SCIENTIFIC CULTURE
www.sci-cult.com

SCIENTIFIC CULTURE, Vol. 12, No. 2.1, (2026), pp. 8224-8239
Open Access. Online & Print

DOI: 10.5281/zenodo.19746802

URBAN PLANNING QUALITY AND TERRITORIAL ATTRACTIVENESS: CROSS-ANALYSIS OF PLANNING DOCUMENTS AND ATTRACTIVENESS MEASUREMENT IN EDEA, CAMEROON'S INTERMEDIATE CITY

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Received: 11/03/2026
Accepted: 25/04/2026

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ABSTRACT

The rapid urbanization of sub-Saharan Africa reveals the challenges of planning and governance of secondary cities, which are nevertheless essential for the balance of the urban system. This article focuses on Edea, a secondary city in the Littoral region of Cameroon, to evaluate urban planning and assess its urban attractiveness. The methodological approach integrates documentary analysis with semi-structured interviews, including city stakeholders (n=20), traditional chiefs (n=10), religious authorities (n=5), and representatives from local enterprises and industries (n=2). It was about assessing the existing planning documents in Edea Urban Development Master Plan (UDMP), Land Use Plans (LUP), and Sector Plan (SP), all approved between 2017 and 2020, were evaluated using an analytical framework based on Berke & Godschalk, and evaluating territorial attractiveness through the development of a Global Attractiveness Index (GAI). This index was constructed based on dimensions (accessibility, infrastructure, economic opportunities, quality of life, and governance) with a scoring system to assess the city's strengths and weaknesses. The planning documents are of poor quality, with no consideration for citizen participation and a lack of an implementation and monitoring framework. The attractiveness index (4.83/10) found gives Edea an average attractiveness. The correlation analysis highlights a significant relationship between planning quality and territorial attractiveness. This means that making urban planning tools stronger is an important way to improve Edea's development as a secondary city under pressure from the metropolitan area.

KEYWORDS: Urban Planning, Urban Attractiveness, Secondary City, Urban Planning Evaluation, Urbanization, Global Attractiveness Index (GAI).

1. INTRODUCTION

The city is a living, multifunctional place. It has been fortified to protect its residents, opened to trade and cultural exchanges, expanded to accommodate industrial production, refocused on service activities, and, most recently, reimagined to address environmental and sustainability issues [1]. According to UN-Habitat and Teadoum [2], 56% of the world's people lived in cities in 2021. By 2050, that number is expected to rise to 68%. It is thought that 1,765 cities in Africa already have more than 50,000 people living in them [3]. The United Nations Department of Economic and Social Affairs (DESA) says that over 143 of these agglomerations have more than 500,000 residents. By 2035, that number is expected to rise to 245 [3]. By 2050, cities are forecast to take in 80% of Africa's population expansion. Two out of three Africans are expected to live in cities, and the rate of urbanization is expected to rise from 54% to 65% [4]. This quick move to cities creates a lot of problems, such as not enough housing, unequal distribution of space, broken infrastructure, and poor transportation networks [5].

In this larger picture, secondary cities have their own unique and growing problems. They often have bad systems for running cities and governments, lack basic infrastructure, good schools, and reliable health care, and their transportation networks are partially inadequate. Many secondary African cities have a lively local economy, but it is mostly based on consumption because the informal sector is so big [3]. Residents of these cities significantly impact urban planning by changing the urban environment every day to meet their wants, financial means, and cultural practices, without relying on state planning frameworks [6],[7]. The absence of regulatory monitoring has led to unregulated urban growth, with the majority of demographic and spatial growth taking place in areas without rules [8].

The National Policy for Spatial Planning and Sustainable Territorial Development (PNADDT) and the National Development Strategy 2030 (SND30) in Cameroon officially recognize that secondary cities are important for regional growth. But local implementation is still restricted. Edea, a secondary city on the Douala–Yaoundé corridor about 60 km from Cameroon's commercial centre, is a good example of this divide. Tende [9] says that Edea's past industrialization, which was based on aluminum smelting and electricity generation, has not had a big impact on the surrounding area because there is no clear plan for how to develop the area. The absence of efficient economic activity zones, inadequate land valorization, and feeble urban infrastructure collectively impede the cultivation of authentic territorial appeal.

Tende describes urban attractiveness as the ability of a city to attract and keep people, businesses, and economic activities, which creates residential and economic dynamics. When repulsion forces are stronger than attraction factors, a city becomes unpleasant [9]. This can lead to people leaving, the economy slowing down, and the city's space getting worse. Edea is a good example of this situation: even though the population in the Douala–Yaoundé corridor is growing steadily, the city has too few job options, too little economic diversity, and a low standard of living for a large number of its residents. Edea's main problem isn't that it is getting smaller; it's that it is growing too quickly without the right infrastructure, planning, or jobs to support it. The existence of informal settlements, underutilized industrial sites, and the emigration of trained labor to Douala are all signs of this structural shortfall. They all show how Edea is less important in the metropolitan corridor [9].

Tende's work investigates the structural elements contributing to Edea's constrained development; nevertheless, no study has yet thoroughly assessed the quality of its urban planning documents or evaluated its geographical appeal within the framework of metropolisation [9]. This study seeks to fill this gap by posing three interrelated research questions: How well do the current urban planning documents in Edea satisfy known quality standards? How attractive do the people of Edea think their area is? And is there a way to measure the link between the quality of planning documents and how desirable a territory is? To answer these questions, the study first uses a multi-criteria analytical framework to look at the four urban planning documents that are currently in effect. Then, it uses a composite index to measure how attractive a territory is, and finally, it looks at the link between planning quality and attractiveness outcomes.

2. LITERATURE REVIEW

The literature reports on the evaluation of planning documents through the status of the implementation of projects contained in the planning documents [2],[10]. The work of Sondou highlighted the impact of citizen participation in planning documents, and the study by Taleai et Maleki which evaluates the compliance of projects and land uses[11], [12],[13]. The analytical framework of Berke and Godschalk remains the most widespread

because it takes into account several dimensions of analysis, including the factual basis, objectives and visions, internal coherence, and citizen participation[14]. This method of analysis has also been used in the studies of J. Horney and D. Guyadeen, [15],[16]. Some studies have combined these dimensions with network and plan analysis, surveys with statistical analysis, and citizen participation[17],[18],[19].

The synthesis of the literature on urban attractiveness of cities provides a list of dimensions and indicators for evaluating urban attractiveness. These studies have mostly used the weighted score evaluation method based on existing data and the perceptions of the population.

Thus, the following table summarizes the dimensions, with indicators:

Table 1: Summary of Urban Attractiveness Indicators.

Dimensions	Indicators	References
Economic attractiveness	Proportion of employment increase; Establishment of companies and FDI (Foreign Direct Investments); GDP per capita according to purchasing power parity; Concentration of activities in the tertiary and technological sectors; Existence of university centers and research centers; Recruitment of competent collaborators (executives and higher intellectual professions); Sectoral specialization and innovation	[20],[21],[22],[23],[24],[25].
Demographic and residential attractiveness	Positive migratory balance; Population density; Demographic composition (proportion of young people); Population growth; Migration movements (point of origin and destination); Attraction for various age groups (students, workers, retirees, families); Proportion of residents retained	[26],[27],[28],[29],[30].
Quality of life and living environment	Environmental quality (green areas, pollution, air purity); Security of property and individuals, Types of housing (variety, accessibility, price); Natural and cultural heritage, Climatic conditions and natural amenities; Comfort in an urban environment (thermal, acoustic, sensory); Cleanliness in urban areas	[20],[31],[26],[23],[32],[25].
Infrastructure and connectivity	Quality of transport infrastructure (roads, metro, tram, bicycle); Multimodal accessibility; Digital connectivity and ICT; High-speed rail services; Geographical location near airports and transportation hubs; Facilities for soft modes of transportation; Average travel time	[4],[33],[20],[25].
Public services and facilities	Presence and quality of educational institutions; The availability of medical services (doctors, hospitals); Cultural and recreational facilities; Administrative and social services; multiplicity of businesses; Sports facilities	[4],[33],[20],[25].
Dynamism and human vitality	Concentration of points of interest; Vitality of social and human activities; Functional diversity; Vitality of public spaces (events, festivities); Presence of nighttime activities; Movement and attendance records; Attractiveness of streets and public spaces	[34],[35],[36],[25].
Perception and urban image	Level of security; the beauty/aesthetics of the city; Vision of abundance/prosperity; Visual charm of the streets; Image and reputation of the territory; Satisfaction of the residents	[36],[37],[38],[39],[25].
Governance and territorial management	Quality of governance at the local level; Stability of institutions and macroeconomic economy; Regulatory and legislative framework; Taxation and costs; Land use and urban planning policy; Institutional capacity in innovation; Public-private partnership relations	[40],[20],[41],[25].
Human and social capital	Level of education of the population; Quality of workers; Existence of skills and creativity; Percentage of university graduates; Social cohesion and diversity; Social networks and social capital; Social relations and associative engagement	[42],[43],[25].
Sustainability and transitions	Eco-performance; Natural resource management; Climate resilience; The green and circular economy; Investment funds in ecological sectors; Carbon expiration: Sustainable development goals	[44],[45],[25].
Culture and territorial identity	Diversity of cultural heritage; Cultural and creative proposals; Cultural events and festivals; Creative and cultural sectors;	[40],[46],[47],[48],[25].

Source: authors 2025.

Indeed, the literature generally tends to define a sustainable city as a place heavily focused on ecology [49] and presenting a balance between infrastructure, ICT, smart technologies, and urban functioning (sanitation, water, energy, and waste management) [27],[50]. Furthermore, conceptions of urban sustainability have prioritized a human-centered perspective that encourages cities to meet the demands of communities by developing sustainable solutions to address social and economic gaps[32].

Ensuring decent living conditions in the face of accelerated global urbanization requires a deep understanding of the smart city principle, and many cities are seeking the most ingenious solutions for their management.

Theoretical studies establish a correlation between the quality of planning and the attractiveness of a territory. Effective planning organizes urban development, anticipates infrastructure needs, promotes cooperation among various stakeholders, and creates an environment conducive to investment and resident settlement[14]. Territorial attractiveness is the ability of a territory to attract due to the appeal it exudes[51]. Thus, Chaze distinguished between the attractiveness of capital (investments, businesses, activity...) and the attractiveness of populations (residents, employees, consumers, users, etc.).

3. METHODOLOGICAL APPROACH

3.1. Location And Justification of the Study Area

Edea is a Cameroonian city in the Littoral region and the Sanaga-Maritime department. It is located 44 km southeast of Douala, and 153.18 km southwest of Yaoundé, as in Nyonkwe and al work [52]. The Sanaga River, the longest in Cameroon, crosses the agglomeration and plays a major structuring role in the organization of its territory. Edea is located on the Douala-Yaoundé national road, which makes it a communication hub in the Cameroonian urban network. Its location between these two metropolises gives it a role as a transition space in a metropolitan corridor. Several reasons justify the choice of Edea as the study area for this research, which focuses on the evaluation of planning documents and urban attractiveness. First, Edea is an interesting example of an African city that is growing in population but losing land because of metropolization. This structural tension makes it scientifically valuable outside of Cameroon. Secondly, the city has a full set of legally recognized planning documents, Urban Master Plan, Land Use Plan, and Sector Plan, which are organized in a hierarchy. This makes it possible to undertake a thorough multi-criteria evaluation of planning quality at multiple levels. Thirdly, Edea's location on the Douala–Yaoundé corridor, which is the most economically active urban axis in Cameroon, creates a metropolitan shadow effect that both boosts population growth and makes the area less attractive. This makes the city a great place to study the link between planning quality, territorial attractiveness, and metropolization.

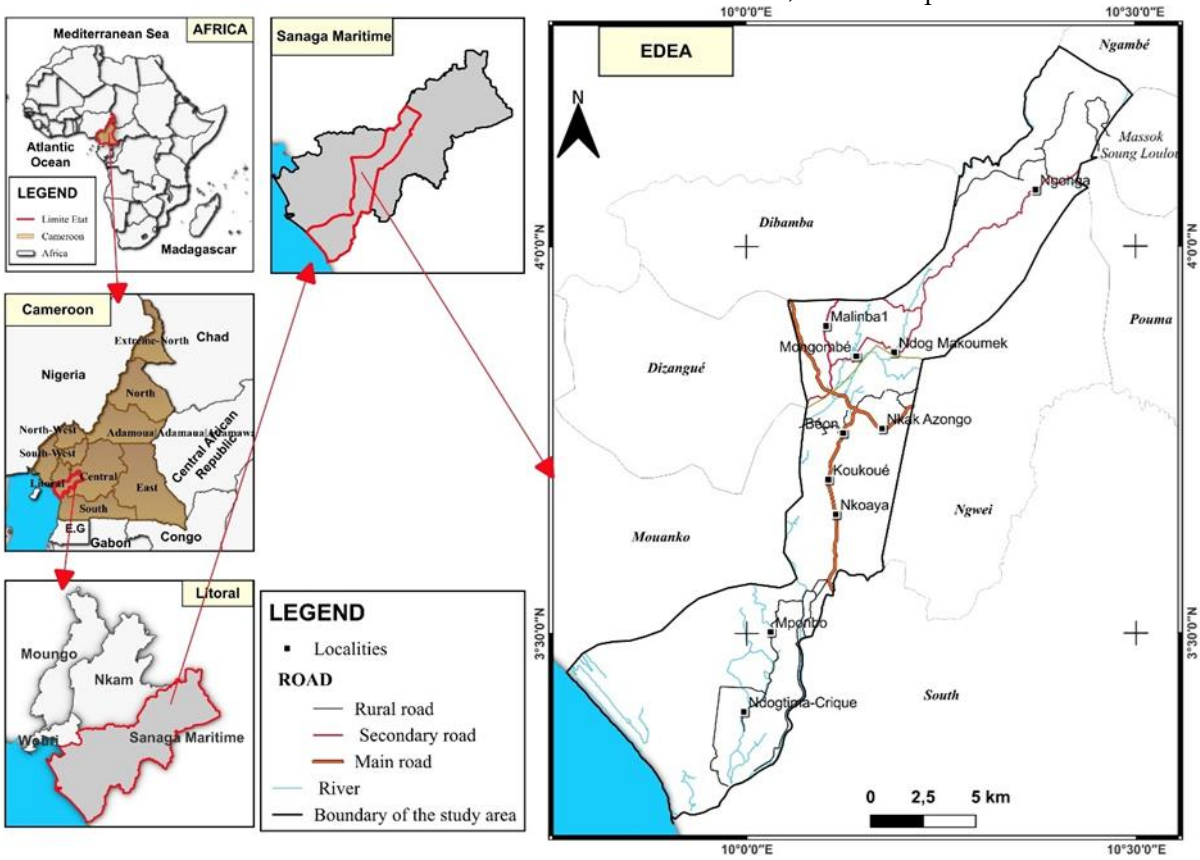

Figure 1: Location of the Study Area.

Source: authors 2025.

3.2. Nature And Approach of the Research

This research is positioned within a descriptive analysis and diagnostic approach to examine how urban planning can enhance the attractiveness of secondary cities, using Edea as an example. It is an applied and multidisciplinary study, using both spatial analysis instruments as well as socio-economic and institutional ones. The approach used combines qualitative and quantitative methods to obtain both a factual and contextual view of the urban evolution of Edea. This approach is structured around three key stages: (i) a documentary and analytical phase, (ii) a data gathering phase in the field, and (iii) a phase of examination and explanation of the results in relation to the research objectives.

3.3. Documentary And Analytical Phase

The first step consisted of documentary research to understand the foundations of urban planning in Cameroon and the attractiveness logics of secondary African cities. The sources used are: official texts (decentralization laws, SDAs, national urban policies); institutional reports (MINHDU, MINEPAT, UN-Habitat, World Bank); recent scientific literature on urban planning, local governance, and territorial attractiveness (Camagni, 2002; Bellet et al., 2018; UN-Habitat, 2023) and recourse to documents in laboratories such as the Research Laboratory on Environmental Dynamics (LARDYMES), from the University of Lomé, the libraries of the universities of Yaoundé I in Cameroon, the University of Lomé in Togo, the University of Kumasi in Ghana. This review has allowed us to identify the key factors of urban attractiveness: planning, infrastructure, employment, quality of life, governance, and environmental sustainability. Furthermore, a review of Edea's strategic documents (Urban Master Plan, Land Use Plan, Sector Plan) and the use of data from the 2024 Littoral Statistical Yearbook [53].

3.4. Data Collection Phase

The primary sources mobilized various stakeholders who were interviewed through semi-directive interviews: municipal officials, urban planners, economic actors, civil society, and residents [7]. The heads of technical services of the urban community of Edea (05), the decentralized state services (10), the mayors (03), the prefect (01) and sub-prefects (02), the neighborhood chiefs (10), the religious authorities (05), and the managers of the Alucam and Socapalm factories (03). These discussions helped gather opinions on obstacles to development, untapped potential, and priorities in terms of planning. Thus, the following questions filled the questionnaire: Have you participated in the development of urban planning documents? If so, which ones and what was your contribution? What are the obstacles to the non-implementation of these documents? Does the content of these documents align with your realities? Was the population involved in their development? Is Douala an obstacle or an advantage for Edea? Why is the city not attractive? What could make it more attractive? What are the strengths and weaknesses of this city?

Moreover, direct inspections were conducted on-site to assess the quality of the infrastructure, the organization of urban services, the condition of the buildings, and the indicators of attractiveness. (Industrial zones, service centers, transportation routes, public spaces, etc). The sample selection was done thoughtfully, taking into account the representativeness of the stakeholders in Edea's governance. In total, more than twenty interviews were conducted between June and August 2024, as in Hemchi [10]. These interviews were conducted from Monday to Friday by appointment, with a maximum of 30 to 45 minutes of exchanges per interviewee. In addition to these interviews, mini-focus groups (4 to 5 people) were conducted with some neighborhood chiefs to better understand the city's history and especially to delineate certain neighborhoods that no longer respect natural boundaries. Thus, in Edea 1, we exchanged with the neighborhood chiefs of Pongo, Amour, Mboue, Haoussas, and in Edea 2 with the chiefs of Bilalang Pont, Urban Malimba, Ekite, etc.

3.5. Data Analysis and Processing Stage

Two complementary methods were used to process the collected data:

- Qualitative analysis: the statements of the stakeholders were organized and summarized by themes (planning, governance, infrastructure, effects of metropolises, attractiveness, sustainability) with the aim of revealing overall trends and contradictions. To do this, the various transcription software used could not pick up every word. For the interviewees' remarks, it was a matter for us to listen to them several times to better grasp their essence[54]. Several verbatim quotes were recorded

to support the facts and reality.

- Quantitative and geographical analysis: socio-economic and urban indicators were manipulated using basic statistical tools (Excel, SPSS) and mapping analyses (SIG). In addition to the analyses conducted in Teadoum, Hemchi, and Sondou studies [2],[10] and [7], namely the evaluation of the level of implementation of the urban planning document, the method of Berke and Godschalk [14], which is based on the content analysis of the plans according to criteria ranging from plan compliance, problem identification, as in [17] and in the works of [7]was used. For a better evaluation of urban planning documents in Edea, the use of the method on the conformity of uses is also necessary to see if the projects recorded in the master plan align with reality, as in the works[55].

3.6. Development of an urban attractiveness index

The calculation of the synthetic attractiveness index is based on a composite method, widely used in scientific literature. It is based on the methodological work of [56] on the construction of synthetic indices and on the analysis of territorial attractiveness as a multidimensional phenomenon [57]. The aggregation approach is similar to that of OECD, D. Musolino, and B. Kotosz, adapted to the urban and institutional context of a medium-sized Cameroonian city like Edea [58][59]. This approach helped to position Edea in relation to the average of the country's secondary cities and to identify the aspects where its attractiveness is the lowest. For Edea, 5 dimensions with 5 indicators were chosen, as in the works of E.Haou [60]. This evaluation is associated with existing data in the statistical yearbook of the Littoral region, combined with the perceptions of the populations as shown in the Nyonkwe and al. sample, and city stakeholders.

Method applied:

- Standardized indicators (Min–Max) (Min–Max)
- Aggregation into thematic sub-indices
- Global index calculated as the arithmetic mean of the sub-indices, Formulation as in the works of[61] and[59]:

$$CI = \frac{1}{n}\sum_{i=1}^{n} S\,I_i$$

where:

- Context: where: = subscript per dimension = number of dimensions
- = number of dimensions

The evaluation of the index in Edea will be based on the classification recently made by Jeune Afrique économique [1], where Cape Verde is the most attractive with an index of 7.7, followed by Kigali and Johannesburg at 7.6; then Casablanca and Rabat at 7.5 according to the dimensions of quality of life, jobs-businesses, essential services, and infrastructure and housing [2].

4. RESULTS

The results of this article are presented along two main axes. First, the evaluation of the various urban planning documents of Edea is conducted through an analysis grid based on the dimensions of sustainable development, while comparing land use forecasts with the reality of the project in question. This analysis will be supported by verbatim quotes from the people interviewed to better appreciate Edea's current projects and development. In a second step, following this evaluation, the urban attractiveness of the city will be measured through the content of urban planning documents. Based on these dimensions, indicators will be identified and annotated to calculate the overall attractiveness index of Edea.

4.1. Evaluation of urban planning documents (DPU) of Edea

To date, the city has been the subject of 2 UDPs, namely the SDAU developed by a French firm that has never been validated by the authorities. Then the Urban Development Master Plan, the Land Use Plans, and the Sector Plan are as follows:

Table 2: Status of Urban Planning Documents in Edea.

Types of documents	Date of preparation	Date of approval	Temporal scope
Urban Planning Director's Plan (PDU) Edea	2015	2017	15- 20 Years
Land Use Plan (POS) of the communes Edea 1 and 2	2015	2017	10-15Years
Mbengue Sector Plan (PS)	2019	2020	5-10 Years

Source: authors 2025.

Table 3: Multicriteria Evaluation of the Edea Urban Master Plan.

Evaluation criteria	PDU	Observations

Data and information	Comprehensive diagnostics with over 100 tables (demography, economy, infrastructure)	Strong database in PDU and POS variation of PDU
Identification of problems and issues	SWOT analysis, problems identified (habitat, VRD, environnement) (habitat, VRD, environnement)	Clear identification, but without prioritization
Analysis of scenarios	Presentation of the layout variants and justification of the selected variant	Low utilization of real potential
Clear strategic vision	Vision aligned with that of the strategic document Vision 2035, but not detailed	Vision without local specificities
Measurable and achievable objectives	Quantified objectives (population, area, horizon 2035	Good quantification of objectives
Consistency between objectives and means	PIP (Priority Investment Programs) is well-detailed	Strong coherence between programming and objectives
Sectoral integration (transport, housing, environment	Multi-sectoral approach with links between them	Good integration with partitioning
Natural risk management	Risk of flooding due to proximity to the Sanaga, but poorly measured	Absence of measures for risk zones.
Environmental sustainability	The environment is mentioned but superficially	Environment is mentioned, but not very operational
Participatory process and consultation	Participation done, but less detailed	Very limited participation
SDG alignment	No mention of the SDGs	Complete absence of the SDGs
Integration of the informal economy and urban agriculture	Treated informal housing, absence of urban agriculture	The absence of urban and informal agriculture was partially addressed

Source: Authors, based on Berke & Godschalk (2009)

The table above analyzes the content of urban planning documents using the Berke and Godschalk evaluation technique. The Occupation Plans stem from the analysis of the PDU, which is why we did not include their table, as the same aspects were addressed. The following table provides an analysis based on the same criteria as the sector plan, which is a project planned in the operationalization of the POS.

Table 4: Multicriteria Evaluation of the Edea Sector Plan.

Evaluation criteria	**¨PS**	**Observations**
Data and information	Synthetic diagnosis 130 tables on local data	Diagnostics quite illustrated
Identification of problems and issues	Detailed SWOT by sector, problems identified	Complete SWOT, Problem Tree, 293 problems identified. Environmental impacts analyzed
Analysis of scenarios	Scenarios based on the PDU at the local level	Low utilization of real potential
Clear strategic vision	Vision outlined by the PDU and operational objectives defined	Vision without local specificities
Measurable and achievable objectives	Quantified objectives, 2030 programming	125 quantified objectives: 30k hab 2030, 6000 dwellings, 45km of roads, 30ha of green spaces. Hierarchical objective tree.
Consistency between objectives and means	Prioritized programs and projects	Detailed PIP, perfect logic diagnosis→strategy→programs. 367 programs, 90 budgets.
Sectoral integration (transport, housing, environment	Sectoral integration at the local level	Multisectoral approach (Transport 168, Housing 274, Facilities 368). Concept of complete neighborhoods. Better than PDU/POS.
Natural risk management	Non-identification of vulnerable areas	Absence of measures for risk zones.
Environmental sustainability	Less developed environment	Environment is mentioned, but not very operational
Participatory process and consultation	Public consultations mentioned	Very limited participation
SDG alignment	ODD not mentioned	Total absence of SDGs
Integration of the informal economy and urban agriculture	Informally mentioned, but no approach to its regulation	The absence of urban and informal agriculture was partially addressed

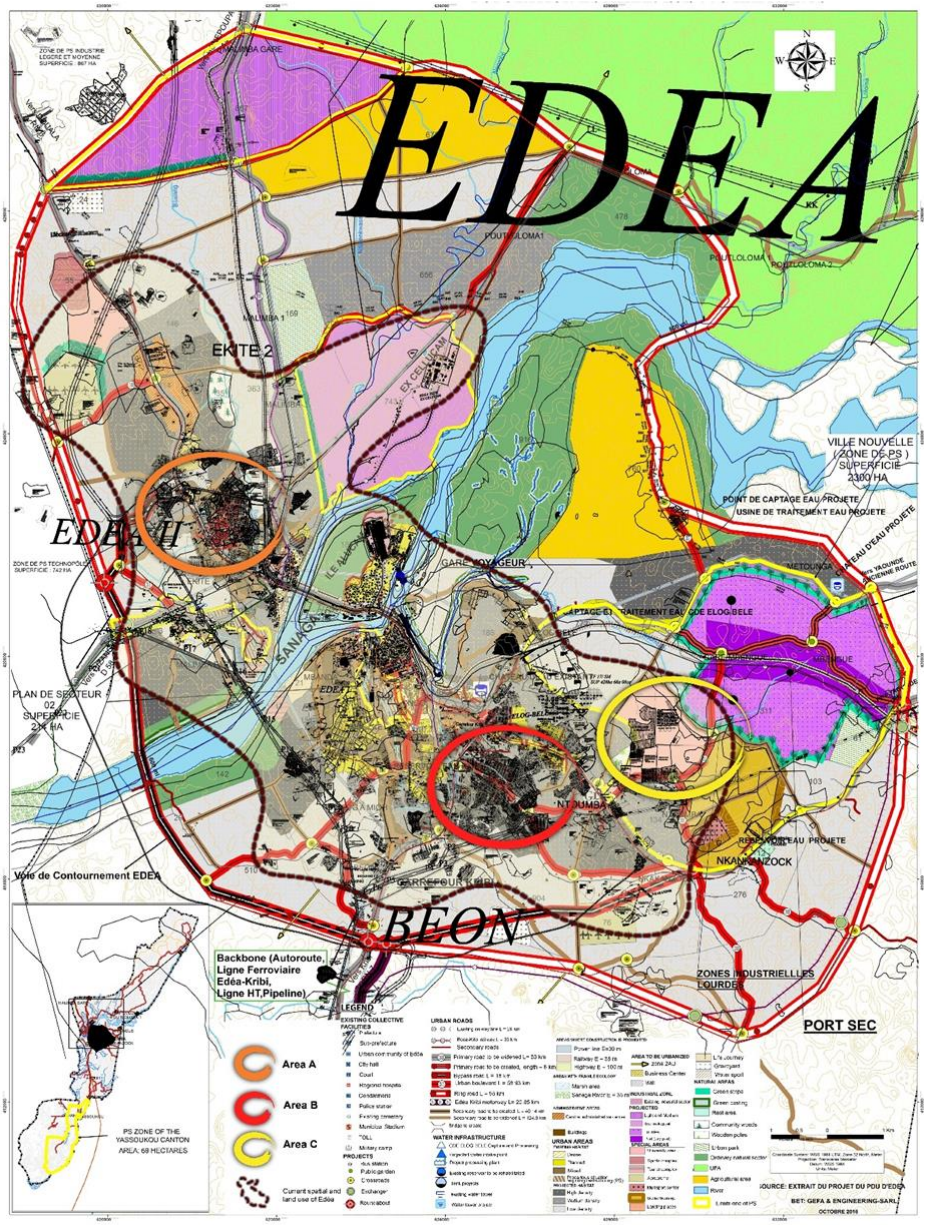

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Figure 2: Edea Pdu Usages Compliance Analysis Map.

Source: Urban Master Plan Edea (2017)

The data collected within the framework of this study, whether they concern land, equipment, tourism, economic activities, or other sectors, clearly highlight an imbalance in the spatial occupation of the city of Edea relative to the various orientations set out in its Urban Master Plan (PDU).

The methodological strategy adopted for the conduct of this study was deliberately simple and participatory. It was based on the superposition of the spatial data of the municipality (housing, infrastructure, businesses, mobility, etc.), collected during field surveys, on the synthesis plan of the PDU of Edea. This approach clearly highlights, as illustrated on the map, that several expansion zones initially planned for the installation of facilities are now saturated with various types of subdivisions. Furthermore, many facilities, both infrastructure and superstructure, planned within the framework of the PDU, remain non-existent to this day.

For illustrative purposes, several cases of non-compliance have been identified, among which:

- In Zone C: initially defined to accommodate the university area, the current situation reveals the existence of a subdivision of more than 40 hectares belonging to a private

individual.

- In Zone B: the space reserved for the construction of the Saint-Pierre-et-Paul college buildings has been fully subdivided.
- In Zone A, on the other hand, we observe a dominance of very large estates, some belonging to local authorities and others to private owners.

This situation, therefore, reflects a marked non-conformity between the actual land uses and the proposals formulated by the various urban planning tools. It highlights the significant gap that exists between theoretical planning and the current spatial reality of the city of Edea.

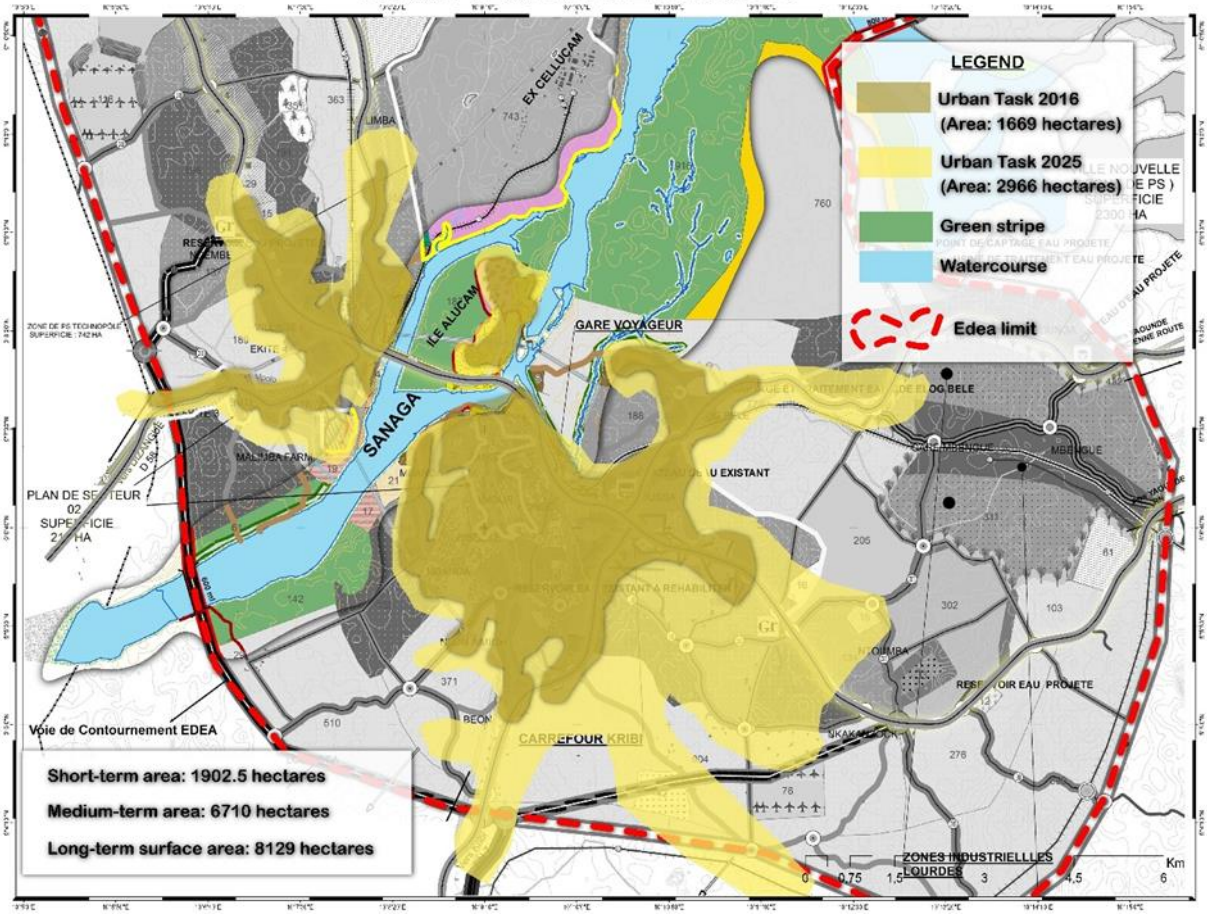

Figure 3: PDU Assessment of the Short, Medium and Long-Term Spatio-Temporal Evolution.

Source: Urban Master Plan Edea (2017)

The analysis of the spatio-temporal evolution of the city of Edea highlights, in the short, medium, and long terms, an urban patch that is not uniformly distributed across the entire urban space of the municipality. Indeed, the analysis of aerial imagery from Google Earth shows that in 2016, the urban area was estimated at approximately 1,669 hectares, compared to 2,966 hectares in 2025, representing an increase of over 50%, precisely 56.27%.

Furthermore, the comparison of the projected areas at different time horizons (short: 1902.5 Ha, medium term: 6710 Ha, and long term: 8129 Ha) reveals that to date, the short-term horizon has already been largely exceeded. This dynamic is accompanied by a phenomenon of saturation and thickening of the urban fabric, mainly along the structuring axes connecting Douala to Edea and Kribi to Edea.

Thus, considering the development projections defined by the Urban Master Plan (PDU), it appears that the preferential expansion zone of the city of Edea is predominantly oriented toward the south, which explains the marked and sometimes discontinuous urban sprawl observed in this part of the municipal territory.

The combined analysis of the planning documents according to Godschalk's various criteria reveals that the Sector Plan is better developed compared to the PDU and the POS. Citizen participation is very limited in each document, and the study of climatic aspects has not been considered, yet the city is very vulnerable to the Sanaga River. The Sustainable

Development Goals were not integrated into their development. It is important to better diversify the scenarios of the SP to better meet the needs because its vision remains very similar to that of the LUP.

4.2. Evaluation of the Urban Attractiveness of Edea

For the evaluation of this attractiveness, we will take into account 5 dimensions, including that of sustainable development, and assign 4 indicators per dimension based on the available data in Edea and Cameroon. For each indicator, we will assign a score.

Table 5: Presentation of Edea Indicators Per Dimensions.

Dimensions	Indicators	Edea	Observations
Economic	Average income per capita	555.6f	748f at the national level
	Unemployment rate	5.9%	12. 12.37% higher than the national average
	Economic diversification	Average	We have identified more than 100 activities in the informal sector.
	Number of companies	1174	444,524 at the national level
Social	Access to electricity	Average	Presence of the hydroelectric dam
	Access to water	1.3%	13 water fountains and 1027 subscribers
	Access to healthcare	Average	Existence of equipment, but dilapidated
	Quality of education	Average	Low student-teacher ratio 15-35
Environmental	Accessibility	Average	80% of the road is dirt, and 25% is paved.
	Waste management	Informal	We note a proliferation of informal dumps.
	Accommodation level	Low	33 establishments, only 2 classified as 3-star
	Taux de croissance	0.38%	
Cultural and tourist	Cultural infrastructures	Non-existant	The events are celebrated outdoors.
	Cultural events	01	An event celebrating the Mpo'o culture
	Number of tourist sites	02	Several associations
	Number of hotels	33	33 establishments, only 2 classified as 3-star
Transport and mobility	Average travel cost	1833f	Transport to reach the metropolises by bus and train
	State of the road network	Poor	The majority are in the ground
	State of the road	Bad	The majority is in the ground.
	Density of the road network	1.34km	

Source: authors 2025

We assigned each indicator of a city's attractiveness a score from 1 to 3, with 1 indicating low, 2 medium, and 3 high. A score of 1 indicates that something is wrong or not working properly, as shown by low statistical coverage and negative responses from those surveyed. A score of 2 indicates an intermediate condition, with some presence and functioning that isn't always reliable. A score of 3 indicates that the situation is okay, as shown by good statistical coverage and mostly positive feedback. This ranking is based on a combination of interview data and statistics about Edea.

Table 6: Detailed Calculation of the Attractiveness Index of Edea.

Dimensions	Indicators	Score	average	Score /10
Economic	Average income per capita	1		
	Unemployment rate	1	1.25	4.17
	Economic diversification	2		
	Number of companies	1		
Social	Access to electricity	2		
	Access to water	1	1.75	5.83
	Access to healthcare	2		
	Quality of education	2		
Environmental	Accessibility	2		
	Waste management	1	1.50	5
	Accommodation level	1		
	Growth range	2		
Cultural and touristic	Cultural infrastructures	1		
	Cultural events	1	1.25	4.17
	Number of tourist sites	2		
	Number of hotels	1		
Transport and mobility	Average travel cost	2		
	State of the road network	1	1.50	5
	State of the road	2		

	Density of the road network	1		
Global Index		4.83/10		

Source: authors 2025

The economic sub-index shows that it isn't very appealing. Most of the indicators received low ratings, particularly household income, employment figures, and the number of businesses. This result shows that Edea's local economy is still not very productive or very inclusive, even though there are business and economic activities there. The limited translation of planning orientations into job creation underscores the low operational effectiveness of economic development provisions within existing urban planning documents.

The social part is kind of interesting. People can get electricity and some basic social services, but the fact that they can't get clean drinking water and the poor quality of health and education infrastructure make their lives much worse. These results show that sectoral planning strategies are only being used in part, and there are still problems with providing basic services.

The environmental and living conditions sub-index gets a low score because of issues with trash disposal, the quality of housing, and access to roads. There are planning tools that deal with rules for land use and urban infrastructure, but they aren't used very often. This makes homes less appealing.

The cultural and tourism part is the least interesting. There are cultural events and tourist attractions, but not many cultural facilities or good places to stay. This difference highlights the significant cultural and tourism potential that isn't being fully utilized, and that urban planning doesn't place a strong emphasis on it.

Transport and getting around are somewhat interesting. Edea is in a good spot in the area because it's easy to get to other cities, and the cost of transportation is low. But the city's bad roads and sparse road network make it harder for people to get around and get to things, which makes it harder for the city to work as a good secondary urban node.

Global Urban Attractiveness Index

The global urban attractiveness index says that the area isn't very appealing. This overall result shows that most of the time, scores are low or medium across all dimensions. This shows that Edea's urban appeal is still limited by structural problems, even though it is in a good location and has good planning frameworks.

4.3. Links Between Planning and Urban Attractiveness of Edea

The table above provides a cross-analysis of the dimensions of attractiveness in line with urban planning documents.

Table 7: Links Between Attractiveness and Urban Planning.

Dimensions of the concerned attractiveness	Indicators	Documents	Justification	Situation in Edea
Economic	Income, employment, businesses	LUP; UMP	The UMP structures the economic hubs, and the LUP delineates the activity zones.	Failure due to the absence of a structured industrial zone
Social	Water, electricity, health, and education	SP	SP: define essential service policies	Medium: partial services, spatial inequalities
Environmental	Waste management, accommodation level, and growth rate.	LUP, UMP, SP	Waste management, quality of accommodation	Weak: poor waste management, precarious housing
Cultural & touristic	Sites, events, hotels	UMP, SP	The UMP can use culture as a lever to decline sectoral policies.	Critique: no cultural infrastructure
Transport & mobility	Cost, road maintenance, time, density	UMP	The UMP is the instrument of urban mobility.	Insufficient: deteriorated road network

Source: authors 2025

The study shows a direct relationship between the quality of urban planning and territorial attractiveness. In Edea, the IAU score of 4.83/10 is largely due to outdated planning documents, the absence of operational Sectoral Plans, and failing urban governance. The most attractive African cities (Cairo, Kigali, Casablanca) prove that updated planning tools, targeted infrastructural investments, and good governance are the keys to attractiveness.

For Edea, changing its attractiveness trajectory involves overhauling its planning system, developing priority Sectoral Plans, and seeking funding for structuring projects. The city's location on the Cameroonian metropolitan axis is an asset to be exploited through proactive planning and modernized governance.

5. DISCUSSION

In African intermediate cities, attractiveness is built in a differentiated manner: some manage to attract economic and human flows (logistical cities, regional centers) while others remain unattractive despite structural assets. The results show a discrepancy between the ambitions displayed in the planning documents and the observed performance in terms of attractiveness. The UMP and the LUP provide for structuring infrastructures, but the associated attractiveness scores are average, indicating difficulties in implementation.

Urban planning, governance, and attractiveness of the city of Edea. The results of the overall attractiveness index show that Edea is a moderately attractive city with contrasting performances across different dimensions. This is less related to the absence of planning tools than to their poor operationalization, although strategic documents have existed since 2016 (LUP, UMP), only the SP since 2020. Non-execution of planning documents and urban attractiveness. The non-implementation of planning documents is an explanatory reason for Edea's low attractiveness. The interviews reveal that "the non-application of planning documents is due to incompetence," which is a technical incapacity of the municipality. This situation is exacerbated by "the presence of people in key positions at the town hall without an adequate profile," which makes it difficult to understand and adopt planning tools. These findings align with those of Watson et al and H. Canton, according to which urban planning in secondary African cities remains normative and not very operational, which reduces its impact on territorial attractiveness[62],[63]. Lack of institutional coordination and fragmented governance. The discussion also reveals persistent institutional fragmentation, with a lack of coordination between the decentralized State services. According to the actors interviewed, "the Land Registry does not work in coordination with town planning and land development," which threatens the coherence of land and spatial decisions. To this is added an encroachment of competencies within the framework of decentralization, with urban community projects being carried out by the town hall, "without taking into account the specific competencies of each municipality." This fragmented governance prevents Edea from adopting a coherent territorial strategy, as also highlighted by OECD [4]. Exceeding spatial forecasts and uncontrolled urban sprawl spatial analysis reveals that the urban area projected in the medium term (horizon 2025) by planning documents has been largely exceeded, which indicates uncontrolled urban sprawl. This is happening toward the metropolitan areas of Douala, Yaoundé, and especially Kribi, contrary to the orientations of urban planning documents. This observation confirms that the non-application of planning documents promotes sprawling, expensive, and unattractive urbanization, as proven by Citaristi [64]. The urbanization of Edea is therefore the result of metropolitan logics rather than locally planned choices. Urban planning, SDGs, and climate vulnerability. Another result is the low integration of SDGs and climate resilience into planning documents. Although Edea is very vulnerable to flooding from the Sanaga River, the plans do not consider SDG 11 and explicit climate change adaptation strategies. This deficit hinders the city's ability to sustain its attractiveness in a context where urban resilience is emerging as a factor of territorial competitiveness[64]. Accessibility, urban furniture, and perceived attractiveness. The poor performance of the "transport and mobility" and "urban environment" dimensions echoes the discourse of local stakeholders. Several interviewees associate Edea's lack of attractiveness with "the city's accessibility, most of the roads being dirt and dating back to the colonial era, without maintenance." This affects internal mobility and relations with neighboring metropolises. Moreover, the glaring lack of leisure, recreational, and consumer facilities is frequently mentioned: "lack of supermarkets, leisure activities, forcing residents to go to neighboring cities." These deficits translate into a loss of residential and economic attractiveness. Compared to other secondary cities studied in the literature, Edea is less attractive or as attractive as cities that have better implemented their urban policies. Studies in Bobo-Dioulasso (Burkina Faso), [65]. An important point for interpreting the results of the Edea attractiveness index is to compare it with recent continental trends. The ranking of the 30 most attractive African cities in 2025 by Jeune Afrique and Sagaci Research offers a benchmark: it is based on a combination of criteria (quality of life, access to services, employment, businesses, infrastructure, transport, FDI) measured from a survey and economic data. In this ranking, cities such as Cairo (Egypt), Kigali (Rwanda), Nairobi (Kenya), and Cape Town (South Africa) stand out with much higher overall scores, while in Central Africa, Libreville (Gabon) ranks 27th with an index of around 4.41, and Lomé (Togo) closes out the top 30. These figures are comparable to those of the major cities in terms of their dimensions. This disparity shows that the city does not yet have the same structural, economic, and

institutional capacities as major metropolises or regional capitals.

The determinants of Edea's positioning

Several reasons explain this difference in attractiveness between Edea and the highest-ranked African cities:

- Institutional capacities and governance: while major performing African cities are equipped with strengthened administrations, economic attractiveness agencies, or international promotion, Edea lacks technical skills and coordination tools for the implementation of its urban plans.
- Infrastructure and services: Jeune Afrique's ranking takes into account infrastructure, quality of life, and basic services. In these areas, the best-ranked African metropolises generally have more reliable transport, water, and electricity networks, and a more varied health and educational offering. On the other hand, Edea has deficits in these areas that affect its attractiveness.
- Investments and economic activity: the attractiveness measured in the ranking includes a dimension on FDI. The highest-ranked African cities generally benefit from significant FDI inflows, thanks to favorable public policies and attractive macroeconomic stability. Edea, on the other hand, does not yet attract such flows, due to its secondary position and internal institutional constraints.
- Scale and regional influence: the top 30 most attractive cities favor large metropolises or national capitals, which are drivers in their urban systems. Edea, a medium-sized city, does not yet have this regional influence, and its proximity to metropolises like Douala and Yaoundé can even diminish its own attractiveness, as structuring projects are oriented toward these major centers.

6. CONCLUSION

This article presents an integrated approach to evaluating planning documents and quantitatively measuring urban attractiveness. Applied to the city of Edea, this approach reveals the operational limitations of planning and their consequences on territorial attractiveness. Edea's average attractiveness results from a structural mismatch between formal planning and actual urban practices, exacerbated by deficiencies in governance, institutional coordination, and the integration of sustainability issues. According to the ranking of the most attractive African cities of 2025, Edea falls below continental standards, which corresponds to its weak to average performance in the areas of local economy, basic services, infrastructure, and residential attractiveness.

This study does not mechanically generalize from a particular case; nonetheless, Edea serves as an example of a broader category of African intermediate cities, where planning deficiencies are fundamentally influenced by metropolitan proximity and institutional under-investment. Expanding research and policy interests to the urban expansion of secondary cities provides a chance to fully comprehend the complexity of African urbanization, particularly as urbanization research has predominantly equated urban development with metropolitan regions and large cities.

This comparison confirms that urban attractiveness is not just a matter of figures or literary ranking, but a dynamic of institutional capacities, territorial competitiveness, and the implementation of urban development strategies. The effective implementation of planning documents is a major solution to enhance Edea's urban attractiveness. The implementation of measures outlined in Cameroon's National Development Strategy SND30 for Edea, including its transformation into a tourism and logistics hub, a major center for electrical energy, an economic zone specializing in the timber industry, the creation of a cement plant, and Edea as a hub for youth entrepreneurship, could help raise the city's attractiveness index.

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