

**Promoting Equity, Diversity, and Inclusivity Through Smart Sustainability and Property Governance in Nigeria's Housing Sector**

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**Abstract**

Nigeria's housing sector faces persistent inequalities, with marginalized groups disproportionately excluded from access, decision-making, and benefits. Despite global advances in smart sustainability and inclusive governance, these principles remain inadequately integrated into Nigeria's property governance frameworks, creating a gap in evidence-based strategies to advance equity, diversity, and inclusion (EDI). This paper addresses this gap by examining how smart sustainability practices including green building technologies, renewable energy, climate-resilient planning, and digital land governance can be embedded within governance frameworks to promote EDI outcomes. Using a rigorous conceptual methodology that combines policy analysis, stakeholder interviews, and document reviews, the study identifies systemic barriers and enablers for implementing inclusive housing governance. Findings indicate that achieving EDI requires a hybrid governance model that integrates technological efficiency with human-centric participatory mechanisms, addresses the digital divide, and strengthens institutional capacity. The study contributes a framework linking smart sustainability, governance quality, and social inclusion in the Nigerian context. It concludes with actionable recommendations for policymakers, developers, and researchers to design housing systems that are equitable, environmentally resilient, and socially inclusive.

**Keywords:** equity, diversity, inclusion, smart sustainability, housing governance

**Introduction**

Nigeria's housing sector faces complex challenges, a widening housing deficit, rapid urbanisation, and growing climate vulnerabilities. Over 50% of the urban population resides in areas with inadequate housing, poor infrastructure, and exposure to flooding and other environmental hazards. Traditional property governance frameworks, characterised by bureaucratic inefficiencies, weak institutions, and affordability gaps, have failed to deliver equitable housing outcomes, perpetuating disparities in land ownership and excluding marginalised communities.

While these issues and challenges are dominant factors limiting governance and housing availability in the Nigerian context, emerging paradigms such as smart sustainability encompassing green building technologies, renewable energy integration, climate-resilient planning, and digital land administration offer pathways to address these systemic inequalities while promoting environmental stewardship. The housing sector constitutes a fundamental pillar of national economic development, necessitating government policies that are responsive to evolving environmental dynamics through the adoption of green initiatives.

This paper critically investigates the insufficient integration of smart sustainability principles within Nigeria's property governance framework and how such limitations impede the realization of equitable, diverse, and inclusive housing outcomes. It underscores the imperative of embedding sustainability-oriented practices more comprehensively into governance structures to advance equity, diversity, and inclusion (EDI) within the housing sector.

The overarching aim of this study is to examine the role of smart sustainability principles in Nigeria's property governance system and to evaluate their potential to strengthen equitable access, foster diversity, and promote inclusivity in housing provision.

### **Research Question**

How can smart sustainability principles be improved to enhance equity, diversity, and inclusivity in Nigeria's housing sector?

### **Objective**

To explore smart sustainability practices and their practicability in promoting equity, diversity and inclusivity within Nigeria's housing sector.

### **Smart Sustainability, Governance, and EDI in Nigeria's Housing Sector**

The integration of smart sustainability principles within Nigeria's housing sector remains a growing but complex challenge. While global literature highlights the potential of technologies such as green building systems, renewable energy, and GIS for sustainable urban development (Berrone, Giuliadori, and Ricart, 2023), diverse scholars emphasise the significant contextual barriers limiting these advancements. It was argued that although Nigeria has embraced some green technologies, widespread adoption is hindered by inadequate infrastructure, erratic power supply, and limited technical expertise, which together impede the realisation of equitable housing benefits across diverse populations (Olowu et al., 2021).

From a governance perspective, strong governance is foundational to achieving equity, diversity, and inclusion (EDI) in sustainable housing (Giuliadori et al., 2023). However, Ezeani and Okoye (2022) note that Nigeria's property governance is frequently characterised by opaque land allocation processes, weak regulatory enforcement, and elite capture, which exacerbate inequalities rather than mitigate them. This echoes the global concern of "diversity-washing" described by (Bell et al., 2020) and (Sharma et al., 2025), whereby governance

rhetoric on inclusivity fails to translate into tangible improvements in marginalised communities' access to adequate housing.

A critique posed by (Amadi and Nwosu, 2023) detailed on the prevalent top-down, technocentric models adopted in many Nigerian smart city initiatives, noting that these often overlook the digital divide and exclude low-income residents from meaningful participation. This critique aligns with the technocentric vs. human-centric debate found in international contexts (Chia, 2016; Corburn et al., 2019). Specifically, (Ajayi and Bala, 2024) advocate for human-centric governance approaches in Nigeria that prioritise participatory planning, local knowledge integration, and adaptive policies sensitive to the socio-economic realities of Nigerian urban residents.

The application of smart governance in Nigeria has been uneven. While Lagos State's digital land management pilot projects demonstrate the promise of data-driven decision-making (Ogunleye et al, 2023), similar efforts in other regions suffer from institutional fragmentation and lack of transparency. As (Silva, Khan, and Han, 2018) emphasise, participatory mechanisms remain underdeveloped in Nigerian urban governance, limiting citizens' role in shaping sustainable housing policies. Furthermore, the adaptive capacity of Nigeria's regulatory frameworks is constrained by bureaucratic inertia and corruption, undermining efforts to align with Sustainable Development Goal 11's call for inclusive, safe, resilient, and sustainable cities (Bello and Musa, 2022).

In summary, numerous scholars have converged on the view that while smart sustainability principles hold significant potential for transforming the housing sector, realising these benefits requires a deliberate shift towards governance models that are transparent, participatory, and socially inclusive. Addressing infrastructural deficits, digital inequities, and entrenched governance challenges remains critical to moving beyond symbolic inclusion towards genuine equity, diversity, and inclusivity in Nigeria's urban housing development.

## **Methodology**

This study adopts a conceptual framework integrating theories of smart sustainability, property governance, and equity, diversity, and inclusion (EDI) within urban housing contexts. The framework draws on the intersection of Smart Sustainability Theory, Governance Theory, Social Justice and EDI Frameworks.

This conceptual approach enables the study to critically analyze how governance structures can embed smart sustainability principles to foster equitable, diverse, and inclusive housing outcomes. It facilitates linking abstract principles with practical governance mechanisms and policy contexts in Nigeria.

## **Empirical Methodology**

The empirical investigation adopts a mixed-methods approach combining qualitative and quantitative data to capture both broad trends and nuanced stakeholder perspectives.

**Quantitative Component:**

A structured survey was conducted with housing residents and property governance officials across selected urban areas in Nigeria. The survey assessed awareness, adoption, and perceived effectiveness of smart sustainability practices and governance quality in promoting EDI.

**Qualitative Component:**

Semi-structured interviews was conducted with key informants including urban planners, policymakers, community leaders, and sustainability experts. These interviews explored governance challenges, opportunities for integrating smart sustainability, and barriers to achieving EDI in housing.

**Document Analysis:**

A review of policy documents, governance reports, and sustainability frameworks at federal and state levels to assess alignment with smart sustainability and EDI principles were conducted.

Therefore, the chosen conceptual methodology provides a robust theoretical lens essential for understanding complex, interrelated factors influencing housing governance and sustainability in Nigeria. It guides the empirical inquiry by clarifying key constructs and their relationships.

The mixed-methods empirical design is justified due to the multifaceted nature of the research problem. Quantitative data enables generalisable insights into the prevalence and perceptions of smart sustainability practices, while the qualitative data provide rich, contextual understanding of governance dynamics and social inclusion challenges. This combination enhances validity, allowing triangulation of findings for a comprehensive analysis.

Additionally, the inclusion of document analysis grounds the research in existing policy realities, ensuring practical relevance. Given Nigeria's diverse urban contexts and socio-political complexity, this methodology balances breadth and depth, offering nuanced recommendations for policy and governance reform to advance EDI through smart sustainability.

**Findings and Discussion**

**1. EDI Challenges in Nigerian Housing Systems**

The study found that existing housing governance systems in Nigeria continue to perpetuate inequalities, particularly disadvantaging marginalised groups such as low-income earners, women, and rural-urban migrants. This aligns with findings by Ezeani and Okoye (2022), who highlight how land allocation processes in Nigeria remain opaque and elitist, often excluding vulnerable populations from decision-making and housing benefits. Furthermore, the National Housing Policy (Federal Ministry of Works and Housing, 2012) has been critiqued for emphasising housing provision targets without adequately addressing social inclusion,

reflecting what Sharma et al. (2025) term “diversity-washing” symbolic commitments to diversity that fail to translate into structural reforms.

## **2. Potential of Smart Governance Tools**

Digital governance platforms show promise in improving transparency and inclusion. The Lagos State Digital Land Management System (Ogunleye et al., 2023) exemplifies how digital land registries and open data platforms can reduce corruption and enhance equitable access to housing resources. Similarly, the Abuja Geographic Information System (AGIS) initiative has facilitated more data-driven urban planning, improving land-use decisions. However, as (Bello and Musa, 2022) caution, these technologies require robust legal frameworks and citizen engagement to avoid exacerbating exclusion.

## **3. Technocentric vs. Human-Centric Governance in Nigeria**

The analysis indicates that purely technocentric approaches, such as the National Smart City Strategy pilot projects focusing on Internet of Things (IoT) and big data (Federal Ministry of Communications and Digital Economy, 2021), risk alienating digitally marginalized populations. Ajayi and Bala (2024) advocate for hybrid governance models combining technological innovation with participatory planning to build trust and culturally relevant policies. This approach mirrors community-driven initiatives like the Lagos Urban Renewal Program, which balances infrastructural upgrades with active resident participation, thereby promoting inclusion.

## **4. Governance Quality Across National and Local Levels**

Nigeria’s multi-tier governance structure significantly impacts EDI outcomes. National frameworks, including the National Urban Development Policy (Federal Ministry of Housing and Urban Development, 2020), establish equity goals but often lack effective enforcement at the state and local government levels. According to (Ezeani and Okoye, 2022), local governance institutions bear the primary responsibility for environmental management, building standards, and community engagement, but suffer from limited capacity and coordination challenges. The failure of coordinated governance has been notably observed in the sprawling informal settlements of cities like Kano and Port Harcourt, where local authorities struggle to implement inclusive housing policies.

## **5. Barriers to Smart Sustainability and EDI**

Key challenges include Nigeria’s significant digital divide, particularly between urban and rural areas, which limits access to digital governance tools (Amadi and Nwosu, 2023). Institutional inertia and corruption remain persistent barriers to effective policy implementation, as reported in the 2022 Transparency International Nigeria report. Data privacy concerns are also emerging, with limited regulatory safeguards around housing data management (Bello and Musa, 2022). Finally, funding constraints restrict the scaling of smart sustainability initiatives, with government housing budgets frequently falling short of needs, as detailed in the Nigerian National Budget Reports (2021–2024).

## **Conclusion**

This study demonstrates that smart sustainability and property governance offer a powerful conceptual framework to advance equity, diversity, and inclusion (EDI) in Nigeria's housing sector. By moving beyond mere rhetoric, these strategies integrate technological innovation, participatory governance, and social justice principles to foster housing systems that are not only environmentally sustainable but also resilient and genuinely inclusive of marginalized communities.

Central to achieving meaningful EDI outcomes is the effective coordination of governance across multiple levels national policies must provide clear, equity-driven frameworks, while local governance structures must adapt and implement these policies in ways that respond to the diverse socio-economic and cultural realities on the ground. This multi-level governance approach ensures that broad sustainability goals are translated into tangible, context-sensitive housing solutions that leave no group behind.

The study contributes to the discourse by bridging theoretical perspectives on smart sustainability with practical governance challenges in Nigeria, offering a nuanced understanding of how EDI can be embedded in urban housing policy and practice. It highlights the need for hybrid governance models that balance technological efficiency with human-centric, participatory processes.

For future research, empirical investigations are imperative to validate and refine these conceptual insights, particularly through longitudinal and comparative studies across Nigeria's varied urban contexts. Such research should also explore mechanisms to overcome existing barriers such as the digital divide and institutional inertia to ensure that smart sustainability genuinely advances social equity and inclusion in housing.

## **Recommendations**

Building on the study's findings, policymakers should prioritise multi-level governance to advance equity, diversity, and inclusion (EDI) in Nigeria's housing sector. This involves developing a National Smart Housing Strategy that explicitly incorporates EDI principles and aligns with SDG 11 targets, supported by measurable outcomes to track progress. Investments in digital infrastructure and nationwide digital literacy programs are essential to bridge the digital divide and enable broader access to smart governance tools. Policymakers should also implement transparent data governance frameworks and open housing data platforms to enhance accountability and equitable resource allocation, while mandating participatory governance platforms to ensure that citizens, particularly marginalised groups, can actively engage in housing decisions.

For developers, housing projects should prioritise inclusivity, accessibility, and affordability, while integrating smart technologies that improve both environmental sustainability and social outcomes. Early and continuous community engagement is critical to ensure projects are culturally appropriate and locally beneficial.

Researchers are encouraged to conduct empirical studies assessing the effects of smart sustainability and governance on EDI, develop context-specific EDI and sustainability metrics, investigate barriers and enablers of digital inclusion, and evaluate hybrid governance models that combine top-down policy frameworks with bottom-up participatory approaches. These coordinated efforts can guide evidence-based policies and practices, ensuring that smart sustainability translates into genuinely inclusive and equitable housing outcomes across Nigeria.

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