

The functionality of urban green spaces in the greater Kumasi Metropolis of Ghana:

categorisation of green spaces, prospects, challenges and implications for sustainable management



Kumasi's vital green spaces are shrinking fast, with nearly 40% lost between 2013-2023 due to rapid city growth. Our research classified different types of green spaces (parks, natural areas, corridors) and found each serves unique community needs but faces serious threats like being built on, poor upkeep, and lack of funds.

Urgent action, including updated rules and smarter city planning, is crucial to protect these essential areas for Kumasi's environmental health and residents' well-being.

What did we do?

- **Classified Green Spaces:** Categorized selected Kumasi green spaces (like KNUST Botanical Garden, Owabi Sanctuary) into types using Swanwick et al.'s framework.
- **Gathered User & Manager Perspectives:** Interviewed 345 green space users and managers to understand usage, experiences, and management challenges.
- **Analyzed Green Cover Change:** Used satellite imagery to track changes in green space and built-up areas in Kumasi.
- **Identified Key Issues:** Assessed threats to sustainability, infrastructure conditions, and the prospects for better management based on the collected data.

What did we find?

- **Rapid Green Space Loss:** Kumasi lost nearly 40% of its green cover between 2013-2023 due to unchecked urban expansion.
- **Varied Functions:** Green spaces were successfully classified, revealing each type serves distinct community purposes and user groups.
- **Major Threats:** Encroachment, poor maintenance, and inadequate funding are seriously undermining the sustainability of these spaces
- **User Dissatisfaction:** Many users reported issues with poor facilities impacting their experience and the spaces' functionality.

What do these findings mean?

- **Kumasi is losing its "Garden City" identity:** The rapid loss of green space threatens the city's environment, health benefits for residents, and historical character.
- **One-size-fits-all management won't work:** Different green space types require tailored planning, maintenance, and funding strategies to meet specific user needs and ecological roles.
- **Current management systems are failing:** Existing policies and resources are inadequate to protect green spaces from urban pressures, leading to degradation and potential loss.
- **Poor conditions deter use and undermine value:** Neglected infrastructure and lack of maintenance reduce the usability and benefits of green spaces, potentially weakening public support for their preservation.

Where can I find out more?

Gagakuma, Desmond; Appiah Takyi, Stephen; Amponsah, Owusu; Kwesi Quagraine, Victor (2025). The functionality of urban green spaces in the greater Kumasi Metropolis of Ghana: categorisation of greenspaces, prospects, challenges and implications for sustainable management (Policy Brief). figshare. Journal contribution.
<https://doi.org/10.6084/m9.figshare.28792166.v2>



Supporting Evidence

- **Quantified Loss:** Spatial analysis revealed a stark 39.86% decrease in green cover and a 16.64% increase in built-up areas in the Greater Kumasi Metropolitan Area between 2013 and 2023.
- **User-Reported Infrastructure Issues:** Surveys showed significant user dissatisfaction with facilities; for example, 52% of users at the Royal Parade Ground and 54% at the KNUST Botanical Garden reported problems with infrastructure quality and maintenance (e.g., damaged benches, lack of bins, poor walkways).
- **Management Challenges Confirmed:** Interviews with managers across different sites (like Rattray Park, KNUST Botanical Garden, Owabi Sanctuary) consistently identified bureaucratic funding delays, insufficient staffing, and encroachment as major obstacles to effective management and conservation.