Residents' Perceptions of Livability in Peri-Urban Settlements: A Multidimensional Assessment in Akure, Nigeria

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Abstract

Peri-urban communities in Sub-Saharan Africa face growing urban disparities in livability, yet empirical evaluations of perceptions in medium-sized Nigerian cities remain limited. The study assessed the perceived well-being of inhabitants of four suburban communities in Akure, south-western Nigeria (Aponmu, Oda, Adofure, and Ipinsa) using a multidimensional framework. A structured questionnaire was administered to 352 households selected through a systematic random sample and validated using Cronbach's alpha (α = 0.991). Weighted averages of ranked indicators were used to rank the indicators; a composite livability index (CLI) was used to compare performance at the community level; and a Kruskal-Wallis H test was used to test significant differences in livability across the study. The results showed a low quality of life across the study area (CLI = 42.87), ranging from high in Aponmu (CLI = 86.05) to very low in Oda (CLI = 8.73). Economically, more than 63% of residents earn less than the national minimum wage. In addition, 50% of the social dimensions examined have a positive impact on the population's well-being. Environmentally, 33% of the indicators used (physical conditions, law enforcement, and p size) improve quality of life across the communities. A Kruskal-Wallis H test confirmed statistically significant differences in economic, social, and environmental livability across the four communities ($p < .001$), with the same community ranking lowest across the three dimensions. These findings call for targeted community-level planning interventions to address low household incomes, deficits in recreational infrastructure, inadequate neighbourhood amenities, and poor environmental sanitation, particularly in low- and very-low-livability communities in the peri-urban area of Akure, Nigeria.

Keywords: livability; peri-urban settlements; residents' perceptions; composite livability index; Sub-Saharan Africa.

Introduction

A livable city is broadly understood as an urban environment that provides a safe and comfortable place for people to live, work, and engage in leisure activities (Lowe et al., 2013; Mohit & Iyanda, 2016; Sheikh & van Auyde, 2022). Livability is inherently multidimensional and subjective, shaped by the priorities of individuals and communities and by the geographical, social, and economic contexts in which they are embedded (Paul & Sen, 2020). As a concept, livability encompasses the physical, social, economic, and environmental dimensions of urban life and has become a central issue in the global debate on sustainable urban planning (Bedi et al., 2023; Skalicky & Cepes, 2019; Kashef, 2016; Pacione, 2003). Urbanisation, together with peri-urbanisation, is one of the defining macro-trends of the 21st century, with profound implications for local and global sustainability. UN-Habitat (2022) reports that 56% of the world's population now lives in cities. This proportion is projected to increase to 68% by 2050, posing major challenges to maintaining living standards amid population growth, environmental pressures, and infrastructure constraints (UN-DESA, 2014; UN-Habitat, 2016; Ye et al., 2022). UNSDG 11 aims to make human settlements inclusive, safe, resilient, and sustainable by 2030 (UN, 2015). Pressures from population and economic growth are driving major land-use changes and the expansion of peripheral areas (Ige & Ohiro, 2020; Angel, 2023; Tesfay et al., 2025), creating transition zones characterised by rapid and often unregulated development.

Peri-urban areas are geographically defined areas adjacent to cities that exhibit both urban and rural characteristics (Kulshrestha, 2006; Sahana et al., 2023). They are usually located in urban areas and serve as hubs from which residents travel to work, school, shopping, and services (Pratome, Purwanto et al., 2025; Abdulai et al., 2020; Chetty, Kupurwatana et al., 2022; Abdulai, Ahmed & Kuvane, 2022). The rapid transformation of these transition zones has created several socio-economic problems, including land fragmentation, insufficient investment in infrastructure, illegal construction, and environmental degradation, thereby identifying peri-urban areas as problematic (Feng, 2004). Critically, the livability conditions of peri-urban areas are structurally distinct from those of large metropolitan cities in ways that existing urban livability frameworks do not adequately capture. Unlike large cities, which typically possess formal planning institutions, established service delivery systems, and documented infrastructure networks, peri-urban settlements occupy an institutional vacuum in which residents must negotiate access to basic services outside formal

planning frameworks, often resulting in settlements where infrastructure is inadequately provided, and socio-economic deprivation is concentrated (Olugbenga & Ifesanya, 2015; Adedire, 2017; Yekeen & Misnan, 2024). This structural distinctiveness means that the determinants and dimensions of livability in peri-urban contexts cannot be assumed to mirror those identified in metropolitan settings, and empirical investigation of peri-urban livability perceptions is therefore not merely a geographical extension of existing research but a theoretically necessary undertaking.

This distinction is particularly pronounced in Nigeria, where peri-urban development is compounded by government neglect, political failure, and the absence of zoning standards (Olamiju & Ojo, 2014), producing living conditions that diverge substantially from both rural and urban norms. Previous studies have consistently documented poor living conditions in Nigerian peri-urban areas, yet most existing research focuses on large metropolitan cities such as Lagos, Abuja, and Kano. The result is a significant empirical and theoretical gap: residents' perceptions of livability in peri-urban settlements of medium-sized Nigerian cities remain largely undocumented, and the specific social, economic, and environmental dimensions that shape livability assessments in these contexts are poorly understood. Moreover, while the literature on global livability has grown considerably over recent decades, empirical assessments based on residents' subjective perceptions, particularly those employing multidimensional composite indices, remain scarce in sub-Saharan Africa, where the conditions of peri-urban life differ fundamentally from those in the Global North contexts that dominate the livability literature.

This study addresses these gaps by applying the Urban Livability and Sustainable Livelihood frameworks as complementary theoretical lenses to conduct a multidimensional, perception-based assessment of livability in four peri-urban communities in Akure, South-west Nigeria: Aponmu, Odo, Adofure, and Ipinsa. Three specific objectives guide the study: first, to identify the principal social, environmental, and economic dimensions of livability as perceived by residents; second, to construct a community-level Composite Livability Index (CLI) that enables systematic comparison across communities; and third, to examine the socio-economic and environmental dimensions of livability as perceived by residents of peri-urban communities in Akure. The study makes three distinct contributions to existing knowledge. First, it provides new empirical evidence on peri-urban livability from a medium-sized Nigerian city, a context conspicuously absent from the livability literature. Second, it demonstrates that perceptions of peri-urban livability are shaped by dimensions and predictors that differ meaningfully from those documented in metropolitan settings, thereby challenging the implicit assumption that urban livability frameworks transfer seamlessly to peri-urban contexts. Third, it advances methodological practice in sub-Saharan African livability research by applying a composite index approach to perceptual data, offering a replicable framework for peri-urban livability assessment in similar Global South contexts.

The Study Area

Akure, the capital of Ondo State, Nigeria, is situated at latitudes 7°15'N and 7°17'N and longitudes 5°14'E and 5°15'E (Figure 1). The city has grown considerably over the past 25 years and has become one of the most developed of the South-West Nigerian metropolises. Its population has increased from 157,947 in 1990 to an estimated 744,000 in 2023 (NPC, 2006; Ondo State Bureau of Statistics, 2023), putting considerable pressure on urban land and infrastructure. The city is located within the Akure South Local Government Area. It is characterised by a mild, humid tropical climate, with an average annual rainfall of approximately 1,500 mm and temperatures ranging from 21.4°C to 31.1°C. Average relative humidity is 77.1% (based on 1980–2007 data), and the city sits on a flat plain at an elevation of 250 m above sea level, originally covered by tropical rainforest. However, dense forest cover has declined by 33.8% due to deforestation, soil degradation, agricultural expansion, and construction-related human encroachment (Olamiju & Ojo, 2025).

The rapid growth of Akure has increasingly made peri-urban planning a primary challenge for municipal authorities, generating well-documented socio-economic problems, including land fragmentation, lagging infrastructure, illegal construction, and environmental degradation (Carrilho & Trindade, 2022). This study focuses on four peri-urban communities located at the urban fringe of Akure South LGA (Figures 2 and 3): Aponmu (7.2474°N, 5.1119°E), located approximately 9.81 km from the city centre, is a rapidly growing peri-urban community characterised by a mix of residential and agricultural land use and relatively better access to the surrounding environment than other residential communities. Adofure (7.1904°N, 5.1667°E), located approximately 8.38 km from the city centre, is one of the most densely populated neighbourhoods but suffers from poor infrastructure, inadequate waste management, and limited access to basic services. Oda (7.1384°N, 5.2580°E), the farthest community from the city centre, located approximately 12.14 km away, is predominantly low-income, with extensive land fragmentation and limited infrastructure.

Ipinsa(7.3210°N, 5.1445°E), located approximately 10.72 km from the city centre, is a mixed-use residential and commercial area with a relatively high number of buildings and a growing residential population.

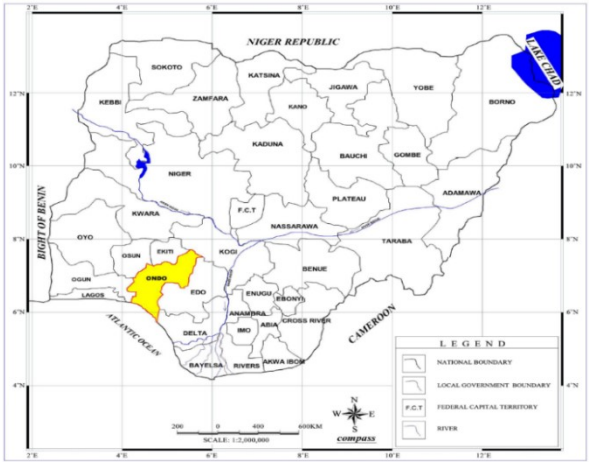


Figure 1: Ondo State Map in the National Setting
Source: Adapted from Akinluyi *et al.* (2021)

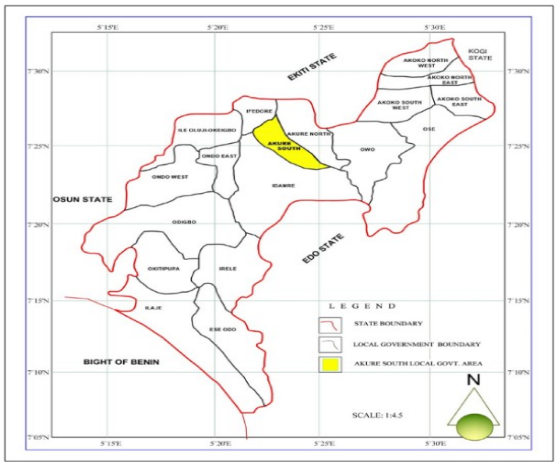


Figure 2: Ondo State Map Showing Akure South LGA . Source: Adapted from Akinluyi *et al*. (2021).

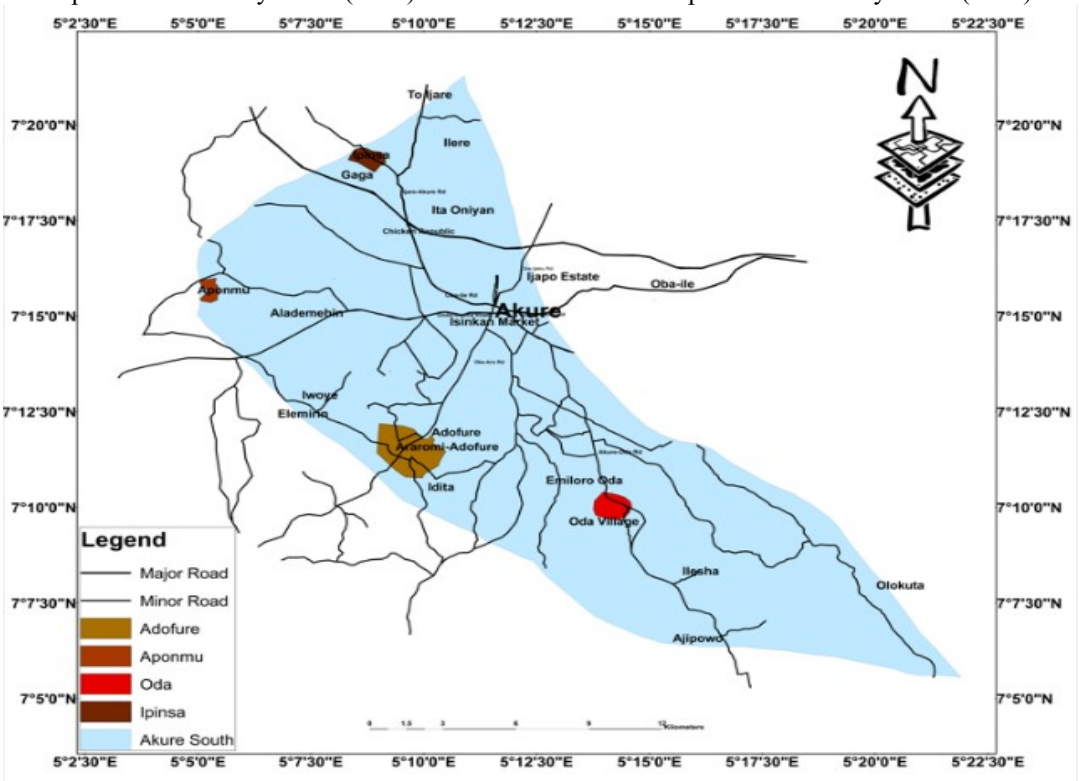


Figure 3: Akure South Local Govt. Map Showing Selected Peri-urban Areas
Source: Authors' Compilation (2026)

Literature Perspectives

The Concept of Livability

The concept of livability has evolved significantly over the past 30 years in urban planning and geography, yet it remains a contested, contextually sensitive construct(Asori et al., 2026). The most widely cited definition of livability is the extent to which the urban environment accommodates the needs, aspirations, and expectations of its residents in its physical, social, economic, and environmental dimensions (Beatley, 2016; Van Kamp et al., 2003; Pacione, 2003). While this definition provides a useful starting point, its broad scope has generated considerable definitional ambiguity in the literature, with various scholars emphasising infrastructure provision, social cohesion, subjective well-being, or environmental quality depending on their disciplinary orientation and geographic context.

Early scholarship adopted predominantly objective perspectives, focusing on measurable indicators such as housing costs, school provision, hospital access, and crime rates (Leby & Hashim, 2010). However, this objectivist tradition has been

progressively challenged, as quantifiable conditions do not necessarily align with residents' experienced quality of life (Carmona, 2019; Breiner, Ford & Gadsden, 2016; Kashef, 2016). These authors argue that subjective perceptions — encompassing residents' feelings, emotional attachments, and sense of belonging — are indispensable to any comprehensive assessment of livability. This epistemological shift is particularly significant in Global South contexts, where informal housing arrangements and irregular service delivery may mean that, objectively, poor infrastructure coexists with relatively high levels of residents' satisfaction, or conversely, that formally adequate housing settings score poorly on perceived quality of life. This tension between objective conditions and subjective experience is precisely what makes a perception-based approach both necessary and appropriate for this study.

The integration of both perspectives was most systematically advanced by Pacione (2003), who argued that livability must capture both measurable conditions and lived experiences. Building on this, van Kamp et al. (2003) proposed a tri-pillar framework linking environmental quality, personal and social qualities, and subjective well-being—a formulation widely adopted in empirical livability research. Kashef (2016) extended this by identifying six interrelated dimensions of urban livability — social interaction, security and safety, mobility, environmental quality, economic vitality, and governance — and arguing that these dimensions must be treated holistically rather than in isolation, since improvements in one dimension without corresponding attention to others may produce limited gains in overall residential quality of life.

Despite consensus on its multidimensional nature, livability remains a controversial concept in the literature, with scholars divided over the relative weight of its dimensions. Some studies focus on environmental and physical infrastructure (Liang, Liu & Qiu, 2020; Badland et al., 2014) as primary determinants of urban quality of life, while others foreground social cohesion and governance structures (NRC, 2002; Maleki et al., 2015; Martine et al., 2021). This divergence has direct methodological implications for how livability is measured and which communities are deemed to be living well. Ruth & Franklin (2014) add a temporal dimension to this debate, demonstrating that livability is dynamic rather than static, shifting in response to socio-economic change, demographic pressure, and governance interventions. This study, therefore, adopts an integrated approach in which the economic, social, and environmental dimensions of livability are treated as equally important and interdependent — a weakness in one dimension can deepen weaknesses in others — consistent with the interdependent well-being dimensions proposed by Barbosa et al. (2022). This position is particularly appropriate for Akure's peri-urban settlements, where economic deprivation, social fragmentation, and environmental degradation do not operate independently but compound one another in ways that any single-dimensional assessment would fail to capture.

Livability Assessment Frameworks and Indicators

The operationalisation of livability has produced a diverse body of assessment frameworks and indicator sets, reflecting both the conceptual breadth of the construct and the heterogeneity of the contexts in which it is applied. Livability is broadly understood to encompass the physical attributes of urban space, as well as non-physical dimensions such as social relations and economic activities (Sasanpour et al., 2015). However, this conceptual breadth has also produced frameworks that are difficult to compare across different contexts. More critically, most existing livability frameworks have been developed within high-income country settings, where robust data infrastructure, comprehensive administrative records, and well-functioning urban governance systems are taken for granted. As a result, these frameworks embed assumptions about data availability and institutional capacity that do not hold in low-income urban contexts such as sub-Saharan Africa, raising fundamental questions about their applicability to Nigerian peri-urban settlements.

Among the most widely referenced frameworks is that of Badland et al. (2014), which comprises 11 indicators spanning crime and safety, education, employment, health services, housing, leisure, local food environments, natural environment, open spaces, transport, and social cohesion. While the framework is comprehensive and systematically constructed, it was developed and calibrated for Australian metropolitan settings, where formal data infrastructure and reliable administrative records make multi-indicator aggregation both feasible and meaningful. Transplanting this framework directly into informal African urban contexts, where data on several of these indicators are either unavailable, incomplete, or of questionable reliability, would therefore yield assessments of limited validity. Liang, Liu, & Qiu (2020) present a similarly ambitious framework that employs 18 indicators across five dimensions to assess livability in Ningbo, China, with particular attention to older residents' preferences. Although their age-sensitive disaggregation is innovative, their framework also assumes complete administrative data, which does not exist in most Nigerian planning environments. What these two frameworks share, despite their differences in

scope and geographic focus, is an embedded assumption of institutional and data capacity that privileges Global North urban contexts. This shared limitation underscores a broader problem in the livability literature: frameworks developed under conditions of data abundance cannot be uncritically applied to contexts defined by data scarcity and institutional informality without substantial adaptation.

Neuhuber & Schneider (2025) offer a more recent contribution, demonstrating that livability stratification is primarily driven by residual income and the provision of social infrastructure, such that households with lower disposable income and poorer access to services consistently experience inferior livability outcomes. This finding resonates in the Nigerian context; differences in household income and service access similarly reveal uneven experiences of livability across geographically adjacent settlements. However, a critical distinction must be drawn. Neuhuber & Schneider's framework is anchored in a high-income European context underpinned by formal housing markets, comprehensive welfare systems, and municipally administered service delivery — conditions that bear little structural resemblance to the informally organised, self-provisioned settlements of Nigeria's peri-urban fringe. In such contexts, livability inequality is not primarily mediated by residual income differentials, contrary to their framework. However, informality and spatial marginalisation, in which physical location relative to the urban core, security of land tenure, and access to informal social networks determine livability outcomes as much as household income does. The present study, therefore, extends and critically refines the stratification argument by demonstrating that, in Global South peri-urban settings, the mechanisms driving livability inequality are structurally distinct and demand a correspondingly distinct analytical framework.

Within Nigeria, Mohit & Iyanda (2016) provide one of the few perception-based assessments, evaluating residents' experiences in a planned housing estate in Niger State across five variables. While valuable for its use of subjective perceptions rather than administrative data, its focus on a formally planned estate limits its generalisability to informally developed peri-urban settlements, which accommodate the majority of Nigeria's urban population. This study builds directly on Mohit & Iyanda's perceptual approach while extending it geographically and methodologically, applying a locally adapted framework of 21 indicators across economic, social, and environmental dimensions, specifically designed for the informal peri-urban fringe of a medium-sized Nigerian city.

Three persistent gaps therefore characterise the existing literature. First, most frameworks were developed in and for the Global North, raising fundamental questions about their contextual validity in sub-Saharan African cities (Akanmu et al., 2022; Huang et al., 2024). Second, most frameworks treat the city as a homogeneous unit, failing to account for significant intra-urban variation between formally planned and informally developed peri-urban areas (Samat et al., 2016). Third, despite growing epistemological recognition that subjective perceptions constitute a more valid basis for livability assessment (Paul & Sen, 2020; Kashef, 2016), few frameworks incorporate perceptual data as their primary evidence source. This study responds to each gap simultaneously.

Peri-Urban Livability in Sub-Saharan Africa

Peri-urban areas in Sub-Saharan Africa occupy a structurally ambiguous position in both the urban literature and planning practice — neither fully urban nor rural — and are characterised by rapid, largely unregulated growth, fragmented land uses, inadequate infrastructure provision, and acute socio-economic vulnerability (Feng, 2004; Abdulai et al., 2020). This ambiguity has practical consequences: peri-urban settlements frequently fall outside the administrative boundaries that determine eligibility for urban services, yet they are too densely populated and economically integrated with the city to be treated as rural communities. The result is a governance vacuum in which residents bear the costs of urban proximity without access to its benefits. Despite the scale and urgency of these conditions, peri-urban areas have received comparatively limited scholarly attention, with empirical research tending to focus either on formal urban cores or on rural hinterlands. This bifurcation in the literature has produced a persistent empirical blind spot, leaving the conditions, needs, and lived experiences of a substantial and rapidly growing segment of Sub-Saharan Africa's urban population consistently underrepresented — a gap that carries real consequences for evidence-based planning and policy in the region.

Creţan et al. (2026) argue that livability assessment in contemporary spatial planning must be explicitly designed to address the social and territorial diversity of peri-urban spaces, since uniform planning policies cannot be applied across the urban-rural continuum. Their work demonstrates that differentiated, community-oriented approaches are necessary to capture the heterogeneity of peri-urban conditions—an argument that directly informs the community-level analytical design adopted in this study, which treats each of the four peri-urban communities in Akure as a distinct unit of analysis rather than collapsing them into a single undifferentiated category. This is particularly important in the Nigerian context, where adjacent peri-urban communities may differ substantially in

their access to infrastructure, land tenure arrangements, and socio-economic composition, such that a settlement-level analysis reveals patterns of livability variation that a citywide or aggregated approach would obscure.

Within Nigeria, peri-urban areas are shaped by a particular form of state neglect, wherein the failure to extend basic services and enforce zoning regulations beyond the urban core systematically compounds pre-existing socio-economic disadvantage, creating conditions of layered deprivation that are difficult to reverse without deliberate policy intervention (Olamiju & Ojo, 2014; Olugbenga & Ifesanya, 2015). Despite the severity and prevalence of these conditions, the existing empirical literature has been geographically concentrated in megacities and major metropolitan regions—notably Lagos, Ibadan, and Kano —and has predominantly focused on land-use change, housing conditions, and infrastructure bottlenecks (Adedire, 2017; Ige & Ohiro, 2020). This concentration reflects a broader tendency in Nigerian urban research to equate the urban experience with that of the largest and most visible cities. This assumption is increasingly difficult to sustain given the rapid growth of medium-sized cities across the country. Medium-sized cities like Akure typically lack the institutional visibility, research attention, and fiscal resources of metropolises. However, their peri-urban populations are expanding at rates that far outpace the capacity of infrastructure and governance. Crucially, the planning challenges and livability conditions of Akure's peri-urban areas cannot be inferred from studies conducted in Lagos or Kano — cities that differ substantially from Akure in terms of population size, economic base, political significance, and administrative capacity. Treating findings from Nigeria's megacities as representative of the medium-sized city experience risks generating planning recommendations that are poorly matched to the institutional realities and resource constraints of cities like Akure, further marginalising communities that are already underserved by both research and policy.

Studies conducted in large metropolitan cities have consistently identified transport connectivity, access to employment, cultural and leisure facilities, and neighbourhood amenities as the primary determinants of livability perception (Leyden et al., 2011; Miller et al., 2013; Badland et al., 2014). These findings, however, emerge from contexts characterised by formal service delivery systems, established transport networks, and diversified economic structures that bear little resemblance to the conditions of peri-urban settlements in medium-sized Nigerian cities. In peri-urban Akure, where formal transport systems are absent, employment is predominantly informal, and cultural amenities are largely lacking, the factors shaping perceptions of livability are likely to differ. However, whether and how these differences manifest empirically in residents' perceptions of livability remains insufficiently examined. The specific dimensions and predictors of livability in peri-urban, medium-sized Nigerian cities, therefore, constitute an open empirical question that existing research has not addressed.

In the African context specifically, studies conducted in metropolitan cities have consistently identified the quality of physical infrastructure, environmental conditions, and neighbourhood amenities as the primary determinants of perceived livability (Mohit & Iyanda, 2016; Paul & Sen, 2020). Whether these same dimensions and predictors hold in the structurally distinct conditions of peri-urban medium-sized cities is an empirical question that the existing literature has not addressed — one that this study is designed to answer.

Theoretical Framework

This study is theoretically grounded in two complementary frameworks: the Urban Livability Framework, developed by van Kamp et al. (2003) and elaborated by Kashef (2016), and the Sustainable Livelihoods Framework (SLF), conceptualised by Chambers & Conway (1992) and operationalised by DFID (1999). The decision to draw on two distinct theoretical traditions reflects the multidimensional and structurally embedded nature of peri-urban livability in Nigeria, where quality of life cannot be understood through the lens of urban environmental conditions alone, but also by attending to household-level asset vulnerabilities that shape how those conditions are experienced. Importantly, these two frameworks are not simply additive—they are mutually reinforcing, and their combined application enables this study to capture both the environmental dimensions of livability and the socio-economic position of households navigating those conditions.

The Urban Livability Framework treats livability as a multidimensional construct shaped by interactions among physical, social, economic, and environmental factors (van Kamp et al., 2003; Kashef, 2016). Critically, it foregrounds residents' subjective perceptions as the primary measure of urban quality of life, recognising that different social groups — differentiated by income, age, gender, or tenure status — may experience identical objective conditions in very different ways (Pacione, 1990). This epistemological commitment to perception-based evidence is further reinforced by Higgs et al. (2019), who demonstrate that most existing livability indices are applied at the city level. This analytical choice produces aggregate scores that mask the significant spatial variation in livability conditions within

cities. This scalar limitation is particularly consequential in peri-urban contexts, where conditions across geographically adjacent communities may diverge sharply due to differences in infrastructure provision, land tenure security, and household socio-economic status. A city-level index applied to Akure, for instance, would obscure precisely the kind of intra-urban variation that this study seeks to illuminate. This study, therefore, directly addresses this limitation by conducting a Composite Livability Index analysis at the community level, enabling a more granular, policy-relevant assessment of how livability conditions are distributed across Akure's peri-urban fringe. This scalar choice is not merely methodological but also theoretically motivated, consistent with Gough's (2015) argument that livability frameworks should assign greater weight to locally meaningful, context-specific indicators rather than to universally standardised indicators that may be irrelevant to the communities being assessed. Together, these theoretical positions justify both the perception-based approach and the community-level analytical design that distinguish this study from most existing livability research in the Nigerian context.

The Sustainable Livelihoods Framework (Chambers & Conway, 1992; DFID, 1999) complements the Urban Livability Framework by directing analytical attention to the assets available to households — human, social, financial, physical, and natural capital — and to how vulnerability contexts, institutional structures, and livelihood strategies shape households' capacity to achieve sustainable outcomes. Where the Urban Livability Framework is primarily concerned with the quality of the urban environment as experienced by residents, the SLF foregrounds the socio-economic position of the households navigating that environment. This distinction is important because identical environmental conditions may be experienced very differently by households with different asset bases and vulnerability profiles — a household with diverse livelihood assets and stable income may perceive the same infrastructure deficit very differently from one trapped in chronic poverty with no fallback resources. This distinction carries considerable analytical weight in peri-urban Nigeria, where the vulnerability of low-income households — characterised by limited access to formal employment, inadequate service provision, and insecure land tenure — is well documented (Olamiju & Ojo, 2014; Adedire, 2017). Relying solely on the Urban Livability Framework would therefore risk treating livability deficits as purely spatial or infrastructural problems, overlooking how household-level poverty interacts with and amplifies environmental deficits, producing compounded disadvantage. The SLF corrects this by making household asset vulnerability a central analytical lens, ensuring the assessment remains sensitive to the socio-economic heterogeneity within and across Akure's peri-urban communities. Together, the two frameworks inform the study's three-dimensional analytical structure — economic, social, and environmental — guide the selection of livability indicators, and shape the interpretation of community-level variations in the Composite Livability Index.

Table 1: Evaluation Indicator System for the Livability of Peri-Urban Communities in Akure

Dimension	Variable
Economic	Income, Occupation
Social	Security; Power supply; Street lighting; Consumer goods; Neighbourhood amenities (school, health centre, potable water); Community cohesion; Kinship ties; Marginalisation; Cultural barriers; Historical background
Environmental	Road condition, health services, security, educational facilities, recreational areas, environmental conditions, plot size, and waste disposal.

Source: Authors' compilation (2026).

Methodology

Research Design

A quantitative cross-sectional survey design was used to assess residents' perceptions. The survey tool was a structured questionnaire administered to the household head, who is usually the decision-maker and most familiar with the household's living conditions. The questionnaire was divided into three sections: A, B, and C, each containing items corresponding to the Economic, Social, and Environmental dimensions of livability, comprising 21 indicators in total. The Economic dimension covered monthly income and occupation; the Social dimension covered indicators such as neighbourhood amenities, kinship relations, cultural beliefs, security, and political influence; and the Environmental dimension covered indicators such as road condition, waste collection and management, open space for recreational facilities, and accessibility to basic services (Table 1). Respondents rated each indicator on a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5), based on their level of agreement with statements describing their living conditions.

Prior to the main survey, the questionnaire was pilot-tested on twenty(20) respondents drawn from a small subset of the four study communities to assess clarity, relevance, and ease of completion. Feedback from the pilot was used to refine item wording before full administration. The internal consistency of the 21-item instrument was then assessed using Cronbach's alpha. The overall alpha

coefficient was 0.991, with the Economic, Social, and Environmental dimensions yielding coefficients of 0.962, 0.981, and 0.972, respectively, indicating excellent reliability across all dimensions (Nunnally, 1978).

Table 3: Reliability Statistics for the Livability Indicators

Dimension	Number of Items	Cronbach's Alpha	Interpretation
Economic	2	0.962	Excellent
Social	10	0.981	Excellent
Environmental	9	0.972	Excellent
Overall (21 items)	21	0.991	Excellent

Source: Author's Compilation, 2026
Note: Interpretation based on Nunnally (1978): $\alpha \geq 0.90$ = Excellent.

Population, Sampling, and Data Collection

Secondary data were collected from high-resolution satellite imagery, totalling 3580 buildings across all four communities. Ethical approval was obtained before the fieldwork, and informed consent was obtained from all participants, with complete anonymity and confidentiality maintained at all times. Systematic random sampling was used, with a sampling interval of 1 in 10^{th} buildings. This resulted in a minimum sample size of 358, proportionally spread over the four sampled communities (Table 2). Of the 358 questionnaires sent, 352 were completed and returned, for a 98.3% response rate.

Table 2: Study Population, Sample Frame, and Sample Size

Community	Distance from City Centre (km)	Estimated Buildings	Number of samples
Aponmu	9.81	513	51
Ipinsa	10.72	862	86
Adofure	8.38	1070	107
Oda	12.14	1135	114
Total		3,580	358

Source: Authors' Compilation (2026).

Method of Data Analysis

Descriptive statistics and the weighted average index (MI) were used to analyse and rank respondents' responses for each livability characteristic. The attributes were evaluated on a five-point loyalty scale: strong agreement (5), agreement (4), undecided (3), disagreement (2), and strong disagreement (1). The sum of the weight values (SWV) of the individual indicators was calculated as follows:

$$SWV = \Sigma (X_i \times Y_i)$$

Where X_i = respondent rating and Y_i = weight assigned to each response category. The mean index for each attribute was then computed as:

$$MI = SWV / \Sigma (X_i \times Y_i)$$

The closer the MI is to 5, the greater the resident's importance attached to the attribute. The composite life-cycle index (CLI) was then calculated by normalising each indicator's MI as follows.

$$\text{Normalised Score} = [(MI - MI_{min}) / (MI_{max} - MI_{min})] \times 100$$

Dimensions scores were calculated as the average of the standardised scores for the three dimensions and the total CLI derived from this. The CLIs were as follows: 75-100 = high livability; 50-74 = medium livability; 25-49 = low livability; 0-24 = very poor livability. CLI scores were calculated for each community to enable comparative ranking. Finally, a multiple linear regression analysis was conducted to identify the main predictors of overall CLI, with income, occupation, road condition, electricity, health care, waste management, recreation space, and neighbourhood facilities as independent variables. All analyses were performed using SPSS 29.

Findings and Results

Economic Dimension

The study established that 38% of respondents were artisans (e.g., carpenters, electricians, tailors, appliance repairers, mechanics, and bricklayers), representing an informal labour-market profile that is common for peri-urban settlements in South-west Nigeria; traders (29.4%), public employees (19.6%), and farmers (13.1%), reflecting the continued practice of agriculture to provide household income and food security at the urban fringe, where agriculture continues to provide a sense of self-sufficiency to residents.

Regarding household income, over 63% of respondents earned below the national minimum wage of ₦70,000, with nearly one-tenth earning less than ₦20,000 and over one-third earning between ₦21,000 and ₦40,000. In comparison, only 13.5% reported earnings above ₦80,000. With this income profile, there is a clear poverty and economic vulnerability among peri-urban residents, as noted by Carrilho and Trindade (2022), who found that low-income households are a primary contributor to livability deficits in peri-urban informal settlements across developing countries. Low income directly limits the ability to afford adequate housing, nutrition, healthcare, education, and transportation, and contributes to the overall quality-of-life deficit in the study area.

Social Dimension

Table 4 presents the attributes of the social dimension and their weighted-average index scores. The highest average index (MI = 3.56) showed the importance of neighbourhood amenities, including proximity to schools, health centres, and drinking water, as the most important determinant of social well-being among inhabitants of the peri-urban areas. This finding is consistent with Mouratidis (2020), who showed that proximity to community services is the best predictor of household satisfaction and subjective well-being. Kinship (MI = 3.49) and hospitality (MI = 3.44) ranked second and third, respectively, indicating that strong social ties and community warmth remain important social assets in these settlements. This corroborates the Abunyewa (2024) study, which found that social capital, based on shared values and mutual trust, is an adaptive resource that helps informal communities cope with institutional neglect and infrastructure deficits. The historical context recorded a moderate average index (MI = 2.95), suggesting that residents retain a reasonable sense of place identity associated with the settlement's history. Cultural beliefs, however, returned to below-threshold scores (MI = 2.79), indicating that shared cultural norms are weakening amid rapid peri-urban change. Availability of consumer goods and services scored MI = 2.37, reflecting limited local business activity and forcing residents to travel for basic goods and services, thereby increasing the burden on daily living. Political influence (MI = 2.45) and marginalisation (MI = 2.31) were also below the threshold, in line with the reports by Korah and Cobbinah (2025), which documented similar patterns of political exclusion and marginalisation in sub-Saharan African urban communities.

In terms of energy availability (MI = 2.27), the lack of electricity severely hampers household productivity and daily life. At the same time, the provision of street lighting and signage registered the lowest social mean index (MI = 1.98), indicating an almost complete lack of public lighting infrastructure, which severely reduces mobility, safety, and quality of life. In general, the social dimension is characterised by high levels of informal support but significant infrastructure deficits, political disengagement, and limited access to services, which undermine the social welfare of peri-urban residents.

Table 4: Social Dimension Attributes

Attribute	SD (1)	D (2)	UN (3)	A (4)	SA (5)	SWV	MI	MD	Rank
Neighbourhood amenities (proximity to school, health centre, potable water)	36	62	26	124	104	1254	3.56	+0.80	1st
Level of hospitality	49	53	33	128	89	1211	3.44	+0.68	2nd
Kinship relations	56	41	23	139	93	1228	3.49	+0.73	3rd
Historical background	82	52	43	152	23	1038	2.95	+0.19	4th
Cultural belief	93	64	36	143	16	981	2.79	+0.03	5th
Availability of street lighting and signboards	192	83	17	26	37	698	1.98	-0.78	6th
Availability of power supply	145	105	19	27	56	800	2.27	-0.49	7th
Marginalisation	187	38	29	25	73	815	2.31	-0.45	8th
Availability of consumer goods and services	85	173	21	25	48	834	2.37	-0.39	9th
Political influence	156	82	16	39	68	864	2.45	-0.31	10th

Source: Author's Compilation, 2026

Note: SD = Strongly Disagree (1); D = Disagree (2); UN = Undecided (3); A = Agree (4); SA = Strongly Agree (5); SWV = Summation of Weight Value; MI = Mean Index; MD = Deviation about Mean (Grand Mean = 2.93).

Environmental Dimension

The environmental dimension attributes and the weighted-average index scores (Grand mean = 2.77) are shown in Table 5; three attributes scored above the grand mean, and six scored below, indicating serious environmental concerns. The environmental condition had the highest mean index score (MI = 3.68), revealing residents' satisfaction with their immediate surroundings. The second-highest mean was the physical condition of the environment (MI = 3.29). In contrast, the third-highest mean index score (MI = 3.25) was law enforcement, which could be attributed to the presence of regular police and the Amotekun security outfit in all four communities. The findings highlight the importance of people-centred approaches to community security that address the root causes of insecurity (UN-Habitat, 2020). Oyedele et al. (2020) stressed the importance of adequate law enforcement, community policing, and crime prevention initiatives in ensuring the safety of peri-urban environments, improving the quality of life, and minimising social isolation.

Furthermore, the fourth component (waste collection) fell below the grand mean. Field observations revealed that Aponmu was the only community with regular waste management services. In contrast, the remaining three communities experienced irregular collection, open dumping, and visible environmental degradation—a pattern consistent with the governance vacuum that characterises peri-urban settlements across sub-Saharan Africa (Feng, 2004; Abdulai et al., 2020). The other categories were educational facilities (MI = 2.58), road condition (MI = 2.52), healthcare (MI = 2.41), security (MI = 2.34), and open space for recreational facilities (MI = 2.13).

The consistently below-threshold scores across these categories confirm that the environmental dimension of livability in peri-urban Akure is defined primarily by the absence of adequate roads, healthcare facilities, educational infrastructure, security, and recreational space — rather than by the uneven distribution of existing services that characterise environmental livability deficits in metropolitan Nigerian cities. Although open land exists across all four communities, none has been designated or developed for recreational use, restricting social, physical, and mental activity for all residents.

Table 5: Environmental Dimensions

Attribute	SD (1)	D (2)	UN (3)	A (4)	SA (5)	SWV	MI	MD	Rank
Physical condition of the environment	33	41	7	197	74	1294	3.68	+0.98	1st
Size of plots	34	48	87	145	38	1161	3.29	+0.59	2nd
Law enforcement	26	67	94	123	42	1144	3.25	+0.55	3rd
Waste collection and management	91	125	14	43	79	950	2.69	-0.02	4th
Educational facilities	107	74	91	25	56	908	2.58	-0.12	5th
Road condition	103	96	58	36	49	888	2.52	-0.18	6th
Healthcare services	89	133	57	42	31	849	2.41	-0.29	7th
Security	153	46	72	44	37	822	2.34	-0.36	8th
Open space for recreational facilities	162	87	27	48	28	749	2.13	-0.57	9th

Source: Author's Compilation, 2026
Note: SD = Strongly Disagree (1); D = Disagree (2); UN = Undecided (3); A = Agree (4); SA = Strongly Agree (5); SWV = Summation of Weight Value; MI = Mean Index; MD = Deviation about Mean (Grand Mean = 2.7).

Composite Livability Index

Table 6 shows the Composite Livability Index scores for the four communities. The overall CLI score of 42.87 places the study area in the low livability category, a finding that diverges from CLI assessments in metropolitan Nigerian cities, where formal service delivery systems and employment diversity partially compensate for infrastructure deficits (Mohit & Iyanda, 2016). This confirms that peri-urban livability conditions are more severely constrained than in large-city contexts.

Aponmu recorded the highest CLI score (86.05), attributable to its closer proximity to basic amenities and services. Ipinsa ranked second (CLI = 61.34) with moderate livability, indicating a transitional settlement that does not meet the high livability threshold in any dimension. Adofure ranked third with a CLI of 36.26, placing it in the low livability category. Its economic score (29.50), social score (38.05), and environmental score (41.24) fell below the threshold. The residents of Adofure experience poor income opportunities, inadequate social services, and poor environmental conditions simultaneously. This differs from findings in metropolitan cities, where communities often perform better in one dimension even when they struggle in others (Paul & Sen, 2020). Oda recorded the lowest CLI score (8.73), with near-zero scores across economic (8.41), social (6.19), and environmental (11.57) dimensions. Even though it sits close to Akure city, its residents live in very poor conditions across all three dimensions. Being close to a city does not mean you automatically benefit from it.

Table 6: Composite Livability Index by Community

Communities	Economic Score	Social Score	Environmental Score	CLI Score	Livability Level	Rank
Aponmu	76.74	91.11	90.27	86.05	High	1st
Ipinsa	57.60	59.90	66.52	61.34	Moderate	2nd
Adofure	29.50	38.05	41.24	36.26	Low	3rd
Oda	8.41	6.19	11.57	8.73	Very Low	4th
Overall	**37.93**	**43.62**	**47.05**	**42.87**	**Low**	—

Source: Author's Compilation, 2026
Note: CLI = Composite Livability Index. Livability levels: 75–100 = High; 50–74 = Moderate; 25–49 = Low; 0–24 = Very Low.

Differences in Livability Dimensions Across Peri-Urban Communities

Kruskal-Wallis H test was conducted for the three livability dimension scores across the four communities and found statistically significant differences in all three dimensions: economic ($H(3) = 309.410$, $p < .001$), social ($H(3) = 323.389$, $p < .001$), and environmental ($H(3) = 324.230$, $p < .001$), indicating that livability conditions are significantly different across the four peri-urban communities. The mean rank scores were consistent for all three dimensions: Oda had the lowest mean ranks for the economic (63.08), social (54.30), and environmental (54.64) dimensions, followed by Adofure (156.87; 164.71; 163.92), Ipinsa (256.00; 245.99; 247.26), and Aponmu recording the highest mean ranks in all three dimensions (305.49; 312.44; 312.30). The wide gap in CLI scores among four geographically close communities — from 8.73 in Oda to 86.05 in Aponmu — shows that a single planning approach cannot work for all peri-urban settlements. Each community has different needs and requires its own targeted intervention. This confirms that livability deprivation in peri-urban Akure is systemic and not

dimension-specific; communities that rank low in one dimension also rank low across all dimensions. This pattern differs from research on metropolitan livability, where communities tend to exhibit mixed-dimension profiles, performing well on some dimensions and poorly on others (Paul & Sen, 2020; Badland et al., 2014). The results from peri-urban Akure suggest that deprivation is compounded and simultaneous across all dimensions, implying that single-dimensional planning interventions are unlikely to yield meaningful improvements in overall livability. The extreme disparity between Oda and Aponmu across all three dimensions, despite their relative proximity, reinforces the finding that peri-urban livability is highly differentiated at the community level, a pattern that city-level or aggregated analyses would mask (Creţan et al., 2026). The close correspondence between Kruskal-Wallis mean ranks and CLI scores across all four communities supports the composite index as a valid summary measure of community-level livability conditions.

Table 7: Kruskal-Wallis Test Results — Livability Dimension Scores by Community

Dimension	Oda	Adofure	Ipinsa	Aponmu	H	df	p
Economic	63.08	156.87	256.00	305.49	309.410	3	.001
Social	54.30	164.71	245.99	312.44	323.389	3	.001
Environmental	54.64	163.92	247.26	312.30	324.230	3	.001

Source: Author's Compilation, 2026.

Conclusion and Recommendations

The study assess the livability of four peri-urban communities in Akure, South-west Nigeria — Aponmu, Ipinsa, Adofure, and Oda — using the Urban Livability and Sustainable Livelihoods frameworks and developed a Composite Livability Index (CLI) across three dimensions (economic, social, and environmental), Results showed significant differences in livability conditions across all three dimensions, with an overall CLI score of 42.87, which placed the study area in the low livability category, but hiding the fact that there are significant differences between communities from a high livability in Aponmu to a very low livability, indicating that poverty, poor social conditions, and poor environment can affect the same community simultaneously rather than individually. This contrasts with findings from studies in large Nigerian cities, where communities generally do well in one area but poorly in others. Low income, with 63.3% of residents earning less than the national minimum wage, was the most important factor contributing to poor livability in all communities, followed by a lack of neighbourhood amenities, such as schools, health centres, and clean water, and a lack of formal services. The most significant environmental gaps across the communities were in recreational infrastructure, healthcare services, roads, and waste management. The study demonstrates the need to improve the livability of peri-urban communities to address economic, social, and environmental issues simultaneously rather than in isolation, and to focus on income support programmes, neighbourhood service provision, and environmental infrastructure.

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