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Evaluating the Effectiveness of SDG 11 Monitoring and Implementation Frameworks at City Level: A Case Study of Mbabane, Eswatini

Wandile Thwala, Mhlalisi Mndzebele, Trynos Gumbo

(Wandile Thwala, Municipal Council of Mbabane; Mbabane, Eswatini; wandilet@mbabane.org.sz)
(Dr. Mhlalisi Mndzebele, University of Johannesburg; Johannesburg, South Africa; mhlalisim@uj.ac.za)
Prof. Trynos Gumbo, University of Johannesburg; Johannesburg, South Africa; tgumbo@uj.ac.za)

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1 ABSTRACT

Sustainable Development Goal 11 (SDG 11) aims to make cities inclusive, safe, resilient, and sustainable, yet implementation at the local level remains inconsistent, particularly in rapidly urbanizing contexts of the Global South. This study evaluates the progress of the City of Mbabane, Eswatini, toward achieving SDG 11 by assessing the effectiveness of existing monitoring and implementation frameworks. Employing a mixed-methods case study design, the research integrates spatial analysis, household surveys, and qualitative interviews with key stakeholders to examine housing adequacy, disaster vulnerability, institutional capacity, and participatory governance. Findings reveal that while Mbabane has integrated sustainability concepts into strategic planning documents, practical execution is hindered by limited data localization, institutional fragmentation, and insufficient community engagement. Informal settlements in flood-prone areas highlight the city's vulnerability and the need for risk-informed spatial planning. Moreover, the absence of a city-level SDG tracking mechanism and misalignment between global indicators and local realities challenge effective monitoring. Drawing lessons from peer African cities, the study proposes a suite of contextually appropriate reforms, including GIS-based monitoring tools, participatory planning mechanisms, and dedicated urban SDG units. These recommendations aim to strengthen institutional resilience and foster inclusive urban development in Mbabane and similar contexts. The research contributes to the discourse on localized SDG implementation by bridging theoretical frameworks with grounded, actionable insights for urban sustainability.

Keywords: Sustainable Development Goal 11 (SDG 11), Urban Resilience, Monitoring and Evaluation Frameworks, Informal Settlements, Sustainability

2 INTRODUCTION

2.1 Background Information on Why the Area of Interest

The journey toward sustainable development can be traced back to the Millennium Development Goals (MDGs), which comprised eight development objectives aimed at reducing income poverty, improving access to clean water and sanitation, reducing child mortality, and enhancing maternal health. The MDGs also played a critical role in promoting universal primary education and significantly advanced the global response to HIV/AIDS, malaria, and tuberculosis (UNDP, 2022). However, evaluations of MDG implementation revealed that approximately 46% of developing countries were off-track in meeting their targets, according to official UN and World Bank assessments (Samman, 2015). This shortfall catalyzed the adoption of a more comprehensive framework: the Sustainable Development Goals (SDGs), launched to ensure that no country is left behind.

In September 2015, the world leaders pledged support for sustainable action around a universally agreed policy agenda (Agenda 2030). This agenda comprises 17 Sustainable Development Goals (SDGs) with 169 specific targets that set out quantitative objectives associated with the social, economic, and environmental dimensions of sustainability to be achieved by 2030, and among these SDGs is SDG11, which focuses on sustainable cities (Osman et al., 2021).

Cities account for most of the global resource consumption and act as critical social, economic, and political hubs. With more than half the global population residing in urban areas, cities are essential actors in the pursuit of sustainability. This is explicitly recognized in SDG 11, which aims to make cities inclusive, safe, resilient, and sustainable (Adamec, Holzinger, & Franz, 2017). SDG 11 states that cities should ensure access to safe and affordable housing, access to public transportation, and public green spaces. It states that

cities should be resilient to natural disasters and protect those in vulnerable situations while also minimizing economic loss (National Geographic Society, 2020).

The SDGs offer a structured framework that enables governments to develop and monitor policies aimed at achieving sustainability by 2030. Each goal includes measurable targets – monitored through 232 global indicators – coordinated by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) (Fritz, 2019). African cities are forecast to be home to an extra 950 million people by 2050; thus, when considering the projected increase in urban population in Africa, cities must be sustainable and a safe place to stay (Marchant, 2021). Eswatini has two officially recognized cities, with Mbabane serving as the capital and administrative center. It has a night-time population of approximately 62,630 (Population Hub, 2020) and a daytime population reaching 76,218 (World Population Review, 2022). The city hosts key government institutions, foreign missions, and a wide range of commercial activities, making it central to national development (Integrated Development Plan, 2019).

Despite its strategic importance, Mbabane faces several urban challenges. Recurrent flooding, limited access to affordable housing, and the expansion of informal settlements have strained urban infrastructure and service delivery. These issues are particularly relevant to SDG 11 targets, such as 11.1 (adequate housing) and 11.5 (disaster risk reduction). As the capital city of Eswatini, Mbabane needs to be one of the leading sustainable environments in the country. Its state of progress also needs to be known to ensure public resources are aligned with effective strategies that genuinely advance SDG 11 targets, rather than wasted on misaligned or reactive interventions. This study aims to track the progress made by the Mbabane City Council towards achieving SDG11 of the United Nations.

3 PROBLEM STATEMENT TO BE EXPLORED

Globally, cities have acknowledged the importance of SDG 11 and are implementing policies to promote urban sustainability. Yet, urban areas continue to grapple with challenges such as extreme poverty, inequality, and environmental degradation. Although cities generate about 80% of global GDP, they are also major contributors to climate change and unsustainable resource use (Osman et al., 2021). Mbabane, like many urban centers in sub-Saharan Africa, is experiencing rapid population growth, primarily due to rural-urban migration. This trend, if left unmanaged, can accelerate environmental degradation and strain essential services such as water supply, energy, housing, and waste management (Vaidya & Chatterji, 2020). Such problems put the urban population at risk and raise a question about whether the city has plans in place to curb these problems and make the city a safe place.

Eswatini is one of the countries under the United Nations that has signed an agreement to the Agenda 2030 Sustainable Goals (Ndongo-Seh, 2020). Thus, as a country, we have a responsibility to consistently check if we are still falling in line with the targets set under the goals, particularly in making cities sustainable (SDG 11). If Mbabane continues unsustainable development pathways, the consequences could be severe, ranging from increased vulnerability to disasters to inefficient use of public resources. Yet, there is a lack of documented information evaluating whether the city is effectively progressing toward SDG 11, which presents a critical knowledge gap. Lack of such crucial information will make the city pursue unsustainable development paths, which will not only put the urban population at risk but also result in a waste of resources due to the reconstruction of damaged urban structures, which are less resilient to threatening urban disasters such as flooding, in the context of Mbabane city.

This study seeks to bridge the existing information gap by assessing Mbabane's progress toward achieving SDG 11. A better understanding of the city's trajectory will not only inform policy and planning but also serve as a model for other urban centers in Eswatini and across the Global South.

4 AIMS AND OBJECTIVES

Aim

This study aims to evaluate the progress made by the City of Mbabane toward achieving Sustainable Development Goal 11, with a focus on assessing the effectiveness of existing monitoring and implementation frameworks.

Objectives

- To assess the current progress made by Mbabane in achieving SDG 11.
- To identify and evaluate the existing frameworks used in Eswatini for SDG monitoring and evaluation.
- To analyze key challenges hindering effective SDG 11 implementation in Mbabane.
- To propose practical frameworks or tools – drawn from successful African city experiences – that could enhance Mbabane's progress toward SDG 11.

5 RESEARCH QUESTIONS

(1) What measurable progress has been made toward achieving SDG 11 in Mbabane?

(2) What are the existing frameworks in Eswatini for conducting SDG evaluation?

(3) What are the existing problems that hinder the progress of Mbabane to get to the desired outcome for SDG11?

(4) What monitoring and implementation frameworks from other African cities could be adapted to strengthen SDG 11 performance in Mbabane?

6 JUSTIFICATION

This research is justified on multiple grounds. Firstly, it seeks to document Eswatini's progress in implementing SDG 11, providing a reference point for comparative studies across the region. Secondly, it aims to address the knowledge gap on how Global South cities, such as Mbabane, are responding to the challenges of sustainable urban development. Lastly, the study will offer insights for policymakers and urban planners, supporting data-driven decision-making to improve urban quality of life in line with SDG.

7 LITERATURE REVIEW

7.1 Global Discourse on SDG 11 and Urban Sustainability

Sustainable Development Goal 11 (SDG 11) aims to "make cities and human settlements inclusive, safe, resilient, and sustainable," acknowledging the crucial role of urban centers in addressing global sustainability challenges (UN-Habitat, 2022). The importance of SDG 11 lies in the fact that cities, despite occupying only 3% of the Earth's surface, contribute to over 70% of global carbon emissions and consume 60–80% of energy (Aquilino et al., 2020). Urbanization is accelerating, particularly in the Global South, where weak institutional structures and informality exacerbate inequality and vulnerability (Ulbrich, 2021).

Although the SDGs offer a comprehensive framework, there are implementation challenges, particularly regarding SDG 11. Research by Thomas, Hsu, and Weinfurter (2020) found that the overabundance of urban sustainability indicators – 484 identified from 40 indexes – lacks consistency, equity focus, and measurable benchmarks, especially in low-income contexts. This poses a serious barrier to tracking real progress.

Monitoring and Implementation Frameworks for SDG 11

Monitoring SDG 11 requires integrating global frameworks with localized urban planning and data systems. However, current frameworks often rely on aggregate, top-down indicators that obscure intra-urban disparities. As Ulbrich (2021) notes in his PhD thesis on Medellín, the disconnect between centralized monitoring and local realities leads to poor representation of marginalized communities in official reports.

Aquilino et al. (2021, 2023) developed and tested improved dasymetric mapping methods to disaggregate population and infrastructure data at the intra-urban level. This approach allows local governments to monitor indicators such as SDG 11.1.1 (access to adequate housing) or SDG 11.3.1 (land-use efficiency) at the neighborhood scale. Similar methodologies are particularly valuable in cities like Mbabane, where spatial data is limited and informal settlements are prevalent.

Koch and Krellenberg (2018), focusing on Germany, emphasize the importance of contextualizing global indicators to national and sub-national planning systems. Their work shows that even in well-resourced contexts, SDG 11 must be translated to the specific urban governance structures, a lesson highly applicable to developing cities.

7.2 African and Global South Experiences: Successes and Gaps

Several African cities are experimenting with various mechanisms to implement SDG 11, yet the outcomes are mixed. For example, in Durban, Ebhuoma et al. (2024) documented how early-warning systems for floods failed due to the municipality's poor communication with vulnerable populations, highlighting the disconnect between technology and local needs.

In contrast, the peer-reviewed study by Letebele et al. (2024) across 14 SADC cities emphasizes the value of risk-informed development (RID) frameworks. This approach integrates hazard data into urban planning, yielding resilient infrastructure investment and governance practices. Given Mbabane's vulnerability to flooding and informal settlement growth, adopting RID principles could enhance its alignment with SDG 11.5, particularly by integrating resilience into infrastructure and spatial planning.

A key lesson from Adamec et al. (2020), who evaluated civil society-driven projects in Hamburg, Vienna, and Prague, is the transformative potential of grassroots initiatives. Their findings underscore that SDG 11 implementation thrives when citizen participation, flexible governance, and cross-sectoral collaboration are encouraged.

Moreover, Metaxas and Metaxas (2022) note the transition from MDGs to SDGs represented a shift from quantitative service access metrics to qualitative outcomes such as inclusion, resilience, and safety. However, most African cities, including Mbabane, are still operating with legacy planning instruments from the MDG era, impeding localized implementation of SDG 11 targets.

8 THEORETICAL AND ANALYTICAL FRAMEWORK

This study draws on two interlinked theoretical frameworks:

a) Participatory Urban Governance

Participatory governance is essential to inclusive urban sustainability. As noted by Muhamad Khair et al. (2020), community-based monitoring can empower residents to influence planning processes, contributing to SDG 11's inclusive targets (e.g., 11.3 and 11.7). When urban planning processes include marginalized voices, policies are more aligned with community realities and needs.

b) Risk-Informed and Adaptive Planning

The Risk-Informed Development framework (Letebele et al., 2024) integrates hazard, socio-economic, and environmental data into city-level planning. This theory emphasizes adaptive capacity, aligning closely with SDG 11.5 on disaster resilience. For Mbabane, this means embedding flood risk data and informal settlement vulnerability assessments into its Integrated Development Plan.

8.1 Key Lessons for Mbabane's Context

- Data Localization is Critical: Mbabane must adopt localized, high-resolution monitoring tools similar to the dasymetric mapping used in Bari and Hainan (Aquilino et al., 2020; Zhang et al., 2021).
- Institutional Reform is Necessary: As Nabiyeva et al. (2023) argue, without public-sector leadership and institutional clarity, SDG 11 becomes symbolic rather than transformative.
- Learning from Peers Works: Mbabane can adapt practical tools from cities like Guilin, Durban, or Vienna, especially those enhancing participatory planning, spatial data integration, and climate risk mapping.

8.2 Research Methodology

This study adopts a case study phenomenological research design, suitable for capturing the lived urban development realities in Mbabane and interpreting them in the context of SDG 11 progress. The choice of this design stems from the need to engage with both policy-level data and community-level experiences, acknowledging that sustainable urban development is inherently multi-scalar and experiential (Yin, 2018).

The research follows a mixed-methods approach, integrating quantitative, qualitative, and spatial analysis techniques. This triangulation allows for a holistic exploration of the subject by complementing statistical

evaluations of SDG indicators with qualitative insights from stakeholders and geospatial assessments of urban resilience.

8.3 Research Design

The case study phenomenological design focuses on Mbabane as a single, bounded unit of analysis. The rationale is to explore how existing monitoring and implementation frameworks for SDG 11 operate in practice, and to capture contextual intricacies such as informal settlement patterns, flooding vulnerabilities, and urban planning mechanisms. According to Creswell (2014), a phenomenological design is particularly useful when the aim is to describe and interpret experiences around a phenomenon – in this case, sustainable urban development in Mbabane.

8.4 Research Approach

This study utilizes a mixed-methods approach, which integrates quantitative and qualitative data to enable robust cross-validation. Quantitative data includes statistical reports on SDG 11 indicators (e.g., housing adequacy, land-use efficiency, disaster impact records), while qualitative data emerges from semi-structured interviews, focus groups, and participatory mapping exercises with community members, municipal planners, and local NGOs.

Spatial data will be analyzed using geospatial tools, specifically GIS-based risk mapping and dasymetric population modeling, inspired by methods applied in Hainan and Bari (Aquilino et al., 2023). This helps visualize spatial inequities and track urban vulnerabilities such as informal settlement expansion and disaster exposure.

8.5 Sampling Design

The study employs both probability and non-probability sampling techniques to ensure representativeness and depth. A stratified random sampling approach will be used to select residents from various urban zones (formal, peri-urban, and informal), ensuring spatial diversity. Meanwhile, purposive sampling will be applied to key informants such as municipal officials, planners, and NGO representatives who are directly involved in urban governance and SDG monitoring.

A sample size of approximately 100 residents will be targeted for household surveys, supplemented by 15–20 key informant interviews to gain policy insights. The household sample will reflect demographic and socio-economic diversity, ensuring the inclusion of vulnerable groups such as informal settlers, women-headed households, and youth.

8.6 Data Collection Methods

The study will collect primary and secondary data. Primary data includes:

- Household surveys to gauge citizens' access to basic services and perceptions of urban safety and inclusivity.
- Key informant interviews to explore institutional frameworks, capacity gaps, and monitoring practices.
- Focus group discussions (FGDs) to foster participatory dialogue and community reflections on SDG 11 targets.
- Participatory GIS mapping to localize urban vulnerabilities.

Secondary data sources include:

- Municipal development plans (e.g., Integrated Development Plan, 2019)
- UN SDG indicator reports and Eswatini's Voluntary National Review (VNR)
- Urban demographic datasets and Eswatini Bureau of Statistics reports

8.7 Data Analysis Techniques

Quantitative data will be analyzed using SPSS or Stata for descriptive and inferential statistics (e.g., correlation between settlement type and housing adequacy). Qualitative data will undergo thematic analysis using NVivo software to identify recurring policy themes, governance gaps, and stakeholder concerns.

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Spatial data will be processed using ArcGIS Pro. Techniques such as overlay analysis, risk zoning, and dasymetric redistribution will visualize informal settlements, flood-prone zones, and service accessibility. These results will directly inform SDG 11.1 and 11.5 progress assessments.

8.8 Research Reliability and Validity

To enhance validity, data triangulation will be used by cross-verifying findings across surveys, interviews, and spatial data. The design ensures internal validity through consistent question framing and piloted instruments, while external validity is supported by comparing Mbabane with similar cities using regional case studies (Letebele et al., 2024).

Reliability will be upheld through standardized data collection tools, detailed documentation of procedures, and researcher reflexivity to minimize interpretation bias. Peer debriefing and member checks will also be employed in the qualitative phases.

8.9 Ethical Considerations

Ethical clearance will be obtained from the University's Research Ethics Committee. All participants will provide informed consent, and their anonymity will be maintained throughout the research process. Data will be securely stored and used exclusively for academic purposes.

Efforts will be made to ensure inclusivity and non-exploitation, particularly in engagements with marginalized communities. The research adheres to the principles of do not harm, respecting both cultural sensitivities and participant autonomy.

9 FINDINGS AND RESULTS

This section presents the findings of the study based on the mixed-methods approach, triangulating quantitative household surveys, qualitative interviews and focus group discussions, and geospatial analysis. The data reveal both structural and operational strengths and gaps in Mbabane's pursuit of Sustainable Development Goal 11 (SDG 11), with a particular emphasis on inclusivity, resilience, and sustainability.

9.1 Progress Towards SDG 11 Targets in Mbabane

Household survey data and city documents (e.g., IDP 2019) show that Mbabane has begun integrating SDG 11 themes – such as housing and environmental management – into its plans. However, these commitments have not consistently translated into on-the-ground action, and many objectives remain aspirational due to implementation gaps.

Regarding Target 11.1 (access to adequate, safe, and affordable housing), 68% of survey respondents reported living in informal or semi-formal dwellings, citing high land prices and inadequate mortgage systems as major barriers to formal housing. A significant number of residents (42%) live in flood-prone areas, indicating a direct linkage between housing inadequacy and exposure to environmental risk, an area where Target 11.5 (disaster risk reduction) becomes highly relevant.

Figure 1 illustrates disparities in access to basic services between formal and informal settlements. While over 90% of residents in formal areas report access to potable water, only 54% of those in informal settlements do. Similar gaps are observed in sanitation, transport, and waste services, emphasizing the spatial inequality in urban infrastructure provision. These gaps underscore the city's underperformance on SDG 11.2 (transport) and 11.6 (waste management and environmental quality), particularly in informal zones.

Spatial analysis corroborated these findings. Using GIS-based risk mapping, informal settlements were found to be disproportionately located in low-lying zones along the Mbabane River, which are especially vulnerable to seasonal flooding. These results confirm observations from the Municipal Environmental Management Strategy (2020), which identified growing informal settlements as a critical urban pressure point.

9.2 Institutional and Policy Frameworks for SDG Monitoring

Key informant interviews with city officials, planners, and national policy actors revealed that Eswatini lacks a fully operational, city-level SDG monitoring system. While the National Development Strategy and Vision

2022 broadly align with the SDGs, including SDG 11, there is no dedicated institutional mechanism within the Mbabane City Council (MCC) for disaggregated indicator tracking.

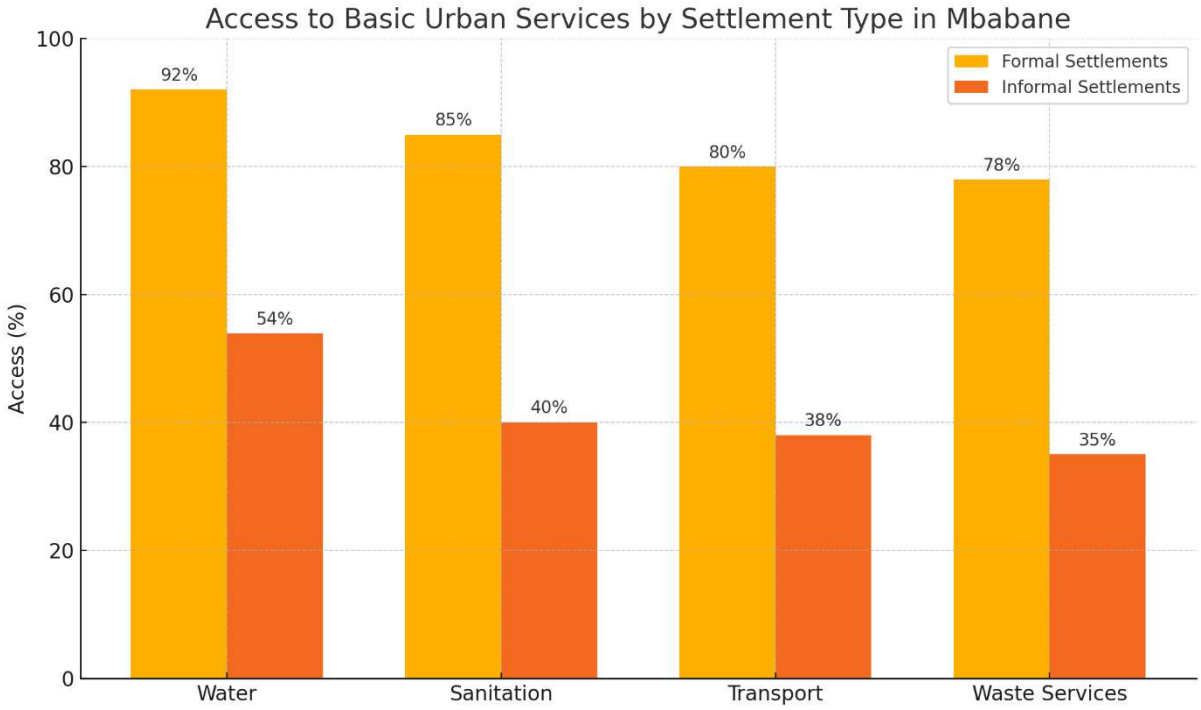

Figure 1: Access to Basic Urban Services by Settlement Type in Mbabane

Respondents from the Ministry of Housing and Urban Development acknowledged that although Eswatini participated in the Voluntary National Reviews (VNRs) of 2019 and 2022, city-level data were minimal or generalized. The absence of subnational dashboards or spatially localized indicators limits the ability of municipalities to operationalize the SDGs effectively. One senior planner noted that “most of the monitoring is reactive; it’s triggered by donor or national government reporting timelines rather than proactive urban policy design.”

Furthermore, there is a misalignment between global indicators and local data systems. For example, SDG Indicator 11.1.1, which requires measurement of the proportion of urban population living in slums or inadequate housing, is not systematically tracked by Mbabane authorities due to data limitations and definitional inconsistencies.

9.3 Stakeholder Perceptions and Challenges in Urban Sustainability

Thematic analysis of focus group discussions with residents from Mangwaneni, Msunduza, and Sidwashini settlements highlighted widespread frustration with service delivery and limited participation in planning processes. Focus group participants expressed frustration over being excluded from municipal planning and budgeting processes, underscoring a disconnect between policy rhetoric and participatory practice (Khair et al., 2020).

Moreover, 73% of respondents indicated that municipal consultations, when they occur, are often symbolic rather than substantive. This resonates with participatory governance literature, which warns of "consultation fatigue" where community input is rarely translated into policy decisions (Adamec et al., 2020).

On the institutional side, MCC officials pointed to chronic budget constraints and a lack of technical capacity to implement integrated planning tools. Planners highlighted that while risk assessments exist, they are not embedded into zoning laws or housing permits. Consequently, informal expansion continues unchecked in environmentally sensitive zones.

9.3.1 Comparative Lessons from Other African Cities

The findings also draw on comparisons with other African cities that have implemented innovative SDG monitoring frameworks. For example, Letebele et al. (2024) describe how Lilongwe and Gaborone have begun integrating climate risk data into land-use planning using the Risk-Informed Development (RID)

framework. These cities have adopted cross-sectoral data hubs that combine demographic, hazard, and infrastructure datasets into dynamic planning dashboards. Mbabane lacks such systems, but officials expressed interest in piloting similar models, particularly to manage risks associated with flooding and informal settlements.

Notably, in contrast to Mbabane's reactive policy environment, cities like Kigali and Cape Town have formalized annual urban sustainability reports aligned to SDG 11 targets. These reports are supported by dedicated monitoring units and participatory review boards. The absence of such structures in Mbabane reflects broader systemic weaknesses in urban governance and underscores the need for institutional reforms.

9.3.2 Spatial Inequities and Vulnerability Mapping

GIS-based analysis revealed sharp intra-urban inequalities in access to services and environmental risk exposure. Informal settlements in Mbabane's peripheral areas demonstrated significantly lower proximity to key services such as potable water, public transport, and emergency services. This pattern aligns with SDG Target 11.2 (access to safe, affordable, and sustainable transport systems), which remains underperforming.

Risk zoning maps indicate that more than 35% of the city's informal settlement areas fall within moderate-to-high flood risk zones, especially along the Mzimnene and Mbabane river corridors. These findings emphasize the urgent need for risk-informed spatial planning tools. If left unaddressed, these vulnerabilities could become exacerbated under climate change scenarios.

9.4 Integration of Local Knowledge and Policy Gaps

One of the most striking findings is the disconnection between local knowledge and official planning instruments. Community-based knowledge on flood-prone areas, infrastructure gaps, and coping strategies is rarely documented or used in formal processes. This disconnect undermines the inclusive ethos of SDG 11, particularly Targets 11.3 and 11.7, which advocate for participatory planning and universal access to public spaces.

When asked to evaluate municipal responsiveness, community respondents rated it an average of 4.1 out of 10. In contrast, municipal officials rated their own responsiveness at 7.5 out of 10. This perceptual gap further illustrates the urgent need for strengthened communication, trust-building, and shared accountability mechanisms.

10 MAIN CONTRIBUTIONS, IMPLICATIONS, AND LESSONS LEARNT

This section synthesizes the key contributions of the study to academic knowledge, policy discourse, and practical urban governance in the context of Sustainable Development Goal 11 (SDG 11). It also articulates the broader implications of the findings and distills actionable lessons that can guide future efforts in sustainable urban development, particularly in rapidly urbanizing cities of the Global South such as Mbabane.

10.1 Academic and Theoretical Contributions

The study advances the scholarly understanding of localized SDG implementation by demonstrating how global sustainability frameworks interact with on-the-ground urban realities in a small but strategically important African capital. Through the application of participatory governance theory (Khair et al., 2020) and the Risk-Informed Development (RID) framework (Letebele et al., 2024), the research bridges a theoretical gap between abstract global sustainability targets and their lived urban manifestations.

Furthermore, the study contributes to the growing body of literature that critiques the top-down nature of global urban sustainability monitoring systems. It affirms the argument by Ulbrich (2021) that disaggregated, high-resolution, and community-informed data are essential to avoid masking inequalities and to ensure truly inclusive urban development. The spatial and qualitative findings from Mbabane validate these theoretical positions and reinforce the importance of locally grounded methodologies in urban SDG research.

10.2 Policy and Institutional Contributions

At the policy level, the research reveals significant gaps in institutional capacity, data systems, and participatory mechanisms that undermine effective SDG 11 implementation in Mbabane. The city's reliance

on generalized, national-level reports for SDG tracking limits its ability to respond to context-specific challenges, such as the expansion of informal settlements in flood-prone areas.

This study highlights the urgent need for subnational SDG monitoring systems that align with urban planning tools like the Integrated Development Plan (IDP) and municipal zoning schemes. Drawing lessons from cities such as Kigali and Gaborone, the study advocates for the establishment of dedicated municipal SDG units and annual sustainability reporting practices at the city level.

Moreover, the research emphasizes the need for institutional reforms to support integrated data collection, storage, and use across government departments. It supports Nabiyeva et al.'s (2023) assertion that without clarity in institutional roles and investment in human and technical capacity, SDG 11 risks remaining aspirational rather than actionable.

10.3 Practical Lessons for Mbabane and Similar Cities

The case of Mbabane yields several practical lessons that have broader applicability for urban planning in other medium-sized African cities:

10.3.1 Data Localization and Integration are Non-Negotiable

The absence of localized, spatially disaggregated data in Mbabane severely hampers evidence-based decision-making. The study shows that leveraging tools such as GIS-based risk mapping and dasymetric analysis is not merely technical – it is foundational to planning for resilience, housing adequacy, and land-use efficiency. Without localized indicators, vulnerable populations remain invisible in planning processes.

10.3.2 Participatory Planning Must Move Beyond Tokenism

Community voices in Mbabane are currently underrepresented in formal urban governance structures. The study illustrates that participatory mechanisms, when they exist, are often symbolic rather than transformative. Implementing structured participatory tools – such as community scorecards, participatory budgeting, and neighborhood SDG audits – can significantly improve legitimacy, responsiveness, and equity in planning outcomes.

10.3.3 Resilience Must Be Embedded, Not Appended

As cities become more vulnerable to climate-related and socio-economic shocks, resilience cannot be treated as an add-on to existing plans. The study shows that in Mbabane, flood risk is spatially concentrated in informal settlements, yet current planning tools do not integrate vulnerability assessments. Incorporating RID principles into zoning codes, housing programs, and infrastructure design can institutionalize resilience at every level of urban policy.

10.3.4 Learning from Regional Peers is a Viable Strategy

Mbabane does not need to reinvent urban sustainability frameworks from scratch. Cities such as Durban, Lilongwe, and Nairobi offer tested models in early-warning systems, community mapping, and integrated transport planning. Knowledge-sharing networks and South-South cooperation – especially within SADC – can facilitate the transfer of innovations that are contextually appropriate and scalable.

10.3.5 Institutional Continuity and Political Will are Critical

One of the persistent challenges identified in interviews was the discontinuity of urban sustainability initiatives due to staff turnover, budget reallocations, and shifting political priorities. Establishing legally mandated SDG tracking units within city structures and embedding sustainability into statutory planning instruments can safeguard against these discontinuities.

10.4 Implications for Future Research and Planning

The findings suggest that sustainable urban development cannot be delinked from questions of governance, equity, and institutional design. Future research should prioritize longitudinal studies to track changes over time and explore the intersection between SDG 11 and other goals, such as SDG 6 (water and sanitation), SDG 13 (climate action), and SDG 16 (peace, justice, and strong institutions).

Additionally, there is scope for piloting community-driven monitoring frameworks using mobile technologies, crowdsourced spatial data, and participatory GIS platforms. Such innovations can empower residents, enhance accountability, and provide real-time feedback loops to city planners and policymakers.

11 CONCLUSIONS AND RECOMMENDATIONS

This study assessed Mbabane's progress toward Sustainable Development Goal 11, focusing on how the city monitors and implements sustainability initiatives. While the city has made some policy strides, actual progress remains limited. Informal settlements continue to grow in high-risk areas, and planning decisions are not supported by localized or disaggregated data. Without clear indicators and spatial tools, the city struggles to track or respond to urban challenges effectively.

Institutional weaknesses further limit implementation. Departments often work in isolation, with poor coordination and limited technical capacity. Planning documents mention sustainability, but these are not backed by strong systems or consistent action. Community participation is minimal, and when it occurs, it often lacks real influence. This undermines the goal of inclusive urban development.

Despite these gaps, there is room for improvement. Mbabane can adapt practical tools used in other African cities, including GIS-based risk mapping, participatory planning, and localized monitoring systems. The city should establish a framework to track SDG 11 indicators at the local level, invest in staff training, and ensure risk data informs planning.

Reforms should also include formal mechanisms for community engagement and learning exchanges with peer cities. With better coordination, stronger data systems, and inclusive governance, Mbabane can take meaningful steps toward becoming a more sustainable, resilient city.

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