



Governing Urbanisation Data:

Strengthening Stewardship and Interoperability for Inclusive Cities in Cameroon

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Executive Summary

Cameroon's cities are expanding faster than the data systems meant to manage them. With urbanisation rising by about 3.5% each year, driven by population growth, migration, and displacement, over 30% of the country's urban residents now live in just two cities: Douala and Yaoundé.^[1] Yet, decision-makers still rely on fragmented, outdated, and inaccessible data insights for urban planning to manage land, infrastructure, and services. The result is a widening disconnect between demographic realities and urban management capacities.

This policy brief argues that effective data governance is essential for building inclusive, resilient, and well-planned cities. Weak stewardship and poor interoperability of urban data perpetuate inefficiencies in planning, constrain investment, and entrench inequality. Conversely, robust and inclusive data systems can enhance local accountability, improve fiscal efficiency, and ensure that marginalised communities are represented in decision-making.

Drawing on evidence from Douala and Yaoundé, the brief highlights how fragmented data on land, population flows, and service delivery undermine municipal planning and service allocation. It also presents comparative insights from other African countries, particularly Rwanda, Kenya, and Senegal, that have developed integrated urban data frameworks to support transparent, data-driven city management.



[1] World Population Review (2025) Cameroon

Key findings include:

- Data fragmentation undermines effective governance. Multiple agencies collect overlapping or inconsistent urban data, with little coordination or interoperability.
- The cost of poor data is measurable. Delays in urban planning certificates increase project costs, discourage compliance, and fuel informal construction.
- Data stewardship is a governance issue, not a purely technical one. Institutional coordination, trust, and clear data rights are as vital as technology.
- Inclusive data ecosystems enhance accountability. Citizen-generated and civil-society data can complement official statistics if integrated ethically.

To move forward, the brief proposes six actionable reforms:



The overarching argument is that better data governance is the foundation of smarter cities. Without interoperable, inclusive, and accountable data systems, cities cannot plan effectively or deliver equitable services.

2. The Urbanisation Data Gap in Cameroon

Cameroon's population reached an estimated 30.1 million in 2025, with over 17.7million people living in urban areas.^[2] The urbanisation rate has accelerated from 44% in 2005 to nearly 60% today.^[3] This growth, however, is unfolding amid institutional fragmentation and weak data systems.

Large cities, particularly Douala and Yaoundé, now face mounting pressure on housing, sanitation, transport, and public space. Yet these challenges are managed with limited and outdated urban data, rather than dynamic, spatially disaggregated information.



2.1 What Urbanisation Data Are Missing?

Table 1: Gaps in Urbanisation Data

Domain	Data Gaps	Consequences
Population and Migration	Infrequent census updates; limited data on displacement from conflict-affected areas.	Misaligned municipal budgets; poor crisis response in host cities.
Informal Settlements	Few up-to-date maps or vulnerability profiles.	Exclusion of informal residents from planning and services.
Service Delivery	Weak datasets on water, sanitation, transport and waste coverage.	Inefficient resource allocation; inability to target underserved areas.
Land and Spatial Planning	Fragmented land records and incompatible mapping systems	Permit delays, legal disputes, and reduced investor confidence.

Source: Author's Construction

[2] Worldometer (2025), Population of Cameroon (live)

[3] Ibid.

Municipal and national planners therefore operate with partial visibility over urban realities. This information vacuum not only constrains long-term planning but also fuels informality and inequality.

2.2 Who Needs Urbanisation Data and Why?

- Municipalities use spatial and demographic data to guide zoning, budget allocations, and public works.
- Central ministries such as the Ministry of Housing and Urban Development (MINHDU), the Ministry of Economy, Planning and Regional Development (MINEPAT) and the Ministry of Decentralisation and Local Development (MINDDEVEL) require harmonised data to implement decentralisation and national planning.
- Civil society organisations and local communities depend on open data to monitor service equity and advocate for inclusion.
- Private developers and investors rely on transparent land and infrastructure data to assess risks and unlock financing.

2.3 The Cost of Poor Urban Data

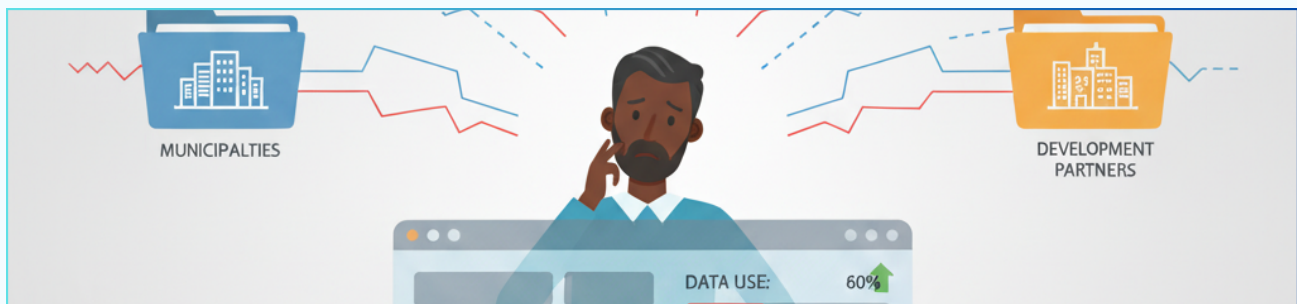
Poor data translates to economic and social costs. For instance:

- In Douala, incomplete mapping of land parcels contributes to average building-permit delays of over 30 days beyond regulatory limits, driving up construction costs and informal building.^[4]
- In Yaoundé, lack of disaggregated population data leads to inequitable budget allocations across districts.
- Across cities, the absence of spatially detailed risk data hampers disaster preparedness and infrastructure prioritisation.

These data deficiencies translate into lost revenue, misdirected investment, and exclusionary planning, costs that collectively erode Cameroon's prospects for sustainable and inclusive urbanisation.

^[4] Kakdeu et al. (2020) *Dealing with construction permits in Cameroon: evaluation and recommendations for policymakers. Being a Thematic Report N.2*. DBI Project, Nkafu Policy Institute, Denis and Lenora Foretia Foundation

3. Gap in Data Interoperability and Stewardship for Urban Governance



3.1 Fragmented Data Systems

The “**data use**” dimension of Cameroon’s statistical capacity index fell from 80% to 60% between 2018 and 2023, highlighting that data produced is increasing but not applied in decision-making. ^[5] Multiple ministries, including MINEPAT, MINHDU, the Central Bureau of Census and Population Studies (BUCREP) and the National Institute of Statistics (INS), collect data independently. Municipalities and development partners also maintain separate databases, often using incompatible data standards. As a result, the ability of these systems to exchange and use data remains minimal.

— Case Illustration: Data Fragmentation and Urban Planning in Douala

Douala provides a picture of the challenges facing urban data governance in Cameroon. Between 2020 and 2024, the city doubled its revenue from urban-planning certificates from 1.09 billion to 2.17 billion CFA francs, yet these figures mask deep inefficiencies. ^[6]

- Processing time for building permits averages 77 days, compared to a legal benchmark of 45 days.
- Rejection rates exceed 60%, largely due to missing or conflicting data from various departments.
- Only 7% of new buildings are developed with formal permits, reflecting low compliance.

Delays arise primarily from the absence of integrated geospatial systems linking land, infrastructure, and environmental data. Each department – land registry, urban planning, and sanitation – maintains separate databases, none of which share standardised formats or real-time access. The economic and social consequences are significant: prolonged delays inflate project costs, discourage private investment, and encourage informal construction that undermines tax revenue and public safety.

[5] [World Development Indicators \(2025\) Statistical performance indicators \(SPI\): Overall score](#)

[6] [Investir au Cameroun \(2025\) CUD: administrative urban planning measures have generated more than 2 billion CFA francs in revenue in 5 years](#)

The fragmentation has direct policy consequences:

- Urban planning certificates are issued based on inconsistent or incomplete data.
- Land disputes arise from misaligned registries between the cadastre and municipal zoning departments.
- Urban resilience initiatives lack integrated geospatial baselines, undermining climate and disaster-risk planning.

3.2 Inadequate Data Stewardship for Inclusion

Cameroon's legal framework already includes data protection legislation, electronic transaction laws, and cybersecurity regulations. Yet, stewardship remains weakly institutionalised: there are no dedicated urban data standards, nor a clear framework for municipal data rights and responsibilities. So, what is missing? Inclusive data stewardship that recognises community-generated data, for instance, mapping by local NGOs or neighbourhood associations, as valid and complementary to official data. Adequate trust mechanisms that make data-sharing arrangements transparent and participatory are also missing.

Initiatives such as the Open Cities Africa programme show how participatory mapping can inform flood-risk management in informal settlements. Cameroon's municipalities could adapt such approaches to fill local data gaps while strengthening citizen engagement. An example of participatory mapping in Cameroon is the project with 14 Bagyeli communities in the Bipindi area, where they used GPS data collection to map their lands and resources, leading to legal recognition of some land rights and helping to negotiate boundaries.^[7]

3.3 What Is Data Stewardship?

Data stewardship refers to the responsible management of data throughout its lifecycle, from collection to sharing and reuse in a way that maximises public value while safeguarding privacy and rights

^[7] [Barber \(2015\) Marginalized Communities and ICTs: The Case of Bagyeli Participatory Video and Mapping.](#)

4. Lessons from other Countries: Comparative Perspective

Other African cities have shown that interoperable systems can transform urban management:

- **Rwanda's IremboGov platform** digitised building-permit processes, cutting approval times by more than half while improving transparency.^[8]
- **Kenya's Open Spatial Data Infrastructure** links land records, zoning, and environmental data across counties, supporting smart city initiatives.^[9]
- **Senegal's Geospatial Data Hub** under the Plan Sénégal Émergent integrates national and municipal data for infrastructure planning.^[10]

Cameroon can draw lessons from these experiences to pilot city-level open data platforms that unify datasets and improve traceability.



5. Implications for Policy and Development

The findings underscore that urban data governance is both a decentralisation and a development issue.

5.1 Institutional and Governance Implications

Cameroon's decentralisation reforms transfer significant planning responsibilities to municipalities but without corresponding data authority. Local governments depend on national agencies for statistics that are often outdated or aggregated.

[8] Public.digital (2025) The Irembo model in Rwanda

[9] Mwange et al. (2017) Relaunching the Kenya National Spatial Data Infrastructure

[10] Samira Njoya (2025) Senegal Launches Geoportal to Democratise Access to Geospatial Data

Strengthening municipal data autonomy through capacity-building, data mandates, and resource allocation would enable more responsive and accountable governance.

5.2 Economic and Fiscal Implications

Data fragmentation increases the cost of urban management. Delays in permit processing and infrastructure planning constrain investment, reduce revenue collection, and increase land speculation. Conversely, a transparent and reliable data environment attracts investors and facilitates credit access, especially in housing and infrastructure sectors.

5.3 Social and Inclusion Implications

The invisibility of informal communities in official statistics perpetuates spatial inequality. Responsible data stewardship can ensure that citizen-generated data and participatory mapping inform planning and service delivery, giving voice to those traditionally excluded.

5.4 Alignment with National and Global Frameworks

Improving data governance directly supports Cameroon's National Development Strategy 2030 (NDS30), the New Urban Agenda, and Agenda 2063. It also aligns with SDG 11 on sustainable cities and SDG 16 on accountable institutions.

6. Policy Pathways and Options for Reform

The brief proposes six complementary pathways to close Cameroon's urbanisation data gap:

6.1 Develop a National Urban Data Governance Framework

- Establish a unified framework under MINEPAT and MINHDU defining roles, standards, and data-sharing protocols
- Integrate urban data governance and open data priorities into the National Digital Economy Strategy.



6.2 Institutionalise Interoperability Standards

- Define metadata and geocoding standards for land, housing, infrastructure, and environmental data.
- Develop APIs for real-time data exchange between ministries and municipalities.
- Encourage regional harmonisation through the Economic and Monetary Community of Central Africa (CEMAC) to enable cross-border comparability.

6.3 Establish City-Level Urban Data Observatories

- Pilot observatories in Douala and Yaoundé to centralise geospatial, demographic, and service data.
- The functions of the observatories should include data collection, visualisation, analytics, and dissemination for decision-makers and citizens.
- Use case model can be similar to Rwanda's City of Kigali Data Lab or Cape Town's Open Data Portal.

6.4 Leverage Citizen-Generated and Civil-Society Data

- Formalise mechanisms for integrating community data under ethical and validation protocols.
- Encourage partnerships between municipal authorities, local universities, and NGOs for urban observatories. Examples of potential NGO or community partners include AfroLeadership, the Denis and Lenora Foretia Foundation, and ALDEPA (Action Locale pour un Développement Participatif et Autogéré).

6.5 Build Municipal Data Stewardship Capacities

- Train local officials in data management, privacy, and open-data ethics.

- Establish a “Municipal Data Steward” role responsible for coordination and compliance.
- Incentivise municipalities that meet interoperability or transparency benchmarks.

6.6 Pilot Open Urban Data Platforms

- Launch pilot platforms linking land and property records, demographic, and infrastructure datasets.
- Include real-time permit tracking and public dashboards.
- Embed privacy-by-design and cybersecurity protocols from inception.

7. Implementation and Risk Considerations



Effective implementation will require strong coordination, financing, and accountability.

Table 2: Key implementation Strategies

Domain	Key Actions	Potential Risks	Mitigation
Governance	Create an Inter-Ministerial Task Force on Urban Data chaired by MINH DU.	Institutional overlap.	Clear mandates and MoUs.
Legal	Update the data protection legislation to specify municipal responsibilities.	Regulatory ambiguity.	Inclusive drafting with local-government input.
Capacity	Establish municipal data units under Fonds Spécial d'Équipement et d'Intervention Intercommunale (FEICOM) and local councils.	Skills shortages.	Targeted training programmes.
Finance	Blend funding from government, local levies, and development partners.	Short-term projectisation.	Medium-term budget planning.
Technology	Adopt open-source GIS and API standards to reduce costs.	Cybersecurity vulnerabilities.	Built-in safeguards and audits.

Source: Author's Construction

Monitoring indicators could include:

- Percentage of municipalities with interoperable GIS systems.
- Proportion of urban planning certificates issued digitally.
- Frequency of data updates and openness of urban data portals.
- Uptake of citizen-generated data in formal planning processes.

8. Conclusion: From Fragmented Data to Inclusive Cities

Cameroon's urban future depends not only on infrastructure and investment but also on how well it governs its data. Fragmented, inaccessible, or poorly managed urban data perpetuate inefficiencies and exclusion. Yet, emerging reforms such as decentralisation, digitalisation, and legal frameworks offer a foundation for transformation.

By adopting an integrated model of data stewardship and interoperability, Cameroon can turn its urban data deficit into an opportunity for innovation and inclusion. Municipalities empowered with reliable and open data will plan more effectively, engage citizens more transparently, and deliver services more equitably.

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