

THE VALUE OF URBAN NATURAL ASSETS WHEN PLANNING FOR RESILIENT AFRICAN CITIES: CONSIDERATIONS AND DECISION-MAKING PROCESSES

Profiling key lessons learnt through ICLEI's Urban Natural Assets for Africa (UNA) programme



URBAN NATURAL ASSETS FOR AFRICA HANDBOOK SERIES

HANDBOOK 2

Alternative approaches to planning with nature:

Prioritisation mapping in Malawi



HIGHLIGHTS FROM THIS HANDBOOK

- Town planners' traditional use of spatial development frameworks and land-use plans to identify key natural assets and make infrastructure-related decisions is only half the answer when it comes to protecting nature.
- To build resilient cities and prevent urban encroachment on open green spaces, a novel way of thinking is required that shifts the focus from simply demarcating natural assets on land-use maps ('planning around nature') to using nature as a tool to guide city planning ('planning with nature').
- This approach has been applied effectively in Lilongwe, Malawi, where land-use planners and environmental officers collaborated to create hotspot maps that don't just delineate natural assets, but also assign priority statuses to each based on the value they add to the city. These maps will be used to inform future development and planning to ensure sustainability.

WHO SHOULD CONSULT THIS HANDBOOK?



Organisations working on sustainability and development issues in Africa



City officials (planning, environment, engineers, developers and related disciplines)



City officials (economists, finance and procurement departments)



Academic researchers (and related organisations)

The relevance and significance of this handbook series

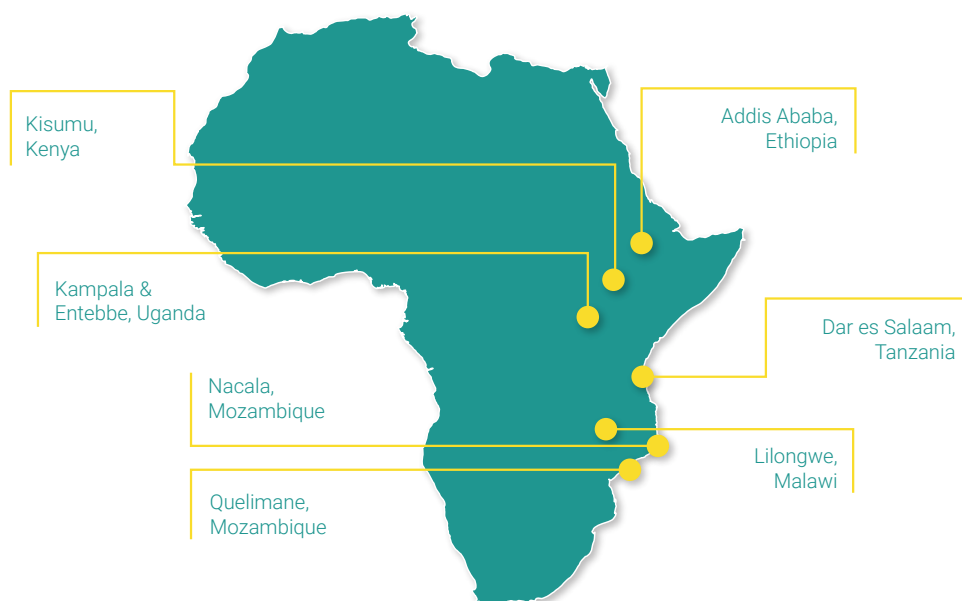
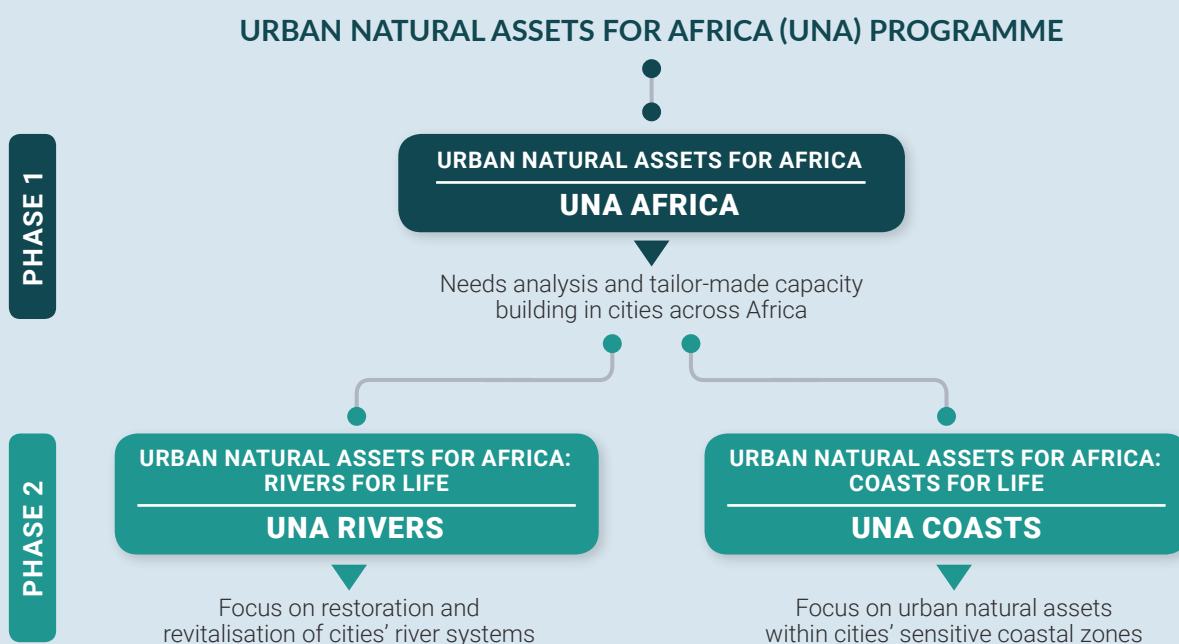
The ICLEI Cities Biodiversity Center (CBC), a global centre hosted by ICLEI Africa, developed this handbook series to showcase key considerations for integrating urban natural assets into city planning in sub-Saharan Africa. All lessons profiled were gathered through the implementation of the UNA programme.

By sharing approaches that have been successfully tailored to African cities, these handbooks seek to support the development of future urban sustainability projects that are both more effective and better suited to the local context. Learnings also shed light on how ICLEI Africa is working with local authorities to ensure alignment with international policies and agendas (like the Paris Agreement). It's imperative that we share Africa's insights and lessons now so these can feed into discussions as the Parties to the Convention on Biological Diversity (CBD) work on developing a new post-2020 global biodiversity strategy.

THE UNA PROGRAMME AND FLAGSHIP PROJECTS



Initiated in 2014, the UNA programme is designed to assist local governments in Africa build climate resilience through addressing the daily challenges they experience around protecting and revitalising their urban natural assets. To date, three flagship projects have been developed under the UNA umbrella. All broadly aim to integrate nature-based solutions into land-use planning for increased climate resilience and enhanced human well-being.



All projects are funded by the Swedish International Development Cooperation Agency (Sida) through SwedBio at the Stockholm Resilience Centre, Stockholm University.



ALTERNATIVE APPROACHES TO PLANNING WITH NATURE:

PRIORITISATION MAPPING IN MALAWI



THE IMPORTANCE OF NATURE-FOCUSED CITY PLANNING IN AFRICA

Urban natural assets provide numerous services and benefits that aren't just necessary for human survival and well-being, but also help to make cities resilient to shocks and changes (see Introductory Handbook). Conserving natural systems in and around cities is, therefore, absolutely vital if we want to build strong, sustainable urban centres that are ready for the future.

However, as the number of people living in African cities continues to rise at a rapid rate, the threat to nature and the ecosystems we depend on increases¹. The only way to ensure that natural assets are protected in the face of such growth is to adjust the way we think about and design cities.

Until recently, the importance of prioritising nature when planning cities has gone somewhat unrecognised. As a result, urban centres in Africa have contributed directly to biodiversity loss and damage^{2, 3}. Fortunately, as understanding improves, we're seeing a shift in thinking and a greater acknowledgement of the need to fully integrate natural asset considerations into city planning processes and development decisions.

THE CURRENT CITY PLANNING APPROACH: 'PLANNING AROUND NATURE'

Municipal town planners are directly responsible for embedding natural asset considerations within city planning to ensure sustainable development. To date, the primary means of achieving this has been through the development of spatial development frameworks (SDFs) and land-use plans (see example in Figure 1). Such plans demarcate natural features, and enable town planners to make land-use decisions based on desired patterns of economic growth, the proximity of natural assets and a mandate to cluster similar developments and improve access to services. Using this approach, officials **plan around nature** because the position of natural features impacts what type of infrastructure can be built where.

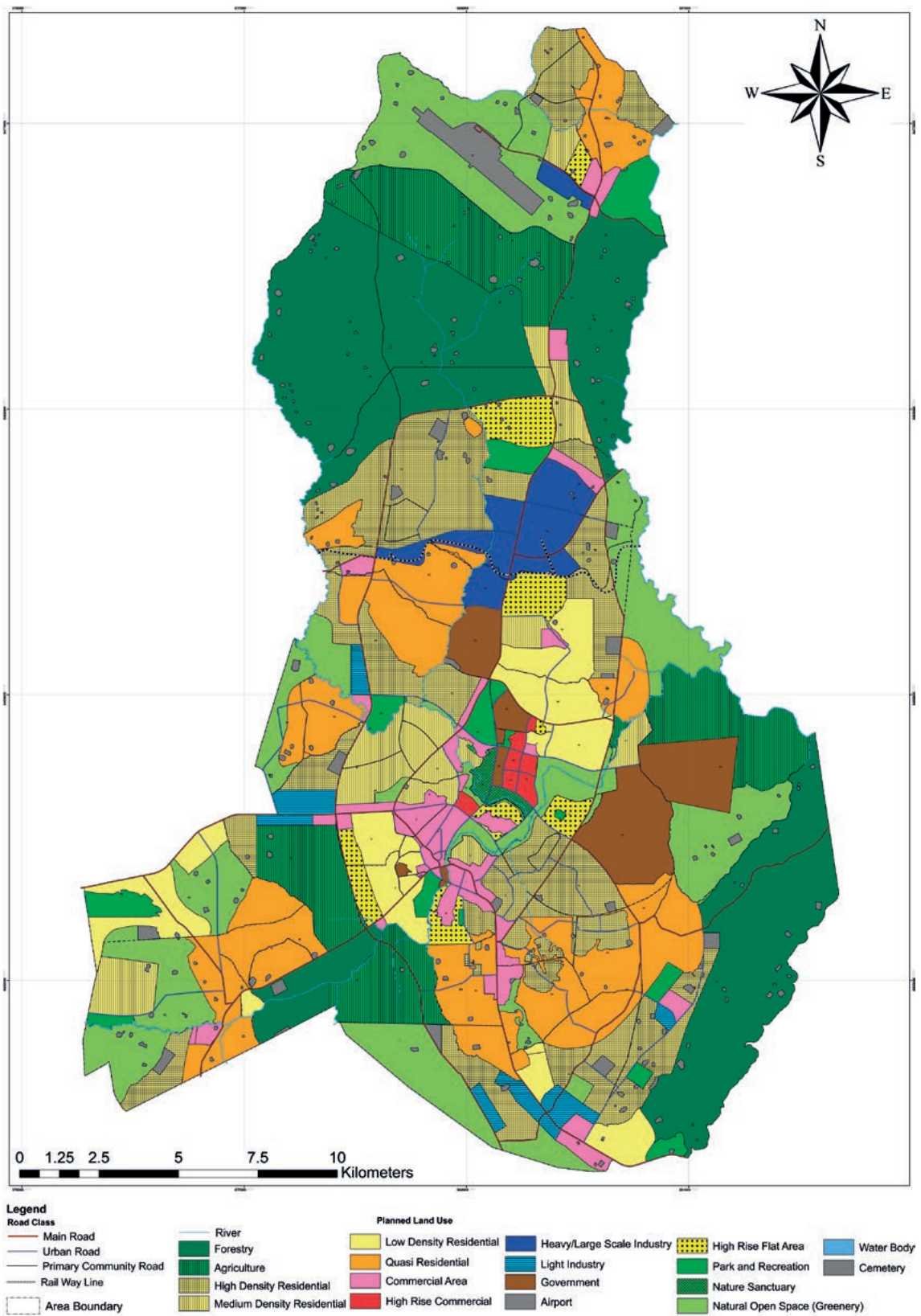


FIGURE 1: 2030 Land-Use Plan for Lilongwe

While effective in theory, in practice, land-use plans unfortunately don't always reflect how development actually unfolds on the ground⁴. Due to factors like poverty, unemployment, human resource constraints, time limitations and a lack of public knowledge about the value of nature, it can be difficult to enforce city plans and guarantee compliance. As a result, formal and informal structures are often erected in spaces that house important natural assets. For obvious reasons, urban encroachment onto green spaces has significant impacts on nature.

Traditional approaches to city planning and natural asset management are, therefore, only half the answer when it comes to protecting nature and ecosystem services.

ALTERNATIVE CITY PLANNING APPROACH: 'PLANNING WITH NATURE'

To build truly resilient cities in the context of rapid urbanisation, a novel way of thinking is required that moves beyond simply 'planning around nature' and focuses on actively using nature as a tool to guide city planning (what we refer to as '**planning with nature**' in this handbook and throughout the UNA programme).

This new approach equips city planners with the knowledge they need to make more informed decisions about sustainable future development. It packages relevant information in an easy-to-use, easy-to-reference format and turns convention on its head by making nature the guiding principle around which everything else is planned.

As it embraces flexibility, this new methodology also improves city officials' ability to respond to changes happening on the ground (including rapid city expansion and encroachment). Planners and decision-makers aren't pushed to follow a single path dictated by a pre-established land-use plan that outdates quickly. They can adjust as the situation changes and make decisions based on current realities.

How it works

Identifying and mapping is conducted as a first step to determine the location of urban natural assets. Once this task is complete, city officials engage in a prioritisation exercise – a priority status, ranging from high to low, is assigned to each asset based on a variety of factors, including:

- The value of the asset in terms of goods and services provided (Does the asset protect the city against flooding? Does it improve water quality or prevent erosion?).
- The economic value of the asset (Does it attract tourists to the area, for instance?).
- How vulnerable the asset is to being lost or fragmented.
- How negatively the city, community and broader society would be affected if the asset were lost.
- The potential of the asset to change the public's perception of and relationship with nature (How often do people interact with the asset? Does it present learning opportunities? Does it encourage higher appreciation of nature?).

Armed with these maps and knowledge about the role each asset plays in a city, planners can then use the assigned priority statuses to determine where urban development can safely take place. If a particular asset is labelled “high priority”, planners would ensure that construction does not occur near to it and that any activities that may negatively impact it are not permitted in and around the area.

Local governments can also use prioritisation natural asset maps as a tool to compare development requests and to ensure that similar developments are grouped together in low-priority areas that won't significantly impact the natural environment. **In this way, it's still entirely possible to develop African towns and cities, but we can ensure that this development unfolds in a sustainable manner** and is tracked as it happens.

REQUIREMENTS FOR THE EFFECTIVE IMPLEMENTATION OF THE 'PLANNING WITH NATURE' APPROACH:

In order to successfully mainstream urban natural assets into planning processes, there needs to be:

Collaboration between different disciplines and governance levels: Developing such maps requires in-depth discussions between those who hold nature-related information (environmentalists) and those who make decisions about city design (planners) (see Handbook 9). To protect high-priority natural assets, it's also important that there's cooperation between various levels of authority – each of whom have different mandates and roles – so that activities can be aligned around common objectives (see Handbook 11).

Education: Community members – those individuals who most frequently interact with nature – need to be educated about the importance of protecting urban natural assets and the value that they add to their lives. It's especially important to inform citizens about the priority status of natural assets located near to their residences and places of work so that they, too, can advocate for conservation.

Dissemination of information: The information that emerges from prioritisation exercises must be disseminated to decision-makers at all levels. In particular, building and zoning regulations need to be clearly communicated to relevant parties to prevent the removal of high-priority urban natural assets.

Monitoring and enforcement: In order to ensure that key urban natural assets are protected, development activities need to be carefully monitored and regulations need to be enforced. Priority maps can't be of any value if compliance is lacking. Fortunately, the maps themselves make it easier to streamline and improve monitoring and enforcement efforts by guiding where such activities should be targeted.

CASE STUDY

FROM UNA RIVERS: PRIORITISATION MAPPING IN MALAWI



Land-use planners and environmental officers from Malawi's Lilongwe City Council came together to discuss how to better embed natural asset considerations in city planning processes. This was a significant development in itself as cross-departmental meetings aimed at linking planners and environmentalists had never been held previously.

During the discussions, it was decided that hotspot maps needed to be developed to a) identify and delineate key natural assets in and around the city of Lilongwe, and b) assign priority statuses to each. Over a 12-month period, town planners and environmental officers collaborated to create these maps, using input from independent researchers whenever necessary.

Priority statuses were assigned to assets based on the value that each adds to the city and communities (the more value an asset was determined to add, the higher the priority status assigned to it). The City Council played a major role in determining the importance of each asset – value was assessed in terms of a number of factors, including goods and services provided by features and their associated conservation status (endangered species were given higher priority). Climate change projections and information about land-use change, river water quality and habitat fragmentation were also used to inform statuses.



Lilongwe, Malawi. There are various bat houses in and around Lilongwe

THE OUTCOME

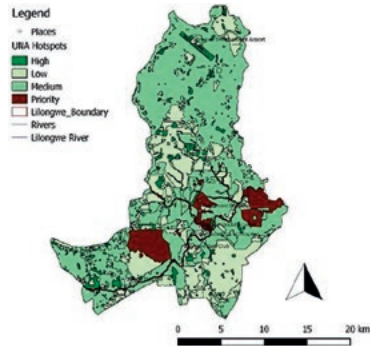


FIGURE 2: UNA hotspot map for Lilongwe, Malawi

As can be seen in Figure 2, the final product took the form of city maps that clearly demarcate areas of Priority UNA Value (no development to take place), High UNA Value, Medium UNA Value and Low UNA Value (preferred sites for development). Thanks to these maps, planners and decision-makers now have access to key nature-related information, documented in a user-friendly format that makes it easier than ever before to keep nature top of mind when making decisions about city design. For the first time ever, they have concrete materials and resources that they can use as tools to make sure that they actively mainstream nature-based solutions into planning.

While the maps themselves are important, the process followed to develop the maps was, perhaps, even more valuable (see Handbook 9). The journey that planners and environmental officers embarked on together facilitated a mind-set shift that prioritises **'planning with nature'** and encourages a completely different way of thinking about natural systems.

Lilongwe, Malawi. The city nursery houses various plant species which are selected and planted across the city



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ABOUT ICLEI AND THE CITIES BIODIVERSITY CENTER



ICLEI – Local Governments for Sustainability is a global network of more than 1,750 local and regional governments committed to sustainable urban development. Active in 100+ countries, ICLEI influences sustainability policy and drives local action for low emission, nature-based, equitable, resilient and circular development. ICLEI’s members and team of experts work together through peer exchange, partnerships and capacity building to create systematic change for urban sustainability. ICLEI Africa serves the organisation’s African members, working with cities and regions in more than 25 countries across the continent.



ICLEI’s Cities Biodiversity Center (CBC), which is located in Cape Town, South Africa, recognises the crucial role that cities and subnational governments play in the pursuit of a sustainable future, through efficiently integrating urban development and biodiversity management at the local level.

Through its programmes, ICLEI CBC seeks local solutions to the complex issues surrounding natural capital and the degradation of ecosystem services in a rapidly urbanising world. ICLEI CBC offers cities across the globe a broad portfolio of supportive services through a dedicated team of passionate, skilled and dynamic biodiversity and urban development experts.

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