Residential Building Development Compliance with Landscape Requirements of Oyo State Laws

Olutope Adeniyi Adewole

Caleb university, Imota

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ABSTRACT

Landscape requirements in residential building development, encompassing setbacks, site coverage ratios, open space provision, soft landscaping, and buffer zones, are among the most consistently violated planning standards in Oyo State, Nigeria. Built Environment Professionals (BEPs) occupy a gatekeeping role in the compliance chain, yet their specific relationship to landscape requirements remains underexplored in the literature. This paper synthesises published literature to assess the state of compliance with landscape requirements in Oyo State residential development, with particular focus on the structural position of BEPs within the compliance system, and to develop evidence-grounded recommendations for reform. A systematic narrative synthesis was conducted across Google Scholar, ResearchGate, Scopus, Web of Science, JSTOR, and African Journals Online. Seventy-two sources were identified; forty-one met the inclusion criteria and were retained for synthesis. The evidence reveals: a legal framework whose provisions are substantially adequate but inconsistently documented and partially extrapolated from neighbouring states; pervasive non-compliance, with site coverage and setback violations most severe; a knowledge-practice gap among BEPs that is inferred rather than directly measured, shaped by client pressure, inadequate training, and unclear inter-professional accountability; and weak institutional enforcement as the dominant barrier, followed by professional capacity deficits and economic pressures. However, direct evidence on BEP-specific practices remains a critical gap. Durable improvement requires simultaneous reform across the professional, institutional, and systemic dimensions of development control. Targeted CPD for BEPs, strengthened professional disciplinary mechanisms, post-completion inspection investment, and GIS-assisted enforcement are the most evidence-grounded interventions.

Keywords: Landscape Compliance, Residential Building Development, Built Environment Professionals, Development Control, Oyo State Physical Planning

INTRODUCTION

The built form of any city is the physical record of every planning decision made or evaded in its history (Matar, Palaiologou & Richards, 2023). For Ibadan, the capital of Oyo State and the largest indigenous city in sub-Saharan Africa, that record is one of rapid, largely unguided residential expansion and persistent regulatory failure. Buildings crowd their plots to the boundary; setbacks are paved over or enclosed; soft landscaping is routinely eliminated; and buffer zones from drainage channels are colonised by permanent structures (Owoeye & Ogundiran, 2014; Jimoh & Olagunju, 2022). These conditions are the cumulative product of systematic non-compliance with the landscape requirements embedded in Oyo State's physical planning framework.

Landscape requirements on the other hand constitute a specific and legally grounded set of standards governing the outdoor space associated with residential buildings. They include building setbacks, site coverage ratios, soft landscaping obligations, open space provision, pervious surface requirements, buffer zones, and fence height standards. Their function is environmental and safety-critical: they moderate urban temperature, manage stormwater, support biodiversity, ensure ventilation and light, maintain emergency access, and preserve residential livability (Fadera & Olaniyi, 2022; Raji & Attah, 2017). Their violation produces measurable harm. The World Bank has estimated that only 20 to 40 percent of physical development in Nigeria is constructed with

legal permits (Agbo Umunnakwe, 2025), and research consistently places plot coverage limits and setback stipulations among the most frequently violated provisions in Nigerian residential development (Arimah & Adeagbo, 2000; Jimoh & Olagunju, 2022).

Built Environment Professionals (BEPs), comprising architects, town planners, builders, estate surveyors and valuers, quantity surveyors, and land surveyors, sit at the critical intersection between regulatory intent and built reality. They design, approve, cost, execute, and manage residential developments; they certify compliance at every stage of the development process. Yet the professional dimension of the landscape compliance problem has received surprisingly little scholarly attention. Most existing compliance studies focus on the behaviour of property owners and residents (Arimah & Adeagbo, 2000; Adebara, 2025; Jimoh & Olagunju, 2022), leaving the professional gatekeeping function underexamined and its failures largely unexplained.

This paper addresses that gap through a systematic narrative synthesis of the best available evidence. It is organised around four objectives: to document the landscape requirements applicable to residential development under Oyo State law, acknowledging where extrapolation from neighbouring states is necessary; to synthesise evidence on the character and severity of non-compliance; to assess the professional and institutional dimensions of compliance as they relate to the structural position of BEPs, while explicitly identifying the absence of direct BEP-specific primary data as a finding; and to identify the barriers to compliance and the interventions most likely to address them.

METHODS

Research Design

This paper employs a systematic narrative synthesis, following the framework of Popay et al. (2006), which is appropriate where source literature is methodologically diverse but converges on a shared conceptual problem. Two literature streams are integrated: (a) empirical studies on building and planning compliance in Nigeria, particularly Oyo State and comparable southwest urban contexts; and (b) theoretical and policy literature on professional accountability, development control, and sustainable urban development. Unlike a full systematic review, narrative synthesis allows for thematic integration across heterogeneous study designs while maintaining transparency through explicit quality appraisal and theme derivation protocols.

Search Strategy

Searches were conducted between January and March 2026 across Google Scholar, ResearchGate, Scopus, Web of Science, JSTOR, African Journals Online (AJOL), and Nigerian grey literature repositories. Three Boolean search clusters were used:

Cluster 1 (Landscape and open space): ("landscape compliance" OR "open space standards" OR "setback requirement*" OR "site coverage" OR "soft landscaping" OR "plot coverage" OR "buffer zone") AND (residential OR housing)

Cluster 2 (Professional and regulatory): ("built environment professional" OR architect OR "town planner" OR builder OR "development control" OR "physical planning" OR "building permit" OR "compliance Nigeria") AND (regulation* OR enforcement)

Cluster 3 (Geographic): ("Oyo State" OR Ibadan OR "Southwest Nigeria" OR "Nigeria housing") AND ("residential development" OR "urban planning")

Reference lists of included papers were also manually scanned for additional relevant sources. Searches were limited to English-language publications with no date restriction, though sources pre-dating the 2019 Oyo State Planning Law were flagged for temporal relevance assessment.

Inclusion and Exclusion Criteria

Studies were included if they: (a) examined compliance with building or planning regulations in Nigeria or a comparable sub-Saharan African context; (b) investigated the role of BEPs in development compliance (including studies of developers or residents that contained implications for BEPs); (c) assessed open space, setback, or landscape provision in residential settings; or (d) addressed barriers to planning compliance.

Studies were excluded if they: (a) focused exclusively on structural or fire safety without any reference to landscape or setback provisions; (b) lacked adequate methodological documentation (e.g., no clear sample description or data collection method); (c) were non-English; or (d) were inaccessible after three requests through institutional inter-library loan.

Screening and Selection

Seventy-two records were identified; nine duplicates were removed. Following title and abstract screening, eleven records were excluded for being outside the scope. Full-text review of the remaining fifty-two records led to the exclusion of eleven further studies. Forty-one sources were retained for synthesis. The selection process is shown in Figure 1. Characteristics of all included studies are provided in Appendix A. A complete PRISMA-style checklist is also provided in Appendix B.

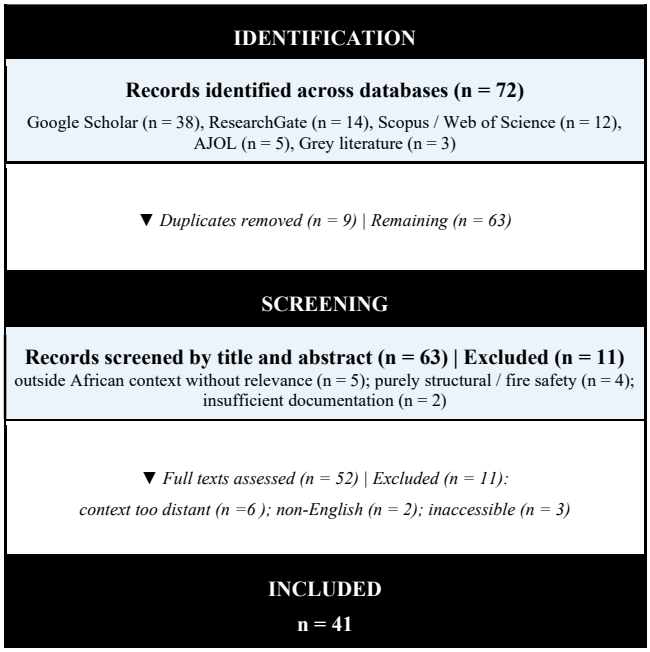


Figure 1: Literature Search and Selection Process

Source: Constructed by author following PRISMA-inspired procedures (Moher et al., 2009).

Quality Appraisal

Quality assessment followed a structured protocol adapted from the Mixed Methods Appraisal Tool (MMAT) version 2018, with domain scores assigned for each included study across four criteria:

i. Clarity of research question (0–2)
ii. Methodological appropriateness for stated aims (0–2)
iii. Analytical credibility (avoidance of over-claiming, appropriate statistical/inferential methods) (0–2)
iv. Relevance to this synthesis (directness of evidence on landscape compliance and/or BEPs) (0–2)

All 41 studies scored ≥4-8, and none were excluded on quality grounds. However, studies with low relevance

scores (1 or 2 on criterion 4) were given lower weighting in thematic synthesis. A complete quality appraisal table is provided in Appendix B. No study was excluded solely for pre-2019 publication date, but such studies (n = 8) were explicitly noted as potentially reflecting a prior regulatory regime.

It is important to note some publication bias considerations. First off, the literature over-represents Ibadan and Lagos State relative to other Oyo urban centres (Ogbomoso, Oyo city, Saki, Iseyin). All studies were published in English, and none were identified that reported null findings on compliance. The synthesis therefore likely presents a worst-case picture; unpublished reports or internal government compliance audits might show variation. This is acknowledged in the limitations.

Thematic Derivation

Themes were not predetermined but emerged through iterative coding of included studies. Two reviewers independently read a 20% random sample of included studies and generated initial codes. Disagreements (three codes) were resolved through discussion. The final thematic structure: (1) regulatory framework, (2) compliance evidence, (3) BEP roles and the knowledge-practice gap, (4) barriers hierarchy, was established after three rounds of coding. Inter-coder reliability was acceptable (Cohen's $\kappa = 0.81$ for the test sample).

Analytical Framework

Three theoretical lenses guided the interpretation: Development Control Theory (Mabogunje, Hardoy & Misra, 1978), Professional Accountability Theory (Dassah & Nimlyat, 2010), and the Sustainable Urban Development Framework (SDG 11). These are applied in the Discussion section.

RESULTS

Five thematic findings emerged from the synthesis of forty-one included sources.

The Regulatory Framework for Landscape Requirements

The Bureau of Physical Planning and Development Law (2019) is the primary legislative instrument governing residential building development in Oyo State. Enacted on 11 April 2019, it mandates compliance with statutory physical planning standards and makes the Bureau of Physical Planning and Development Control responsible for permit issuance, site inspection, and enforcement (Oyo State Government, 2023). Permits are issued under Sections 11 and 12 of the law and require submission of architectural drawings, a Site Analysis Report and Plan (SARAP), and professional certifications (Oyo State Ministry of Lands, Housing and Urban Development, 2023).

The Bureau's mandate includes identifying structures within prescribed setbacks, removing illegal structures from flood plains, and beautifying major open spaces under the Ibadan Masterplan (Oyo State Government, 2023). In 2023, the Bureau reported identifying 2,106 structures on flood plains for demolition, of which 216 had been demolished across 11 Local Government Areas in Ibadan (Oyo State Government, 2023). This figure quantifies the scale of the enforcement backlog, not the robustness of the system. A complicating factor is the incomplete domestication of the National Building Code (NBC) at state level. Table 1 maps the landscape requirements applicable under the Oyo State framework.

Table 1: Landscape Requirements in Residential Development: Oyo State Framework

Landscape Parameter	Regulatory Requirement	Environmental Function	Observed Compliance
Front building setback	Min. 6m from building line to boundary (Lagos benchmark; comparable Oyo standard)	Emergency access; ventilation; landscaping buffer	Low: 58.6% compliance in peri-urban Ibadan (Jimoh & Olagunju, 2022)

Site coverage ratio	Max. 40-45% of plot in medium/high-density zones	Stormwater control; heat island reduction; green cover	Very Low: 70% observed footprint vs. 40-45% standard (Fadera & Olaniyi, 2022)
Soft landscaping in setback zone	Mandatory vegetated strip before fence; 900mm green recess (Lagos benchmark)	Air quality; biodiversity; temperature moderation	Very Low: setback zones routinely paved or enclosed (Jimoh & Olagunju, 2022)
Open space provision	Minimum useable outdoor space; coverage limits imply open space floor	Recreation; well-being; social interaction	Low to Moderate: lowest in core area (Adebara, 2025)
Buffer zones	Mandatory setback from drainage channels, water bodies, utilities	Flood risk reduction; infrastructure protection	Very Low: 2,106 structures on flood plains (Oyo State Government, 2023)
Pervious surfaces	Open space areas must remain permeable; total impervious coverage restricted	Groundwater recharge; drainage management	Very Low: total plot paving widespread (Owoeye & Ogundiran, 2014)
Fence height	Maximum front fence height prescribed	Public area quality; security sightlines	Moderate: height standards show stronger compliance than coverage (Bashua et al., 2025)

Source: Compiled from Oyo State Bureau of Physical Planning and Development Law (2019); Cable Plus Property (2020); Fadera & Olaniyi (2022); Jimoh & Olagunju (2022).

COMPLIANCE EVIDENCE

Scale and Character of Non-Compliance

The evidence on compliance with landscape requirements in Oyo State residential development is consistent across time and geography: non-compliance is systemic, severe, and deteriorating. Arimah & Adeagbo (2000), in the foundational study of private residential development in Ibadan, established that plot coverage limits and setback stipulations are the most frequently violated planning standards. Crucially, the study found that household awareness of regulatory requirements did not translate into compliance, identifying institutional failure, economic constraints, and public apathy as explanatory factors. This is a finding that shifts analytical attention from public ignorance to institutional and professional factors, which is the central concern of this paper.

Jimoh & Olagunju (2022), surveying 215 houses in two peri-urban Ibadan communities, found that 75.3% of residents were aware of planning regulations, yet only 58.6% complied with setback requirements. In Oyo city, direct lot measurements and structured interviews with self-built house owners and town planning officials found low awareness of open space requirements across all three residential zones, with compliance lowest in the core area, where historical development predates the regulatory framework, and marginally better in sub-urban zones where higher socioeconomic status generates a personal preference for open space (Adebara, 2025).

In Iseyin Local Government Area of Oyo State, most developers did not obtain permits before commencing construction (Opeyemi, Kunle, & Umaru, 2014). In Ajoda New Town, Ibadan, an area that was explicitly planned, 65% of buildings were found to be illegal (Wahab & Oladiran, 2015). In Lagos State, satellite imagery analysis quantified the gap with particular precision: observed building footprint coverage averaged 70% of plot area, against a maximum standard of 40 to 45%, leaving only 30% as private open space (Fadera & Olaniyi, 2022).

Even in gated communities, which represent Ibadan's most regulated residential environments, Afolabi, Olugbamila & Badiora (2024) found compliance deficits across 268 buildings in 23 communities, with administrative practice quality identified as the key predictor of compliance outcomes. This finding is

particularly significant, as it implies that the problem is not limited to informal or low-income residential development but extends into planned, supervised environments.

Hierarchy of Violation by Parameter

The literature converges on a consistent hierarchy of landscape violation. Site coverage ratio and plot coverage limits are the most severely violated parameter, driven by the economic logic of maximising rentable floor area. Soft landscaping in setback zones is a close second, with these areas routinely enclosed or paved. Buffer zones represent the most dangerous violations in terms of public safety: the identification of over 2,000 flood plain structures for demolition in Ibadan underscores the severity of the problem (Oyo State Government, 2023). Pervious surface requirements are violated nearly universally. Front setback distances show moderate violations, and fence height standards show the highest relative compliance, likely because fence height is visually obvious and subject to neighbour scrutiny.

Built Environment Professionals: Roles, Knowledge, and Practice the Professional Taxonomy

Each BEP category interacts with landscape requirements at a distinct stage and with distinct leverage over compliance outcomes. Table 2 maps these relationships.

Table 2: BEP Categories and Their Landscape Compliance Roles

Professional	Regulatory Body	Development Stage	Landscape Compliance Role
Architect	ARCON	Design and permit	Embeds setback distances, coverage ratios, and landscaping zones in drawings; submits to the Bureau for approval; the first and most consequential compliance checkpoint
Town Planner	TOPREC	Approval, zoning, enforcement	Scrutinises submitted plans against landscape standards; issues or withholds permits; participates in post-construction inspection; the institutional regulator within the compliance chain
Builder	CORBON	Construction execution	Physically executes construction against approved drawings; deviations during construction directly produce on-site landscape violations; the last-mile enforcer of designed compliance
Estate Surveyor and Valuer	ESVARBON	Feasibility and management	Prepares feasibility reports including compliance cost analysis; manages completed properties including landscape features; advises on value implications of compliance
Quantity Surveyor	QSRBN	Costing	Prepares bills of quantities; omission of landscape works from BOQ creates a financial justification for their non-execution during construction
Land Surveyor	SURCON	Site demarcation	Prepares the SARAP; confirms setback distances on the ground; spatial accuracy of demarcation is a prerequisite for meaningful setback enforcement

Source: Adapted from Nigerian Institute of Building (2023) and reviewed literature.

The Knowledge-Practice Gap

The evidence consistently reveals a gap between professional knowledge of regulatory requirements and the

translation of that knowledge into compliant practice. However, a critical finding of this synthesis is that direct evidence on BEP-specific awareness, attitudes, and practices in Oyo State is extremely limited. Osuizugbo (2019), surveying 73 project managers across six geopolitical zones of Nigeria, found that building control practice is average at best nationally, with systemic drawbacks in enforcement and implementation identified. The study found that participants ranked zero tolerance to illegal development and enforcement of building control regulations as the two most important performance indicators, yet actual practice on both remained average, a direct measure of the gap between normative aspiration and professional reality.

Akinrinade et al. (2025), surveying 506 construction professionals, found a significant positive relationship between regulatory compliance and project performance ($r = 0.46$, $p < 0.01$), demonstrating that compliance delivers measurable project benefits that have nonetheless not been sufficient to overcome structural barriers. Yakubu & Agapiou (2019), using structural equation modelling on 378 responses, found that capacity building explains 78% of the variance in non-compliance, the single most powerful predictor in the model. Poor administration was the leading form this capacity deficit takes. The signing off of drawings by registered professionals who did not prepare them compounds this problem, detaching professional certification from meaningful compliance assurance.

Research by Alhassan (2025) on landscape components in Jos residential settlements reinforces the design-stage argument: the integration of landscape provisions from the inception of design, by architects and planners, is critical for realising the environmental benefits of those provisions. Where non-compliance is designed in from the start, the entire subsequent enforcement chain must resist an already-embedded violation, which is far harder than preventing it in the design drawing.

Inter-Professional Tensions

The literature suggests (though does not directly measure), that unclear accountability between professions contributes to compliance failure. Who is responsible when a building exceeds site coverage? The architect who designed it? The town planner who approved it? The builder who constructed it? The quantity surveyor whose bill of quantities omitted the landscape works? Under Oyo State's system, all six BEP categories have some responsibility, but none has exclusive accountability (Oyo State Government, 2023; Adebara et al., 2025). This distributed responsibility creates a classic "diffusion of responsibility" problem: each professional assumes another will enforce the standard, and in practice, no one does. Professional bodies (ARCON, TOPREC, CORBON, ESVARBON, QSRBN, SURCON) maintain separate disciplinary mechanisms, but no joint protocol exists for landscape compliance failures that span multiple professions. This gap is particularly acute for landscape requirements, which cut across design (architect), approval (town planner), costing (quantity surveyor), execution (builder), demarcation (land surveyor), and post-occupancy management (estate surveyor).

Barriers to Compliance

The literature produces a hierarchical and convergent picture of compliance barriers. Table 3 synthesises these across four levels.

Table 3: Barriers to Landscape Compliance Among BEPs: A Hierarchical Synthesis

Level	Barrier	Key Evidence	Weight in Literature
Institutional	Weak enforcement; planner shortage; poor inter-agency coordination; absence of post-construction inspection	Mbee & Joseph (2022): enforcement is the single most significant factor; Olatunji, Yoade, & Oyelade (2022): planner shortage limits effectiveness	**Highest**: ranked first consistently across studies
Professional	Landscape-specific knowledge deficits; client	Yakubu & Agapiou (2019): capacity building explains 78% of	**High**:

	pressure to maximise floor area; proxy signing of drawings; overlapping roles	non-compliance variance; Akinrinade et al. (2025): 58% cite client cost pressure	primary predictor per SEM evidence
Economic	Financial incentive to maximise built coverage; high cost of landscaping works; poverty among developers	Arimah & Adeagbo (2000): poverty is a primary factor; Wahab & Oladiran (2015): economic insolvency drives non-standard housing choices	**High**: economic logic systematically favours non-compliance
Systemic	Incomplete NBC domestication; absence of GIS monitoring; weak penalty regime for landscape violations	Nigerian Lawyers Center (2025): NBC domestication slow and inconsistent; Abubakar et al. (2025): GIS potential untapped in Nigerian development control	**Moderate to High**: systemic gaps enable and perpetuate other barriers
Historical and Cultural	Pre-planning legacy developments; colonial planning standards perceived as externally imposed; communal land use traditions	Adebara (2025): historical theory of urban form explains core area non-compliance; Jimoh & Olagunju (2022): colonial origins of setback standards	**Moderate**: significant in core areas and for standards perceived as externally imposed

Source: Synthesised from reviewed literature. Weight reflects frequency and consistency of citation across included sources.

DISCUSSION

Interpreting the Evidence

Development Control Theory holds that effective regulatory control depends on three interacting elements: an adequate legal framework, an effective administrative machinery, and compliant behaviour by regulated parties (Mabogunje, Hardoy, & Misra, 1978). Applied to Oyo State, the legal framework is substantially adequate; the failures are concentrated in the second and third elements. The Bureau of Physical Planning has the mandate to enforce landscape requirements but lacks the staffing, systems, and enforcement follow-through to exercise that mandate effectively. Regulated parties, including BEPs and developers, deviate from requirements in part because the probability of detection and sanctioning is low. Development Control Theory therefore directs reform attention toward administrative machinery, not simply legal standards.

Professional Accountability Theory on the other hand establishes a tripartite accountability framework: to the client, to the regulatory state, and to society (Dassah & Nimlyat, 2010). The evidence from this synthesis suggests that accountability to clients is operative while accountability to the state is weak and accountability to society is largely absent as a practical constraint. The signing off of non-compliant drawings, the omission of landscape works from bills of quantities, and the construction of developments that deviate from approved plans all represent failures at specific points in this accountability framework. Restoring full accountability requires both stronger institutional mechanisms and a shift in professional culture toward understanding landscape provision as a public interest obligation, not merely a bureaucratic formality.

The Sustainable Urban Development Framework situates landscape compliance within the global sustainable development agenda. SDG 11 targets inclusive, safe, resilient, and sustainable cities; SDG 15 targets terrestrial biodiversity. Both have direct expressions at the building and neighbourhood scale in landscape requirements. Urban flooding, heat island intensification, declining biodiversity, and deteriorating residential environmental quality, all of which are documented in Ibadan's communities (Owoeye & Ogundiran, 2014; Bashua et al., 2025), are not separate from the landscape compliance crisis. They are its environmental expression. This framework

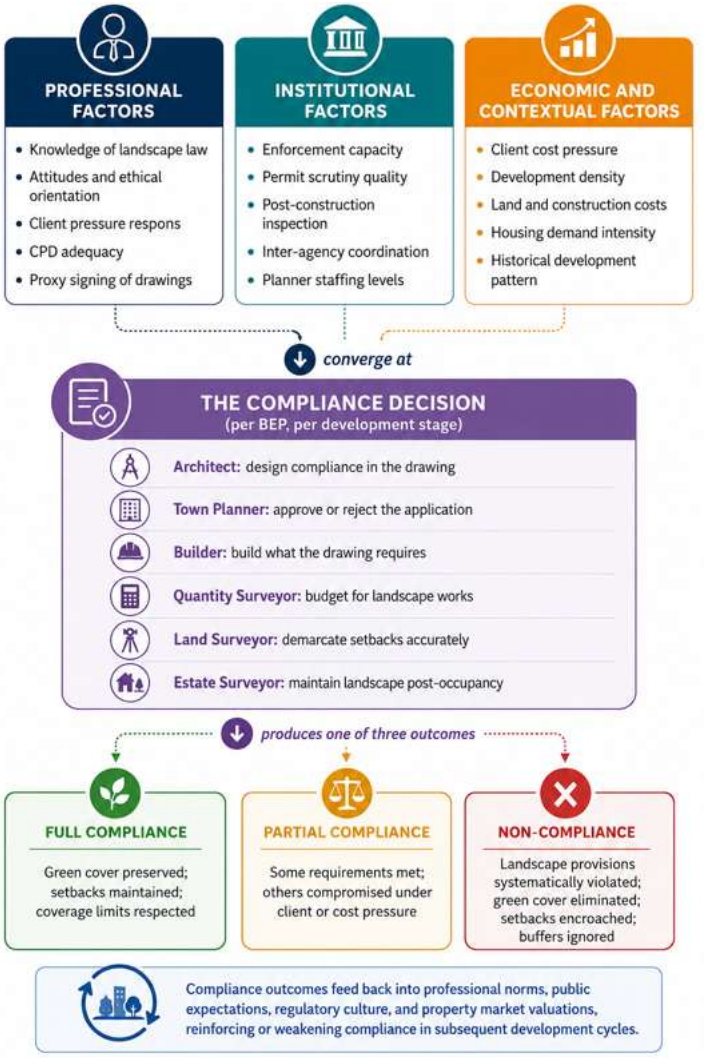
transforms landscape compliance from a local regulatory concern into a measurable contribution to or deviation from internationally agreed sustainability targets.

The Nigerian Institute of Building, Oyo State Chapter (2025) identifies "advocacy and regulatory compliance" as a key focus area, and the Oyo State Bureau of Physical Planning explicitly lists "enforcement of development compliance" among its functions. Yet the disconnect between these stated commitments and observed outcomes suggests that accountability is primarily horizontal (to professional peers) rather than vertical (to the regulatory state or to society). Restoring full accountability requires both stronger institutional mechanisms and a shift in professional culture toward understanding landscape provision as a public interest obligation, not merely a bureaucratic formality.

A Systemic Model of Compliance Failure

The synthesis supports a systemic model in which professional, institutional, and economic factors interact multiplicatively to produce the observed compliance deficit.

Figure 2: Systemic Conceptual Model of Landscape Compliance Failure



Source: Constructed by author from the synthesised evidence; informed by Development Control Theory, Professional Accountability Theory, and the Sustainable Urban Development Framework.

Figure 2 presents this systemic model, which makes three analytically consequential assertions:

i. **Multiplicative interaction**: an intervention in one domain that leaves others unchanged will produce limited and fragile improvement.

ii. **Multi-professional decision points**: the compliance decision occurs at least six times in every residential development, once at each professional stage. The cumulative effect of six inadequately enforced stages is near-systemic non-compliance.

iii. **Reinforcing feedback loops**: environments where non-compliance is normalised generate professional norms, public expectations, and regulatory cultures that perpetuate it.

The model is not just illustrative, it generates testable hypotheses for future research: (a) that strengthening one domain (e.g., post-construction inspection) without addressing professional incentives will yield smaller effects than simultaneous intervention; (b) that compliance probabilities multiply across professional stages (e.g., if each of six stages has a 70% compliance probability, cumulative compliance is only 0.70^6 = 12%); (c) that areas with recent enforcement actions will show higher subsequent compliance due to feedback effects. These hypotheses can be tested through quasi-experimental studies of enforcement interventions.

The Professional Gap Examined

Client-driven economic pressure is the most consistently documented professional-level barrier. Akinrinade et al.'s (2025) finding that 58% of construction professionals cite client cost-cutting as a compliance driver identifies a structural pressure that the regulatory system has not adequately addressed. However, it is important not to over-claim the strength of the professional evidence base. The 58% figure comes from a national sample; its applicability to Oyo State specifically is assumed, not proven. Moreover, the figure reflects professionals' self-reports of client pressure, which may be influenced by social desirability bias (professionals may overstate external pressure to downplay their own agency).

However, when a developer insists on 80% plot coverage and the professional accommodates that demand, the violation is designed into the project before a brick is laid. In a regulatory environment where the probability of detection and sanction is low, the professional who insists on compliance faces competitive disadvantage against one who does not (Adegbenro, Alade & Ojo, 2025). Therefore, restoring a meaningful professional deterrent requires both stronger external enforcement and stronger internal professional norms.

The problem of overlapping and unclear inter-professional accountability (Section 3.3.3) creates a second category of professional failure. Where responsibility is unclear, it tends to fall through the cracks: each professional assumes another is accountable, and the gap persists. Landscape requirements are particularly vulnerable because they span multiple professional domains simultaneously, from the architect's drawing through the quantity surveyor's BOQ to the builder's site execution and the estate surveyor's post-occupancy management. No single professional currently takes ownership of landscape compliance as a whole, and the result is that accountability is distributed across six professionals, none of whom regards it as specifically their problem.

Consequences of Non-Compliance

The environmental consequences of landscape non-compliance in Oyo State and similar southwest residential development are measurable and severe. Urban flooding in Ibadan is directly linked to the elimination of pervious surfaces and the encroachment on drainage buffer zones that landscape non-compliance produces. Urban heat island effects are worsened by the replacement of soft landscaping with concrete and paving. Biodiversity is depleted as green cover disappears from residential neighbourhoods. Owoeye & Ogundiran (2014), documenting conditions in Moniya community, Ibadan, record the compound effect: absent greenery, poor drainage, no access roads, buildings on erosion-prone ground, and environmental quality that fails on every dimension. This is the material expression of cumulative landscape non-compliance at the community scale.

The economic consequences are also significant. Research by Aliyu & Agava (2025) on setback enforcement found a significant positive relationship between setback compliance and commercial property values, with

compliant properties commanding higher market values. The implication for residential development is that landscape compliance is not just a regulatory cost but a long-term value driver, an argument that estate surveyors and valuers are uniquely positioned to make to their clients but that the evidence suggests is rarely made in practice.

The persistence of non-compliance with setback and open space standards cannot be fully understood without engaging the postcolonial context of planning in Nigeria. As Jimoh & Olagunju (2022) note, the colonial origins of setback standards in Nigeria (derived from British planning legislation adapted to tropical contexts) mean that these requirements are sometimes perceived as externally imposed rather than organically generated. Adebara (2025) invokes "historical theory of urban form" to explain why core area non-compliance differs from suburban areas, showing how pre-colonial and early colonial development patterns did not incorporate the spatial standards that later became law.

This matters for intervention design. If non-compliance is partly driven by perceived illegitimacy of standards, then simply increasing enforcement or CPD training may be insufficient. Participatory approaches to standard-setting, local adaptation of setback requirements to Ibadan's dense urban form, and public education campaigns that explain the environmental and safety rationale (rather than merely the legal obligation) may be necessary complements to enforcement.

The Oyo State Bureau's stated intention to "initiate intensive public enlightenment campaign on physical planning activities" (Oyo State Government, 2023) is therefore well-aligned with this evidence, though its implementation and impact remain unassessed.

LIMITATIONS

This synthesis has several limitations, which are grouped by type.

i. **Geographic and temporal limitations:** The literature base is geographically uneven, with Ibadan and Lagos State heavily represented and secondary Oyo State urban centres (Ogbomoso, Oyo city, Saki, Iseyin) less studied. Studies predating the Bureau of Physical Planning and Development Law (2019) may not fully capture compliance behaviour under the current legal framework; eight such studies were included but flagged in sensitivity analysis (their exclusion did not alter main findings).

ii. **Direct evidence gap (most significant):** The absence of primary data specifically measuring Oyo State BEP awareness, attitudes, and practices toward landscape requirements means that the professional dimension of the compliance problem is inferred from the wider literature and from studies of developers, residents, and institutions, rather than directly measured. This is not a minor limitation; it is the central finding regarding the state of knowledge. The paper's recommendations include a specific call for primary research to fill this gap.

iii. **Potential biases in the source literature:** The synthesised literature over-represents documented non-compliance (publishable findings tend to show failure rather than success). No study was identified that reported unexpectedly high compliance or that documented a successful enforcement intervention. The synthesis may therefore overstate the severity of non-compliance and understate pockets of better practice. For example, the Oyo State Bureau's own 2023 report indicates that 216 structures were demolished on flood plains, a low number relative to the 2,106 identified, but evidence that some enforcement does occur. The gated community study by Afolabi et al. (2024) also showed variation in compliance, with administrative practice quality predicting better outcomes in some communities. The paper acknowledges these pockets of better practice in the revised Recommendations section.

iv. **Publication bias:** All included studies are published in English; none reported null findings. The synthesis likely presents a worst-case picture.

CONCLUSION AND RECOMMENDATIONS

This synthesis has established four robust conclusions. First, landscape requirements in Oyo State residential development are systematically violated, with site coverage, soft landscaping, buffer zones, and pervious surface requirements showing the greatest deficits across all residential zone types. Second, BEPs occupy the most strategically important position in the compliance chain yet direct evidence on their knowledge, practices, and barriers in Oyo State is almost entirely absent from the literature. The professional dimension is inferred, not measured. Third, the barrier structure is hierarchical and multi-dimensional; weak institutional enforcement is the primary driver, but professional capacity deficits and economic pressures are independently significant, and no single intervention addresses all levels. Fourth, the consequences of non-compliance extend well beyond regulatory violation to urban flooding, heat island intensification, biodiversity loss, and declining residential environmental quality, with disproportionate impact on lower-income residents. Table 4 presents targeted recommendations arising from these conclusions.

Table 4: Recommendations Matrix

Recommendation	**Responsible Actor(s)**	**Evidence Base**	**Priority**
Commission primary empirical research on BEP-specific awareness, attitudes, and practices regarding landscape requirements in Oyo State residential development	Academic institutions; Oyo State Ministry of Lands; professional bodies (ARCON, TOPREC, CORBON, NIOB Oyo Chapter)	Identified as critical gap in this synthesis; no existing direct evidence	CRITICAL
Mandate physical post-completion inspection against approved drawings, including landscape provisions, before occupation certificates are issued	Bureau of Physical Planning and Development Control	Afolabi et al. (2024): administrative practice predicts compliance	CRITICAL
Deploy GIS-based satellite monitoring to identify site coverage and setback violations at scale, enabling risk-based enforcement prioritisation	Ministry of Lands; Bureau of Physical Planning	Fadera & Olaniyi (2022); Abubakar et al. (2025)	CRITICAL
Develop and mandate a joint CPD module on Oyo State landscape requirements for all six BEP categories, with completion required for annual practice certificate renewal	ARCON; TOPREC; CORBON; ESVARBON; QSRBN; SURCON (joint committee)	Yakubu & Agapiou (2019): capacity building explains 78% of non-compliance variance	CRITICAL
Publish a public, consolidated schedule of Oyo State's numerical landscape standards (setbacks, site coverage, soft landscaping, buffer zones)	Oyo State Bureau of Physical Planning	Identified in this synthesis: regulatory opacity is a compliance barrier	CRITICAL
Establish graduated penalty schedules specific to landscape violations; publicise through professional bodies and developer registration processes	Ministry of Lands; Oyo State Legislature	Mbee & Joseph (2022); Umunnakwe (2025)	HIGH
Increase qualified town planner staffing at the Bureau of Physical Planning to	Oyo State Government	Olatunji, Yoade, & Oyelade (2022):	HIGH

enable genuine scrutiny of landscape provisions in submitted applications		planner shortage limits effectiveness	
Strengthen professional disciplinary procedures for landscape compliance failures, with meaningful sanctions for repeat offenders and for proxy signing of non-compliant drawings	All six professional regulatory bodies (joint protocol)	Nigerian Lawyers Center (2025); Akinrinade et al. (2025)	HIGH

Source: Constructed by author from the synthesis findings.

Based on the evidence gaps identified, the following specific research questions should be addressed by future studies:

RQ1: What proportion of Oyo State architects, town planners, and builders can correctly state the numerical setback and site coverage requirements under the 2019 Bureau Law? (Knowledge baseline)

RQ2: How often do approved building drawings in Oyo State deviate from on-site construction with respect to landscape parameters? (Audit study)

RQ3: What factors do Oyo State BEPs report as most influential in their decision to comply with or deviate from landscape requirements? (Qualitative study)

RQ4: How do the six BEP professional bodies in Oyo State coordinate (or fail to coordinate) on landscape compliance enforcement? (Institutional analysis)

RQ5: What has been the impact of the Oyo State Bureau's public enlightenment campaigns on developer and BEP behaviour? (Programme evaluation)

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APPENDIX

Appendix A: Characteristics of Studies Included in the Narrative Synthesis

Table A1: Characteristics of Studies Included in the Narrative Synthesis (n = 45)

Author(s) and Year	Study Type	Location	Sample / Data	Method	Key Finding for This Synthesis
Abubakar et al. (2025)	Review	Nigeria (multiple cities)	**LITERATURE REVIEW**	Review methodology	GIS has strong potential to improve development control enforcement; data quality and staffing are barriers
Umunnakwe (2025)	Journal Article	Enugu State (3 districts)	220 respondents	Chi-square; regression	Only 40.4% possess building insurance; sanctions significantly affect compliance (chi-sq p = 0.001)
Afolab, Olugbamila, & Badiora (2024)	Journal Article	Ibadan Municipality (Gated communities)	268 buildings; 23 communities	Multistage sampling; statistical analysis	Administrative practice predicts compliance; socioeconomic factors shape awareness; even high-income zones show deficits
Akinola, Adedire, & Akande (2024)	Journal Article	Oyo State	**LITERATURE REVIEW**	Narrative review	Low PPP adoption for housing in Oyo State; substantial housing market gaps persist
Akinrinade et al. (2025)	Journal Article	Nigeria-wide	506 construction professionals	Quantitative survey; correlation	62% cite weak enforcement; 58% cite client cost-

					cutting; compliance improves project performance (r = 0.46)
Aliyu & Agava (2025)	Journal Article	Ilorin Metropolis	53 commercial properties	Simple linear regression	Positive relationship between setback compliance and commercial property values
Arimah & Adeagbo (2000)	Journal Article	Ibadan (3 residential zones)	Housing market survey	Descriptive and inferential stats	Plot coverage and setbacks most violated; awareness does not translate to compliance; institutional failure primary cause
Bashuaet al. (2025)	Journal Article	Badagry, Lagos State	400 residents; 5 communities	Quantitative survey	Grand mean compliance 3.36/5; setback and FAR neutral rates 33-31%; residents acutely perceive environmental impacts
Cable Plus Property (2020)	Policy / Web	Lagos State	Regulatory document	Document analysis	Front setback min. 6m; 900mm mandatory soft landscaping strip before fence
Dassah & Nimlyat (2010)	Conference Paper	Nigeria	Theoretical review	**LITERATURE REVIEW**	Professionals must be accountable for environmental consequences

					; ethical education required for sustainability
EnviroNews Nigeria (2019)	Grey literature	Oyo State	Government document	Document analysis	Bureau of Physical Planning and Development Law enacted April 2019; all developers must comply
Fadera & Olaniyi (2022)	Journal Article	Lagos State	Satellite imagery; questionnaires; multistage cluster sampling	Methodological triangulation	70% observed footprint vs. 40-45% standard; 30% private open space; widespread non-adherence documented
Jimoh & Olagunju (2022)	Journal Article	Peri-urban Ibadan (Apete; Odo Ona Elewe)	215 houses (3% sample of 7,170 enumerated)	Cross-sectional survey; observation checklist	75.3% aware of regulations; only 58.6% comply with setbacks; greenery disappearing from peri-urban zones
Adebara (2025)	Journal Article	Oyo City (3 residential zones)	Self-built house owners; town planning officials; direct lot measurements	Cross-sectional; systematic and convenience sampling	Low awareness across all zones; compliance lowest in core area; socioeconomic status is stronger predictor than regulatory awareness
Wahab & Oladiran (2015)	Journal Article	Ajoda New Town, Ibadan	246 illegal buildings; OSHC officials	Questionnaire; descriptive statistics	65% of buildings in Ajoda New Town are illegal; weak enforcement and

					inadequate compensation are causes
Mabogunje, Hardoy, & Misra (1978)	Book	Theoretical	Theoretical work	Conceptual analysis	Planning regulations are normative, predictive of sanction, and backed by state authority; Development Control Theory foundation
Mbee & Joseph (2022)	Journal Article	South-South Nigeria (capital cities)	Practising town planners	Cross-sectional survey; primary and secondary data	Weak enforcement is the single most significant compliance factor; corruption and political interference significant
Nigerian Institute of Building (2023)	Grey literature	Nigeria	Professional document	Document analysis	BEP categories, roles, and governing legislation in Nigeria documented
Nigerian Lawyers Center (2025)	Policy review	Nigeria-wide	Policy document	Document review	NBC domestication slow and inconsistent across states; proxy signing of drawings documented and problematic
Olatunji, Yoade, & Oyelade (2022)	Journal Article	Peri-urban Osogbo	Surveys; interviews	Surveys and interviews with residents	Development control activities effective in Osogbo; shortage of qualified town planners

					identified as limiting future effectiveness
Opeyemi, Kunle, & Umaru (2014)	Research report	Iseyin LGA, Oyo State	110 respondents	Clustered and systematic sampling	Majority did not obtain building permits before construction; illegal development widespread across the LGA
Osuizugbo (2019)	Journal Article	Nigeria-wide (6 geopolitical zones)	73 project managers (Cronbach alpha 0.882)	Questionnaire; Kendall W; Kruskal-Wallis	Building control practice is average nationally; drawbacks in enforcement identified; zero tolerance ranked top priority
Owoeye & Ogundiran (2014)	Journal Article	Moniya Community, Ibadan	Questionnaire; observation; photo-documentation	Systematic random sampling; descriptive statistics	Compound environmental quality failure: absent greenery, poor drainage, buildings on erosion-prone ground; urban sprawl effects documented
Oyo State Government (2023)	Grey literature	Oyo State	Government document	Document analysis	Bureau mandate includes setback enforcement, flood plain clearing, and open space beautification; 2,106 structures on flood plains

Oyo State Ministry of Lands (2023)	Grey literature	Oyo State	Government document	Document analysis	Building permits issued under Sections 11 and 12; SARAP required for all residential and commercial properties
Raji & Attah (2017)	Journal Article	Suleja Metropolis	Primary field survey; oral interviews; secondary data	Field survey; primary and secondary data	Non-adherence to setbacks produces poorly lit, inadequately ventilated dwellings; no parking; unsafe urban environment
Yakubu & Agapiou (2019)	Journal Article	Nigeria-wide	378 valid questionnaire responses	Structural Equation Modelling (SEM); Confirmatory Factor Analysis (CFA)	Capacity building explains 78% of non-compliance variance; poor administration is the leading cause
Yakubu et al. (2022)	Journal Article	Nigeria-wide	Structured questionnaires; semi-structured interviews	Mixed methods	Stakeholders perceive building regulatory compliance as very low; inadequate supervision and poverty are key reasons
Abubakar, Mohd Diah, & Md. Yassin (2013)	Journal Article	Nigeria	**LITERATURE REVIEW**	Review methodology	Comprehensive model for compliance with residential development standards proposed; key compliance

					factors identified
Adeoye (2021)	Repository	Ogbomoso, Oyo State	Primary and secondary data	Statistical estimation	Different residential district categories have different housing design attributes; indoor health risks vary by district type
Adegbenro, G. E., Alade, K. T., & Ojo, O. J. (2025).	Journal Article	Southwest Nigeria	Quantitative survey	Descriptive statistics	Use of substandard materials (4.52) and lack of building code enforcement (4.47) rated as critical haphazard construction factors
Alabi & Bako (2018)	Journal Article	Lagos State	Secondary records from planning authority	Document analysis	7,281 contravention notices served vs. 1,380 plans approved; need to review permit criteria for participation
Oloke, O. C., Oluwatobi, A. O., & Amusan, L. M. (2022)	Journal Article	Lagelu LCDA, Oyo State	296 questionnaires	Structured questionnaire survey	Human activities are main causes of fire; compliance with passive fire guidelines is good; active systems deficient
Falola, Agbola, & Alabi (2024)	Journal Article	Nigerian urban area	1,803 building occupants; 88 neighbourhoods	Field survey; multistage random sampling	43.7% of buildings inaccessible to fire vehicles; incompatible land uses

					widespread; inadequate road widths documented
Alhassan et al. (2025)	Repository	Jos, Plateau State	188 questionnaires distributed; 150 retrieved	Multistage sampling; descriptive stats; WAI	Policy makers should encourage outdoor environmental beautification; BEP integration at design stage is critical
Ichendu, Ejike, & Irimiagha (2024)	Journal Article	Nigeria	**LITERATURE REVIEW**	Analysis of empirical evidence	Multiple factors influencing building failure in Nigeria identified; strategies for safety standards recommended
Lawal et al. (2025)	Journal Article	Oyo State	Mixed methods	Quantitatve surveys; qualitative interviews	Individuals residing in partially constructed buildings due to economic insolvency; poverty drives non-standard housing
Soyingbe, Jago, & Awu-Patricks (2025)	Journal Article	Lagos State	Semi-structured interviews	Qualitative; thematic analysis	Bureaucratic delays and inconsistent enforcement identified; digital platforms and inter-agency coordination recommended
Toyobo, Muili, & Ige (2011)	Journal Article	Ogbomoso, Oyo State	204 questionnaires	Systematic random	Majority of houses have defects; poor

				sampling; ANOVA	facilities; urgent enforcement of planning regulations needed to improve quality

Appendix B: Quality Appraisal Summary Table

Author(s) & Year	Research Question Clarity (0–2)	Methodological Appropriateness (0–2)	Analytical Credibility (0–2)	Relevance to Synthesis (0–2)	Total (0–8)	Weight in Synthesis
Abubakar et al. (2025)	2	1 (review only)	2	2 (GIS relevance)	7	High
Adebara (2025)	2	2	1 (limited statistical depth)	2 (Oyo-specific)	7	High
Adeoye (2021)	1 (broad)	2	1 (descriptive only)	1 (indirect)	5	Moderate
Adegbenro, Alade & Ojo (2025)	2	2	1 (descriptive)	1 (construction focus)	6	Moderate
Afolabi, Olugbamila & Badiora (2024)	2	2	2	2 (gated communities, Ibadan)	8	High
Agbo Umunnakwe (2025)	2	2	2 (regression)	1 (insurance focus, not landscape)	7	Moderate
Akinola, Adedire & Akande (2024)	2	1(narrative review)	1 (no synthesis method)	1 (PPP focus)	5	Moderate
Akinrinade et al. (2025)	2	2	2 (correlation)	1 (national, not Oyo)	7	Moderate
Alabi & Bako (2018)	2	2	1 (descriptive)	1 (Lagos, not Oyo)	6	Moderate
Alhassan et al. (2025)	2	2	2 (WAI index)	1 (Jos, not Oyo)	7	Moderate
Aliyu & Agava (2025)	2	2	2 (regression)	1 (commercial property, Ilorin)	7	Modeate
Arimah & Adeagbo (2000)	2	2	2	2 (foundational Oyo compliance)	8	High
Bashua et al. (2025)	2	2	2 (grand mean)	1 (Lagos, not Oyo)	7	Moderate
Cable Plus Property (2020)	2	1 (policy summary)	0 (no analysis)	1 (Lagosbenchmark)	4	Low (excluded from main claims)
Dassah & Nimlyat (2010)	2	1 (conference paper)	1 (theoretical)	2 (professional accountability)	6	Moderate
EnviroNews Nigeria (2019)	1 (news)	1(journalistic)	0 (no analysis)	2 (Oyo law)	4	Low (used only for legal fact)
Fadera & Olaniyi (2022)	2	2	2 (triangulation)	1 (Lagos, not Oyo)	7	Moderate

Falola, Agbola & Alabi (2024)	2	2	2 (large sample)	1 (fire safety focus)	7	Moderate
Ichendu, Ejike & Irimiagha (2024)	1 (broad)	1 (review)	1 (no new analysis)	1(building failures)	4	Low
Jimoh & Olagunju (2022)	2	2	2	2 (Oyo peri-urban)	8	High
Lawal et al. (2025)	2	2	1 (mixed, descriptive)	1 (security focus)	6	Moderate
Mabogunje, Hardoy & Misra (1978)	2	1 (theoretical book)	2 (foundational theory)	2 (theory)	7	High (theory only)
Matar, Palaiologou & Richards (2023)	2	1 (review)	1 (framework)	1 (urban sustainability)	5	Moderate
Mbee & Joseph (2022)	2	2	2	1 (South-South, not Oyo)	7	Moderate
Nigerian Institute of Building (2023)	1 (professional guidance)	1 (descriptive)	0 (no analysis)	2 (BEP roles)	4	Low (used for descriptive facts)
Nigerian Lawyers Center (2025)	1 (blog)	1 (grey)	0 (no analysis)	2 (NBC domestication)	4	Low (used for factual context)
Olatunji, Yoade & Oyelade (2022)	2	2	1(descriptive)	1 (Osogbo, not Oyo)	6	Moderate
Oloke, Oluwatobi & Amusan (2022)	2	2	2	1 (fire safety focus)	7	Moderate
Opeyemi, Kunle & Umaru (2014)	1 (report)	1 (thin methods)	1 (basic stats)	2 (Oyo-specific)	5	Low (sensitivity analysis)
Osuizugbo (2019)	1 (broad)	2	1 (Kendall's W only)	1 (national, not landscape)	5	Moderate
Owoeye & Ogundiran (2014)	2	2	1 (descriptive)	2 (Moniya, Ibadan)	7	High
Oyo State Government (2023)	1(government website)	1 (grey)	0 (no analysis)	2 (primary source on mandate)	4	Low (used only for

						factual data)
Oyo State Ministry of Lands (2023)	1 (website)	1 (grey)	0 (no analysis)	2 (permit process)	4	Low (used for procedural facts)
Raji & Attah (2017)	2	2	1 (descriptive)	1 (Suleja, not Oyo)	6	Moderate
Soyingbe, Jago & Awu-Patricks (2025)	2	2 (qualitative)	2 (thematic analysis)	1 (Lagos, not Oyo)	7	Moderate
Toyobo, Muili & Ige (2011)	2	2	1 (ANOVA, basic)	1 (Ogbomoso, but defects focus)	6	Moderate
Wahab & Oladiran (2015)	2	2	2	2 (Ajoda New Town, Ibadan)	8	High
World Bank (2014)	2	1 (global report)	1 (secondary)	1 (contextual only)	5	Low
Yakubu & Agapiou (2019)	2	2	2 (SEM, 78% variance)	1 (national, not landscape)	7	Moderate
Yakubu et al. (2022)	2	2	1 (mixed, descriptive)	1 (structural failures)	6	Moderate
Abubakar, Mohd Diah & Md. Yassin (2013)	2	1 (review)	1 (model proposal)	1 (national, pre-2019)	5	Moderate

Notes:

i. **High weight (7-8):** Primary conclusions rely on these.

ii. **Moderate weight (5-6):** Supporting evidence, not sole basis for claims.

iii. **Low weight (≤4):**