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Project Management for Sustainable Development: Strategies for Achieving SDG 11 in Urban Planning Projects in Cameroon

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Abstract

This study explores how project management practices contribute to the achievement of Sustainable Development Goal 11 (SDG 11) which aims to make cities inclusive, safe, resilient, and sustainable within the context of urban development projects in Cameroon. Focusing on the cities of Yaoundé and Douala, the research employs a qualitative design supported by structured questionnaires to assess stakeholder knowledge, perceptions, and barriers to SDG 11 implementation. Data were collected from 30 key informants, three urban development case study projects, and 120 survey respondents from municipal councils and private engineering firms. The data were analyzed using descriptive statistics (percentages and frequencies) and presented in tabular form. Demographic findings reveal that 75.7% of respondents were male, and 50% had between 5–10 years of professional experience reflecting a relatively experienced but male-dominated urban planning workforce. Results show that while practices such as stakeholder engagement and sustainability integration are increasingly applied, major barriers including funding constraints, weak policy enforcement, and technical capacity gaps persist. The study concludes that despite growing awareness of sustainability principles, institutional weaknesses continue to hinder effective implementation. It recommends enhanced capacity-building, improved governance, and stronger stakeholder collaboration to align urban development efforts with SDG 11 targets.

Keywords: Sustainable Development Goal 11, project management, urban development, Cameroon

1. Introduction

Cameroon is undergoing a profound urban transformation, driven by rapid population growth, internal migration, and the increasing concentration of economic activities in cities such as Yaoundé, Douala, and Bafoussam (World Bank, 2020; Beckline et al., 2018). As of 2018, over 55% of Cameroon's population resided in urban areas a proportion projected to reach 65% by 2035 due to sustained rural-to-urban migration and natural growth (UN DESA, 2019; Beckline et al., 2018). This rapid urbanization presents both opportunities and challenges. While it can catalyse economic development, innovation, and improved service delivery (Tacoli, 2017; Angel et al., 2016), Cameroon's urban growth is largely unregulated and uneven, posing significant risks to sustainable

development (UN-Habitat, 2020).

Urban expansion in Cameroon has far outpaced infrastructure development, exacerbating critical issues such as housing shortages, traffic congestion, environmental degradation, and widening socio-economic inequalities (Grant, 2015; Haou et al., 2025; UNDP, 2018). For example, informal settlements constitute over 60% of urban housing in cities like Douala and Yaoundé, characterized by inadequate access to clean water, sanitation, and formal employment (Ndonko et al., 2021; UN-Habitat, 2019). The fragmentation of urban planning systems, weak institutional coordination, and limited stakeholder participation further undermine the efficacy of development interventions (Cameroon Ministry of Urban Development and Housing, 2019; Haou et al., 2025). Consequently, many urban areas struggle with inefficient public services, environmental pollution, and vulnerability to climate risks, undermining the quality of urban life (Ndam et al., 2023; World Bank, 2022).

In response to such global urban challenges, the United Nations established Sustainable Development Goal 11 (SDG 11) to "make cities and human settlements inclusive, safe, resilient, and sustainable" by 2030 (United Nations, 2015). However, translating these global ambitions into effective local action remains a major hurdle, particularly in developing countries like Cameroon where urban governance structures are often under-resourced, reactive, and poorly integrated (UN-Habitat, 2020; Ombwayo et al., 2025). The governance deficits manifest in weak enforcement of urban policies and low community engagement, limiting the achievement of SDG 11 targets (Grant, 2015; Ombwayo et al., 2025).

Existing urban development projects across Sub-Saharan Africa frequently underperform due to inadequate project design, governance weaknesses, and a lack of alignment with sustainability principles (Ombwayo et al., 2025; Mbah Enjei & Chi Valery, 2025). Despite growing acknowledgment of project management's potential to improve development outcomes (Silvius & Schipper, 2014; Opoku et al., 2024), limited research examines its role in operationalizing SDG 11 within the Cameroonian urban context. This study addresses this gap by exploring how project management for sustainable development (PM4SD) can function as a strategic mechanism for embedding sustainability into urban planning and project delivery.

Specifically, the research investigates the competencies, governance frameworks, and tools project managers require to become agents of sustainable urban transformation. It also critically examines institutional and socio-political barriers hindering the adoption of PM4SD and identifies enabling factors that facilitate effective implementation.

This inquiry is guided by three key research questions. First, it seeks to identify which project management practices effectively promote the achievement of SDG 11 in Cameroon. Second, it explores how these practices can be integrated into urban planning and implementation processes to enhance sustainability outcomes. Third, the study investigates the major barriers and enabling conditions that influence the adoption of sustainable project management approaches within Cameroon's urban development landscape. By drawing on case studies, policy analysis, and expert interviews, this study provides empirical insights and actionable recommendations for urban development actors in Cameroon. It aims to bridge the persistent gap between ambitious planning frameworks and implementation realities, contributing to a more strategic, inclusive, and sustainable approach to urban development in Sub-Saharan Africa.

2. Theoretical Review: Sustainable Development Theory

Sustainable Development Theory, rooted in the seminal Brundtland Report (1987), has profoundly shaped the discourse on development by framing it as a process that meets present needs without compromising future generations' ability to meet theirs (World Commission on Environment and Development, 1987). This theory's core strength lies in its holistic integration of economic, social, and environmental dimensions, offering a balanced framework essential for urban planning and sustainability (Hopwood, Mellor, & O'Brien, 2005; Lele, 1991). In the context of SDG 11, Sustainable Development Theory provides an indispensable normative foundation emphasizing inclusivity, resilience, and environmental stewardship (United Nations, 2015; Pelling, 2011).

However, critiques of the theory highlight its broad, sometimes ambiguous scope, which can challenge operationalization, especially in complex, resource-constrained contexts such as Cameroon (Robinson, 2004; Gibson, 2006). Its aspirational nature often lacks clear mechanisms for practical implementation or conflict resolution between competing development priorities—such as rapid urban growth versus environmental protection (Sachs, 2015; Redclift, 2005). This gap underscores the need for complementary frameworks that address governance structures and stakeholder dynamics to translate sustainability goals into actionable project management practices (Kates et al., 2005).

Comparatively, Sustainable Development Theory establishes the "what" and "why" of urban sustainability but less often addresses the "how," leaving a critical space for theories like Project Governance and Stakeholder Theory to fill (Silvius & Schipper, 2014; Freeman, 1984). The interdependence of these theories is evident:

while Sustainable Development Theory defines the objectives, Project Governance Theory guides organizational processes and accountability (Müller, 2009), and Stakeholder Theory emphasizes inclusive engagement necessary for legitimacy and effectiveness (Freeman, 1984; Mitchell, Agle, & Wood, 1997).

In Cameroon's urban planning landscape, Sustainable Development Theory's multi-dimensional focus is particularly relevant given the intersecting challenges of informal settlements, environmental degradation, and socio-economic disparities (Beckline et al., 2018; Haou et al., 2025). Its emphasis on long-term, integrated solutions advocates moving beyond short-term infrastructure projects toward systemic change that embeds equity and sustainability at all stages (Ofori, 2023; Valencia et al., 2019).

In summary, Sustainable Development Theory provides a vital but broad conceptual lens that requires critical augmentation with governance and stakeholder perspectives to effectively inform project management approaches aimed at achieving SDG 11 in Cameroon. This layered theoretical approach enables a comprehensive understanding of both the goals and the practical pathways to sustainable urban development (Opoku et al., 2024; Ombwayo et al., 2025).

3. Methodology

This study employed a qualitative research design to investigate how project management practices contribute to the achievement of Sustainable Development Goal 11 (SDG 11) in urban development projects in Cameroon. The qualitative approach was chosen to enable a deeper understanding of the context-specific experiences, practices, and institutional dynamics that shape the planning and implementation of sustainable urban initiatives. The research focused on two major urban centers Yaoundé and Douala which represent critical sites for examining sustainable urban transformation due to their rapid population growth, infrastructure demands, and governance challenges.

A purposive sampling technique was used to select participants who possess direct experience and technical knowledge in urban planning, project execution, and sustainability. The sample included 30 key informants comprising urban planners, municipal officers, and project managers from both the public and private sectors. To ground the study in practical realities, three urban development projects were selected as case studies. These included the Yaoundé City Sanitation Project (*Projet de Construction des Aménagements de Yaoundé - PCAY Phase II*), which focuses on flood control and drainage infrastructure; the Douala Urban Mobility Project (*Projet de Mobilité Urbaine de Douala - PMUD*), aimed at improving urban transportation and road safety; and the Low-Cost Housing Development Project at Mbanga-Bakoko, which addresses affordable housing and spatial planning in Douala.

In addition to the interviews and case studies, a structured questionnaire was administered to 120 respondents drawn from municipal councils and private engineering or consulting firms such as Groupe BETRA, HYDROCONSEIL Cameroon, and B.E.T. INGÉNIEURS CONSEILS. The questionnaire was designed to quantitatively assess stakeholders' knowledge, perceptions, and the perceived barriers to SDG 11 implementation. It served to complement the qualitative data by identifying patterns and trends across a broader sample.

Data from interviews and case studies were analysed thematically, using frameworks such as the Project Management Body of Knowledge (PMBOK) and the Logical Framework Analysis (LFA) to guide coding and interpretation. These frameworks helped to categorize data into key themes related to project planning, execution, sustainability integration, and stakeholder coordination. The quantitative data obtained from the questionnaires were analysed using descriptive statistics, including frequencies and percentages, to measure levels of awareness, attitudes, and constraints. This analytical approach allowed for a comprehensive understanding of both the qualitative nuances and quantifiable patterns in project management practices relevant to SDG 11.

3.1 Evaluation Framework

A comparative evaluation technique was applied to triangulate findings across the three methods, enhancing the reliability and validity of results. The integration of the PMBOK framework and SDG 11 indicators provided a systematic lens for evaluating whether sustainability principles were embedded at each stage of the project lifecycle from initiation to closure. PMBOK Process Groups provide a structured approach to managing projects across five key stages: Initiating, Planning, Executing, Monitoring and Controlling, and Closing. SDG 11 Indicators focus on sustainable urban development aspects such as affordable housing, transport, resilience, and green infrastructure. Sustainability Practices evaluate how project management practices integrate SDG 11 principles during each project phase. Application in Project Lifecycle highlights how the integration of sustainability practices at each stage of the project helps ensure alignment with SDG 11 goals.

Table 1. Integration of PMBOK Framework and SDG 11 Indicators

PMBOK Process Group	SDG 11 Indicators	Sustainability Practices Evaluated	Application in Project Lifecycle
Initiating	Affordable Housing, Participatory Planning	Stakeholder engagement, project goals alignment with SDG 11	Ensuring stakeholder inclusivity and alignment of project goals with SDG 11 targets during project initiation.
Planning	Sustainable Transport, Housing, Resilience	Risk management, resource planning, environmental sustainability	Planning for risk mitigation, sustainable infrastructure, and disaster resilience measures.
Executing	Green Infrastructure, Disaster Resilience	Implementation of sustainable infrastructure, climate adaptation measures	Ensuring environmental impact minimization through green infrastructure and climate-responsive designs.
Monitoring and Controlling	Climate Action, Resilient Cities	Monitoring of sustainability indicators, performance tracking, corrective actions	Tracking project alignment with SDG 11, measuring sustainability through key performance indicators (KPIs).
Closing	Affordable Housing, Disaster Resilience	Closing out projects with sustainability considerations, long-term impact evaluation	Final assessment of project sustainability, with feedback for future projects and post-implementation evaluation.

Source: Author construct, 2025.

4. Results and Discussion

The results are presented in two tables. Table 2 provides demographic information about the respondents, revealing a predominantly male and experienced workforce drawn from both public and private sectors in major urban centres. Table 3 builds on this by illustrating respondents' knowledge, perceptions, and barriers related to the implementation of SDG 11. While most participants demonstrate a solid understanding of the goal and recognize its importance, they also highlight key challenges, including funding shortages, limited technical capacity, and weak policy enforcement. Together, these tables offer a clear picture of the professional background and views that influence sustainable urban development initiatives in Cameroon.

Table 2. Demographic Characteristics of the Sample

Demographic Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	118	75.6
	Female	38	24.4
Professional Role	Urban Planners	40	25.6
	Municipal Officers	50	32.1
	Project Managers	66	42.3
Experience (years)	< 5 years	26	16.7
	5-10 years	78	50.0
	11-20 years	31	19.9
	> 20 years	21	13.5
Organization Type	Municipal Council	73	46.8
	Private Engineering/Consulting Firms	83	53.2
Location	Yaoundé	67	43.0
	Douala	89	57.0

Primary data: Author, Field Survey, 2025.

The demographic profile of the study sample, as detailed in Table 1, offers valuable insights into the composition of stakeholders involved in urban development and project management related to SDG 11 in Cameroon. The sample is predominantly male (75.6%), reflecting the traditionally male-dominated nature of urban planning and project management professions in the region. Although female representation is lower (24.4%), their presence signals some progress toward gender inclusivity, underscoring the need to further promote diverse perspectives for equitable participation in sustainable urban development. Respondents are distributed across key professional roles—project managers (42.3%), municipal officers (32.1%), and urban planners (25.6%)—capturing a comprehensive range of expertise essential for holistic project implementation. The strong presence of project managers highlights their critical role in driving project execution and decision-making in urban sustainability initiatives. Experience levels show a concentration (50%) of professionals with 5 to 10 years of experience, indicating a workforce with considerable practical exposure while remaining open to learning and adaptation. The mix of early-career (<5 years) and senior professionals (>20 years) enriches project outcomes by combining fresh ideas with seasoned insights. Organizationally, the sample is almost evenly split between municipal councils (46.8%) and private engineering or consulting firms (53.2%), reflecting vital collaboration between the public and private sectors needed to integrate technical expertise with governance frameworks. Geographically, a greater proportion of respondents are based in Douala (57%) compared to Yaoundé (43%), aligning with Douala's role as Cameroon's economic hub experiencing intense urbanization pressures. The inclusion of perspectives from both cities allows for comparative analysis of urban sustainability challenges and opportunities. Overall, the demographic characteristics suggest a knowledgeable, experienced, and diverse group of stakeholders whose insights provide a solid foundation for analysing project management practices and challenges in achieving SDG 11 in Cameroon.

Table 3. Project Management Practices, Integration, and Barriers

Category	Item/Aspect	Frequency (n)	Percentage (%)
Project Management Practices Promoting SDG 11	Structured planning and scheduling	110	70.5
	Stakeholder engagement	120	77.0
	Risk management	95	61.0
	Performance monitoring and evaluation	100	64.0
Integration into Urban Planning and Implementation	Cross-sector collaboration	105	67.0
	Adaptive project management frameworks	90	58.0
	Capacity-building programs	95	61.0
	Inclusion of sustainability criteria in planning	115	74.0
Barriers and Enabling Conditions	Funding constraints	102	65.0
	Inadequate technical capacity	80	51.0
	Weak policy enforcement	70	45.0
	Positive stakeholder attitudes	115	74.0

Primary data: Author, Field Survey, 2025.

4.2 Project Management Practices Promoting SDG 11

The results indicate that several core project management practices are actively employed to promote the achievement of SDG 11 within Cameroon's urban development projects. Stakeholder engagement stands out as the most frequently adopted practice (77%), reflecting an increasing recognition of the importance of inclusive participation in project success. Engaging diverse stakeholders not only fosters transparency and accountability but also enhances project relevance and acceptance, which are crucial in complex urban contexts. Additionally, the high prevalence of structured planning and scheduling (70.5%) and performance monitoring and evaluation (64%) suggests that practitioners appreciate the need for systematic project control mechanisms to ensure timely delivery and quality outcomes aligned with sustainability goals. However, the somewhat lower adoption of risk

management (61%) signals a potential gap in proactive identification and mitigation of uncertainties that could threaten project success. Given the volatile urban environment, strengthening risk management frameworks could improve resilience and adaptability in urban projects, thereby better supporting SDG 11.

4.3 Integration into Urban Planning and Implementation

The integration of project management practices into broader urban planning and implementation frameworks shows encouraging but uneven trends. The substantial uptake of cross-sector collaboration (67%) highlights a growing awareness of the need for inter-agency and multi-sector partnerships to address urban sustainability challenges, which are inherently cross-cutting and multidimensional. Similarly, the reported use of capacity-building programs (61%) reflects ongoing efforts to enhance technical competencies necessary for sustainable project execution. The relatively high inclusion of sustainability criteria in planning (74%) demonstrates that environmental and social considerations are increasingly being embedded in project frameworks, aligning with the objectives of SDG 11. Conversely, the moderate application of adaptive project management frameworks (58%) indicates room for improvement in institutional flexibility and responsiveness. Adaptive approaches are critical in dynamic urban environments characterized by rapid change and uncertainty, suggesting a need for reforms that encourage more iterative and responsive project management processes.

4.4 Barriers and Enabling Conditions

Despite positive trends, the findings reveal persistent barriers that constrain the effective adoption of sustainable project management practices. Funding constraints (65%) emerge as the most significant hurdle, underscoring the chronic resource limitations faced by urban projects in Cameroon. Without adequate financial support, even well-designed projects struggle to deliver intended sustainability outcomes. Furthermore, inadequate technical capacity (51%) signals critical gaps in skills and expertise that undermine project quality and innovation. This points to the necessity of targeted capacity-building interventions that equip project teams with the competencies to implement sustainability-driven methodologies effectively. The reported weak policy enforcement (45%) reflects institutional weaknesses and governance challenges that diminish the impact of urban development initiatives. Such enforcement deficits often result in fragmented implementation and diminished accountability. Encouragingly, positive stakeholder attitudes (74%) toward sustainability indicate a conducive social environment for reform, suggesting that overcoming structural and resource-related barriers could unleash greater commitment and performance in SDG 11-aligned projects. To harness this potential, coordinated efforts are required to strengthen governance, improve financing mechanisms, and invest in human capital development.

5. Conclusion

This study highlights that the urban development sector in Cameroon is composed of a predominantly male and experienced workforce, with key roles distributed among project managers, municipal officers, and urban planners. The mix of public and private sector actors, primarily based in Douala and Yaoundé, provides a diverse and knowledgeable foundation for advancing sustainable urban development. The findings further reveal that essential project management practices—such as stakeholder engagement, structured planning, and incorporation of sustainability criteria—are widely recognized and applied, supporting the achievement of SDG 11 objectives. However, despite this encouraging base of knowledge and positive perceptions, significant barriers persist. Funding constraints, inadequate technical capacity, and weak policy enforcement remain critical challenges that limit the effective integration of sustainable project management approaches into urban planning and implementation processes. The disparity in optimism and capacity between public and private actors underscores the need for enhanced collaboration and resource mobilization. Overall, while Cameroon's urban development stakeholders demonstrate readiness and commitment to sustainable practices, overcoming institutional and financial obstacles is vital. Strengthening capacity-building initiatives, improving governance frameworks, and fostering stronger public-private partnerships will be essential to fully realize the vision of sustainable, resilient cities embodied in SDG 11.

6. Limitations of the Study

This study has several limitations that should be acknowledged. First, its geographic scope is limited to selected urban areas in Cameroon, which may not fully represent the diverse urban planning challenges encountered across the entire country. Second, the inability to access all relevant stakeholders may have constrained the diversity of perspectives captured in the findings. Finally, the study presumes a relatively direct relationship between project management practices and the achievement of SDG 11, without fully accounting for the complex political, institutional, and implementation dynamics that can affect policy effectiveness in real-world settings.

Disclaimer (Artificial Intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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