

POST
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INNOVATION FOR BIODIVERSITY IN KAMPALA: INTEGRATING BIODIVERSITY CONSERVATION INTO URBAN DEVELOPMENT STRATEGIES



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African cities are undertaking ambitious efforts to protect, enhance and develop urban nature amidst competing urgent priorities. Evidence from Kampala, Uganda, on the path to transformative biodiversity action can inspire other cities in Africa to seize biodiversity as an opportunity to address the link between nature, climate and society related challenges.

Cities can no longer simply be viewed as a threat to biodiversity. They are transforming their role into a significant opportunity.¹ Indeed, urban areas can serve as a refuge for species when they offer the required conditions² and many cities around the world undertake ambitious efforts to protect, restore and use nature sustainably.

African context poses particular challenges for transformative urban biodiversity governance. Its urban population, expected to triple by 2050 and reach 1.26 billion,³ places tremendous pressure on biodiversity due to often unregulated land cover change.⁴ Yet, there are opportunities arising. By 2050, two-thirds of its population will have moved into urban spaces that have not yet been built,⁵ highlighting the urgency for subnational and national governments to advance transformative action for nature and people.⁶ Low levels of employment and high poverty of a very young population exacerbated by high levels of vulnerability to climate change⁷ lead to an increased reliance on urban green infrastructure for the provision of water, fuel, and food production.⁸ In this context, many African cities undertake ambitious efforts to protect, enhance and develop urban nature and seek to align these efforts to existing priorities. Lessons learned for transformative action from Kampala, Uganda can inspire other cities to implement ambitious action for nature and people aligned with international goals and local priorities.

“HABITAT RESTORATION & PROTECTION ARE KEY TO INCREASING THE VARIABILITY OF SPECIES, A VITAL COMPONENT IN KAMPALA CITY ECOSYSTEM STABILITY AND SUSTAINABLE ECOSYSTEM FUNCTIONING AND SERVICES”

- Daniel Padde, Urban Forester,
Kampala Capital City Authority

1. URBAN GREENING FOR BIODIVERSITY AND PEOPLE IN KAMPALA



Urban farming, Uganda © Katharina Rochell

Recognizing the critical importance of preserving green areas amidst urban development, the Kampala Capital City Authority (KCCA)⁹ has launched several innovative programs over the past decade to conserve and enhance the city's green infrastructure. According to the Kampala Physical Development Plan (KPDP),¹⁰ the greening of Kampala is one of the key interventions at the metropolitan and city level. This is further echoed in the Greater Kampala Economic Development Strategy's (GKEDS) objective to conserve and protect environmental assets. As part of landscape management and urban beautification, KCCA has set a goal of planting 6,000 trees per year and gradually increasing this to achieve an urban tree density of 11% by 2025 (KCCA Strategic Plan 2021/22 – 2024/25). This initiative not only helps combat deforestation and mitigate climate change, but also enhances the city's aesthetic appeal and biodiversity. In addition, the Keep Kampala Clean campaign,¹¹ that was launched in September 2023, focuses on maintaining the cleanliness of blue, green, and grey infrastructure to ensure that green spaces remain vibrant and accessible to residents.

Technology, people and infrastructure, for a sustainable urban environment

Underpinning these efforts is the broader Kampala Smart City Campaign,¹² which leverages technology, people, and infrastructure to create a sustainable urban environment. **At the heart of this agenda is the development of institutional and local capacity for effective green space management, empowering communities to actively participate in conservation efforts.** This is evidenced by the development of KCCA's online tree and palm directory,¹³ which provides the public with easy access to information about trees, guiding them on the benefits and propagation of each species. One of the key initiatives driving KCCA's green agenda is the Sustainable Learning, Inclusive, and Collaborative Kampala-Strasbourg (SLICKS) project,¹⁴ a collaborative effort between the cities of Strasbourg and Kampala, co-financed by the French Development Agency (AFD). The project aims to build a sustainable, inclusive, and learning city by developing a comprehensive Blue and Green Infrastructure Master Plan for Kampala Capital City. This plan is essential for conserving biodiversity and promoting better living conditions in the city by mapping, restoring, and connecting green spaces.

Biodiversity and socio-ecological data for landscape and species management

The development of the Blue and Green Infrastructure Master Plan relies on a wealth of data, including information on urban water networks and multifunctional green spaces, as well as on the inhabitants of these ecosystems. Detailed biodiversity and socio-ecological surveys were carried out to improve connectivity within and between green and blue infrastructure. A bird inventory was carried out based on timed species counts, where a team of specialists visited each identified site twice a day on two separate days. The method used included both focus groups and field observations. As a result, data was collected on 2,248 birds representing 108 species. However, only 28 species accounted for more than 85% of the total number of birds recorded. It was found that the birds of Kampala Capital City constitute a specific metapopulation that requires habitat management at the landscape level, with emphasis on the establishment of biodiversity corridors and associated stepping stones.

Through stakeholder engagement and biodispersal modelling, KCCA has identified flagship species, the Grey Crowned Crested Crane and the Ground Squirrel. Biodiversity corridors are currently being designed to protect their habitats. KCCA conducted several stakeholder engagements attended by government agencies, local leaders, non-governmental organisations and civil society organisations. The purpose of these engagements was to share the results of the surveys but more importantly to allow the community to identify and select their preferred species. **By fostering community buy-in and continuous engagement, KCCA aims to minimize conflicts between people and biodiversity, while safeguarding the city's natural heritage for future generations.**

KCCA's innovative greening initiatives demonstrate a proactive approach to urban sustainability, integrating biodiversity conservation into urban development strategies. By harnessing partnerships, leveraging technology, and engaging communities, KCCA is paving the way for a greener, more resilient Kampala, where nature thrives amidst the bustling urban landscape.

2. TRANSFORMATIVE ACTION TO ADDRESS THE INTERRELATED CLIMATE AND BIODIVERSITY CRISIS

Target 12 of the GBF aims to ensure biodiversity-inclusive urban planning, inter alia to increase the green and blue spaces in cities and other densely populated areas, to contribute to human well-being and the conservation of biodiversity in urban areas. **Pioneering cities in Africa are striving to implement biodiversity-inclusive planning or develop targeted Local Biodiversity Strategy and Action Plans, often with the support of transnational municipal networks such as ICLEI.**¹⁵

This happens despite the common challenges of a lack of empirical data, and human and financial resources.¹⁶ Meanwhile, the rise of climate change on the agenda of national and subnational governments has led to a proliferation of urban climate and resilience-related strategies and plans, often funded by development partners. Integrating biodiversity into such strategies may open up crucial pathways to address the inextricable links between the biodiversity and climate crises.

1 Bulkeley, H., Xie, L., Bush, J., Rochell, K., Greenwalt, J., Runhaar, H., ... & Kok, M. T. (2022). Cities and the transformation of biodiversity governance.
 2 Ofori, B. Y., Garshong, R. A., Gbogbo, F., Owusu, E. H., & Attuquayefio, D. K. (2018). Urban green area provides refuge for native small mammal biodiversity in a rapidly expanding city in Ghana. *Environmental Monitoring and Assessment*, 190, 1-11
 3. According estimates and projections from the UN Department of Economic and Social Affairs, 2018
 4. IPBES (2018): Summary for policymakers of the regional assessment report on biodiversity and ecosystem services for Africa. E. Archer, et al. (eds.), IPBES Secretariat, Bonn, Germany. 49 pages
 5. UN-Habitat (2021). Financing sustainable urban development. Nairobi
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 9. <https://www.kcca.go.ug/>
 10. Further information at [KCCA Directorate of Physical planning](https://www.kcca.go.ug/news/735/)
 11. <https://www.kcca.go.ug/news/735/>
 12. <https://www.kcca.go.ug/news/630/>
 13. [kampala-hosts-global-smart-cities-top-organ-meeting](https://www.kcca.go.ug/tree-directory)
 14. <https://www.kcca.go.ug/tree-directory>
 15. Home - ICLEI

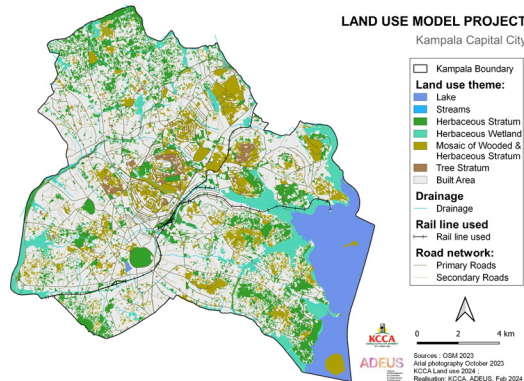


Figure 1: Kampala Land use model 2023
 Source: KCCA



Urban Uganda market © Unsplash

Integrating biodiversity concerns in climate change action plan

Recognizing this opportunity, the Kampala Capital City Authority (KCCA) and its partners, the CoMSSA initiative and the Post-2020 Biodiversity Framework - EU Support project, both funded by the European Union (EU) and implemented by Expertise France, leveraged the Kampala Climate Change Action Plan review process to make recommendations for its update through 2025. These recommendations are aligned with the current KCCA Strategic Plan (KCCAP) for integrating biodiversity concerns and aligning the KCCAP with national and global biodiversity-related instruments and policies. Employing a mix of desk research and semi-structured interviews with a wide range of urban stakeholders - KCCA staff, development partners, academia, civil society organisations (including but not limited to nature and conservation organisations) -, an assessment was conducted to build on local knowledge and expertise and to derive recommendations that are informed by, and tailored to the social, economic, political and cultural aspects of the local context.

It quickly became clear from the interviews that there were already several existing initiatives in the City of Kampala that directly or indirectly addressed biodiversity-related issues, including those outlined above. The interviews therefore focused on the status of their implementation and how these activities could potentially be used in the update of the city's Climate Action Plan. **The main synthetic recommendations focus on ways to strategically leverage the climate-biodiversity-society nexus, including through nature-based**

solutions (NBSs) that address both climate change and biodiversity and serve local priorities.

Nature-based solutions and multi-level governance to address the biodiversity-climate nexus and societal challenges

Stakeholders generally commented positively on the ambitious efforts towards a Green-Blue Master Plan and recommended that KCCA pay more attention to:

- + **strategic greening for pollinators and habitats for various species;**
- + **targeted greening and sustainable urban drainage for stormwater runoff and soil erosion mitigation,** which could serve to capture stormwater runoff and curb surface temperatures while reversing soil biodiversity loss;
- + **strategic greening and forward-looking planning to make green spaces resilient to climate change.**

It was also recommended to monitor and scale up existing efforts in ecotourism parks and to promote sustainable use of wetlands. Learning from existing urban agriculture efforts, practices should be scaled up, including support for small-scale organic urban farming and agroforestry, while ensuring that residents of informal settlements, the urban poor and youth benefit from such initiatives. These recommendations have been validated by KCCA and are now stepping stones for scaling up greening action to benefit biodiversity and people.

They are summarized in Box 1 and may inspire other cities.

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Box 1: Options to promote nature-based solutions (NBS) and effective multilevel governance for addressing the nexus of biodiversity, climate change and societal challenges

Promote context-specific solutions:	<ul style="list-style-type: none"> Strategic and climate-proof urban greening for biodiversity (ecological corridors, diversity of species, indigenous plants) and disaster risk reduction (targeting areas at risk from erosion). Green roofs/facades; Sustainable urban drainage/permeable paving; NBS-based greywater treatment, etc.
Increase the involvement of communities	<ul style="list-style-type: none"> Improve involvement of communities in planning, designing and implementing. Involve more schools in environmental action and experiment with innovative solutions. Planning, designing and implementing greening activities.
Enhance collaboration with civil society, academia and the private sector	<ul style="list-style-type: none"> Encourage dialogues with the private sector. Encourage applied research and citizen science. Rally faith-based and traditional entities, cultural institutions and youth networks to jointly explore avenues for biodiversity conservation. Accommodate local indigenous understandings of nature within urban planning. Engage environmental and conservation NGOs in open debates and activities.
Improve horizontal and vertical institutional coordination and collaboration on policies, plans and implementation	<ul style="list-style-type: none"> Explore improvement of national and local working relationships through dialogues. Enhance interdepartmental collaboration and bridge departmental silos.
Build on, and enhance, existing capacity:	<ul style="list-style-type: none"> Strengthen operational capacity for biodiversity. Leverage capacity and data that exists in environmental NGOs.
Raise awareness and access to finances for urban biodiversity	<ul style="list-style-type: none"> Develop a participation strategy and raise awareness about the ecological and social benefits of urban biodiversity. Exchange on inspiring practices with other urban authorities.



Kampala City © Unsplash

“CITIES ARE OFTEN RECOGNISED AS DRIVERS OF THE TWIN BIODIVERSITY AND CLIMATE CRISES, BUT THEY ALSO PROVIDE OPPORTUNITIES FOR TRANSFORMATIVE ACTION, AND THUS CONTRIBUTE TO THE DELIVERY OF THE BIODIVERSITY PLAN”

- Authors

3. FOSTERING TRANSFORMATIVE URBAN BIODIVERSITY ACTION IN AFRICA

Target 12 of the GBF seeks to significantly increase the area and quality and connectivity of, access to, and benefits from green and blue spaces in urban and densely populated areas. In striving to achieve this goal, it is vital that multilevel governance efforts are directed towards empowering cities to develop local contextual solutions that build on/align with strategic priorities. Given the lack of formal employment in African cities,¹⁷ this includes enquiring on how to unlock gainful employment through working with nature. Furthermore, it is important that subnational governments and other actors create forms of nature that are built around diverse forms of local knowledge and expertise, to cater to values and priorities of the communities, to enhance effectiveness and long term sustainability of initiatives and benefits for nature and people.

Collaborative governance for long-term urban biodiversity sustainability

Finding locally contextualised pathways for transformative urban biodiversity governance is no straightforward undertaking. The recommendations made by various stakeholders in Kampala indicate that key ingredients to successful and long-term sustainability of urban biodiversity efforts hinge upon collaborative urban governance for addressing the nexus of biodiversity, climate change and societal challenges. This includes a high level of involvement of community groups in all phases from planning to implementation, with an emphasis on bottom-up and truly participatory approaches to ensure accomodating local indigenous understandings of nature, to enhance the preservation of nature through stewardship.

Effective collaboration with civil society, academia and the private sector, as well as applied research and citizen science is equally important to foster evidence based joint action. To address gaps in local government capacity around biodiversity, knowledge, expertise and data that nature and conservancy NGOs hold can be tapped into. Environmental and conservation NGOs should be strongly engaged in open debates on the development of plans and strategies, as well as in implementation and monitoring. Rallying faith-based and traditional entities, cultural institutions and youth networks is equally vital to jointly explore avenues for biodiversity conservation.

Transformative action for biodiversity requires synchronized coordination of planning, implementation, and regular monitoring and reporting across all levels of government.¹⁸ **Thus, horizontal and vertical institutional coordination and collaboration on policies, plans and implementation is key. This can also help to find synergies with other sectors to raise access to finances for urban biodiversity action.** Access to external finance can be enhanced by increasing visibility at the global level on urban biodiversity conservation and protection efforts.

“TRANSFORMATIVE ACTION FOR BIODIVERSITY REQUIRES SYNCHRONIZED COORDINATION OF PLANNING, IMPLEMENTATION, AND REGULAR MONITORING AND REPORTING ACROSS ALL LEVELS OF GOVERNMENT”

- UN-Habitat, 2022

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