

# Assessment of Compliance of Residential Building Development to Zoning and Development Control Guidelines in the WUSE Master Plan, Abuja FCT, Nigeria

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## ABSTRACT

Development control compliance is fundamental to planned urban environments, yet persistent non-compliance undermines planning objectives in capital cities worldwide. In Abuja, Nigeria's Federal Capital Territory, the Wuse District has experienced substantial residential development control violations since its creation under the 1979 Master Plan. This review synthesizes evidence on the nature, extent, causes, and consequences of non-compliance with zoning and development control guidelines in residential building development within the Wuse District of Abuja, Nigeria. Following PRISMA guidelines, systematic searches of Google Scholar, Scopus, Web of Science, JSTOR, and institutional repositories were conducted for studies published between 1990 and 2026. Twenty-five sources (16 primary studies and 9 government sources) met inclusion criteria and were synthesized using thematic analysis. The review reveals that land use violation is the dominant form of non-compliance, documented at 42% in the sole Wuse-specific finding corroborated by recent FCTA enforcement actions targeting 374 properties on Wuse II streets in 2025. Setback violation (28%), density and height violation (26%), and fence height violation (4%) were also significant. Institutional challenges including inadequate funding (RII = 0.952), corruption, and staffing deficits were root causes. The penalty framework (N10,000 since 1992) is economically obsolete, while the absence of geospatial monitoring creates critical compliance tracking gaps. This review provides a systematic synthesis of Wuse District development control compliance, revealing governance coordination failure requiring simultaneous intervention across institutional, legal, technological, and economic dimensions. The findings establish an evidence base for Master Plan revision, penalty reform, and technology-enhanced compliance monitoring.

**Keywords:** Development Control, Zoning Compliance, Wuse District, Abuja Master Plan, Residential Buildings

## INTRODUCTION

The orderly development of capital cities represents one of the most consequential tests of state capacity in the Global South (Singh & Ovadia, 2020). Master plans, as instruments of long-range spatial governance, are designed to ensure rational land use allocation, protect environmental assets, and safeguard public infrastructure for present and future generations (Enoguanbhor et al., 2019; Okeke et al., 2024). Yet the gap between planning intention and urban reality has become a defining feature of rapidly urbanizing contexts, where demographic pressures, market forces, and institutional weaknesses systematically undermine regulatory frameworks (Badiora, 2020). Abuja, the Federal Capital Territory of Nigeria, stands as a particularly instructive case. Designed by International Planning Associates (1979) for a projected population of 1.6 million by the year 2000, the Federal Capital City was organized around a hierarchical structure of city centres, districts, and neighbourhoods governed by detailed zoning and development control regulations. Research employing time-series satellite imagery has documented the progressive failure of the Abuja Master Plan, with built-up area expanding from 1.8% in 1987 to 19.3% in 2017, largely outside planned boundaries (Gumel et al., 2020). Within this context of plan distortion, compliance with zoning and development control guidelines in residential districts assumes particular urgency.

Early research on Abuja's development control challenges dates to the earliest phases of the city's construction. Omeru (1990) conducted one of the first academic investigations, reviewing Wuse I and Garki I districts and documenting illegal developments and contraventions of building regulations. Omeru identified what would become a persistent pattern, which is the inability of development control agencies to harmonize, regulate, and coordinate implementation of the Master Plan. Decades later, the FCT Ministerial Committee on Illegal Structures (2003) documented over 500 plots in Phase 1 that contravened Master Plan provisions, including encroachments into green areas, sewer lines, water pipelines, and highway corridors. These early findings established a foundation for subsequent scholarship, though several decades would pass before researchers returned to Wuse District with comparable specificity.

A subsequent wave of research shifted attention to quantifying the extent and pattern of non-compliance across multiple dimensions. Jibrin (2014), in what remains the most comprehensive academic study of Wuse District, examined 574 residential plots across Wuse I and Wuse II and found that land use violation constituted the highest form of non-compliance at 42%, followed by setback violation at 28%, density and building height violation at 26%, and fence height violation at 4%. Jibrin further documented the resulting urban management challenges, including traffic congestion, inefficient service delivery, and deterioration of visual quality. Complementary research by Ezeamaka & Oluwole (2016) found that only 11% of recreational sporting facilities in Phase 1 were developed in accordance with the Abuja Master Plan. Studies of land use conversion dynamics revealed that 52.71% of residential land use changes in Abuja neighbourhoods were converted to retail use, with economic drivers ranked as the primary motivations (Fateye, 2018). More recent analyses have extended this evidence base to encompass consequences of non-compliance, including a 70% loss of vegetal cover in the Federal Capital City between 1980 and 2020, building collapse incidents linked to development control failures, and noise pollution levels in Wuse District exceeding national and international standards (Akuboh & Aimola, 2025; Unah, 2019).

Despite this progress, the literature on development control compliance in Abuja remains fragmented across disciplinary boundaries. Research on institutional challenges has identified inadequate funding, improper monitoring, and poor inter-agency coordination as persistent barriers (Fadare et al., 2020). Technological studies have highlighted the absence of geospatial databases within the Department of Development Control, noting that geo-tagged field data generated during inspections cannot be systematically stored, analysed, or acted upon (Waziri, 2024; Abubakar et al., 2025). Economic analyses have also traced the relationship between zoning policy and property values in Wuse, finding that zoning is negatively correlated to rental values while planning approval and density are positively correlated (Ahmed et al., 2019). Recent policy interventions, notably the 2025 FCT Administration enforcement actions imposing N5 million penalties for illegal land use conversion on major Wuse II streets, have added further urgency (Ibrahim et al., 2025; Olumuji et al., 2025). What emerges is a picture of systematic non-compliance driven by interlocking economic, institutional, and technological factors, yet no study has synthesized these dimensions within a unified framework.

Three specific gaps motivate the present review. First, a synthesis gap, where existing studies examine individual compliance dimensions in isolation, but no work has synthesized the interaction of these violations with institutional, legal, and technological factors within a systematic framework. Second, a methodological gap, the field is dominated by cross-sectional field surveys, leaving a lack of longitudinal or GIS-based compliance tracking. Only Jibrin (2014) has comprehensively assessed Wuse, and that study is now over a decade old with no replication. Third, a contextual gap showing that findings are heavily skewed toward other Nigerian cities or other Abuja districts, with Wuse specifically receiving insufficient scholarly attention despite its strategic importance as one of Abuja's earliest Phase 1 developments. These gaps limit the capacity of researchers and policymakers to design evidence-based interventions tailored to Wuse's compliance challenges.

This study addresses these gaps through a systematic literature review guided by the following research question: What does the existing literature reveal about the nature, extent, causes, and consequences of non-compliance with zoning and development control guidelines in residential building development within the Wuse District of Abuja, Nigeria? By synthesizing evidence across multiple disciplinary traditions, this review aims to construct an integrated understanding of compliance failure that can inform both future research priorities and policy intervention design.

## METHODOLOGY

This section presents the systematic methodological approach employed to identify, appraise, and synthesise the literature on compliance with zoning and development control guidelines in Wuse District, Abuja. The procedure follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al., 2021; Abusaada & Elshater, 2022), adapted for application within the urban planning domain.

### Research Design and Protocol

This study adopts a systematic literature review design, selected because the relevant body of literature spans multiple disciplinary boundaries including urban planning, human geography, land administration, and environmental science. A systematic approach ensures transparent, reproducible, and rigorous synthesis of evidence that might otherwise remain fragmented across disparate fields (Booth et al., 2022). Unlike medical or health sciences reviews, registration on the International Prospective Register of Systematic Reviews (PROSPERO) is neither customary nor required for urban planning and built environment research; accordingly, no protocol was registered externally. However, a detailed internal protocol was developed prior to commencing the review to minimise researcher bias and ensure procedural consistency (Levac et al., 2010).

The review was structured around a single primary research question: What does the existing literature reveal about the nature, extent, causes, and consequences of non-compliance with zoning and development control guidelines in residential building development within the Wuse District of Abuja, Nigeria? To operationalise this question, the PICo framework was employed (Stern et al., 2014). The Population comprised residential buildings and developments in Wuse District; the Interest centred on compliance and non-compliance with zoning regulations and development control guidelines; and the Context was delimited to Wuse District within the Federal Capital Territory of Abuja, Nigeria.

### Search Strategy

A comprehensive multi-database search strategy was developed to maximise retrieval of relevant studies. The electronic databases searched were Google Scholar, Scopus, Web of Science, and JSTOR, supplemented by institutional repositories including Kubanni (Ahmadu Bello University Zaria), the African University of Science and Technology Repository, and the Federal University of Technology Minna Repository. An initial scoping search was conducted to identify appropriate keyword combinations and refine search strings (Arksey & O'Malley, 2005). The final search strings employed Boolean combinations of: ("Wuse" OR "Abuja" OR "Federal Capital Territory") AND ("development control" OR "zoning compliance" OR "building compliance" OR "land use violation" OR "planning enforcement" OR "development control violation"). The search period covered publications from January 1990 to May 2026. The year 1990 was selected as the lower bound because it coincides with the operational consolidation of the Abuja master plan and the emergence of scholarly research on development control within the Federal Capital Territory.

Beyond database searches, the review incorporated grey literature from official reports of the Federal Capital Territory Administration, court judgments, and technical reports from international agencies such as JICA. Hand-searching of reference lists of all included studies was conducted to identify additional relevant publications (Greenhalgh & Peacock, 2005).

### Inclusion and Exclusion Criteria

Eligibility criteria were established across six dimensions to ensure that only studies directly relevant to the research question were retained. Table 1 summarises these criteria.

**Table 1: Inclusion and Exclusion Criteria**

| Criterion           | Inclusion                                                                                 | Exclusion                                                                                |
|---------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>Population</b>   | Studies on residential building development in Abuja FCT, Nigeria                         | Studies on non-residential or non-Abuja locations                                        |
| <b>Topic</b>        | Zoning compliance, development control, building regulation enforcement                   | Studies on general urban planning without compliance focus                               |
| <b>Study Design</b> | Peer-reviewed articles, theses, dissertations, government reports, conference proceedings | Opinion pieces, editorials, blog posts, non-peer-reviewed sources                        |
| <b>Language</b>     | English-language publications                                                             | Non-English publications                                                                 |
| <b>Timeframe</b>    | 1990 to 2026                                                                              | Studies published before 1990                                                            |
| <b>Geography</b>    | Wuse District prioritised; other Abuja districts included for comparative context         | Studies outside Nigeria unless providing essential methodological or theoretical context |

The population criterion ensured that studies examined residential building developments, given that the research question specifically concerns residential compliance. The topic criterion excluded studies that discussed urban planning in general without addressing compliance, enforcement, or violation dimensions. Study design restrictions were applied to safeguard evidentiary quality while still permitting grey literature from authoritative government sources. The geographic criterion prioritised Wuse District but included other Abuja districts to permit comparative analysis.

### Study Selection Process

The selection process followed the PRISMA 2020 four-phase flow, comprising identification, screening, eligibility, and inclusion (Page et al., 2021). The initial electronic database search yielded 200 records. An additional 25 records were identified through grey literature sources and hand-searching of reference lists. Following duplicate removal, 180 unique records remained for screening. During title and abstract screening, 140 records were excluded for irrelevance to Abuja FCT or absence of a compliance focus. Full-text assessment of 40 records resulted in the retention of 16 primary studies and 9 government or legal sources, yielding 25 included sources. The PRISMA flow diagram is provided in Appendix A.

### Quality Appraisal

A two-stage quality assessment was conducted to evaluate the methodological rigour and evidentiary weight of included sources. In the first stage, sources were classified into three tiers: Tier 1 comprised peer-reviewed journal articles and official government reports; Tier 2 comprised academic theses, dissertations, and peer-reviewed conference proceedings; and Tier 3 comprised media reports and supplementary grey literature used solely for contextual background, in line with Munn et al. (2018). Tier 3 sources were not included in the qualitative synthesis but were referenced where they provided essential contextual information.

In the second stage, all empirical studies in Tiers 1 and 2 were appraised using a quality assessment tool adapted from the Critical Appraisal Skills Programme checklist (CASP, 2018). The appraisal assessed six domains: (i) clarity and specificity of the research question; (ii) appropriateness of the study design relative to the research objectives; (iii) adequacy of the sampling strategy; (iv) rigour of data collection methods; (v) analytical rigour and transparency; and (vi) awareness and disclosure of potential conflicts of interest and sources of bias. Studies scoring below a predetermined threshold on two or more domains were excluded from the qualitative synthesis. Inter-rater reliability was addressed through a consensus-based verification process. The complete quality appraisal results are presented in Appendix B.

## Data Extraction and Synthesis

Data from all included studies were extracted using a standardised form capturing: author(s), year of publication, study design, sample size and characteristics, methodology, compliance parameters assessed, key findings, and quality appraisal score. Extraction was performed systematically to ensure consistency and comparability across studies.

A thematic synthesis approach was employed, following the method described by Braun & Clarke (2006) and operationalised for systematic reviews by Thomas & Harden (2008). The synthesis proceeded through three stages: (i) line-by-line coding of findings and results sections from all included studies to generate initial descriptive codes; (ii) organisation of these codes into descriptive themes that reflected patterns across the literature; and (iii) generation of analytical themes that addressed the review's research question directly. Through this process, four analytical themes were identified: (i) Compliance Violation Patterns; (ii) Institutional and Enforcement Challenges; (iii) Legal and Regulatory Framework Constraints; and (iv) Technological Gaps in Compliance Monitoring. The synthesis was predominantly qualitative, reflecting the heterogeneity of study designs and outcome measures across the included literature, which precluded statistical meta-analysis.

## RESULTS

### Study Selection and Characteristics

As detailed in Section 2.4, the search strategy yielded 200 records across six electronic databases and grey literature sources. Following duplicate removal and title/abstract screening, 40 full-text articles were assessed for eligibility. Of these, 25 sources met the inclusion criteria: 16 primary empirical studies and 9 government or legal sources. The included studies span a publication period from 1990 to 2025, with the majority (68%) published after 2015, reflecting intensified scholarly attention to development control compliance in Abuja. Geographic scope varied from Wuse District-specific investigations (Jibrin, 2014) to Federal Capital City-wide assessments (Ibrahim et al., 2025) and Abuja city-region analyses (Enoguanbhor et al., 2019). Study designs cut across cross-sectional field surveys, mixed-methods institutional audits, quantitative geospatial analyses, and government committee reports. Table 2a and 2b presents the characteristics of all included studies.

**Table 2a: Summary of Included Studies (Primary Empirical Studies)**

| Author (Year)             | Study Design                             | Geographic Scope                     | Key Focus                                                  |
|---------------------------|------------------------------------------|--------------------------------------|------------------------------------------------------------|
| Omeru (1990)              | Case study review                        | Wuse I, Garki I                      | Early development control problems                         |
| Jibrin (2014)             | Field survey / Cross-sectional           | Wuse I and II (574 plots from 2,763) | Violation patterns: 42% land use, 28% setback, 26% density |
| Ezeamaka & Oluwole (2016) | Cross-sectional facility survey          | Phase I incl. Wuse II                | Recreational facility compliance (11% compliant)           |
| Ahmed et al. (2020)       | Cross-sectional survey / Hedonic pricing | Wuse, Maitama, Nyanya (n=114)        | Zoning impact on rental values                             |
| Ahmed et al. (2019)       | Cross-sectional trend analysis           | Wuse, Maitama, Nyanya                | Rental value trends 2008-2017                              |
| Amusa (2020)              | GIS / Remote sensing analysis            | Abuja Phase I (3,822 buildings)      | Setback compliance (45.13% non-compliant)                  |
| Enoguanbhor et al. (2019) | Time-series GIS / Remote sensing         | Abuja city-region                    | Land cover changes 1987-2017                               |
| Enoguanbhor et al. (2021) | Literature-based analysis                | Abuja city-region                    | Land use planning challenges                               |

|                             |                                         |                           |                                               |
|-----------------------------|-----------------------------------------|---------------------------|-----------------------------------------------|
| Fadare et al. (2020)        | Mixed methods (RII)                     | FCT-wide professionals    | Building control mechanisms                   |
| Ibrahim al. (2025)          | Mixed methods                           | FCC Abuja                 | Land allocation and zoning compliance         |
| Waziri (2024)               | Technical analysis / Geodatabase design | AMMC jurisdiction         | Geodatabase potential for Dev Control         |
| Abubakar al. (2025)         | Literature Review                       | Nigeria-wide              | GIS in development control enforcement        |
| Olumuji al. (2025)          | Library-based review                    | FCT Abuja                 | Urbanization, dev control, and insecurity     |
| Fateye (2018)               | Cross-sectional survey                  | FCT Abuja neighbourhoods  | Land use conversion patterns                  |
| Ojo-Fajuru & Adebayo (2018) | Cross-sectional survey                  | FCT Abuja                 | Building compliance and neighbourhood quality |
| Irene al. (2023)            | Cross-sectional survey                  | FCC Abuja housing estates | Building Energy Efficiency Code compliance    |

**Table 2b: Summary of Included Studies (Government and Legal Sources)**

| Source (Year)                           | Type                          | Geographic Scope            | Key Focus                               |
|-----------------------------------------|-------------------------------|-----------------------------|-----------------------------------------|
| FCT Ministerial Committee (2003)        | Government report             | Abuja Phase I (500+ plots)  | Master plan contraventions              |
| Abuja Development Control Manual (2007) | Regulatory document           | FCT Abuja                   | Development control regulations         |
| Abuja Development Control Manual (2017) | Regulatory document           | FCT Abuja                   | Updated development control regulations |
| FCTA (2025)                             | Government enforcement action | 15 streets incl. Wuse II    | Land use conversion penalties           |
| JICA (2025)                             | Technical report              | Abuja Master Plan 2025-2050 | Master Plan review and update           |
| ICPC Reports                            | Anti-corruption reports       | FCT Abuja                   | Corruption in land administration       |
| Court Cases (2025)                      | Legal judgments               | FCT Abuja                   | Legality of demolitions and due process |
| Land Use Act (1978)                     | Legislation                   | Federal Republic of Nigeria | Land tenure and occupancy penalties     |
| NURPA (2004)                            | Legislation                   | Federal Republic of Nigeria | Development control penalties           |

**Note:** AMMC = Abuja Metropolitan Management Council; FCC = Federal Capital City.

The evidence base relies predominantly on cross-sectional designs, with only one study (Jibrin, 2014) providing Wuse-specific compliance data. This paucity of geographically focused empirical research represents a significant and persistent gap that this review addresses through systematic synthesis of available evidence across multiple analytical dimensions.

## Thematic Synthesis

### Compliance Violation Patterns in Wuse District

A dominant narrative within the literature concerns the hierarchical pattern of violations, where land use contravention consistently ranks as the most pervasive form of non-compliance. Early evidence from Omeru (1990) documented illegal developments in Wuse I during the city's formative period. Jibrin (2014), the only Wuse-specific study, found land use violation accounted for 42% (238 cases) of all contraventions across 574 sampled plots, followed by setback at 28% (161 cases), density and height at 26% (151 cases), and fence height at 4% (24 cases).

Abuja-wide studies corroborate these findings: the FCT Ministerial Committee (2003) documented over 500 contravening plots in Phase I, while Ibrahim et al. (2025) found 15% of residential zones contained unauthorized commercial activities. Fateye (2018) study reported 52.71% of conversions were to retail and 29.73% to office use, and Ezeamaka & Oluwole (2016) found only 11% of recreational facilities in Phase I complied with the Master Plan. These convergent findings establish that violation in Wuse reflects systemic city-wide failure rather than isolated non-compliance. Table 3 presents a comparative summary.

**Table 3: Compliance Violation Rates**

| Parameter                        | Wuse Rate       | Abuja Rate            | Source                               |
|----------------------------------|-----------------|-----------------------|--------------------------------------|
| Land use violation               | 42% (238 plots) | 15% residential zones | Jibrin (2014); Ibrahim et al. (2025) |
| Setback violation                | 28% (161 plots) | 45% (Phase I GIS)     | Jibrin (2014); Amusa (2020)          |
| Recreational non-compliance      | Not reported    | 89%                   | Ezeamaka and Oluwole (2016)          |
| Residential-to-retail conversion | Not reported    | 52.71%                | Fateye (2018)                        |

The persistence of these patterns from Omeru (1990) through Jibrin (2014) to the FCTA (2025) enforcement action targeting Aminu Kano Crescent and Ademola Adetokunbo Crescent in Wuse II emphasizes entrenched compliance failure that has resisted three decades of regulatory intervention.

### Institutional and Enforcement Challenges

If violation patterns describe symptoms of non-compliance, institutional weaknesses constitute the underlying pathology. Fadare et al. (2020) employed a Relative Importance Index to rank challenges, finding inadequate funding as most severe (RII = 0.952), followed by physical development on circulation areas (RII = 0.940).

Broader assessments document that 51% of officials cite inadequate personnel as the dominant constraint, while political interference (18%) and corruption (17%) compound operational difficulties. Table 4 presents the ranked challenges.

**Table 4: Ranking of Institutional Challenges**

| Challenge                        | RII / Frequency  | Source               |
|----------------------------------|------------------|----------------------|
| Inadequate funding               | RII = 0.952      | Fadare et al. (2020) |
| Development on circulation areas | RII = 0.940      | Fadare et al. (2020) |
| Inadequate personnel             | 51% of officials | NITP assessment      |

|                        |                 |                      |
|------------------------|-----------------|----------------------|
| Political interference | 18%             | NITP assessment      |
| Corruption             | 17%; $r = -.40$ | NITP; Badiora (2020) |

**Note:** RII = Relative Importance Index; NITP = Nigerian Institute of Town Planners.

The corrosive effect of corruption has been quantitatively established; Badiora (2020) reported a negative correlation ( $r = -.40$ ) between corruption and compliance with development control regulations. The Home Builders Association of Nigeria has documented corrupt practices among officials, while the Independent Corrupt Practices Commission identified forgery and pressure from well-connected individuals as persistent red flags in FCT land administration. Enforcement remains largely reactive, with Olumuji et al. (2025) confirming that weak enforcement contributes to unregulated settlement expansion. This institutional context explains why violation patterns have persisted despite repeated policy pronouncements and intermittent demolition exercises.

### Legal and Regulatory Framework Constraints

The legal architecture presents parallel constraints. The Land Use Act of 1978 remains foundational, yet its penalty of N5,000 for unauthorized land use has not been adjusted for nearly five decades. The Nigerian Urban and Regional Planning Act of 2004 specifies penalties of N10,000 for individuals and N50,000 for corporate bodies, amounts unchanged since 1992. If a Wuse property values of up to N500 million, these penalties represent 0.001% of average value, rendering them economically meaningless as deterrents. Human Rights Watch (2008) established that the Abuja Master Plan is a planning document rather than a legally binding instrument, creating enforcement ambiguity. The Development Control Manual (2007, 2017) partially addresses this through regulations DC.REG 40-47 specifying land use change procedures requiring stakeholder assent within 100 metres and Presidential approval. However, the 2025 FCTA enforcement action imposing a N5 million penalty plus 7.5% conversion fee represents administrative innovation outside the statutory framework. Judicial challenges have followed, with *Obike Industries v. Matawal* (2025) awarding N50 million in damages for illegal demolition and *Gabriel Ujah v. Minister of FCT* (2025) securing perpetual injunction against enforcement lacking due process.

### Technological Gaps in Compliance Monitoring

The Development Control Department operates within a pre-digital paradigm despite available monitoring technologies. Waziri (2024) found that although the Department generates geo-tagged field data, these are not stored in a geospatial database, resulting in duplicated efforts and limited spatial analysis. The Development Control Information System processes permits but lacks an integrated geospatial component for compliance analysis, and data sharing with the Abuja Geographic Information System remains one-directional. Abubakar et al. (2025) identified seven barriers to GIS adoption: poor data quality, weak infrastructure, shortage of trained personnel, resistance to change, unreliable power, inadequate funding, and interoperability failures. International evidence demonstrates feasibility; Moghadam et al. (2015) achieved 75% accuracy in illegal building detection using multi-temporal satellite imagery. Notably, no study has applied GIS-based compliance monitoring specifically to Wuse District, representing both a significant methodological gap in the literature and a potential avenue for future empirical investigation.

### Synthesis Matrix

Table 5 integrates the four analytical themes.

**Table 5: Synthesis Matrix**

| Theme              | Key Finding                      | Primary Evidence                          | Confidence |
|--------------------|----------------------------------|-------------------------------------------|------------|
| Violation patterns | Land use contravention dominates | Jibrin (2014); Fateye (2018); FCTA (2025) | High       |

|                          |                                        |                                       |      |
|--------------------------|----------------------------------------|---------------------------------------|------|
| Institutional challenges | Funding and corruption are root causes | Fadare et al. (2020); Badiora (2020)  | High |
| Legal constraints        | Penalties are economically meaningless | Land Use Act (1978); NURPA (2004)     | High |
| Technological gaps       | DevCIS lacks geospatial database       | Waziri (2024); Abubakar et al. (2025) | High |

The synthesis reveals a reinforcing cycle of compliance failure: weak institutional capacity constrains enforcement effectiveness, outdated legal frameworks remove deterrent credibility, and technological deficits eliminate systematic monitoring capability. Within this cycle, land use conversion emerges as the dominant violation because it is simultaneously the most profitable for property owners and the least detectable by an under-resourced apparatus. The convergence of evidence across multiple independent sources provides high confidence in these findings, though limited Wuse-specific data remains a constraint for future research to address.

## DISCUSSION

### Summary of Key Findings

This systematic review provides a comprehensive synthesis of research on residential development control compliance in Wuse District, Abuja, revealing four interconnected insights that together explain the persistence of non-compliance across three decades.

First, land use violation is the dominant and most persistent form of non-compliance. The 42% rate documented by Jibrin (2014) has been corroborated by the 2025 Federal Capital Territory Administration enforcement actions targeting the exact same district, confirming that this is not a transient problem but a structural feature of Wuse's urban development. The residential-to-commercial conversion rate documented by Fateye (2018), in which 52.71% of conversions were to retail use, reflects the district's evolution from a strictly residential zone to a de facto mixed-use commercial hub, a pattern common in planned capital cities where central location creates irresistible market pressure.

Second, institutional weaknesses are the root cause. The finding that inadequate funding ranks highest among challenges (Relative Importance Index = 0.952) while corruption erodes compliance ( $r = -.40$ ) creates a self-reinforcing cycle: underfunding leads to understaffing, which creates opportunities for corruption, which undermines enforcement, which increases violations, which overwhelms the already underfunded system (Fadare et al., 2020; Badiora, 2020).

Third, the legal framework is economically obsolete. Penalties set in 1992 (N10,000) bear no relationship to 2026 property values (N50 million to N100 million), rendering the formal enforcement framework legally extant but practically irrelevant. The Federal Capital Territory Administration's 2025 N5 million administrative penalty represents extralegal improvisation rather than statutory reform, highlighting a governance system that has adapted through administrative fiat rather than legislative update.

Fourth, the absence of geospatial compliance monitoring creates a fundamental information deficit. The Development Control Department cannot systematically identify, track, or predict violations; it can only react to complaints and visible infractions (Waziri, 2024; Abubakar et al., 2025). Taken together, these four findings form a reinforcing cycle in which institutional weakness produces legal impotence, which combines with technological blindness to enable violation persistence, which in turn generates further institutional strain.

### Theoretical Implications

The findings of this review align with urban governance theory by demonstrating that compliance failure is not merely a regulatory problem but a governance coordination failure involving five stakeholder groups with

fundamentally misaligned incentives: government seeks revenue and order; developers pursue profit; residents demand services; professionals uphold standards; and enforcement agencies struggle with capacity and accountability (Fadare et al., 2020; Ibrahim et al., 2025). No single theoretical lens, whether regulatory enforcement theory, market economics, or institutional analysis, adequately explains Wuse's compliance landscape. Ostrom's (1990) institutional analysis framework helps explain how resource constraints and monitoring deficits enable rule-breaking, yet it does not fully capture the market pressures that make violation economically rational for property owners. Healey's (1997) collaborative planning model offers a normative alternative, but the evidence reveals that stakeholder collaboration in Abuja is constrained by corruption and political interference rather than merely lacking facilitation (Enoguanbhor et al., 2021).

This review identifies what can be termed the "Wuse Paradox": a district zoned for residential use that functions as a commercial center, where strict enforcement of residential zoning would simultaneously comply with the Master Plan, violate market rationality, and cause economic harm to property owners who invested under de facto mixed-use conditions. This paradox challenges the assumption that compliance is simply a matter of enforcement; rather, it reveals a fundamental tension between planning ideals and urban economic dynamics. Flyvbjerg's (1998) analysis of rationality and power in planning provides a useful lens here, as the evidence shows that power relations, whether exercised through political interference or market forces, consistently override the rational planning blueprint. Furthermore, Lefebvre's (1968) concept of the right to the city has relevance in the context of due process, where enforcement actions that proceed without judicial oversight, as documented in the 2025 demolition cases, undermine the legitimacy of development control itself and invite judicial intervention (Gabriel Ujah v. Minister of FCT, 2025).

The Abuja Master Plan was designed for 1.6 million people by 2000; the actual population now exceeds 3 million (JICA, 2025). This scale mismatch creates what this review terms "adaptive non-compliance": violations that emerge not from regulatory defiance but from the inability of a static plan to accommodate dynamic demographic and economic realities. The concept, while implicit in the broader planning literature on planned city failure, has not been explicitly theorized for African planned capitals. Methodologically, the review reveals that field survey approaches (Jibrin, 2014, reporting 28% setback violation) may systematically understate violations compared to GIS-based approaches (45.13% in Phase I), suggesting a measurement bias in the compliance assessment literature that future research must address (Amusa, 2020).

### **Practical and Policy Implications**

For the Federal Capital Territory Administration, this review suggests four priority actions: (i) the Abuja Master Plan review currently underway with JICA (2025-2050) should formally designate mixed-use zones in Wuse, acknowledging the district's de facto commercial function rather than attempting to restore a residential character that market forces have rendered unsustainable; (ii) penalty structures should be indexed to property values rather than fixed amounts, ensuring that sanctions retain deterrent effect as the property market evolves; (iii) investment in a geodatabase for the Development Control Department should be prioritized, following the technical specifications outlined by Waziri (2024); and (iv) transparent, multi-stakeholder compliance committees should be established to reduce corruption and increase the legitimacy of enforcement actions.

For the Development Control Department, the review recommends: (i) implementation of GIS-based compliance monitoring with annual aerial or satellite surveys, enabling proactive rather than reactive enforcement; (ii) creation of a publicly accessible compliance database to increase transparency and enable community monitoring; and (iii) transition from reactive complaint-driven enforcement to proactive enforcement using predictive analytics to identify violation hotspots before they proliferate.

For researchers, this review identifies four urgent priorities: (i) replication of Jibrin's (2014) study using 2026 data to enable temporal comparison of compliance trends over a thirteen-year interval; (ii) application of GIS-based compliance assessment specifically to Wuse District to overcome the methodological limitations of field surveys; (iii) study of Wuse Zones 3 through 7, which have no existing compliance research; and (iv) evaluation of the effectiveness of the 2025 Federal Capital Territory Administration enforcement actions in reducing violation rates.

## Limitations of the Review

This review has several limitations that should inform its interpretation. First, the review identified only one study (Jibrin, 2014) that is specifically and exclusively focused on Wuse District compliance. While other Abuja-wide studies provide relevant contextual data, the Wuse-specific evidence base is thin, which limits the granularity of conclusions that can be drawn. Second, the heterogeneity of study designs, including field surveys, mixed methods, GIS studies, and technical analyses, made quantitative meta-analysis impossible. The synthesis is therefore predominantly qualitative, which may limit the precision of effect-size estimates.

Third, the grey literature, including government reports and media sources, provided important contextual information on recent policy interventions but lacks the methodological rigor of peer-reviewed studies. These sources were used cautiously and primarily for recent policy context rather than empirical claims. Fourth, the review is limited to English-language publications, which may have excluded relevant studies published in Nigerian languages or other languages.

Fifth, the quality appraisal relied on a single reviewer with verification rather than independent dual-review, which may introduce assessment bias. Sixth, the absence of longitudinal studies means this review cannot determine whether compliance in Wuse is improving or deteriorating over time. This represents a fundamental gap that future research employing repeat cross-sectional or panel designs must address.

## CONCLUSION

This systematic review set out to examine compliance with zoning and development control guidelines in Wuse District, Abuja. By synthesizing fragmented evidence across three decades, this review constructs an integrated understanding that no single study has previously achieved. Four findings emerge with particular clarity. First, land use violation is the dominant and persistent form of non-compliance, with the 42% rate documented by Jibrin (2014) corroborated by the 2025 Federal Capital Territory Administration enforcement actions. Second, institutional weaknesses, including underfunding, staffing deficits, and corruption, function as root causes that perpetuate compliance failure.

Third, the legal framework has become economically obsolete, with penalties established in 1992 bearing no meaningful relationship to contemporary property values. Fourth, the absence of geospatial monitoring systems prevents systematic compliance tracking and enables reactive rather than proactive enforcement. All of these taken together reveal that Wuse's compliance challenges are not just regulatory enforcement problems but a complex governance coordination failure requiring simultaneous intervention across institutional, legal, technological, and economic dimensions.

Future research should prioritize longitudinal replication of Jibrin's (2014) study, GIS-based compliance mapping across Wuse Zones 1 through 7, and rigorous evaluation of the 2025 Federal Capital Territory Administration enforcement effectiveness. Only through such integrated inquiry can planning scholarship move from documenting failure to enabling recovery.

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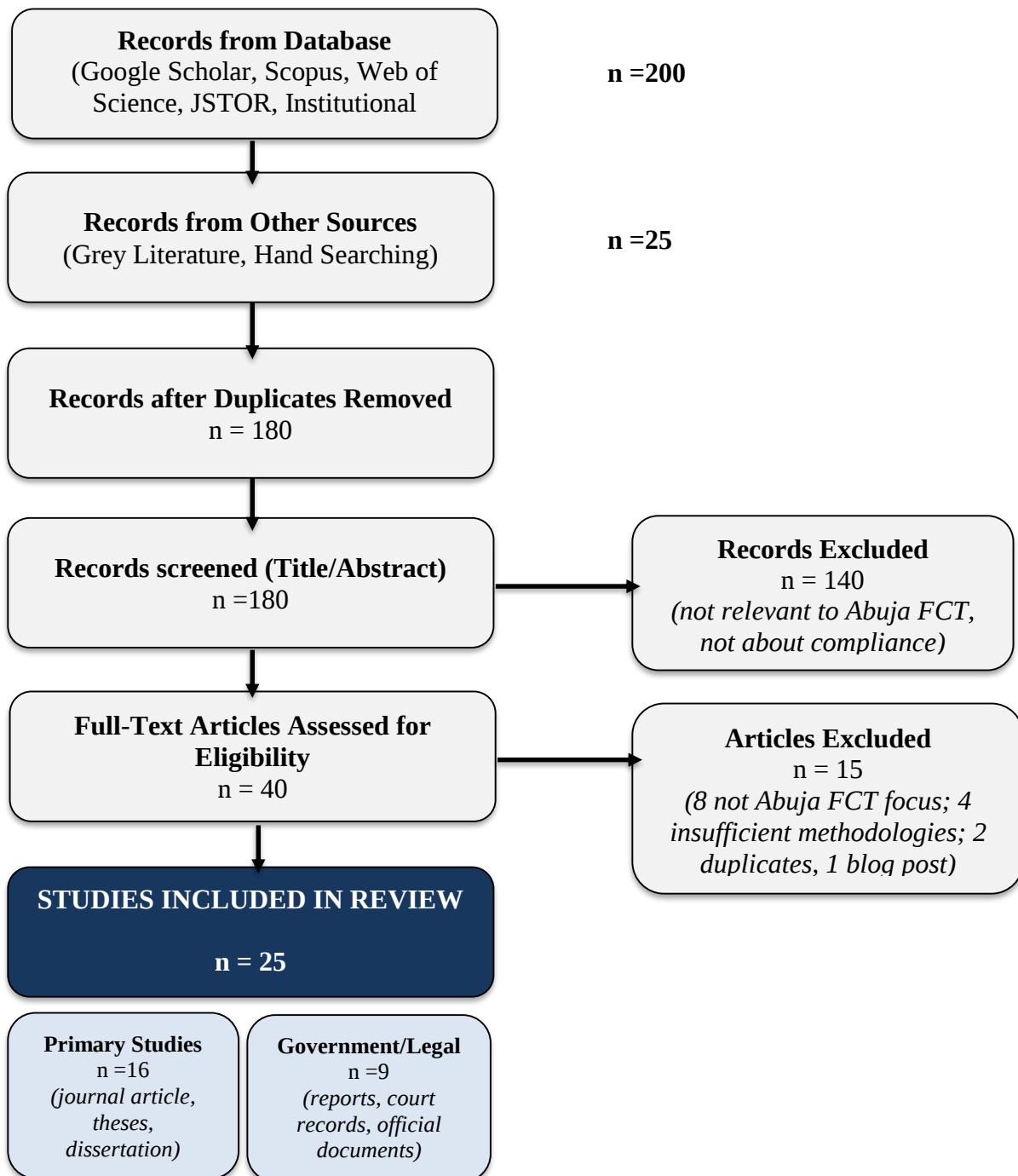
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## APPENDICES

### Appendix A: PRISMA Flow Diagram



### Appendix B: Quality Appraisal of Selected Studies

Quality appraisal was conducted using the Critical Appraisal Skills Programme (CASP) qualitative and quantitative research frameworks (CASP, 2018). The checklist comprised six criteria: (i) research question clarity and specificity; (ii) appropriateness of sampling strategy; (iii) rigour of data collection methods; (iv) analytical rigour and transparency; (v) awareness and disclosure of potential biases; and (vi) overall methodological coherence. Each criterion was rated as Yes (scored 1), Partial (scored 0.5), or No (scored 0). An overall score was computed for each source, and quality ratings were assigned as follows: High quality (score greater than or equal to 5.0) and Moderate quality (score 3.0 to 4.5). Sources scoring below 3.0 were excluded from the qualitative synthesis in accordance with the threshold established in the methodology. Government reports, regulatory documents, and legal sources were assessed using modified criteria that prioritized source

authority, transparency of investigative methods, policy relevance, and evidentiary reliability, recognizing that such documents serve distinct evidentiary functions within planning research.

**Table B1: Quality Appraisal of Selected Sources**

| Author (Year)             | Study Design    | RQ Clarity | Sampling | Data Rigor | Analytical Rigor | Bias | Score | Rating   |
|---------------------------|-----------------|------------|----------|------------|------------------|------|-------|----------|
| Jibrin (2014)             | Field survey    | 1          | 1        | 1          | 0.5              | 0.5  | 4.0   | Moderate |
| Omeru (1990)              | Case study      | 0.5        | 1        | 0.5        | 1                | 0.5  | 3.5   | Moderate |
| Ezeamaka & Oluwole (2016) | Facility survey | 1          | 1        | 0.5        | 0.5              | 0.5  | 3.5   | Moderate |
| Ahmed et al. (2020)       | Hedonic pricing | 1          | 1        | 1          | 1                | 0.5  | 4.5   | Moderate |
| Ahmed et al. (2019)       | Trend analysis  | 1          | 1        | 1          | 1                | 0.5  | 4.5   | Moderate |
| Fateye (2018)             | GIS             | 1          | 1        | 1          | 1                | 0.5  | 4.5   | Moderate |
| Enoguanbhor et al. (2019) | Time-series GIS | 1          | 1        | 1          | 1                | 1    | 5.0   | High     |
| Enoguanbhor et al. (2021) | Lit. analysis   | 1          | 0.5      | 0.5        | 1                | 0.5  | 3.5   | Moderate |
| Fadare et al. (2020)      | Mixed (RII)     | 1          | 0.5      | 0.5        | 0.5              | 0.5  | 3.0   | Moderate |
| Ibrahim et al. (2025)     | Mixed           | 1          | 1        | 1          | 1                | 0.5  | 4.5   | Moderate |
| Waziri (2024)             | Technical       | 1          | 0.5      | 1          | 1                | 1    | 4.5   | Moderate |
| Abubakar et al. (2025)    | Lit. review     | 1          | 0.5      | 0.5        | 1                | 0.5  | 3.5   | Moderate |

|                                  |                |     |     |     |     |     |     |           |
|----------------------------------|----------------|-----|-----|-----|-----|-----|-----|-----------|
| Olumuji et al. (2025)            | Library review | 0.5 | 0.5 | 0.5 | 1   | 0.5 | 3.0 | Moderate  |
| Amusa (2020)                     | Survey         | 0.5 | 0.5 | 0.5 | 1   | 0.5 | 3.0 | Moderate  |
| Ojo-Fajuru and Adebayo (2018)    | Survey         | 1   | 0.5 | 0.5 | 0.5 | 0.5 | 3.0 | Moderate  |
| Irene A.M. et al. (2023)         | Survey         | 1   | 1   | 1   | 0.5 | 0.5 | 4.0 | Moderate  |
| FCT Ministerial Committee (2003) | Gov. report    | 1   | 1   | 1   | 0.5 | 0.5 | 4.0 | Moderate* |
| Abuja Dev. Control (2007)        | Regulatory     | 1   | N/A | N/A | 1   | 0.5 | 3.0 | Moderate* |
| Abuja Dev. Control (2017)        | Regulatory     | 1   | N/A | N/A | 1   | 0.5 | 3.0 | Moderate* |
| FCTA (2025)                      | Enforcement    | 1   | 1   | 1   | 0.5 | 0.5 | 4.0 | Moderate* |
| JICA (2025)                      | Tech. report   | 1   | 1   | 1   | 1   | 0.5 | 4.5 | Moderate* |
| ICPC Reports                     | Anti-corr.     | 1   | 1   | 0.5 | 0.5 | 0.5 | 3.5 | Moderate* |
| Court Cases (2025)               | Legal          | 1   | 1   | 1   | 0.5 | 0.5 | 4.0 | Moderate* |
| Land Use Act (1978)              | Legislation    | 1   | N/A | N/A | 1   | 0.5 | 3.0 | Moderate* |
| NURPA (2004)                     | Legislation    | 1   | N/A | N/A | 1   | 0.5 | 3.0 | Moderate* |

**Note:** \* = modified criteria for non-empirical sources (authority, transparency, policy relevance). Mod = Moderate. RQ = Research Question. N/A = not applicable.

### Appendix C: Characteristics of Selected Studies

Table C1 and C2 presents a comprehensive summary of the characteristics of all 25 selected sources, including 16 primary empirical studies and 9 government or legal sources. The table documents geographic focus, study design, sample size and scope, methodological approach, compliance parameters assessed, and principal findings. This summary facilitates cross-study comparison and assists in identifying patterns across diverse methodological, geographical, and evidentiary contexts within Abuja Federal Capital Territory, Nigeria.

**Table C1: Characteristics of Selected Sources (Primary Empirical Studies)**

| Author (Year)               | Country / Context                 | Study Design                    | Sample Size / Scope                   | Methodology                                                   | Compliance Parameters Assessed                            | Key Findings                                                       |
|-----------------------------|-----------------------------------|---------------------------------|---------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------|
| Jibrin (2014)               | Nigeria / Wuse I, II              | Field survey / Cross-sectional  | 574 plots from 2,763 (21% stratified) | Physical measurement, field observation, comparative analysis | Land use, setback, density, building height, fence height | 42% land use; 28% setback; 26% density; 4% fence; weak enforcement |
| Omeru (1990)                | Nigeria / Wuse I, Garki I         | Case study review               | 2 districts in Abuja Phase I          | Micro/macro review, archival analysis, field observation      | Illegal developments, building regulation contraventions  | Extensive illegal developments; systemic weaknesses in dev control |
| Ezeamaka and Oluwole (2016) | Nigeria / Phase I (incl. Wuse II) | Cross-sectional facility survey | All Phase 1 districts                 | Facility inventory, spatial mapping, quantitative assessment  | Recreational facility compliance, open space provision    | Only 11% compliant with Master Plan recreational standards         |
| Ahmed et al. (c.2020)       | Nigeria / Wuse, Maitama, Nyanya   | Cross-sectional / Hedon         | 114 respondents (Wuse)                | Hedonic pricing model, questionnaire                          | Zoning impact on rental property values                   | Zoning negatively correlated with rental                           |

|                           |                                 | ic pricing                       |                                           | s, correlation analysis                                         |                                                    | values (p = 0.002)                                                       |
|---------------------------|---------------------------------|----------------------------------|-------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------|
| Ahmed et al. (2019)       | Nigeria / Wuse, Maitama, Nyanya | Cross-sectional trend analysis   | Multiple years of rental data (2008-2017) | Rental value trend analysis, descriptive statistics             | Land use policy impact on property values          | Significant rental value rise 2008-2017                                  |
| Fateye (2018)             | Nigeria / Abuja Phase I         | GIS / Remote sensing             | 3,822 buildings across Phase I            | GIS buffering, spatial analysis, overlay mapping                | Setback compliance from fencing                    | 45.13% non-compliant with setback requirements                           |
| Enoguanbhor et al. (2019) | Nigeria / Abuja city-region     | Time-series GIS / Remote sensing | Entire Abuja city-region                  | Landsat imagery (1987-2017), supervised classification          | Land cover change versus planned land use          | Built-up 1.8% (1987) to 19.3% (2017); extensive deviation                |
| Enoguanbhor et al. (2021) | Nigeria / Abuja city-region     | Literature-based analysis        | Abuja city-region literature              | <b>LITERATURE REVIEW</b> , content analysis, thematic synthesis | Key challenges for land use planning               | Population growth, policy gaps, inadequate environmental assessment      |
| Fadare et al. (c.2020)    | Nigeria / FCT Abuja             | Mixed methods (RII)              | FCT-wide professionals                    | Questionnaires, interviews, Relative Importance Index           | Building control practices, enforcement challenges | Inadequate funding RII = 0.952; institutional weaknesses primary barrier |
| Ibrahim et al. (2025)     | Nigeria / FCC Abuja             | Mixed methods                    | Multiple stakeholder groups               | Documents, interviews, surveys, focus groups                    | Land allocation compliance, zoning adherence       | 15% unauthorized commercial; 40% green                                   |

|                               |                      |                        |                                       |                                                                |                                                                |                                                                                       |
|-------------------------------|----------------------|------------------------|---------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                               |                      |                        |                                       |                                                                |                                                                | space non-compliance                                                                  |
| Waziri (2024)                 | Nigeria / AMMC area  | Technical Analysis     | AMMC entire jurisdiction              | Geodatabase design, system architecture, requirements analysis | Development control data needs, geospatial requirements        | No geospatial database exists; significant barriers to GIS adoption                   |
| Abubakar et al. (2025)        | Nigeria / Nationwide | Literature Review      | Nigeria-wide sources                  | Systematic review of GIS in development control                | GIS adoption challenges                                        | 8 major adoption challenges: cost, capacity, resistance, data, policy, infrastructure |
| Olumuj et al. (2025)          | Nigeria / FCT Abuja  | Library-based review   | Secondary academic and policy sources | Literature synthesis, content analysis, thematic review        | Urbanization, development control, urban insecurity            | Weak enforcement contributes to insecurity; rapid urbanization outpaces regulation    |
| Amusa (2020)                  | Nigeria / FCT Abuja  | Cross-sectional survey | Multiple neighbourhoods               | Structured questionnaires, descriptive statistics              | Land use change patterns, residential to commercial conversion | 52.71% retail conversion; 29.73% office conversion                                    |
| Ojo-Fajuru and Adebayo (2018) | Nigeria / FCT Abuja  | Cross-sectional survey | Multiple neighbourhoods               | Structured questionnaires, statistical analysis                | Building compliance, neighbourhood                             | Widespread non-compliance; inadequate                                                 |

|                                   |                           |                                   |                                |                                                                 |                                                            |                                                                                           |
|-----------------------------------|---------------------------|-----------------------------------|--------------------------------|-----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|                                   |                           |                                   |                                |                                                                 | hood<br>quality                                            | enforcem<br>ent;<br>quality of<br>life<br>deteriorat<br>ion                               |
| Irene<br>A.M. et<br>al.<br>(2023) | Nigeria<br>/ FCC<br>Abuja | Cross-<br>section<br>al<br>survey | Multiple<br>housing<br>estates | Structured<br>questionnaire<br>s, energy<br>audit<br>assessment | Building<br>Energy<br>Efficiency<br>Code<br>complianc<br>e | Only<br>18% used<br>energy<br>efficiency<br>strategies<br>; majority<br>non-<br>compliant |

**Note:** AMMC = Abuja Metropolitan Management Council; FCC = Federal Capital City; FCT = Federal Capital Territory; GIS = Geographic Information System; RII = Relative Importance Index.

**Table C2: Characteristics of Government and Legal Sources**

| Source<br>(Year)                                     | Type                   | Geographi<br>c Scope                | Methodolog<br>y / Authority                                                            | Compliance<br>Parameters<br>Addressed                                                        | Key<br>Findings /<br>Provisions                                                                                                             |
|------------------------------------------------------|------------------------|-------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| FCT<br>Ministerial<br>Committee<br>(2003)            | Governme<br>nt report  | Abuja<br>Phase I<br>(500+<br>plots) | Official<br>committee<br>investigation<br>, site<br>inspections,<br>document<br>review | Master plan<br>contravention<br>s, land use<br>violations,<br>infrastructure<br>encroachment | 84 green<br>area plots;<br>30 parks;<br>70 sewer;<br>166 water;<br>216<br>highway;<br>22<br>education<br>plots<br>contravene<br>d           |
| Abuja<br>Developme<br>nt Control<br>Manual<br>(2007) | Regulatory<br>document | FCT Abuja                           | Official<br>regulatory<br>framework<br>issued by<br>FCTA                               | Development<br>control<br>regulations,<br>permit<br>procedures,<br>setback<br>standards      | Specifies<br>DC.REG<br>40-47 for<br>land use<br>change;<br>requires<br>stakeholder<br>assent<br>within<br>100m;<br>Presidential<br>approval |

|                                         |                               |                             |                                                                                |                                                                      |                                                                                               |
|-----------------------------------------|-------------------------------|-----------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Abuja Development Control Manual (2017) | Regulatory document           | FCT Abuja                   | Updated regulatory framework                                                   | Updated dev control regulations, digital permit system               | Maintains DC.REG 40-47; electronic permit processing; lacks geospatial integration            |
| FCTA (2025)                             | Government enforcement action | 15 streets incl. Wuse II    | Ad hoc committee review, property inspections, capital valuation               | Land use conversion compliance, penalty imposition                   | N5 million penalty plus 7.5% conversion fee; affected properties N1.03 trillion               |
| JICA (2025)                             | Technical report              | Abuja Master Plan 2025-2050 | International technical assistance, spatial analysis, stakeholder consultation | Master Plan adequacy, population projections, zoning review          | Population exceeds 3M (Plan designed for 1.6M); recommends mixed-use zone designation         |
| ICPC Reports                            | Anti-corruption reports       | FCT Abuja                   | ICPC investigations, document review, interviews                               | Corruption in land administration, building permit irregularities    | Identified forgery and pressure from well-connected individuals; documented corrupt practices |
| Court Cases (2025)                      | Legal judgments               | FCT Abuja                   | Federal High Court rulings, judicial review, due process assessment            | Legality of demolitions, due process in enforcement, property rights | Obike Industries v. Matawal: N50M damages; Gabriel Ujah v. Minister FCT: perpetual injunction |

|                     |             |                             |                                                                |                                                                |                                                                                                         |
|---------------------|-------------|-----------------------------|----------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Land Use Act (1978) | Legislation | Federal Republic of Nigeria | National legislation; vests land in state governors            | Land tenure, occupancy rights, penalties for unauthorized use  | Vests all land in government; N5,000 penalty; governs all FCT land transactions                         |
| NURPA (2004)        | Legislation | Federal Republic of Nigeria | National urban and regional planning legislation (92 sections) | Development control, planning permits, penalties for violation | Penalties N10,000 (individual) / N50,000 (corporate); unchanged since 1992; Part II governs dev control |

**Note:** FCTA = Federal Capital Territory Administration; ICPC = Independent Corrupt Practices Commission; JICA = Japan International Cooperation Agency; NURPA = Nigerian Urban and Regional Planning Act.