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Housing Conditions and Urban Governance in Brazzaville: A Statistical and Qualitative Assessment

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Abstract

Housing conditions and urban governance have emerged as major global challenges, particularly in rapidly urbanizing regions where population growth outpaces infrastructure development. Worldwide, cities face rising rental pressures, widening service inequalities, and increasing demand for inclusive governance capable of addressing socio-spatial disparities. In this context, the present study provides a comprehensive assessment of housing conditions in Brazzaville using a mixed-methods survey of 250 households across the city's nine districts. The results show that 68% of households are tenants, nearly half earn less than 100,000 CFA francs per month, and rent consumes about one-third of monthly income. Access to basic services remains uneven: while 82% of households are connected to electricity, only 59% consider the supply reliable, and sanitation coverage reaches just 38%. Qualitative thematic analysis identifies eight recurrent concerns—including water access, electricity reliability, rental cost, sanitation, security, and infrastructure quality—revealing a pattern of persistent socio-spatial inequalities, particularly in districts such as Talangaï, Ouenzé, and Mfilou. These findings reflect broader global trends in urban vulnerability and highlight the need for reinforced governance mechanisms. The study recommends prioritizing infrastructure investment in underserved districts, strengthening local housing governance, and institutionalizing participatory approaches to improve transparency and residents' engagement in urban decision-making.

Keywords: Housing conditions, Rental market, Service access, Housing inequality, Urban governance · Sustainable urban development

1. Introduction

Housing is widely recognized as a fundamental pillar of social welfare and urban well-being, with strong implications for health, safety, economic mobility, and overall quality of life. Across the world, cities are struggling to provide adequate, affordable, and resilient housing as rapid urbanization, demographic change, and market pressures continue to reshape urban landscapes. In Asia, for instance, megacities such as Mumbai, Manila, and Jakarta face chronic overcrowding, limited access to sanitation, and growing informal settlements (UN-Habitat, 2020). In Latin America, studies have documented persistent inequalities in water access, crime exposure, and infrastructure quality in cities such as Rio de Janeiro, Bogotá, and Mexico City, despite large-scale social housing programs (Marquez & Rufino, 2019; Gilbert, 2020). Even in developed regions like Europe and North America, rising rents, housing shortages, and unequal service access have intensified debates on urban governance and affordability, particularly for low-income households (OECD, 2021; Desmond, 2016).

In Sub-Saharan Africa, these challenges are amplified by rapid demographic growth, weak urban planning systems, and insufficient infrastructure investment. Cities such as Nairobi, Lagos, Dar es Salaam, and Kinshasa exhibit strong socio-spatial fragmentation, inadequate basic services, and high rental burdens among households (UN-Habitat, 2022; Gulyani et al., 2020). Brazzaville reflects similar dynamics: rapid and unplanned expansion, socio-economic vulnerability, and uneven service delivery have produced marked disparities between central and peripheral districts. Long-standing issues—including soil erosion,

flooding, insufficient drainage, and unreliable access to water and electricity—continue to erode living conditions and highlight the limitations of existing housing governance frameworks.

Problem Statement

Despite ongoing efforts, housing conditions in Brazzaville remain characterized by significant disparities in access to essential services and infrastructure. Evidence from the present survey indicates persistent inequalities in water and sanitation, electricity reliability, rent burdens, security conditions, environmental quality, road infrastructure, access to social services, and overall living conditions. These multidimensional constraints reflect deeper structural challenges in the city's governance, including inadequate planning, limited institutional capacity, and weak public investment in underserved districts. Yet, systematic and empirical assessments that integrate both quantitative and qualitative dimensions of the housing situation remain limited. This gap restricts policymaking and undermines the development of equitable and sustainable housing strategies.

Objective of the Study

This study aims to provide an integrated assessment of housing conditions in Brazzaville by combining household-level quantitative data with automated qualitative analysis. Specifically, it seeks to:

1. **Characterize inequalities in access to water and sanitation services**, including both availability and perceived reliability.
2. **Examine electricity and energy conditions**, focusing on connection rates and service continuity.
3. **Assess rental burdens and household expenses**, especially for low-income and large households.
4. **Evaluate perceptions of security and crime**, and their implications for residential well-being.
5. **Analyse environmental hygiene and cleanliness**, including waste management practices.
6. **Assess the state of urban infrastructure and roads**, with particular attention to peripheral districts.
7. **Document access to essential social services**, including schools, markets, and health centers.
8. **Explore residents' perceptions of environmental quality and overall living conditions.**

By addressing these thematic areas, the study contributes to a deeper understanding of the socio-spatial dynamics of housing in Brazzaville and provides evidence-based insights for improving urban governance and promoting sustainable, inclusive urban development.

2. Materials and Methods

2.1. Study Area

The study was conducted in Brazzaville, the political and administrative capital of the Republic of the Congo. According to the *General Population and Housing Census* (RGPH, 2023), the city has approximately 2.3 million inhabitants and represents the country's main urban center (Institut National de la Statistique, 2024). Administratively, Brazzaville is subdivided into nine districts: Makélékélé, Bacongo, Poto-Poto, Moungali, Ouenzé, Talangaï, Mfilou, Madibou, and Djiri.

These divisions exhibit notable contrasts in population density, housing typology, and access to urban services, reflecting the socio-spatial disparities that have resulted from rapid and unevenly managed urban growth (Mante, 1987; Vennetier, 1966). These imbalances—already emphasized in several recent studies—stem from the combined effects of demographic pressure, identity recompositions, and fragmented urban development typical of rapidly expanding African metropolises (Dorier, 1997; Dorier & Mazurek, 2015; Kinouani, 2016).

The city's climate is humid equatorial, with an average annual temperature of about 26°C and a mean rainfall of roughly 1,400 mm per year. These climatic conditions directly influence both infrastructure durability and housing needs (Samba, 2020).

2.2. Data Collection

To justify the chosen sample size, the number of 250 households was deemed sufficient to meet the study's primary objective of providing a citywide overview of housing conditions. This sample size aligns with standard practices in urban household surveys conducted under similar logistical constraints and provides adequate statistical power for descriptive analyses. While it does not allow for detailed district-level comparisons, it ensures minimum representativeness across Brazzaville's nine districts and supports reliable estimation of overall trends in service access, rental dynamics, and living conditions.

The data used in this study were obtained from a questionnaire-based survey conducted between April and June 2025 among 280 households selected through a stratified random sampling approach to ensure proportional representation across Brazzaville's nine districts. This approach follows the classical methodology of socio-economic surveys, designed to collect representative data using standardized instruments (De Vaus, 2014; Kumar, 2018).

A total of 280 questionnaires were distributed, of which 250 were successfully completed and validated, yielding a response rate of 89.3%. To ensure data reliability, all responses were subjected to consistency and completeness checks, with outliers and ambiguous entries removed during data cleaning and preprocessing.

Regarding the measurement of perceived reliability of essential services, the questionnaire included a dedicated item for each service (water, electricity, sanitation, and waste collection). Respondents rated reliability on a four-point Likert scale ranging from 'very reliable' to 'very unreliable', based on their experience with service continuity, frequency of interruptions, and general satisfaction. For analysis, responses were coded numerically and aggregated to compute the percentage of households considering each service as reliable (i.e., selecting 'very reliable' or 'fairly reliable').

The questionnaire was structured according to formats commonly used in studies on housing quality and living conditions (Marans & Stimson, 2011) and comprised three main sections:

Socio-economic characteristics of households (age, gender, marital status, income, and education level);

Housing characteristics (type of dwelling, tenure status, number of rooms, access to water and electricity); and

Perceptions and satisfaction regarding housing quality and the surrounding environment.
This design is consistent with methodological recommendations adopted in previous studies conducted in Brazzaville (Dorier-Apprill, 1993). To ensure clear understanding and inclusive participation, interviews were conducted in French, Kituba, and Lingala according to the respondent's preferred language, following established guidelines for multilingual urban surveys (Massoumou, 2012).

Participation was entirely voluntary and anonymous, in accordance with ethical standards defined by the World Health Organization for household surveys (Oseni et al., 2021).

2.3. Data Processing and Analysis

To justify the chosen sample size, the number of 250 households was deemed sufficient to meet the study's primary objective of providing a citywide overview of housing conditions. This sample size aligns with standard practices in urban household surveys conducted under similar logistical constraints and provides adequate statistical power for descriptive analyses. While it does not allow for detailed district-level comparisons, it ensures minimum representativeness across Brazzaville's nine districts and supports reliable estimation of overall trends in service access, rental dynamics, and living conditions.

Data were entered and cleaned using Microsoft Excel and Python libraries (*pandas*, *numpy*). Descriptive statistical analysis was used to compute frequencies, percentages, and mean values for all variables (Makowski et al., 2021).

For the qualitative component, open-ended responses were subjected to automated textual analysis, including: weighting using **TF-IDF** (Term Frequency–Inverse Document Frequency), dimensionality reduction, and **thematic classification (k-means clustering)** to identify groups of concerns expressed by respondents (Baburajan, 2021).

Eight thematic clusters were automatically identified and labeled based on dominant keywords:

Water and sanitation

Electricity and energy

Rent and household expenses

Security and crime

Cleanliness and hygiene

Infrastructure and roads

Access to social services

For clarity, the labeling of the eight thematic clusters followed a mixed approach. Initial labels were informed by the most dominant TF-IDF keywords within each cluster, as generated by the algorithm. These preliminary labels were then refined through qualitative interpretation by the author, who reviewed representative responses within each group to ensure that the final thematic names accurately reflected the underlying content.

Environment and living conditions.
The thematic clusters generated through automated text mining were subsequently validated using a mixed procedure combining keyword verification, manual review of representative excerpts, and semantic consistency checks to ensure the accuracy and interpretability of each cluster.

The results of these analyses were then interpreted qualitatively to formulate strategic recommendations tailored to the Congolese urban context.

3. Results

3.1. District-Level Service Inequalities

Despite the limited capacity for detailed district-level statistical inference, aggregated response patterns reveal clear disparities in access to essential services across Brazzaville. Peripheral districts—**Talangaï, Ouenzé, and Mfilou**—consistently appear as the most underserved areas in the sample.

Access to drinking water in these districts ranges from **58% to 63%**, significantly lower than the **78% to 82%** reported in central districts such as Poto-Poto and Moungali. Electricity reliability also shows marked differences: **52% to 57%** of respondents in Talangaï, Ouenzé, and Mfilou report frequent outages, compared with substantially lower interruption rates in the city center.

Sanitation exhibits the widest disparity. Only **22% to 28%** of households in the three peripheral districts report access to modern toilets, while central districts exceed **45%**. These combined findings demonstrate that **Talangaï, Ouenzé, and Mfilou face the most pronounced service deficits**, supporting their prioritization in infrastructure investment and policy intervention.

3.1. Socioeconomic Characteristics of Households

The sample of 250 households reveals strong social heterogeneity. The majority of household heads (56%) are men, compared with 44% women. The average age is 39 years, and the average household size is 5.2 persons (see Table).

Table 1. Distribution of households by housing tenure status in Brazzaville

Housing Tenure Status	Percentage (%)
Tenants	68 ± 4,2
Owners	21 ± 3,6
Living rent-free	11 ± 2,8

3.2. Access to Basic Services

Access to essential services remains highly unequal across districts (Table 2).

Table 2. Access rate and perceived reliability of essential services among households in Brazzaville

Essential Service	Access Rate (%)	Perceived Reliability (%)
Electricity	82	59 ± 3,2
Drinking water	74	62 ± 3,9
Sanitation	38	41 ± 4,8
Waste collection	33	37 ± 4,6

3.3. Socio-demographic Disparities

Preliminary cross-tabulations revealed notable differences between household categories. Female-headed households showed significantly lower access to essential services, with only 62% having reliable drinking water connections compared to 77% for male-headed households. Similarly, larger households (6 or more members) reported higher rental burdens, with 39% spending more than one-third of their monthly income on rent, compared to 24% of smaller households. These disparities highlight the differentiated vulnerabilities present within the urban population.

3.4. Thematic Analysis (Clusters)

Content analysis of open-ended responses made it possible to group households according to their main concerns.

The eight clusters identified are summarized in **Table 3.**

Table 3. Thematic classification of household concerns regarding living conditions in Brazzaville

Cluster No.	Main Theme	Proportion of Responses (%)	Dominant Keywords
1	Water and sanitation	18± 2.10	water, well, tap, pits, canal
2	Electricity and energy	14± 1.90	electricity, outages, connection
3	Rent and household expenses	16± 2.0	rent, house, expensive, landlord
4	Security and crime	11 ± 1.70	theft, police, neighborhood, burglary
5	Cleanliness and hygiene	9 ± 1.6	waste, dirt, garbage
6	Infrastructure and roads	12 ± 1.8	road, flooding, transport
7	Access to social services	10± 1.7	school, hospital, market, transport
8	Environment and living conditions	10± 1.7	noise, pollution, green space

4. Discussion

The results highlight the complexity of the urban housing system in Brazzaville, where economic constraints, infrastructure deficiencies, and rapid demographic growth interact in a structurally interdependent manner. Statistical analysis reveals that nearly seven out of ten households are tenants, making them highly dependent on a poorly regulated rental market.

4.1. Socioeconomic Inequalities and Rental Pressure

Analysis of housing conditions shows that the rent-to-income ratio among urban households averages around 30%, a level considered the upper limit of affordability according to international standards (Parby et al., 2015). This finding aligns with broader observations across Sub-Saharan Africa, where housing expenditures represent a major financial burden for urban households—particularly in francophone countries.

According to the World Bank, families in these contexts devote between 25% and 40% of their income to rent payments, reflecting significant budgetary pressure and limited savings capacity (Lozano-Gracia & Young, 2014). This situation stems from the limited supply of affordable housing, the rapid growth in urban demand, and the absence of adequate financing mechanisms for low- and middle-income populations. These constraints exacerbate socioeconomic vulnerability and reinforce inequalities in access to decent housing—a trend also observed in several francophone African countries (World Bank, 2016).

Similarly, the UN-Habitat (2020) report highlights that in most African cities, the cost of housing far exceeds affordability thresholds, exposing households to increasing economic fragility (Choplin, 2024). The African Development Bank (2019) confirms this trend, noting that the scarcity of low-cost housing and the limited purchasing power of urban populations aggravate rental insecurity and restrict access to adequate housing for a large portion of city dwellers.

Spatial disparities within Brazzaville further illustrate these inequalities. Central districts such as **Poto-Poto** and **Moungali** concentrate the highest rental prices, while peripheral areas such as **Talangaï** and **Ouenzé** accommodate households with more modest incomes but often degraded housing conditions.

4.2. Unequal Access to Basic Services

Access to water and electricity remains uneven, reflecting the development disparities between districts. Despite an overall electricity coverage of 82%, the reliability of supply remains low (59%), affecting domestic comfort and productivity. Similarly, limited access to sanitation (38%) underscores a chronic deficit in

public infrastructure, which is frequently offset by informal community initiatives.

These findings mirror trends reported in many Sub-Saharan African capitals, where urban fragmentation, insufficient investment, and lack of local governance capacity perpetuate inequalities in the provision of essential services.

4.3. Qualitative Insights: Priorities Expressed by Households

The textual analysis confirms that the most recurrent concerns among Brazzaville residents revolve around water supply, electricity, and housing costs—fundamental dimensions of urban well-being.

Clusters related to security, cleanliness, and road infrastructure reflect growing expectations for participatory local governance, in which residents seek to be more directly involved in urban planning and decision-making processes.

This trend signifies the emergence of a civic consciousness around the "right to the city," contextualized within contemporary Congolese society. It underscores the increasing demand for transparency, accountability, and inclusiveness in the management of urban affairs.

4.4. Implications for Urban Governance

The results suggest the need for an integrated approach to housing governance, combining rental market regulation, improvement of basic services, and institutional strengthening.

The experience of regional programs such as *"Sustainable Cities in Central Africa"* demonstrates that the success of housing policies depends largely on coordination among public authorities, private actors, and community organizations.

In the case of Brazzaville, such an approach could rely on data-driven decision-making derived from this type of survey to guide public investment toward the most vulnerable neighborhoods. Strengthening municipal capacities and promoting citizen participation would thus be key levers for achieving inclusive and sustainable urban development.

5. Conclusion and Recommendations

The findings of this study highlight the urgent need for multi-level interventions that address both the immediate housing deficits and the structural weaknesses of urban governance in Brazzaville. The following recommendations are organized according to their time horizon and institutional responsibilities and are directly linked to the Sustainable Development Goals (SDG 11: Sustainable Cities and Communities).

5.1. Short-Term Interventions (1–3 years)

These measures can be implemented rapidly to improve residents' living conditions and to strengthen municipal management capacity.

Establish a Local Housing Observatory (SDG 11.1, 11.3)

Lead institution: Municipality of Brazzaville, in collaboration with the National Statistical Institute (INS) and ENSP–Marien Ngouabi University.

Purpose: Regularly collect, analyze, and publish housing and service access data to support evidence-based decision-making.

Expected impact: Improved monitoring of housing affordability, infrastructure deficits, and citizen satisfaction.

Upgrade Sanitation, Water, and Electricity Infrastructure (SDG 11.1, 11.5)

Prioritize investments in underserved districts such as Talangaï, Ouenzé, and Mfilou.

Mobilize public–private partnerships (PPPs) and community-based maintenance programs to ensure sustainability.

Focus on the rehabilitation of drainage systems, communal toilets, and boreholes to reduce exposure to health risks.

Promote Participatory Urban Planning (SDG 11.3)

Establish neighborhood consultative committees allowing citizens to co-design local housing and infrastructure projects.

Introduce participatory mapping tools (GIS-based) for identifying critical service gaps and priority zones for intervention.

Enhance Data Transparency and Institutional Coordination
Create an open-access municipal platform integrating data from the housing observatory, land registry, and public works departments.
Strengthen coordination among municipal directorates, the Ministry of Land Affairs, and the Ministry of Construction and Urban Development.

5.2. Long-Term Structural Reforms (3–10 years)

Develop an Affordable Housing Finance System (SDG 11.1)
Establish microcredit or subsidized loan mechanisms for low-income households to access affordable housing.

Encourage public–private partnerships to stimulate the production of low-cost rental units.

Integrate housing microfinance into national development banks' portfolios.

Reinforce Urban Governance and Spatial Planning Capacities (SDG 11.3)

Build the technical capacities of district municipalities in land-use planning, data analytics, and community engagement.

Incorporate climate resilience criteria (flood and erosion risk mapping) into all new urban projects.

Encourage inter-municipal cooperation for coordinated metropolitan management.

Integrate Gender and Social Inclusion in Housing Policy (SDG 5.1 and 11.1)

Implement gender-sensitive planning to support female-headed households, youth, and persons with disabilities.

Mandate social impact assessments before approving major housing or relocation projects.

Establish Legal and Regulatory Frameworks for Rental Market Regulation (SDG 11.1)

Introduce transparent rental contracts, standardized tenancy rights, and affordable rent ceilings for low-income households.

Set up mediation mechanisms between landlords and tenants to prevent eviction-related conflicts.

5.3. Strategic Alignment and Implementation Mechanism

To operationalize these recommendations, the Municipality of Brazzaville should act as the central coordinating body, supported by: Ministry of Construction, Urban Planning, and Housing (policy and legal framework);

National Statistical Institute (INS) (data collection and monitoring);

Local universities and research centers (technical expertise, capacity building);

Civil society organizations (citizen participation and feedback).
A multi-stakeholder steering committee should be established to align local actions with national urban development policies and SDG monitoring frameworks.

5.4. Expected Outcomes Improved access to affordable and adequate housing (SDG 11.1).

Strengthened participatory mechanisms in urban governance (SDG 11.3).

Enhanced resilience of vulnerable neighborhoods to environmental hazards (SDG 11.5).

Data-driven, inclusive urban planning guided by continuous citizen engagement.

References

1. Baburajan, V. (2021). *Automated Text Analysis on Open-ended Response Surveys : Measuring Attitudes Regarding Autonomous Vehicles [PhD Thesis, INSTITUTO SUPERIOR TÉCNICO]*.
2. *Berthe*, B., Traoré, S. S. L., Sissoko, M., & Mouleye, I. S. (2023). Logement et déterminants du bien-être objectif des ménages locataires de Bamako. *International Journal of Accounting Finance Auditing Management and Economics*, 4(5-2), 640-657.
3. Choplin, A. (2024). *Building Cities in West Africa : Construction Boom and Capitalism*. *Globalization and Dynamics of Urban Production*, 213-234.
4. Citaristi, I. (2022). *United Nations Human Settlements Programme—UN-Habitat*. In *The Europa Directory of International Organizations 2022* (pp. 240-243). Routledge.
5. De Vaus, D. A. (2014). *Surveys in Social Research* (Sixth edition). Routledge.
6. Dorier, E. (1997). Guerres des milices et fragmentation urbaine à Brazzaville. *Hérodote-Revue de géographie et de géopolitique*, 4(86-87), 182.
7. Dorier, E., & Mazurek, H. (2015). Dynamiques territoriales du postconflit et de la reconstruction au Congo-Brazzaville. *Hérodote*, 158(3), 132-159.
8. Dorier-Apprill, E. (1993). *Environnement et santé à Brazzaville (Congo)*. Université de Paris X-Nanterre.
9. Institut National de la Statistique. (2024). *Recensement général de la population et de l'habitation (RGPH 2023)*.
10. Kifouala, M. M. (2019). Vulnérabilité du site urbain de Brazzaville (République du Congo) face à la menace climatique et à la pression démographique. *Afrique SCIENCE*, 15(6), 206-217.
11. Kinouani, R. (2016). *La fragmentation spatiale dans les petites villes du Congo méridional*. Marseille : Laboratoire Population-Environnement-Développement. (pp. 1-7) [Document de travail scientifique]. Université Aix-Marseille / IRD (Institut de Recherche pour le Développement).
12. Kumar, R. (2018). *Research Methodology : A Step-by-Step Guide for Beginners*. SAGE Publications.
13. Lozano-Gracia, N., & Young, C. (2014). *Housing Consumption and Urbanization*. *World Bank Policy Research Working Paper*, 7112, 1-40.
14. Makowski, D., Brun, F., El Jabri, M., Duyme, F., & Doutart, É. (2021). *Data Science pour l'agriculture et l'environnement : Méthodes et applications avec R et Python.* MPRA, 364.
15. Mambou, J.-R., & Elenga, H. (2023). Érosions, Inondations et Mauvais Drainage des Eaux Pluviales à Brazzaville : Quelles Solutions dans le Cadre d'un Réaménagement Durable de la Ville à l'Horizon 2030 ? *European Scientific Journal (ESJ)*, 19(20), 205.
16. Mante, D. (1987). *Brazzaville : Dynamique urbaine et urbanisation du district de N'Gamaba : Contribution à l'étude de la croissance périphérique de Brazzaville (Congo)* [Thesis, Paris 7].
17. Marans, R. W., & Stimson, R. J. (2011). *Investigating Quality of Urban Life : Theory, Methods and Empirical Research* (Vol. 45). Springer Science & Business Media.
18. Massoumou, O. (2012). Dynamiques sociolinguistiques de l'écrit à Brazzaville. In M. Nglasso-Mwatha (Ed.), *Environnement francophone en milieu plurilingue* (pp. 65-80). Presses Universitaires de Bordeaux.
19. Oseni, G., Palacios-Lopez, A., Mugera, H. K., & Durazo, J. (2021). *Capturing What Matters.* World Bank, Washington, DC.
20. Parby, J., Gracia, N., Masson, D., Lall, S., & Dasgupta, B. (2015). *Bilan du secteur du logement en Afrique subsaharienne : Défis et opportunités.* Rapport publié. Banque mondiale.
21. Samba, G. (2020). *Le climat du Congo-Brazzaville.* Torrossa, 1-241.
22. Vennetier, P. (1966). *Géographie du Congo-Brazzaville.* FeniXX.

23. World Bank. (2022). *Poverty and Shared Prosperity 2022 : Correcting Course.* The World Bank.