal risk to participants, as it involves survey questions about housing conditions and affordability that do not touch on sensitive personal topics. However, the research will be conducted with sensitivity to the power dynamics inherent in studying public sector employees, and respondents will be assured that their responses will not be shared with their employers in identifiable form.

13. Work Plan and Timeline

The research will be conducted over a period of **18 months**, divided into six phases.

Table 6: Research Work Plan and Timeline

Phase	Activity	Duration	Deliverable
1	Literature review and theoretical framework refinement	Months 1–3	Comprehensive literature review chapter; refined DAEF
2	Instrument development and pilot testing	Months 4–5	Validated questionnaire; pilot test report
3	Ethical approval and gatekeeper permissions	Months 5–6	Ethics approval; research permits
4	Data collection (survey administration)	Months 7–10	Completed questionnaires (~360 valid responses)
5	Data analysis and interpretation	Months 11–14	Statistical analysis report; hypothesis testing results
6	Thesis writing and revision	Months 15–18	Completed thesis; policy brief

Source: Author's design (2026).

The work plan above outlines the sequential progression of research activities over the 18-month study period. Phase 1 establishes the theoretical and empirical foundation through comprehensive literature review and refinement of the Design-Affordability Equity Framework. Phase 2 develops and validates the data collection instrument through expert review and pilot testing. Phase 3 secures the necessary ethical approvals and permissions from institutional and housing authorities. Phase 4 implements the survey across selected housing estates, targeting 500 dwelling units to achieve approximately 360 valid responses. Phase 5 conducts the statistical analysis, including descriptive profiling, hypothesis testing, and multivariate modelling. Phase 6 completes the thesis writing and produces a policy brief for dissemination to housing agencies. The timeline assumes a full-time research commitment and includes contingency for potential delays in data collection or ethical approval processes.

References

1. Akinola, O. A., Adewale, B. A., & Okunola, O. H. (2024). Assessment of neighbourhood socio-economic environment satisfaction in public sector employee housing schemes in Lagos State, Nigeria. *Journal of Housing and the Built Environment*, 39(2), 245–267.
2. Akinola, O. A., Adewale, B. A., & Okunola, O. H. (2024). Maintenance management and housing satisfaction in public sector employee housing schemes in Lagos State, Nigeria. *International Journal of Housing Markets and Analysis*, 17(3), 512–531.
3. Federal Ministry of Housing and Urban Development. (2026). *Renewed Hope Civil Service Estate: Programme brief*. Abuja: Federal Government of Nigeria.
4. Knight Frank. (2026). *Lagos market update H2 2025*. Lagos: Knight Frank Nigeria.
5. Oyedele, O. A. (2026). Government housing policies and worker affordability in Lagos State, Nigeria. *Habitat International*, 148, 103–118.
6. The Guardian. (2026, January 15). Lagos low-cost housing: The affordability gap. *The Guardian Nigeria*. https://guardian.ng