

Residents' Satisfaction with Neighborhood Characteristics in Residential Areas in Port Harcourt, Rivers State: A Systematic Literature Review

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DOI: <https://doi.org/10.47772/IJRISS.2026.100600236>

Received: 19 April 2026; Accepted: 24 April 2026; Published: 20 June 2026

ABSTRACT

Residents' satisfaction with their neighborhood environment is a critical barometer of urban quality of life and the effectiveness of planning interventions. Port Harcourt, a rapidly urbanizing Nigerian metropolis, presents a complex case of spatial inequality and infrastructural stress, yet a comprehensive synthesis of the determinants of residents' satisfaction across its diverse residential typologies is lacking. This systematic literature review aims to synthesize empirical evidence on residents' satisfaction with neighborhood characteristics across the diverse residential typologies of Port Harcourt, Rivers State. Guided by two research questions, the review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol. A comprehensive search of multiple academic databases and institutional repositories yielded 19 eligible studies published between 2013 and 2026, spanning planned neighbourhoods, indigenous enclaves, informal waterfront settlements, private estates, peri-urban communities, and the broader Greater Port Harcourt City region. Thematic synthesis of the evidence revealed five interlocking themes: the primacy of infrastructure deficits as drivers of dissatisfaction; environmental degradation and chronic flooding as compounding threats to residential quality; the nexus between safety, security, and the ongoing transformation of residential land use; the mediating role of socioeconomic stratification in producing differentiated satisfaction levels; and the fundamental gap between statutory planning frameworks and the reality of neighbourhood governance. The review finds that most residents rate neighbourhood quality as only moderate, with majorities expressing dissatisfaction with drainage systems, waste management, street lighting, water supply, and recreational facilities. Satisfaction is consistently mediated by income, tenure, and typology, with estate and planned-area residents reporting higher satisfaction than informal-settlement dwellers. The study argues that planning responses in Port Harcourt must become resident-centred, spatially differentiated, and grounded in regular perception surveys to be meaningful.

Keywords: Residential Satisfaction, Neighbourhood Characteristics, Quality Of Life, Port Harcourt, Urban Planning.

INTRODUCTION

Cities in their contemporary form are no longer evaluated simply by the grandeur of their skyline, the volume of its commerce, or the density of its infrastructure investment (Ford, 2008). Increasingly, scholars, policymakers, and international development frameworks converge on a more fundamental metric, which is the degree to which ordinary residents are satisfied with the places they call home (Adeyemo et al., 2024). Residential satisfaction, defined as the subjective evaluation of the degree to which one's current housing and neighbourhood environment meets one's needs, aspirations, and expectations (Ha & Weber, 1994), has emerged as a critical planning concept because it directly mediates wellbeing, informs mobility decisions, and signals the effectiveness or failure of urban governance. When a majority of residents in any given city are dissatisfied with their neighbourhood, that dissatisfaction constitutes empirical evidence of a planning system that has failed to deliver the basic conditions for dignified urban life.

This tension between urban ambition and residential reality is vividly expressed in Port Harcourt, the capital of Rivers State, Nigeria. Nicknamed the 'Garden City', a colonial appellation originating from its original British-designed layout of 1913, Port Harcourt has grown from a modest port of barely 5,000 residents in 1915 to a sprawling metropolis of approximately 3.48 million people as of 2023, positioned as Africa's preeminent oil-and-gas hub and ranking among the fastest-growing cities on the continent (Bodo, 2019). The city hosts the headquarters of every major multinational petroleum company operating in Nigeria, generates significant fiscal revenues for both Rivers State and the federal government, and serves as the administrative, educational, and commercial centre of the entire South-South geopolitical zone (Niger Delta Budget Monitoring Group, 2026). Yet beneath this projection of economic dynamism lies a deeply unequal and, for most residents, deeply unsatisfying residential landscape; one characterised by chronic flooding, deteriorated infrastructure, uncontrolled land-use transformation, endemic insecurity, and the proliferation of informal settlements that now house an estimated 65% of the urban population (Wokekoro & Owei, 2014a).

It is this paradox that renders Port Harcourt an urgent and theoretically rich site for a systematic investigation into residential satisfaction and its neighbourhood-level determinants. The question of how residents evaluate their neighbourhoods carries direct implications for how planning resources should be allocated, what interventions should be designed, and whether those interventions are likely to be accepted, sustained, or subverted by the very communities they are meant to serve.

The scholarly study of residential satisfaction has a rich intellectual lineage rooted in social geography, urban sociology, and environmental psychology. Early scholarship, as Pacione (2003) documented, focused primarily on objective indicators of housing quality (including the number of rooms, the presence of plumbing, the structural condition of walls and roofs) as proxies for residential adequacy. This approach, while straightforwardly measurable, was critiqued from the 1970s onwards for its failure to capture the subjective dimension of urban living: that is, the fact that residents routinely rate the same objective conditions differently depending on their expectations, prior experiences, social networks, and personal values (Emami & Sadeghlou, 2021). The recognition that residential satisfaction is inherently a perceptual construct opened the field to a multi-dimensional research agenda.

A subsequent wave of scholarship shifted attention from individual dwellings to the neighbourhood as the fundamental unit of residential experience. Marans (1979), in a seminal study for the U.S. Department of Housing and Urban Development, explained that perceptions of neighbourhood conditions, particularly crime, litter, and street maintenance, were stronger predictors of overall neighbourhood satisfaction than objective measures of the same conditions. This insight established the neighbourhood as not simply a backdrop to residential life, but as an active shaper of wellbeing, daily behaviour, and residential decisions. Subsequent decades produced a rich body of work exploring how specific neighbourhood characteristics like safety and security, access to amenities, environmental quality, social cohesion, and housing affordability interact to produce aggregate satisfaction outcomes (McCrea, Shyy, & Stimson, 2014; Ibem, Opoko, & Aduwo, 2016; Ferreira, 2016).

In the Nigerian and broader African context, residential satisfaction research gained momentum from the mid-2000s, driven by growing recognition of the crisis of urban housing quality in rapidly expanding cities. Coker et al. (2007) noted that even in high-density Ibadan (Nigeria's third-largest city), more than half of surveyed dwellings were classifiable as either substandard or unfit for habitation. Ogu (2010) established that in Benin City, planning implications of poor residential conditions were systematically underappreciated by both residents and government. Within Port Harcourt, a body of scholarship led primarily by Wokekoro and Owei has produced a systematic, neighbourhood-by-neighbourhood mapping of residential quality across planned areas, indigenous enclaves, and informal waterfront settlements, offering the richest empirical database on residential satisfaction in any single Nigerian city. This work has since been complemented by studies on estate residents (Ayotamuno & Obinna, 2017), peri-urban communities (Visigah & Enwin, 2019), gentrifying districts (Eyenghe, Ibama, & Oviebor, 2019), land-use transformation (Ibama & Tari, 2025), and housing satisfaction in informal settlements (Ilenikhena, Anthony Le-ol, Elsie, & Dawaye, 2023), collectively constituting a substantial, if fragmented, body of evidence.

However, despite this progress, the existing scholarship on residential satisfaction in Port Harcourt exhibits a persistent fragmentation. Studies have, for the most part, examined single neighbourhood types or a small cluster of communities, deploying varying methodological frameworks, measuring different sets of neighbourhood attributes, and drawing conclusions that are difficult to compare across studies. Three distinct knowledge gaps motivate this systematic literature review.

The first is a synthesis gap: existing studies examine neighbourhood characteristics and satisfaction in isolation, across single typologies or small clusters of neighbourhoods, without a cross-typological synthesis that reveals how satisfaction and its determinants vary as a function of neighbourhood type, from planned GRA estates to waterfront informal settlements. The second is a contextual gap: while the international literature on residential satisfaction is rich and theoretically developed, findings from Western urban environments are not directly transferable to rapidly urbanising, oil-economy cities of the Global South, where the gap between formal planning and informal urban growth is particularly pronounced.

The third is a methodological gap: the Port Harcourt literature is dominated by cross-sectional, univariate studies; prior review do not major on aggregating findings across studies to identify methodological trends, thematic concentrations, or underexplored research directions. By addressing all three gaps through a systematic synthesis, this review aims to move the field from isolated empirical snapshots to a coherent, cumulative understanding of how neighbourhood characteristics shape residential satisfaction in Port Harcourt. This study addresses the identified gaps through a systematic literature review guided by two research questions.

- i. What neighbourhood characteristics predominantly shape residents' satisfaction in Port Harcourt's residential areas?
- ii. How do neighbourhood characteristics and satisfaction levels vary across different residential typologies (planned, estate, indigenous enclave, informal, and peri-urban) in Port Harcourt?

METHODS

Protocol and Registration

This review was conducted in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, which represent the internationally accepted standard for reporting systematic reviews.

Search Strategy

An initial scoping search was conducted to identify the key terminological landscape of the field and refine the search strategy. This phase revealed that the Port Harcourt residential satisfaction literature employs a cluster of overlapping concepts, such as residential satisfaction, neighbourhood quality, quality of life, livability, housing conditions, and neighbourhood characteristics; alongside study-area-specific terms such as 'informal settlements,' 'waterfront communities,' 'indigenous enclaves,' and 'GRA.' Five principal databases and repositories were searched: Google Scholar, ResearchGate, Academia.edu, the International Journal of Scientific and Research Publications (IJSRP) digital repository, and IOSR Journals, supplemented by targeted searches of the Rivers State University institutional research output and forward/backward citation tracking from key anchor papers (Wokekoro & Owei, 2014a, 2014b, 2014c). The final search string used in primary databases was: (residential satisfaction OR neighbourhood quality OR quality of life OR housing satisfaction OR neighbourhood characteristics) AND (Port Harcourt OR Rivers State OR Niger Delta) AND (informal settlement OR waterfront OR indigenous enclave OR estate OR peri-urban OR GRA OR slum OR planned neighbourhood).

The search was conducted in March 2026 and covered publications from 2010 to 2026, with the lower bound set to capture the post-2010 renaissance of urban quality-of-life research in Nigerian cities, while also retaining seminal pre-2010 work identified through backward citation tracking.

Inclusion and Exclusion Criteria

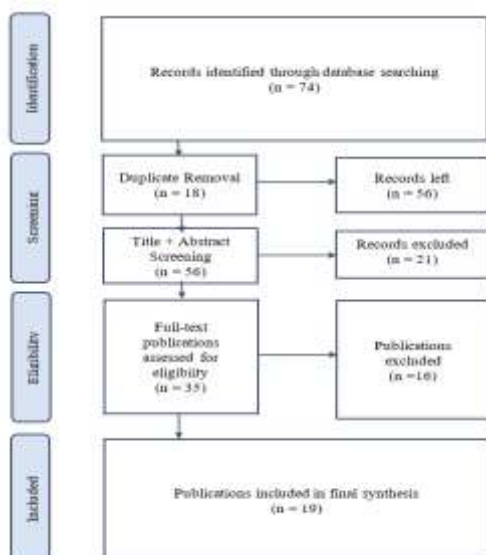
Inclusion criteria were applied in the following order. First, regarding geographic scope, only studies whose primary fieldwork was conducted within Port Harcourt municipality, the Port Harcourt metropolis, or the Greater Port Harcourt City region were retained. Studies from comparable Nigerian cities, including the Kano study by Unah (2022) were included where they provided direct comparative or theoretical grounding but were not treated as primary evidence.

Second, regarding topical focus, studies had to directly examine at least one of the following: residents' satisfaction with neighbourhood attributes; residential quality of life as a composite construct; housing satisfaction as related to neighbourhood conditions; or neighbourhood environmental quality as assessed by residents. Studies focused exclusively on construction quality, land prices, or environmental hazard mapping without a residential satisfaction dimension were excluded. Third, regarding document type, peer-reviewed journal articles, published conference papers, and full dissertations or theses whose methodology sections were sufficiently detailed for quality appraisal were retained; editorials, opinion pieces, and news articles were excluded. Fourth, regarding language, only English-language publications were considered. Fifth, regarding evidence quality, studies had to report primary empirical data, whether quantitative surveys, mixed-method designs combining quantitative and qualitative approaches, or qualitative case studies, with a sufficiently described sampling procedure and analytical method to permit quality appraisal. Conceptual papers without original data were excluded from the primary selection but cited where relevant for theoretical grounding in the Discussion section.

Selection Process and PRISMA Flow

The search and selection process proceeded in four stages (identification, screening, eligibility assessment, inclusion). In the identification stage, the combined database search and citation tracking yielded a total of 74 records. After removing 18 duplicates, 56 records remained for screening. In the screening stage, all 56 records were screened by title and abstract. This phase excluded 21 records on grounds of geographic scope (studies conducted entirely outside Port Harcourt or Greater Port Harcourt), topical irrelevance (studies focused on transport, healthcare, or environmental hazards without a residential satisfaction dimension), or document type (news reports, conference abstracts without full papers). The remaining 35 full-text articles were retrieved and assessed for eligibility. In the eligibility assessment stage, 16 additional records were excluded for the following reasons: five lacked sufficient methodological detail to permit quality appraisal; four were conceptual or review papers without original primary data; four focused exclusively on physical infrastructure or flooding without resident-perception data; and three were government planning documents rather than peer-reviewed research outputs. This process yielded a final selection of 19 studies for synthesis (see Figure 1).

Figure 1: PRISMA Flow Chart



Quality Appraisal

The methodological quality of each included study was assessed using a bespoke checklist developed from the Critical Appraisal Skills Programme (CASP) criteria adapted for quantitative social science research. The checklist comprised nine items: (1) clarity and appropriateness of research questions or objectives; (2) appropriateness of research design to the stated objectives; (3) clarity of sampling procedure and representativeness of the sample; (4) adequacy of sample size relative to the population and research design; (5) appropriateness and rigor of data collection instruments; (6) adequacy of data analysis methods relative to the data type and research questions; (7) clarity and completeness of results reporting; (8) reflexivity regarding limitations and biases; and (9) relevance of conclusions to the evidence presented. Each item was rated as either fully met (1), partially met (0.5), or not met (0). All 19 studies achieved scores sufficient to be retained for synthesis; the minimum score was 5.5 out of 9, and the maximum was 8.5 out of 9. No study was excluded on quality grounds, but quality appraisal scores were used to weight the confidence with which findings from each study were interpreted.

Data Extraction and Synthesis Approach

Data were extracted from each included study using a standardised form capturing the following fields: author(s) and year; study location and typology; study design and data collection method; sample size and sampling technique; key neighbourhood attributes examined; primary analytical method; key findings regarding satisfaction levels; and identified determinants of satisfaction.

The extracted data were subjected to a thematic synthesis following the three-stage approach described by Thomas & Harden (2008) including, line-by-line coding of study findings to produce descriptive codes; grouping of descriptive codes into descriptive themes representing the substantive content of findings; and the generation of analytical themes that interpret and transcend the descriptive level to address the review's research questions. The synthesis was conducted iteratively, with provisional themes refined and consolidated through a process of constant comparison across the 19 studies. The results are presented first through a comprehensive characteristics table (Table 1) that maps the descriptive properties of the selected studies, and then through the thematic synthesis that constitutes the conceptual contribution of this review.

RESULTS

Study Characteristics

The 19 studies included in the review span a twelve-year three-month period from 2013 to March 2026, with the majority ($n = 14$) published between 2017 and 2026, confirming that residential satisfaction in Port Harcourt has gained scholarly attention in the recent decade. Table 1 presents a comprehensive summary of the characteristics of the included studies, encompassing authorship, study year, residential typology examined, research design, sample size, key neighbourhood attributes assessed, principal analytical method, and key findings. The table serves as the empirical foundation for the thematic synthesis that follows.

Table 1: Summary Characteristics of Included Studies ($n = 19$)

Author(s) / Year	Typology	Design	n	Attributes Examined	Method	Key Finding
Wokekoro & Owei (2014a)	Indigenous enclaves (Oroworukwo & Amadi-Ama)	Passive-obs. cross- sectional survey	170 HH	Garbage, street lighting, flooding, road condition, water, waste, noise	Univariate (frequencies, %)	26.5% unhappy; 82.9% medium quality; flooding in all NBs; no street lighting

Wokekoro & Owei (2014b)	Informal waterfront settlements (2 NBs)	Passive-obs. cross-sectional	192 HH	Street conditions, water, sanitation, flooding, waste, transport	Univariate	28.8% unhappy; 52.9% medium quality; flooding periodic; waste collection absent
Wokekoro & Owei (2014c)	Planned areas (Old GRA, D-Line)	Passive-obs. cross-sectional	171 HH	Street maintenance, sanitation, lighting, recreation, water	Univariate	16.4% unhappy; 49.2% medium quality; flooding; no street lighting; inadequate services
Elenwo (2015)	Peri-urban/new township (4 communities)	Multi-stage survey + FGD	400 HH	Infrastructure benefits, displacement, socio-economic impacts, satisfaction with GHP	Factor analysis, paired t-test	Communities more displeased than pleased; displacement & livelihood loss key grievances
Wokekoro (2015)	Planned areas (Old GRA, D-Line)	Passive-obs. cross-sectional	171 HH	Safety, cleanliness, water, electricity, street maintenance	Univariate	Moderate residential quality; GRA residents more satisfied; electricity/water key dissatisfiers
Wokekoro (2017)	Informal waterfront settlements	Passive-obs. survey	192 HH	Waste, safety, cleanliness, residential planning, markets, fire hazards	Univariate	Majority rated NB quality indicators as inadequate; markets positive; safety/sanitation poor
Ayotamuno & Obinna (2017)	Private estates (Greater PH City)	Passive-obs. cross-sectional	400 HH	Construction quality, room size, water, electricity, security, parking, aesthetics	MCA, SPSS univariate	65% variance in satisfaction explained; construction quality top predictor; overall positive
Emenike & Sampson (2017)	Metropolis-wide (11 communities)	Descriptive survey	891 HH	Dwelling type, income-house quality correlation,	Descriptive stats, chi-square	55% dissatisfied with dwellings; income positively correlated with

				NB environment, overcrowding		satisfaction (r=0.656)
Weje & Worahu (2018)	Mixed (Main Town, Borokiri, Dockyard — 3 NBs)	Quasi-experimental cross-sectional	396 HH	Safety, affordability, land use, open space, population density	Multiple Classification Analysis (MCA)	Income, occupation & education predict safety & livability; R ² = 0.537 for safety
Echendu (2019)	City-wide (urban planners' perspective)	Qualitative IPA case study	5 urban planners	Flooding, drainage, planning compliance, land-use governance, sustainability	Interpretive Phenomenological Analysis	Flooding linked to planning failure & non-compliance; systemic governance deficit identified
Eyenghe, Ibama & Oviebor (2019)	Mixed density (Old GRA, D-Line, PH Township)	Mixed-method survey + interviews	397 HH	Change of use, rent escalation, displacement, security, noise, aesthetics	Descriptive stats + key informant interviews	87% confirmed change of use; gentrification drives rent spike; low-income residents displaced
Visigah & Enwin (2019)	Peri-urban estates (Rumuekini & Ozuoba)	Concurrent triangulation mixed-method	172 HH + GIS	Drainage, road access, waste management, crime, spatial distribution	Time-series GIS + descriptive survey	88.9% spatial growth 2004–2016; 54%+ rate waste below average; flooding risk from poor drainage
Yoade & Adeyemi (2020)	Slums (Diobu & Waterside)	Descriptive survey	186 HH	Drainage, road network, building condition, access, waste management	Descriptive & inferential stats	40.9% bad drainage; 68.2% rented; 58.6% buildings need repair; slum conditions confirmed
Otuore, Ede & Wokekoro (2020)	Mixed PH municipality	Passive-obs. cross-sectional	193 HH	Waste, safety, residential planning, housing for poor, hospitals, cleanliness	Univariate	Majority rated all indicators as inadequate; markets & police rated positively

Okwakpa m (2021)	PH City LGA (7 of 25 NBs)	Household cross-sectional RQI	330 HH	Drainage, soak-away distance, waste disposal, house condition, walling material	Descriptive %, RQI index	67–91% dissatisfied with drainage; 90–97% dissatisfied with soak-away distance
Tari & Ibama (2023)	Informal settlements (Mgbushimini & Nkpor, Obio/Akpor)	Quantitative + descriptive	90 HH	Building layout, sanitation, environment, access to services, NB quality	Descriptive stats + frequency	41.1% rate NB quality as 'fair'; 36.7% unsatisfied; poor sanitation dominant impact
Ilenikhena et al. (2023)	Waterfront informal (Rex Lawson, Okrika WF, Bundu, Nembe WS)	Quantitative descriptive	399 HH	Building type, water, electricity, access road, NB condition, toilets, cooking	SPSS mean scores + Likert	Nembe highest NB condition score; access to water & electricity lowest scores; QoL compromised
Iheduru et al. (2024)	Metropolis-wide (transport perspective)	Cross-sectional descriptive survey	385 motorists	Flooding hotspots, drainage, road condition, rainfall, urban planning	Descriptive, t-test, chi-square	Flooding significantly impacts road infrastructure ($t=2.813 > 1.96$); 5–7 flood events/year
Ibama & Tari (2025)	Planned NBs (D-Line, Ogbunabali, Oromerezimbu)	Quantitative causal-comparative	397 HH	Land-use change, rent, pollution, security, traffic, social amenities	Descriptive stats + GIS land-use analysis	Residential land fell from 71% to 7.4% (1975–2022); 43% cite rent increase as main impact

Note. HH = household heads; NB = neighbourhood; MCA = Multiple Classification Analysis; RQI = Residential Quality Index; GIS = Geographic Information System; IPA = Interpretive Phenomenological Analysis; FGD = Focus Group Discussion; PH = Port Harcourt; GPHP = Greater Port Harcourt Project; QoL = Quality of Life.

Topographic Overview

A cross-tabulation of the topographic features reveals several noteworthy patterns that contextualise the thematic synthesis. In terms of residential typologies, the studies exhibits broad coverage, and informal waterfront and slum settlements are the most frequently examined typology ($n = 8$ studies), followed by planned neighbourhoods ($n = 5$), mixed or metropolis-wide studies ($n = 4$), private estates and peri-urban communities ($n = 2$ each), and urban planning perspective studies ($n = 1$). This distribution reflects both the demographic weight of informal settlements in Port Harcourt, where approximately 65% of the population resides, and the research community's concern with conditions in the city's most deprived residential zones. However, the relative

underrepresentation of estate and peri-urban typologies, whose rapidly growing populations constitute an increasing share of the metropolitan population, represents a gap that future research should address.

Methodologically, the selected studies are strongly quantitative, with 15 of 19 studies employing structured household questionnaire surveys analysed through univariate or multivariate statistical techniques. Only one study, that is the one by Echendu (2019), employed a purely qualitative design (Interpretive Phenomenological Analysis with urban planners), and three studies combined quantitative survey data with qualitative methods such as key informant interviews or GIS-supported land-use analysis. The dominant analytical methods are descriptive statistics and frequency distributions (employed in 12 studies), followed by Multiple Classification Analysis or MCA ($n = 2$), and chi-square, t-test, or regression approaches ($n = 4$).

No study employed structural equation modelling, spatial regression, or multilevel analysis, which are methodological approaches that are well-suited to the multi-scalar, cross-typological questions this review raises. Sample sizes range from 5 urban planners (Echendu, 2019) to 891 household heads (Emenike & Sampson, 2017), with a median sample size of approximately 192 – a figure that, while adequate for neighbourhood-level univariate analysis, is frequently insufficient for the multivariate, cross-neighbourhood comparisons the research questions demand.

In terms of neighbourhood attributes examined, the selected studies collectively covers a rich range of characteristics. Across all 19 studies, the most frequently assessed attributes are drainage and flooding conditions (mentioned in 15 studies), waste collection and disposal (14 studies), road and street conditions (13 studies), water supply (12 studies), electricity supply (10 studies), safety and security (11 studies), and sanitation conditions (10 studies).

Attributes examined less frequently include open space and recreational facilities (7 studies), healthcare access (6 studies), educational facilities (5 studies), aesthetic and architectural quality (4 studies), and social cohesion or neighbourhood sense of community (2 studies). This topographic mapping reveals that the literature concentrates heavily on physical infrastructure deficits and relatively neglects the social and ecological dimensions of neighbourhood quality.

THEMATIC SYNTHESIS

Five analytical themes emerge from the synthesis of findings across the 19 included studies. These themes are not mutually exclusive, but they provide a structured framework for understanding the multi-causal architecture of residential (dis)satisfaction in Port Harcourt.

Theme 1: Infrastructure Deficits as the Defining Feature of Neighbourhood Dissatisfaction

The most robust and cross-typological finding is that physical infrastructure shortcomings, including poor drainage, inadequate waste collection, deteriorated roads, and absent or unreliable utility services, are the attributes most frequently associated with low satisfaction. This pattern holds across indigenous enclaves (Wokekoro & Owei, 2014a), waterfront informal settlements (Wokekoro & Owei, 2014b; Wokekoro, 2017; Ilenikhena et al., 2023), planned neighbourhoods (Wokekoro & Owei, 2014c; Wokekoro, 2015), slum communities (Yoade & Adeyemi, 2020), and peri-urban zones (Visigah & Enwin, 2019). Okwakpam (2021) found that between 67.6% and 91.7% of residents were dissatisfied with drainage, with the highest dissatisfaction among high-income respondents, suggesting a gap between expectations and reality rather than absolute deprivation alone. Across typologies, water supply and electricity receive the lowest mean scores (Ilenikhena et al., 2023), and only private-estate residents (Ayotamuno & Obinna, 2017) register moderately positive evaluations. The universality of infrastructure dissatisfaction indicates a systemic shortfall that is not confined to one residential type.

Theme 2: Flooding and Environmental Degradation as Compounding Residential Threats

Chronic flooding is consistently documented, but the evidence indicates it is primarily a governance outcome rather than a purely natural hazard. Echendu (2019) found that urban planners themselves attribute flooding to

decades of unenforced planning regulations, building on natural waterways, and a fifty-year-old Master Plan that has not been updated. Iheduru et al. (2024) quantify this, recording 5-7 flood events per year and a significant impact on road infrastructure ($t = 2.813$, $p < 0.05$). At the neighbourhood level, flooding affects all typologies (Wokekoro & Owei, 2014a, 2014c; Visigah & Enwin, 2019; Yoade & Adeyemi, 2020). Environmental degradation, that is, generator noise, waste burning, and unsanitary conditions, amplifies dissatisfaction and is deeply entwined with drainage failure, creating a feedback loop (Echendu, 2019).

Theme 3: Safety, Security, and the Transformation of Residential Land Use

Safety and security concerns appear to be shaped by the ongoing conversion of residential properties to commercial and mixed uses. Eyenghe et al. (2019) and Ibama & Tari (2025) show that in formerly planned areas, residential land use has fallen from 71% to just 7.4% over 47 years, with mixed-use now dominant. This transformation is strongly associated with rent escalation, increased traffic, noise, and perceived crime. In informal settlements, insecurity is linked to absent street lighting and gang activity (Wokekoro & Owei, 2014a). By contrast, gated private estates record relatively high satisfaction with safety (Ayotamuno & Obinna, 2017). Thus, the type of land-use control and its failure, mediates how residents experience security.

Theme 4: Socioeconomic Stratification and Differentiated Satisfaction Across Typologies

Satisfaction is not uniform; it is systematically patterned by income, education, and tenure. Weje & Worahu (2018), using Multiple Classification Analysis, found that monthly income alone explained 32% of the variance in perceived safety ($\eta^2 = 0.320$) and 47% of variance in open-space quality ($\eta^2 = 0.472$), with combined socioeconomic predictors reaching $R^2 = 0.537$ for safety. Emenike & Sampson (2017) reported a strong positive correlation between income and housing quality satisfaction ($r = 0.656$, $p = 0.0002$). A clear satisfaction hierarchy emerges across typologies: private estates to planned neighbourhoods to indigenous enclaves to informal waterfront/slum settlements. Economic constraint is openly acknowledged: 92.2% of informal settlement residents cite “low rent” as their primary reason for staying (Tari & Ibama, 2023), illustrating “satisfaction-under-constraint” rather than passive entrapment.

Theme 5: Governance Failure and the Gap Between Planning Intent and Residential Reality

Port Harcourt’s formal planning legacy (the 1913 garden-city layout, the 1975 Master Plan, the Greater Port Harcourt City Development Authority) contrasts sharply with the lived environment. The Master Plan’s residential designations have been effectively nullified through unauthorised change-of-use approvals and lack of enforcement (Ibama & Tari, 2025; Eyenghe et al., 2019). Planners in Echendu’s (2019) study report that the plan is “overdue for review” and that communities neither understand nor are consulted about planning decisions. The Greater Port Harcourt Project further illustrates the gap: in Eneka and Igwuruta, 63-69.6% of residents expressed being “very displeased,” primarily because of displacement and uncompensated property loss (Elenwo, 2015). This absent enforcement, non-participatory planning, and unrevised instruments is the systemic root of the four preceding themes.

DISCUSSION

Answering the Research Questions

This systematic literature review provides a comprehensive synthesis of research on residents' satisfaction with neighbourhood characteristics in Port Harcourt, Rivers State, revealing three key insights that directly address the review's two research questions.

Figure 2: Determinants of Residents' Satisfaction in Port Harcourt



In response to RQ1 on what neighbourhood characteristics predominantly shape residents' satisfaction, the synthesis establishes that physical infrastructure attributes, particularly drainage and flooding management, waste collection and disposal, road and street conditions, water supply, and electricity provision, are the dominant determinants of both satisfaction and dissatisfaction across the Port Harcourt residential landscape. Safety and security (as seen in Figure 2), while universally important, emerge as a secondary cluster, partly because their experience is mediated by physical infrastructure (street lighting, road conditions that affect mobility and escape routes) and by land-use governance (the introduction of commercial uses that generate new security threats). Social amenities, such as educational facilities, healthcare, open space and markets constitute a third cluster, with markets and primary schools consistently rated as more adequate than healthcare facilities, fire stations, and recreational spaces. The synthesis also identifies a set of structural determinants like income, educational attainment, and tenure status that mediate the relationship between neighbourhood characteristics and satisfaction (Figure 2), suggesting that satisfaction with the same objective attributes will differ systematically by socioeconomic position.

Figure 3: Typologically Structured Hierarchy of Neighborhood Satisfaction



In response to RQ2 on how characteristics and satisfaction levels vary across typologies, the evidence reveals a clear, typologically structured hierarchy. Figure 3 illustrates this, as private estates exhibit the highest satisfaction, driven by the relative adequacy of construction quality, security infrastructure, and controlled environments. Planned neighbourhoods exhibit moderate satisfaction, troubled primarily by infrastructure deficits (particularly flooding, lighting, and waste management) that their historical planning advantages have not been able to prevent. Indigenous enclaves exhibit moderate-to-low satisfaction, with significant minorities expressing unhappiness and the majority rating neighbourhood quality as only medium. Informal waterfront and slum settlements exhibit the lowest satisfaction, with infrastructure deficits, environmental degradation, tenure insecurity, and displacement pressures combining to produce conditions that the research community and the residents themselves consistently describe as inadequate for dignified urban living. Peri-urban and rapidly urbanising communities present an intermediate and rapidly evolving typology: while residents currently express moderate satisfaction, the rapid spatial expansion of these areas without adequate infrastructure and governance frameworks signals that their trajectory, if uncorrected, will replicate the conditions of the city's existing informal settlements.

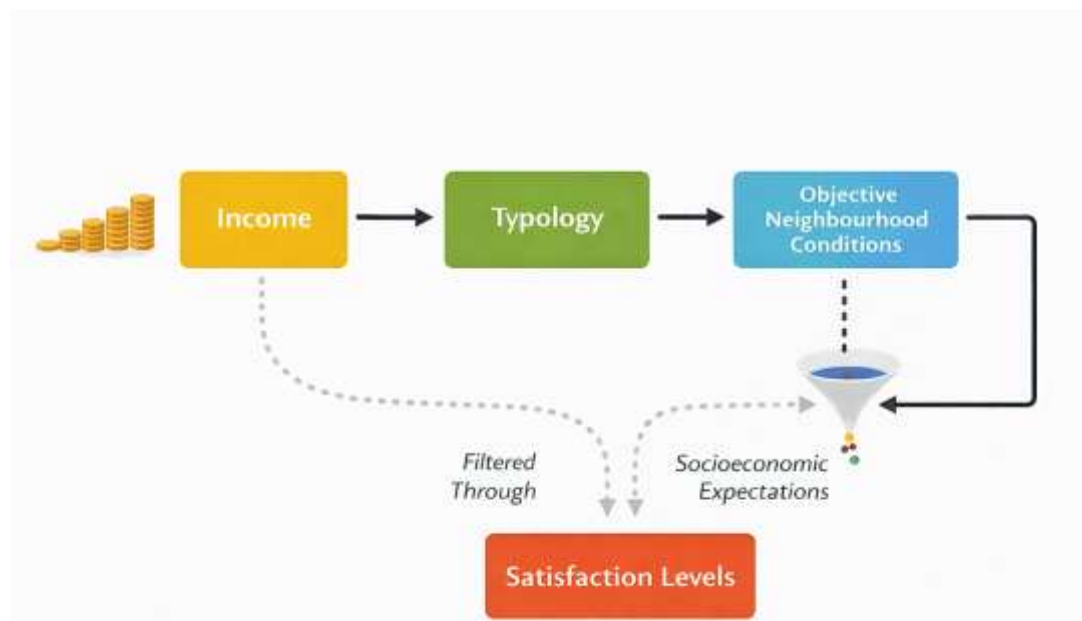
Theoretical Contributions

This review makes three contributions. First, it contextualises the gap theory of residential satisfaction (Amerigo & Aragonés, 1997) within the political economy of urban governance in an oil economy Global South city. The large gap between aspiration and reality observed in Port Harcourt is not primarily a function of unrealistic individual expectations but of a systemic governance failure that has deprived even formally planned areas of basic infrastructure. This extends Echendu's (2019) argument that the "city in the mind" has been systematically betrayed by the "city on the ground."

Second, by demonstrating that residents across all typologies prioritise the same set of attributes (drainage, waste, safety), yet achieve markedly different satisfaction levels, the review provides empirical support for the proposition that importance-weighted satisfaction measures better characterise urban environments than raw satisfaction scores (McCrea et al., 2014). Planning resources should therefore be directed toward those attributes residents themselves identify as foundational, rather than toward aesthetically visible but lower-priority improvements.

Third, the review contributes to the literature on socioeconomic stratification and residential satisfaction (Ibem, Opoko, & Aduwo, 2016; Akindele et al., 2025) by proposing a spatially explicit mediation model (Figure 4): income determines typology, typology determines objective neighbourhood conditions, and objective conditions, filtered through socioeconomic expectations, produce subjective satisfaction levels.

Figure 4: Income to Typology to Satisfaction Model



This three-stage mediation model of income to typology then satisfaction (as shown in Figure 4), provides a more structurally grounded account of residential satisfaction than models that treat income and neighbourhood characteristics as independent predictors, and it has clear implications for how equity considerations should be built into urban planning responses.

Practical and Policy Implications

The findings have direct implications for planning in Port Harcourt and Rivers State, though they may resonate in comparable delta cities.

- i. **Infrastructure Prioritisation:** Drainage, waste management, and public lighting are the attributes most consistently associated with dissatisfaction. Piecemeal interventions (e.g., resurfacing roads without improving drainage) are likely to produce short-lived gains.
- ii. **Typology Sensitive Responses:** Because the configuration of deficits differs across typologies, uniform standards will be insufficient. A waterfront settlement in Nembe Waterside, a GRA neighbourhood, and a peri-urban community in Rumuekini each require tailored strategies.
- iii. **Resident Centred Planning:** The evidence shows that planning has historically been conducted without meaningful community participation, generating resistance and irrelevance. Neighbourhood improvement strategies should be grounded in systematic resident consultation, building on the priorities mapped in this review.
- iv. **Institutionalised Monitoring:** A periodic, typology-wide residential satisfaction survey would provide a continuing evidence base for planning decisions and enable the tracking of intervention impacts over time.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This review has several limitations that should be acknowledged honestly. The geographic concentration of primary evidence in Port Harcourt means that findings cannot be automatically generalised to other Nigerian cities, even those with similar oil-economy contexts, such as Warri or Yenagoa. The empirical findings should therefore be understood as specific to Port Harcourt and, their transferability to other Nigerian or Global South cities requires further comparative testing. Also, the dominance of cross-sectional, univariate designs limits the ability to make causal claims about the relationships between neighbourhood characteristics and satisfaction, or to track how satisfaction changes over time in response to planning interventions.

Furthermore, the primary studies vary in sampling rigour (some used multi-stage probability samples, others relied on convenience or poorly described procedures), and the neighbourhood-quality indices and satisfaction scales lack standardisation, which introduces measurement heterogeneity. The concentration of publications among a small set of authors may also limit the diversity of perspectives. These limitations mean the synthesised findings, while robust as patterns, should be interpreted with appropriate caution.

The relative underrepresentation of qualitative and participatory research methods also means that the subjective meanings residents attach to their neighbourhood experiences, that is, the phenomenological texture of what it feels like to live in a flooding informal settlement, or in a gentrifying planned neighbourhood are insufficiently captured. Finally, the absence of studies that examine satisfaction in relation to gendered experience, generational differences, or ethnic and community identity, all of which are deeply relevant in a city as demographically complex as Port Harcourt represents a significant gap.

Future research should therefore address these gaps through four priority directions. First, longitudinal studies that track the same households across at least two time points would dramatically improve the field's capacity to assess whether planning interventions actually improve satisfaction, and to understand the temporal dynamics of neighbourhood change.

Second, mixed-method and participatory research designs, including community mapping, focus group deliberations, and participatory action research should be employed to capture the subjective, relational, and gendered dimensions of neighbourhood satisfaction that structured questionnaire surveys cannot reach.

Third, comparative studies that examine Port Harcourt alongside other rapidly growing oil-economy cities in the Niger Delta region and across West Africa would allow the contextual specificities of the Port Harcourt experience to be distinguished from broader regional and continental patterns. Fourth, spatially explicit analyses employing GIS-integrated household surveys would enable the neighbourhood-level spatial autocorrelation of satisfaction to be mapped and the 'spatial spill-over' effects of neighbourhood improvement (or deterioration) on adjacent areas to be measured.

CONCLUSION

This systematic literature review has undertaken a comprehensive synthesis of available empirical evidence on residents' satisfaction with neighbourhood characteristics in Port Harcourt, Rivers State. Drawing on 19 studies published between 2013 and 2025, spanning all major residential typologies in the metropolitan area, the review has mapped a landscape of predominantly moderate-to-low satisfaction, structured by infrastructure deficits that cut across typological boundaries, compounded by environmental threats of chronic flooding and waste accumulation, complicated by safety deterioration driven by land-use transformation and governance failure, and stratified by socioeconomic position in ways that make informal-settlement residents the most systematically disadvantaged. The review reveals that Port Harcourt's 'Garden City' appellation has become, for the majority of its residents, an aspirational label rather than a descriptive one.

The core argument is that residential satisfaction in Port Harcourt is not primarily a housing problem but a governance problem. The attributes that most corrode satisfaction are well-known, technically remediable, and financially within reach, yet they persist because the planning and governance systems responsible for delivering them have systematically fallen short. Addressing this requires not only infrastructure investment (as urgent as it maybe), but a fundamental reorientation toward resident-centred, evidence-based, and typologically differentiated planning practice. The evidence assembled here provides an empirical foundation for such a reorientation, and this review is offered as both a scholarly contribution and a practical resource for those charged with making Port Harcourt's residential environment worthy of its people's aspirations.

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APPENDIX

Appendix 1: Comprehensive Characteristics of Included Studies (N = 19)

S/N	Author(s) & Year	Research Design	Sample Size & Technique	Neighbourhood Attributes Examined	Analytical Method	Key Satisfaction Findings	Primary Determinants of Satisfaction	QA Score
Planned neighbourhoods (GRA, D-Line, Old Township)								
1	Wokeko & Owei (2014c)	Passive-observational cross-sectional survey	n = 171 HH heads Stratified multi-stage sampling @ 10% precision (Yamane)	Street maintenance Sanitation/cleanliness Street lighting Recreational areas Water & electricity Waste collection Safety/security Housing for poor	Univariate analysis (frequencies & percentages) PNQI index	16.4% of residents unhappy with residential QoL 49.2% perceived neighbourhood as medium quality Periodic flooding in all neighbourhoods No street lighting; garbage on streets Most rated maintenance, recreation, housing for poor as INADEQUATE Primary schools & public transport rated positively	Infrastructure condition Street maintenance Waste management Safety provisions	7/9
2	Wokeko (2015)	Passive-observational cross-sectional survey	n = 171 HH heads Stratified multi-stage @ 10% precision	Safety of life/property Cleanliness Water supply Electricity supply Street maintenance Waste disposal	Univariate analysis (frequencies & percentages)	GRA residents more satisfied than D-Line 25.6% of Old GRA residents 'pleased' 14.0% of D-Line residents satisfied Electricity, water & waste = top dissatisfiers Safety rated positively in GRA Moderate overall	Residential typology Income/SES Electricity supply Water supply	6.5/9

						residential quality		
Indigenous enclaves (Oroworukwo & Amadi-Ama)								
3	Wokeko ro & Owei (2014a)	Passive- observati onal cross- sectional	n = 170 HH heads Stratified multi-stage @ 10% precision (Yamane formula)	Garbage on streets Street lighting Traffic congestion Vigilante groups Neighbourhood gangs Periodic flooding Public transportation Noise sources Road surface type Drain condition	Univariate analysis SNQI index constructed	26.5% of residents unhappy with residential QoL 82.9% perceived neighbourhood as MEDIUM quality Garbage present in both enclaves No street lighting in virtually all streets Flooding in all neighbourhood s (blocked drains) Generator noise = dominant pollution source 55.3% say city council NEVER collects waste Good housing, basic amenities, sanitation = most important for QoL improvement	Employment/in come Basic amenity access Housing condition Sanitation	8/9
Informal / waterfront settlements								
4	Wokeko ro & Owei (2014b)	Passive- observati onal cross- sectional	n = 192 HH heads Stratified multi-stage @ 10% precision	Road condition Water supply Sanitation & waste Flooding Street lighting Safety/security Waste collection Shopping access	Univariate analysis SNQI index	28.8% of residents unhappy with residential QoL 52.9% perceived neighbourhood as medium quality Periodic flooding in 2 of 2 settlements Garbage found on streets; no street lighting	Infrastructure deficits Environmental sanitation Security provisions	7.5/ 9

						Majority rated NB quality indicators INADEQUATE Improvement in NB conditions = key to QoL		
5	Wokeko ro (2017)	Passive-observational cross-sectional	n = 192 HH heads Stratified multi-stage	Waste collection/disposal Safety of life/property Cleanliness Residential planning Fire hazards Noise level Markets adequacy	Univariate analysis SNQI index	Large majority rated all NB quality indicators as INADEQUATE Markets & police station rated positively Fire hazards, safety, sanitation rated lowest Government infrastructure provision absent Improvement in NB quality needed for sustainability	Government infrastructure Safety/security Environmental management	6/9
6	Ilenikhe na et al. (2023)	Quantitative descriptive survey	n = 399 HH heads Proportional random sampling (Yamane, 5% precision) 4 waterfront NBs	Building type & structure Habitable space Water supply access Electricity access Access road availability Neighbourhood condition Toilet availability Cooking energy source Type of pollution	SPSS mean scores 5-point Likert scale Housing satisfaction index	Nembe Waterside scored highest on NB condition (4.05) Access to water & electricity = LOWEST scores across all settlements (mean ≤ 1.82/5.0) 81.8% of Rex Lawson had NO piped water in building 45.5% of Rex Lawson occupied temporary structures 47.7% Nembe residents	Building quality/type Water & electricity Access roads Environmental pollution	7/9

						experienced water pollution Overall QoL compromised across all 4 settlements		
7	Tari & Ibama (2023)	Quantitative descriptive + physical observations	n = 90 HH heads Judgmental + simple random sampling (Yamane @ 10%) 2 settlements, Obio/Akpor LGA	Building layout/type Sanitary conditions Waste management Environmental quality Access to services Neighbourhood quality rating	Descriptive statistics Frequency distribution NB quality rating index	41.1% rated neighbourhood quality as 'fair' 36.7% rated as 'unsatisfied'; 11.1% 'very unsatisfied' Poor sanitary condition = most prevalent impact (77.8%) Poor layout of buildings = second impact (11.1%) 100% employed (vocational/trading), but low income Low rent = primary reason for living there (92.2%) Rooming houses = 98.9% of building stock	Low rent (affordability) Sanitation conditions Building layout/density	6.5/9
Private estates (Greater Port Harcourt City)								
8	Ayotamuno & Obinna (2017)	Passive-observational cross-sectional survey	n = 400 HH heads All private estates ≥4 units, built 1978–2014 in GPHC	Dwelling type & room size Water supply & electricity Construction quality Distance to nearest unit Private outside space Security & safety Quietness/serenity Crowding level Neighbour friendliness Road traffic volume	Multiple Classification Analysis (MCA) 5-point Likert scale SPSS univariate + multivariate	65% of variance in satisfaction EXPLAINED by 8 variables Overall construction quality = top predictor (β=0.62) Over 1/3 of estate residents 'strongly agree' estate is ATTRACTIVE Electricity supply = only significantly dissatisfying attribute (mean	Construction quality Room size & type Water supply Income/SES (mediator)	8.5/9

						1.983/5.0) Majority satisfied with all other dwelling attributes Significant positive overall neighbourhood perception		
Mixed / metropolis-wide studies								
9	Emenike & Sampson (2017)	Descriptive survey; 11 communities across metropolises	n = 891 HH heads (920 distributed) Simple random sampling	Dwelling type prevalence Income-house type correlation Neighbourhood environment quality Overcrowding levels	Descriptive statistics Chi-square (X^2) Pearson correlation (r) Penalty scoring for NB environment	55% of residents DISSATISFIED with dwelling units Income positively correlated with house type ($r=0.804$; $p=0.0001$) Income positively correlated with dwelling satisfaction ($r=0.656$; $p=0.0002$) Tenement/rooming houses = predominant type (26%) Significant variation in dwelling quality across NBs ($X^2=159.63$; $p=0.001$)	Household income Dwelling type/tenure Neighbourhood density	7/9
10	Weje & Worahu (2018)	Quasi-experimental cross-sectional (Cook & Campbell, 1979)	n = 396 HH heads Neyman proportional allocation (Yamane @ 5%), 3 NBs: Main Town, Borokiri, Dockyard Layout	Neighbourhood safety/crime Housing affordability Land use distribution Population density Open space quality Youth-friendliness Recreational parks	Multiple Classification Analysis (MCA) η^2 , η^2 , Beta coefficients	Income ($\eta^2=0.320$), occupation ($\eta^2=0.174$) & education ($\eta^2=0.187$) predict SAFETY ($R^2=0.537$) Monthly income = dominant predictor of open-space quality ($\eta^2=0.472$; $\beta=1.334$)	Monthly income (primary) Occupation Educational attainment	8.5/9

						81% of land-use distribution variance explained by income + education + occupation ($R^2=0.829$) 69% of population density variation explained ($R^2=0.693$) SES = fundamental structural determinant of satisfaction		
11	Otuore, Ede & Wokeko ro (2020)	Passive-observational cross-sectional	n = 193 (of 396) retrieved questionnaires Probability sample across PH municipality	Waste collection/disposal Safety of life/property Cleanliness Residential planning Housing for poor Hospitals/clinics Recreational areas Street maintenance Aesthetic condition Noise level	Univariate analysis SNQI index	Large percentage rated most NB indicators as INADEQUATE Markets & police stations = positively rated Fire hazards, crime levels, noise = lowest ratings Residential planning, housing for poor, hospitals, recreation rated most inadequate Government intervention essential for sustainability	Public infrastructure Safety/security Government provision	6/9
12	Okwakpam (2021)	Household cross-sectional RQI survey; 7 of 25 NBs in PH City LGA	n = 330 HH heads 30% of 25 NBs (7 NBs) Simple random sampling 47 per NB	House type Walling material Water source (borehole) Toilet type Soak-away pit distance Refuse disposal method Distance to	Descriptive statistics (percentages) Residential Quality Index (RQI): objective + subjective indicators	67.6% low-income, 73.3% middle-income, 91.7% high-income DISSATISFIED with drainage 90.5% low-income	Drainage condition Sanitation standards Income group (all dissatisfied)	7/9

				nearest unit Drainage condition House condition		unsatisfied with soak-away distance; 96.7% middle-income unsatisfied Soak-away pits fail 20–30ft standard near boreholes Only 37.2% of house types met standard quality Drainage = major environmental challenge Subjective dissatisfaction > objective indicators		
Peri-urban and new growth settlements								
13	Elenwo (2015)	Field survey; multi-stage systematic random + simple random sampling; FGD; factor analysis	n = 400 HH heads (100 per community) 4 communities: Rukpoku, Omagwa, Eneka, Oyigbo	Infrastructure benefits Employment impact Displacement/losses Psychological effects Disease/sickness Commercial activity Pleasure/displeasure with GPHP	Factor analysis (19×19 component matrix) Paired t-test Descriptive stats	4 communities MORE DISPLEASED than pleased (63–69.6% 'very displeased' in Eneka & Igwuruta) 45.8% lost buildings; 33.5% displaced; 8.5% psychological effects T-score (–2.729) confirms hazards/risks significantly related to GPHP (p<0.004) T-score (–2.895) confirms socio-economic life significantly affected (p<0.004) Infrastructure improvement = primary	Project displacement Livelihood loss Inadequate compensation Historical grievances	7.5/9

						perceived benefit		
14	Visigah & Enwin (2019)	Concurrent triangulation mixed-method (GIS + survey + interviews)	n = 172 HH heads (91 Rumuekini, 82 Ozuoba) Systematic random sampling	Drainage presence/quality Road accessibility/wideth Waste management rating Crime experience Spatial distribution (clustered/linear) Land use change 2004–16 Environmental nuisances Settlement quality rating	GIS time-series analysis (Google Earth 2004–16) Descriptive statistics Key informant interviews	88.9% combined spatial growth 2004–2016 (Rumuekini: 0.52→8.30 km ² ; Ozuoba: 1.19→6.1 km ²) 50% of streets have NO drainage infrastructure 54% rate waste management BELOW average 47.4% rate settlement quality as 'fairly good' 37.5% say 'good'; 9.2% 'very good'; only 5.9% 'poor' 34% experienced crime; 66% crime-free Weak government frameworks hinder land management	Affordable land access Migration/proximity to city Drainage infrastructure Governance frameworks	8/9
Slum communities (Diobu & Waterside)								
15	Yoade & Adeyemi (2020)	Descriptive survey; primary + secondary data sources	n = 186 HH heads (98 Diobu, 88 Waterside) Structured questionnaire	House type & condition Walling material Toilet type Drainage system type Water supply source Road network condition Roof condition Waste management rating Building accessibility State of repairs	Descriptive statistics Inferential statistics Frequency tables	40.9% have BAD drainage; 28.5% very bad 34.4% bad road network; 29.0% very bad roads 68.2% live in RENTED apartments 58.6% of buildings need repair; <3.2% sound 45.7% use water closet; 24.7% pit latrine 51.1% depend on borehole	Income level (low) Tenure (rented) Drainage quality Building maintenance	6.5/9

						water Slum conditions confirmed: overcrowding, pollution, disease vectors, unsafe water		
Land-use transformation and gentrification studies								
16	Eyenghe , Ibama & Oviebor (2019)	Mixed- method survey + key informant interview s + physical observati ons	n = 397 HH heads Stratified simple random sampling (Yamane), 3 NBs: PH- Township (high), D-Line (medium), Old GRA (low density)	Change of building use Annual rent levels Nature of change (residential→mi xed) Security/safety changes Noise & pollution Aesthetic impacts Displacement incidence	Descriptive statistics Key informant interviews (Ministry of Urban Dev.) Frequency analysis	87% confirmed change of use from original residential 74% pay ₦400,000+ annually for residential rent 45% residential→m ixed use; 36% residential→sh ops 48% of landlords responsible for use change Increased vehicular traffic, noise, crime reported Displaced residents forming new informal settlements Positive: higher property values for landlords Governance deficit enabling unchecked transformation	Rent escalation Population growth Urbanisation pressure Government inaction	7/9
17	Ibama & Tari (2025)	Quantitati ve causal- comparati ve; GIS land-use analysis	n = 397 HH heads (364 valid) Simple random sampling (Yamane) 3 NBs: D- Line, Ogbunabali, Oromerezi mgbu	Land use % change (1975–2022) Rental value changes Environmental pollution Traffic congestion Security & safety Social amenity quality	Descriptive statistics GIS ground- truthing (Google Earth 2005, 2022) Causal- comparative design	Residential land fell from 71% → 7.4% (1975–2022) Mixed-use now dominates: 51% of land area (2022) Population growth (36.5%), urbanisation (33.2%) =	Population growth Government inaction Urbanisation pressure Economic activities	8/9

				Causes of transformation		top causes of transformation 43.4% cite RENT INCREASE as primary impact 30% cite increased environmental pollution 45% say impact level 'adverse'; 27% 'very adverse' 72% of land use change due to illegal conversion		
Urban planning governance perspectives								
18	Echendu (2019)	Qualitative IPA case study; urban planners' perspective	n = 5 urban planners Purposive + snowball sampling; one-on-one semi-structured interviews	Urban planning laws & sustainability concepts Flooding causes & governance failure Waste management practices Community participation in planning Infrastructure provision	Interpretive Phenomenological Analysis (IPA) Thematic coding (Bryman 4-step)	Flooding = governance failure, NOT natural hazard Ministry of Urban Dev. 'failed to take control' of planning 1975 Master Plan 'overdue for review' — not revised Construction on floodplains due to absent monitoring Community non-participation = major implementation barrier Laws adequate but ENFORCEMENT absent (corruption) Waste dumping in canals during rain = direct flood cause Urban planners aspire to sustainable city; reality diverges	Planning governance failure Enforcement absence Non community participation Corruption / bureaucracy	7.5/9

19	Iheduru et al. (2024)	Cross-sectional descriptive survey; GIS + field study	n = 385 motorists (350 valid) Simple random sampling, 20 routes across metropolis	Flood hotspots (GPS) Causes of flooding Frequency/intensity of flooding events Drainage system quality Road infrastructure damage from floods Current flood mgmt.	Descriptive statistics Chi-square (χ^2) Independent t-test GIS remote sensing GPS coordinate mapping	5–7 flood events per year; peaking June–September Flooding significantly impacts road infrastructure (tcal=2.813 > tcrit=1.96; p<0.05) Heavy rainfall (38.6%) + inadequate drainage (21.4%) = top flood causes Highly flooded: Rumuigbo, Eneka, GRA Phase II, Peter Odili Road (8 hotspot areas identified) Flood impacts journey time significantly ($\chi^2=15.66>9.48$)	Rainfall intensity Drainage inadequacy Poor urban planning Construction on waterways	7/9
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Note. HH = household heads; NB = neighbourhood; MCA = Multiple Classification Analysis; RQI = Residential Quality Index; QoL = Quality of Life; SNQI = Subjective Neighbourhood Quality Index; GIS = Geographic Information System; IPA = Interpretive Phenomenological Analysis; FGD = Focus Group Discussion; SES = socioeconomic status; GPHC = Greater Port Harcourt City; GPHP = Greater Port Harcourt Project; PH = Port Harcourt. QA Score out of 9 (bespoke CASP-derived checklist). Alternating row shading for readability only – shading does not encode meaning.

Appendix 2: PRISMA 2020 Search and Selection Flow

Phase	Stage	Count (n)	Reason for exclusion
Identification	Records identified (database search + citation tracking)	n = 74	-
	Duplicates removed	n = 18	Exact duplicates across databases / citation overlap
Screening	Records screened (title & abstract)	n = 56	-
	Records excluded at screening	n = 21	Wrong geography (8); Topically irrelevant (7); Wrong document type (6)
Eligibility	Full-text articles assessed for eligibility	n = 35	-
	Full-text excluded - insufficient methodology detail	n = 5	Could not permit quality appraisal
	Full-text excluded - conceptual/review (no primary data)	n = 4	No original empirical data
	Full-text excluded - no resident perception data	n = 4	Focused on physical/environmental mapping only
	Full-text excluded - government planning documents	n = 3	Not peer-reviewed; not primary research
Included	Studies included in final synthesis	n = 19	(thematic synthesis, 2013–2026)