Green and innovative Kampala

Generate Synergies and Join Forces for an Urban Transition to face Climate Change

Kampala 2019
Workshop
Synthesis

les ateliers
maîtrise d'œuvre urbaine

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Les Ateliers is a non-governmental organization that brings together an international network of professionals, scholars and decision-makers in the field of urban development. Focused on the practice of urban management, the association organizes workshops imagined as sources of design and creativity aimed at providing local decision-makers with an international perspective and innovative proposals for their development challenges. Created in 1982, Les Ateliers was originally aimed at students and young professionals. Per the request of local communities, governments and other partners, it has added workshops open to experienced professionals and volunteers since 2005. In France and abroad, these workshops provide local authorities with illustrated and innovative proposals for their strategic territorial and urban development projects. Through the confrontation of different professions and cultures, these workshops also serve to challenge traditional notions of learning models and high-level exchanges.

Les Ateliers organized an international urban planning workshop in Uganda in 2019, initiated by the Kampala Capital City Authority (KCCA) and the French Development Agency (AFD). From the more than 80 applications received, 18 participants of varying nationalities and specializations were selected. Divided into three teams, they volunteered their expertise and time for the entire duration of the workshop from 26 October to 8 November 2019. The workshop closed with an international jury, during which the three teams presented their work to a gathering of stakeholders from Kampala and Uganda, elected representatives from East Africa, international partners and experts. This Synthesis compiles the conclusions developed during this workshop – Green and Innovative Kampala.

The workshop approach is suited for urban development concerns

The Les Ateliers' methodology and process are what's in the air today regarding the global challenges of urban development in emerging and developed countries. Frédéric Mion, Director of Science Po (Institute for Political Studies) in Paris, recently testified to this when he shared his vision on the subject. His words are particularly relevant to Kampala:

"In view of the many challenges facing cities in the context of our climate crisis, it is essential to design new urban planning projects from a holistic perspective. Urban areas are melting pots of innovation and solutions already in the making. Future specialists with hybrid profiles should be trained in these issues".

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Green and innovative Kampala

Generate Synergies and Join Forces for an Urban Transition to face Climate Change

We most sincerely thank the French Embassy, the Ugandan Government, the AFD, all of you partners, and all the experts from within and outside the country

As a city, we embarked on a vigorous and robust agenda to take the direction towards achieving SDGs (the Sustainable Development Goals as set by the UN, to be achieved in 2030), specifically the SDG 11: to have a resilient and functional city. We are worried that there is a lot to be done to make the SDGs a reality, to make Kampala a liveable, resilient and sustainable city within this one remaining decade. This is something that is weighing so much on our minds. As an institution, we take it as a critical challenge. In all spheres, in all sectors, we are glad and happy that you have diagnosed each and every aspect that touches our agenda.

As an institution, we are in the process to prepare our five years development plan. We are synchronizing our development plan with the national development plan (Vision 2040), and of course other national instruments. These proposals are going to be guiding tools in shaping that strategic plan. That is why we treasure them so much. What you have done here is to show us the priorities because we have a very narrow resource envelope and that has always been a big challenge. But optimum utilization of resources is equally important. Thanks to the jury that helped us to look at the recommandations, in terms of multiplier effect, quick wins, impact on climate change, and so on.

In this regard, the Climate Change Action Plan (2016) is high on our agenda. It is one of our guiding instruments in dealing with climate change challenges and mitigating those excesses. Our ambition is to reduce carbon emissions by 22%, because we are now having a challenge of business as usual scenario. We have adopted a number of deliberated policies to shift from that business as usual scenario to a properly planned and guided direction and path.

Thank you very much for the support you are giving us so that we are moving towards another policy shift, a paradigm shift from being regulators to facilitators and enablers of economic growth and development. Because we cannot achieve our vision and mission by merely acting as regulators, specifying the do's and the don'ts, implementing only acts and ordonnances. Apart from licences and regulations, we want to reach out and transform our communities, and make them sustainable..

You have taken Kampala into a laboratory, carried out an examination, and made a prescription. If Kampala would be a body, what you have done here is a CBC : a complete blood count. This is why you have taken us through all these issues. Your ideas are treasured, they are going to guide us in our policy formulation processes, and also to guide us to determine the priorities and take decisions on where to take the city.

Hon. Erias Lukwago, Lord Mayor of Kampala

Excerpts from his speech during the jury event, 2019-11-08

Introduction

Kampala is a survival city. The 'population tsunami' that the city is experiencing poses significant pressure on available resources, affecting the basic needs of residents and exacerbating the effects of violent climate change episodes. Facing a scarcity of land, money, housing, energy, food and jobs, residents have taken the development of the city into their own hands and have resorted to informality to deal with some of the city's shortages. Figures speak for themselves: only 20% of the city benefits from planning, 60% of the population lives in slums, and the informal economy accounts for 50% of the labour force. While informality is a huge source of opportunities, it often comes with risks and negative effects on the environment. In light of this situation, the Kampala Climate Change Action Strategy was approved in 2016 to ensure that the development of the city follows a low carbon emissions approach, builds resilience and maximizes the co-benefits of efficiency, economic diversity and human well-being.

To continue this effort, the Kampala Capital City Authority (KCCA) and the French Development Agency (AFD) invited Les Ateliers to hold a professional workshop in October–November 2019. Their objective was to solicit innovative ways in which the city's development could respond to the challenges of climate change while also emphasizing an integrated vision of Kampala. As such, the workshop – Green and Innovative Kampala – used the prism of climate change to address the specific challenges faced by the city. Low-productivity crops, landslides, floods and other kinds of disasters threaten the city and have an impact on the daily lives of its inhabitants. The intention of the workshop, therefore, was to come up with responsive strategies to mitigate the effects of climate change and to develop proactive measures to reduce Kampala's contribution to the phenomenon.

The workshop's main objectives:

› To explore ways to combine bottom-up and top-down initiatives and approaches in order to realize Kampala's full green and innovative potential.

› To view the city as an urban ecosystem and therefore suggest ideas of how to fill-in the existing gaps between projects, strategies and initiatives that are currently developed and implemented in a fragmented and isolated manner. The ultimate aim is to generate synergies capable of building a sustainable future that addresses climate change concerns in a context of scarcity.

› To instil a new dynamic to tackle urban issues that is based on frugality, the promotion of existing assets and the valorization of doing more with less.

› To transform Kampala's identity from Kampala Capital City into Kampala Champion City of Urban Resilience and Sustainability.

The essence of the workshop, therefore, was to draw on existing assets and initiatives to build a cross-cutting regard that could provide a direction for the city's sustainable development in a resource-efficient manner.

Kampala, a major East African city facing climate change challenges

A CITY UNDER PRESSURE

MAJOR CHALLENGES

MAJOR ASSETS AND OPPORTUNITIES

AN INFRASTRUCTURAL AND FRAGMENTED APPROACH TO URBAN DEVELOPMENT

THE OPPORTUNITY TO BUILD A NEW IDENTITY

A CITY UNDER PRESSURE

With an estimated growth rate near 4%, Kampala is one of the fastest growing cities in the world. Based on the population growth and the rural–urban migration that the country is experiencing, this trend is expected to continue for years to come. This exponential population growth does not only require housing. Job opportunities, social infrastructure, roads, open public spaces and other services must also be provided to ensure sustainable development and a good quality of life. This is a challenge for a city like Kampala where developable land in central areas, budgets to implement projects and the capacity of different actors to work on the city's many projects are scarce.

Like other big cities in the Global South, the rate at which the city is developing is higher than the KCCA's capacity to adequately plan and implement actions. As a result, a large number of unplanned developments are popping up, many of them in restricted areas such as wetlands. Only 20% of the existing city has been planned. This is a possible explanation for the city's poor urban hierarchy and inefficient urban fabric, which themselves create challenges in the planning of efficient transportation systems. The discord between job–housing locations together with the poor road capacity causes major traffic jams in the city.

Satellite images showing the urban expansion in the Greater Kampala Metropolitan Area
Google Earth

Competition for land in Kampala is fierce. Seventy per cent (70%) of the land is privately owned and a large portion is classified as environmentally sensitive (i.e., vulnerable or fragile zones). The latter are slowly being encroached upon by both formal and informal developments. In recent years, developers have found a solution to the land scarcity problem in Kampala by developing middle-class estates on cheaper land outside the city's urban limits, increasing the mismatch between population and employment density and putting a strain on the KCCA by relocating its tax base to peripheral towns. In addition, the vast majority of people living in these new peripheral developments continue to commute to the central area of Kampala, therefore making use of the city's urban infrastructure and contributing to the creation of traffic jams.

The growing population is also burdening services. Only 30% of trash is collected, the sewer network covers just 10% of the city and most households rely on pit latrines. As such, most of the city's waste drains towards and accumulates in low-lying swampy areas, where food gardens are polluted with human, household and industrial detritus. Furthermore, the heavier rainfall caused by climate change is surpassing the stormwater infrastructure capacity, which is already being hindered by uncontrolled waste dumping, the encroachment on natural drainage areas and the increase in impervious surfaces. As a result, flooding events are becoming increasingly common in the city. The energy supply is also a challenge. Electricity, which mostly comes from hydropower (90.5%), represents only 7% of the energy mix and most households rely on charcoal for cooking. The road network system is also affected since it must now accommodate five times more cars than what it was initially planned for.

MAJOR CHALLENGES

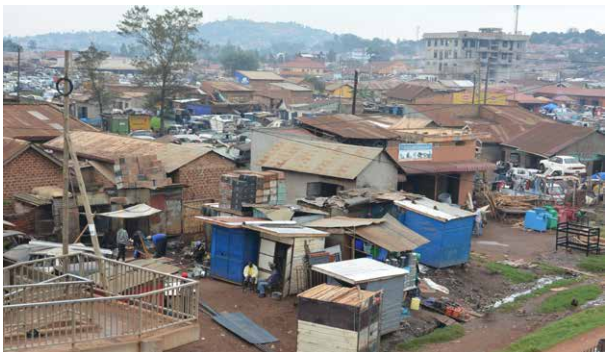
The existing road network is a legacy of the 1960s and despite its later expansion to accommodate 100,000 cars, it remains insufficient in meeting the needs of the growing motor vehicle fleet, which is today estimated at 500,000. The inadequacy of the road network refers not only to its carrying capacity, but also to its underdeveloped urban coverage. There are few arterial roads and most parts of the city, especially on the slopes of the hills, are only accessible by improvised paths created by people between structures. The primary network is paved; however, secondary and tertiary roads are not and thus difficult to use during the rainy season. The result of the infrastructural shortage together with the inefficient urban layout is an exceedingly high number

of daily commutes, which are not only an inconvenience for residents (who spend nearly 40% of their travel time in standstill) but also a heavy burden on the city's economy. It is estimated that traffic jams in Kampala cost the economy UGX 500 million (€150K) every day.

In terms of global warming, the temperature increase in Africa will likely be higher than global averages, thereby making the continent particularly vulnerable. Sudden and violent flooding episodes and their consequences have already compelled Uganda's authorities to issue an alert about climate and weather disasters. They are now in the process of establishing a fund of USD 200 million – a national climate fund – aimed at restoring the country's natural environment.

Everyone in Kampala is affected, in one way or another, by the continuous flooding events that the city faces. Residents on the hilltops suffer from the congestion caused by the flooding of the roads, while those living in low-lying areas face a constant risk of their homes being flooded. Despite this, it is both those on the hilltops and those in the valleys who contribute to the flooding of the city. The reduction in porous green areas on the hilltops, which have been replaced by buildings and impermeable paved surfaces, as well as the construction of steep roads has led to huge volumes of water rushing down the hills at a very high speed. The volume and speed of the water are such that they can flood lower areas and roads in a matter of minutes. Adding to this problem is the construction in the valleys, which has constrained the space where water typically accumulates during strong storms, further exacerbating the flooding of low-lying areas. Another contributing factor is the blockage of the draining infrastructure caused by illegal dumping and littering. The city's poor solid waste collection system translates into tons of plastic and other types of waste accumulating in natural waterways and stormwater infrastructure. The combination of these factors has detrimental effects on the city: traffic congestion, loss of lives and property, and the spread of water-born diseases and pollution that lead to the contamination of the area's food crops and water sources.

Over the last three decades, Uganda's economy has moved from a state of recovery to a model of growth based on short-to-medium term planning and the implementation of a number of new economic policies. In 2017, Uganda was 17th in GDP growth in Africa. Its economy is driven by the high-value services sector, which accounts for more than 51% of its overall GDP, despite the fact that the agriculture sector concentrates nearly 66% of the labour force. Demographically, the country's heavy concentration of working age populations is reflective of a potentially active labour force. The Greater Kampala Metropolitan Area (GKMA) is one of the fastest growing urban areas in Africa, with a yearly population growth rate of 3.9%. Although the GKMA represents just over 10% of Uganda's population, it contributes more than a third of the national GDP due to its concentration of non-agriculture related manufacturing. Roughly 70% of the country's manufacturing plants are clustered in the GKMA.The industrial base is small but robust. Nevertheless, it lacks the capacity to create a sufficient number of jobs at reasonable wages to absorb the country's demographic growth and immigration dynamics into productive employment.



Informal activities near Bwaise

In the CBD of Kampala, 2019

Along the the Lubigi Channel, 2019

Congestion in Kampala

Dusk at the lake

Fish farms at Gudie Leisure 'Zero-waste' farm, Najjera 2, Kira Municipality

Innovative vertical gardens with small plot coverage at the Ghetto Research Lab, Kamwokya, Kampala

MAJOR ASSETS AND OPPORTUNITIES

Kampala has been gifted with multiple natural assets. Nevertheless, Kampala's unique topography is both a blessing and a curse. While providing Kampala with a strong identity, the more than 27 hills that comprise the city today make mobility a challenge. Lake Victoria, the second largest lake in the world, is located approximately 10 km from central Kampala. It connects Kampala to the country's other major cities and links it to the East African countries with whom Uganda trades. Providing the city with abundant natural resources, Lake Victoria presents a great opportunity for the further development of the leisure and tourism industry. Kampala's tropical weather and fertile soil are also a blessing for forestry and agricultural activities. Unfortunately, many of these natural assets and the opportunities they offer are now threatened by urbanization and unsustainable practices.

Another great asset in Kampala are the Kampalans themselves. The bright side to the city's enormous population growth is that Kampala counts one of the youngest populations in the world. Young people are much more open to change and hold great potential for innovative development. The recent rural–urban migration has also brought skilled agriculture workers to the capital, an increasingly scarce talent base in big cities. Another undeniable asset is the resourcefulness of Kampalans and their ability to survive in a context of scarcity. Facing chronic unemployment in the formal economy, many Kampalans have become entrepreneurs in the informal sector. Transportation is possibly the sector in which the informal economy plays the most important role. 'Public' transportation in Kampala is dominated by matatus (vans that operate as minibuses) and boda-bodas (motorbike taxis); both are informal modes of transportation. It is estimated that there are nearly 150,000 boda-bodas in Kampala.

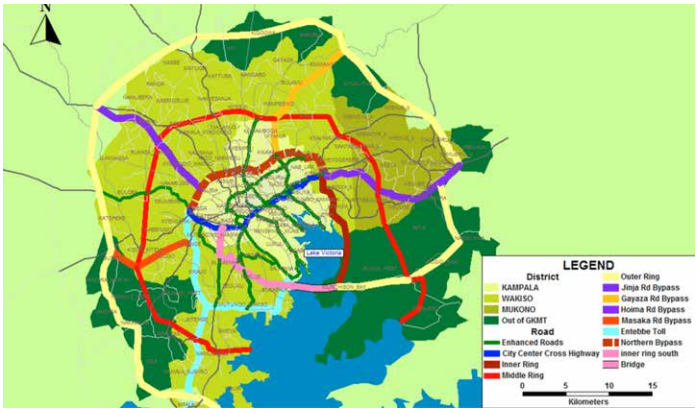
The strategic issue of food security is already being tackled by authorities. For instance, the KCCA established the Kyanja Agricultural Resource Centre to promote and train people in modern urban farming. Networks of urban farmers like AgriProFocus Uganda and private demonstration farms such as Gudie Leisure Farm, which practices a zero waste policy, are responding to the existing challenges in urban farming. Some groups, such as the Ghetto Research Lab in Kamwokya, are researching and developing various techniques to address the issue of limited space and restricted or vulnerable land. Their activities include the sale of compost as fertilizer, aquaponics as well as vertical gardening, where crops are grown in plastic bottles or bags.

As a result of the resourcefulness of Kampalans, their capacity to innovate and their entrepreneurial abilities, Kampala boasts several initiatives that mix local know-how with new technologies and innovative techniques. Some examples include the development of biomass energy briquettes produced from organic waste, construction materials made with recycled plastic and other waste, and innovative agricultural techniques. In order to support and scale up these initiatives, several incuba-

The different steps of briquettes making as demonstrated in the 1-Stop Youth Center Kabalagala from KCCA

tion centres have been opened, both by the KCCA and private sector, that explore innovative ways to deal with scarcity and how to maximize available resources. A Resource Recovery and Safe Reuse (RRR) Business Models programme has also been created. Other interesting initiatives include the ProTeen project that uses black soldier fly larvae to process organic waste into animal feed and fertilizer as well as the KCCA and Coca-Cola Plastic Collection Centre project, where people bring plastic bottles to be transformed into flakes and sent abroad to manufacturers.

Innovation is a major way to tackle Uganda's social and environmental challenges. It provides a wide range of opportunities for both government and private sector actors to explore and improve quality of life issues by fixing problems in frugal, straight-forward ways. The resulting initiatives and projects may also prove to have a significant impact on biodiversity preservation once they are assimilated into the daily habits of Kampalan households. Most informal businesses are aimed at local consumption and represent a strong driver of innovation, with many developing new ideas and products to either fix specific problems or to fulfil the daily needs of Kampalans.



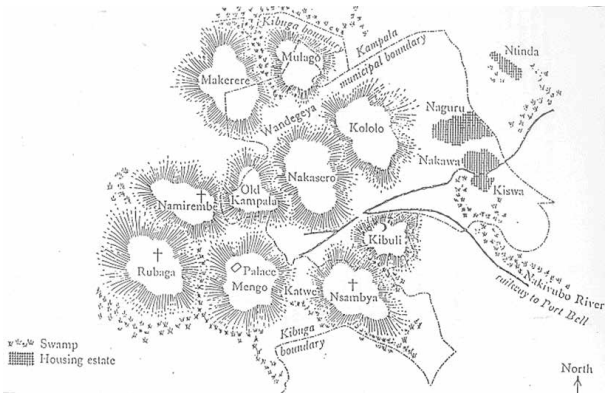
The metropolitan road system as planned in the Kampala Physical Development Plan (KPDP, KCCA)

Route of the proposed pilot BRT (Ministry of Works and Transport, Uganda, 2012)

AN INFRASTRUCTURAL AND FRAGMENTED APPROACH TO URBAN DEVELOPMENT

Most of the challenges that the city faces are approached with an infrastructural response. This is most obvious in the fields of mobility and water drainage. In order to improve traffic, roads are widened, new highways and flyovers are built, and there are plans to implement a new Bus Rapid Transit (BRT) system and improve rail service in the city. Major infrastructural works to improve the water drainage system include the construction of concrete culverts, the digging of canals to build up the wetlands and a plan to build a water treatment plant. Most of these projects tackle urban issues in an isolated rather than holistic manner. As a result, several different types of infrastructure must be built as they may only address one of the various needs, therefore multiplying the amount of resources (e.g., money, space, time, energy, building materials and human capacity) needed for project implementation. Another issue is the common belief that the government is the sole actor responsible for implementation, an obvious challenge in a city with limited governmental capacity.

This 'silo approach' also refers to the way in which the different actors in the city operate. Whereas there are multiple international cooperation agencies working in Kampala as well as many local actors who have started their own interesting initiatives, they tend to function independently, lacking coordination between their efforts. Similarly, government departments often operate in an insular manner, which is especially apparent when it comes to cross-border projects between different municipalities. This is a challenge that is already being addressed with the creation of a governance system for the GKMA, which will become essential for the implementation of projects such as the roll-out of the BRT on a metropolitan scale. Lastly, the formal and informal sectors operate in an almost parallel manner with very few convergence points. The potential coordination and cooperation between the multiple projects and entities in charge could result in a far more efficient use of the invested resources and, in turn, a greater capacity for project implementation.



Map of the hills of Kampala in 1954

source : A Preliminary Report of Kisenyi, Mengo, Kampala, by A.W. Southall, June, 1954

A multiscale approach

Source : Openstreetmap / Les Ateliers

Neighborhood scale – **Bwaise**, flood risk precinct and one of oldest informal settlements in Kampala, near the Makerere University

City scale – From the CBD to the Lake Victoria, an industrial area and the **Namuwongo** district, an informal settlement growing in the wetland

Metropolitan scale – Green neighbouring areas receive the direct effects of the city's growth by taking up Kampala's working population by night

THE OPPORTUNITY TO BUILD A NEW IDENTITY

The recent changes that the city has experienced have changed Kampala's character and identity. Identity is a fluid concept that tends to change over time and this is no exception for a city. In the times of the Buganda Kingdom, Kampala's identity is thought to have been linked to the hilltops where the kabakas (kings) established their palaces, which would eventually become their tombs. In colonial times, Kampala became a dual city: Europeans occupied a few hilltops while the Buganda Kingdom continued with its system of transitory capitals that followed the establishment of each kabaka's palace. What is Kampala's identity today? Like many other cities in post-colonized countries, Kampala seems to have yet to develop a clear identity. The fragmented history between its pre-colonized era and its colonial and post-colonial periods, the recent rural–urban demographic transition and the desire for a certain idea of modernity seem to be some of the causes behind this identity crisis.

There is, however, an opportunity for Kampala to create a new identity defined by a development model that resonates with both the city and its residents. This new identity could bring about a behavioural change that many local stakeholders deem necessary, offering a sense of uniqueness that would make the city more attractive to residents and visitors alike.

Creativity in the streets of Kampala

Three projects to mitigate threats and revalorize Kampala's assets

SSIZIBWA KKUBA
MY PATH CAN NEVER BE BLOCKED

RECONNECTING THE METROPOLIS
THE NODE PROJECT

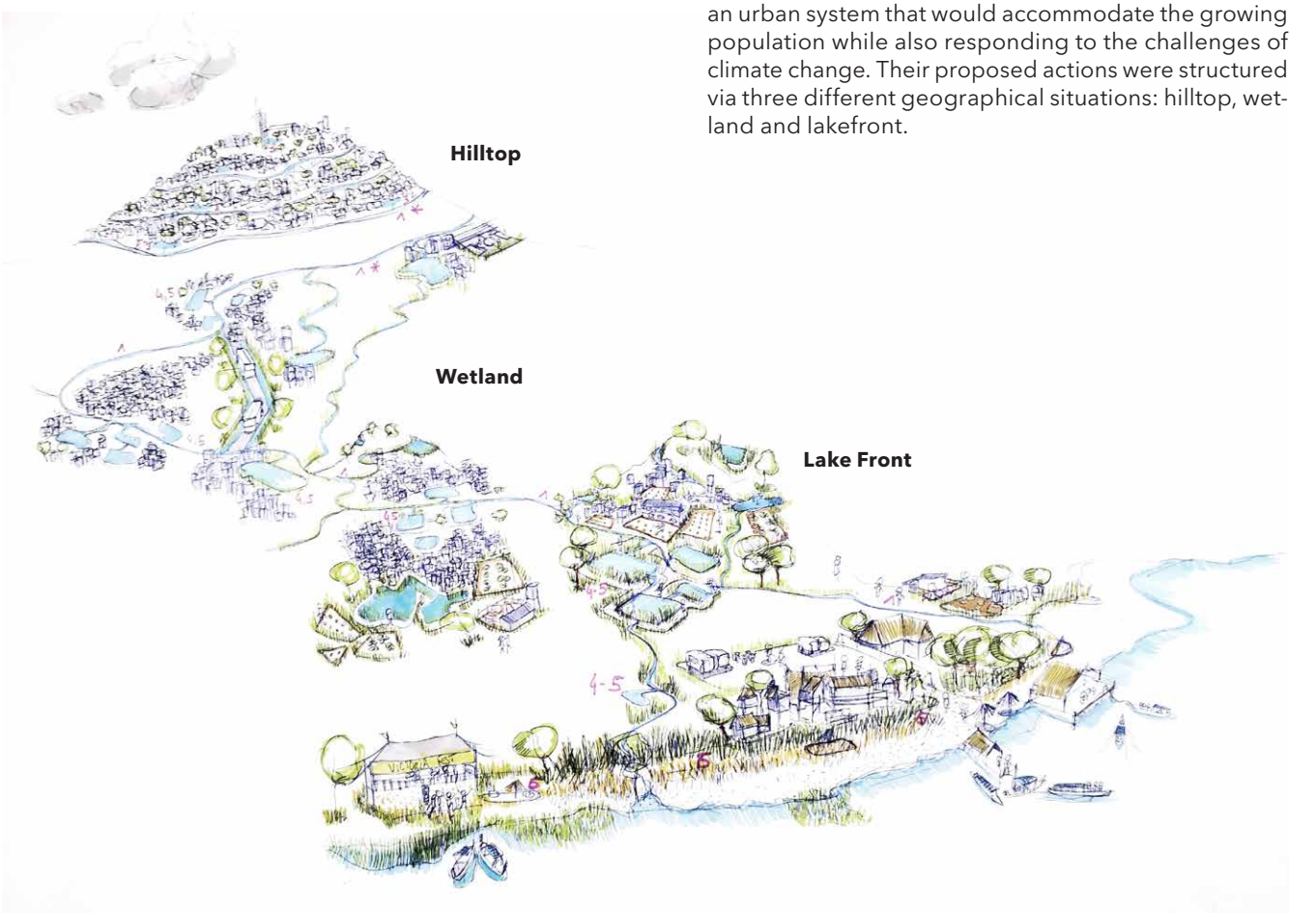
NSOZI
A MODERN, GREEN, RESILIENT METROPOLIS WITH A CLEAR AND UNIQUE IDENTITY

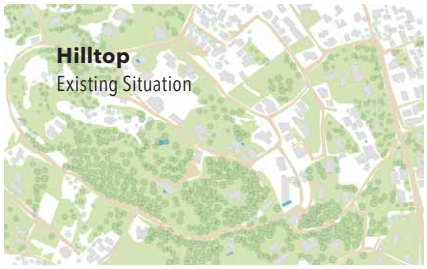
Team A

SSIZIBWA KKUBA

MY PATH CAN NEVER BE BLOCKED

The team's proposal was a response to the increasing social, economic and environmental threats Kampalans face due to the declining integrity and functionality of their wetlands. Leveraging local ancestral knowledge, it was rooted in the premise that water can neither be blocked nor controlled. It therefore proposed a paradigm shift: from perceiving water as a threat to seeing it as an opportunity to plan a greener and more innovative Kampala. The team drew on nature-based solutions for stormwater infrastructure, local know-how, the circular economy and multifunctional infrastructure to propose an urban system that would accommodate the growing population while also responding to the challenges of climate change. Their proposed actions were structured via three different geographical situations: hilltop, wetland and lakefront.





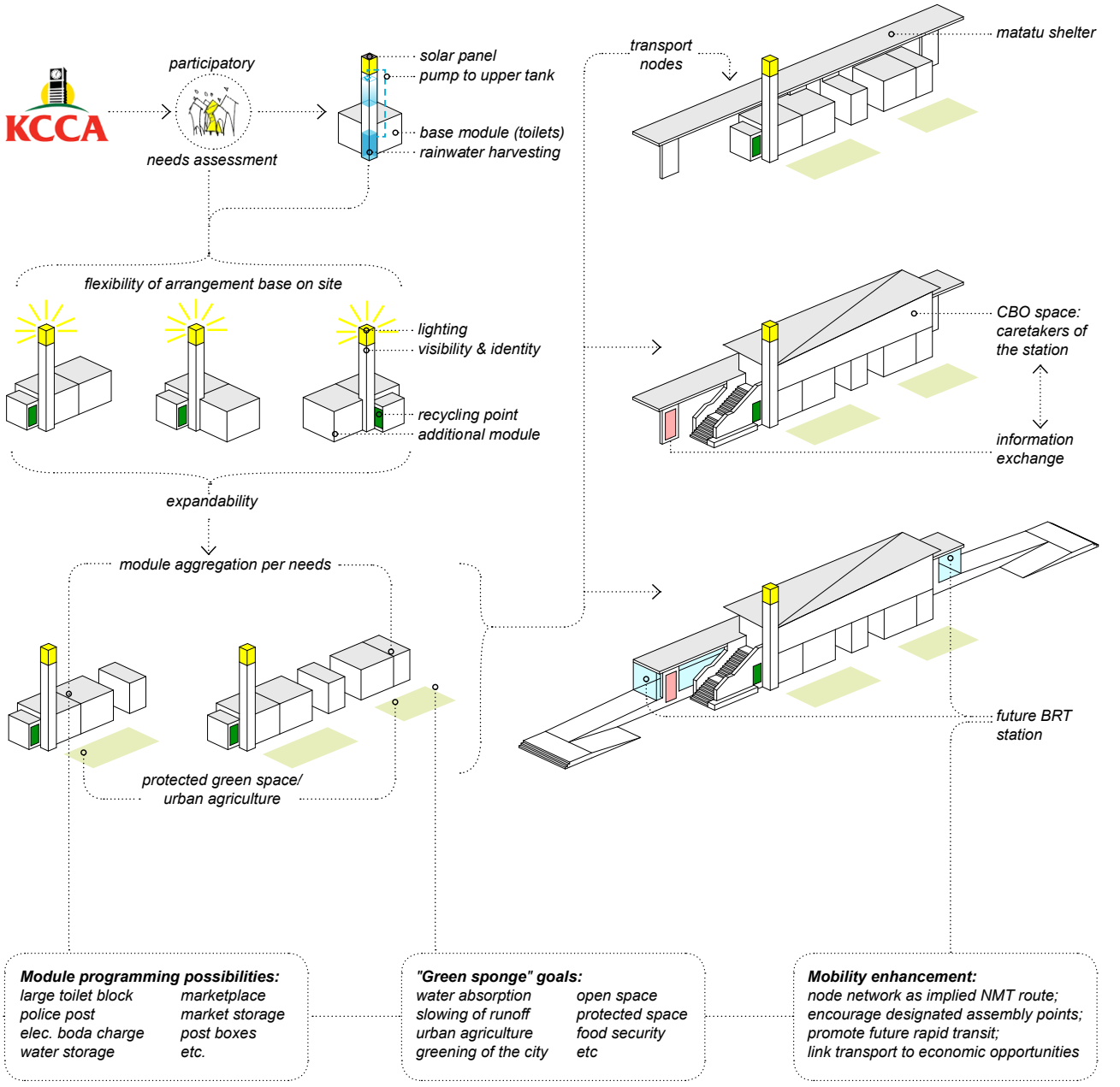
The team offers a new vision, following five key principles : multifunctionality, sustainability, inclusivity, scalability, and ecosystem services. The proposal at the lakefront is to be found p. 27.

Team B

RECONNECTING THE METROPOLIS

THE NODE PROJECT

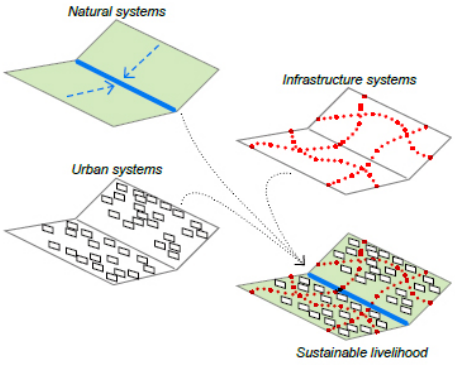
The focus of The Node Project was on improving the quality of life of Kampala's residents by tackling the issues of informality, mobility and flood management. To do so, the project followed Ms. Bee – a single mother living in the Bwaise slum with her children – on a typical day as she tries to make a living for her family selling home-grown vegetables on the street. To address her situation and that of others, the team proposed the creation of Nodes, modular buildings comprised of an initial basic unit that would include public toilets, a rainwater harvesting system and a 'clock tower' for increased visibility. By expanding the Nodes, they would then accommodate spaces for community needs and activities necessary for survival, such as storage facilities for urban crops to be sold in the markets, training programmes and project implementation assistance. They would also serve as a means to tap into the innovation already present in informal settlements and as an important transportation infrastructure.

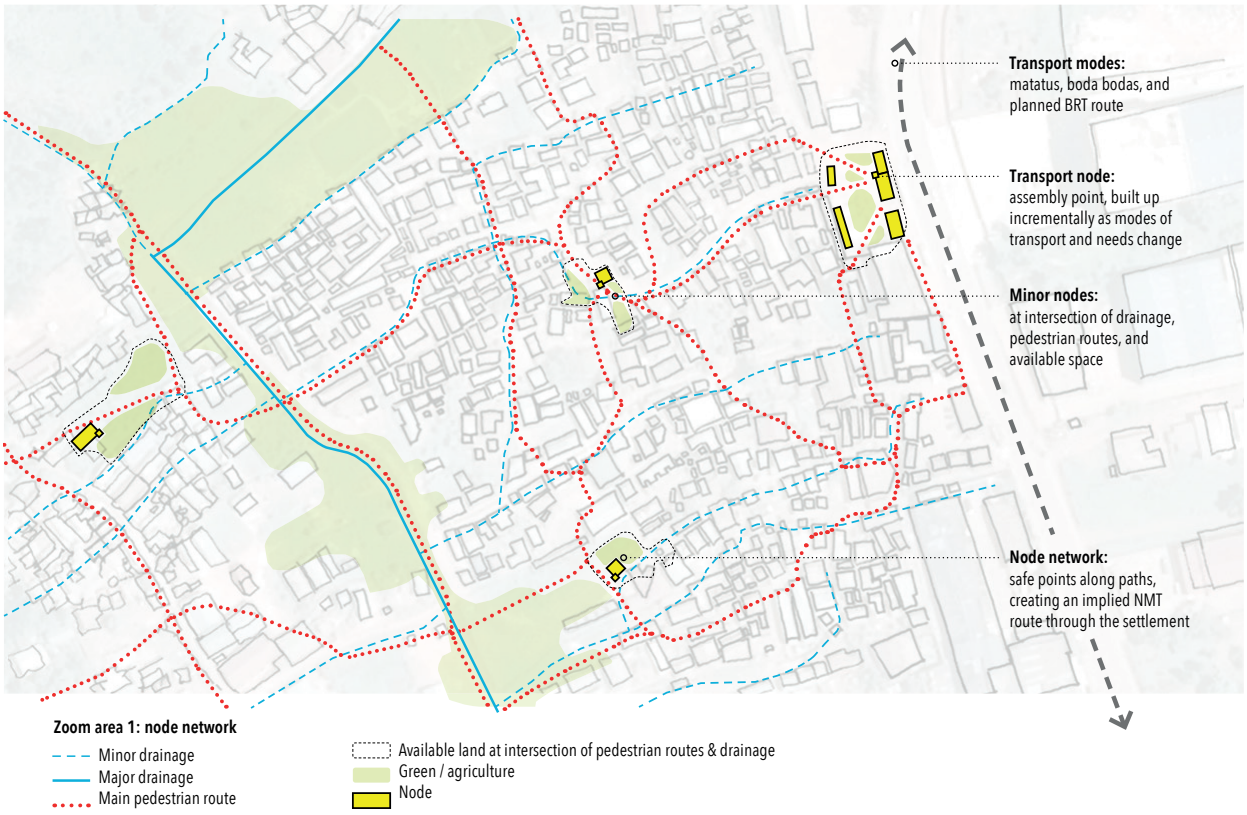


Conceptual intent of the node

Nodes would be implanted at the intersection of pedestrian routes and natural drainage channels, in spaces with available land in order to create small green areas that would increase the 'green sponge' effect and offer opportunities for urban agriculture.

The project proposal also included the creation of the Twezimbe programme, which would provide training for community Savings Groups to access existing funding resources for Small and Medium-sized Enterprises (SME), and the Bukirwa Toilet Project, a maintenance system that uses bottles for recycling as currency.





A network of nodes in the Bwaise settlement

In the zoomed area, the project creates a network of Nodes accessible within walking distance.

For Ms. Bee, she would be able to arrive at a transport Node and attend the "Twezimbe" training. She can then continue safely on foot within the community and connect to the next Node, where she might find a place to buy recyled goods, and move along to another Node, at which she can use a toilet and water tap.

Team C

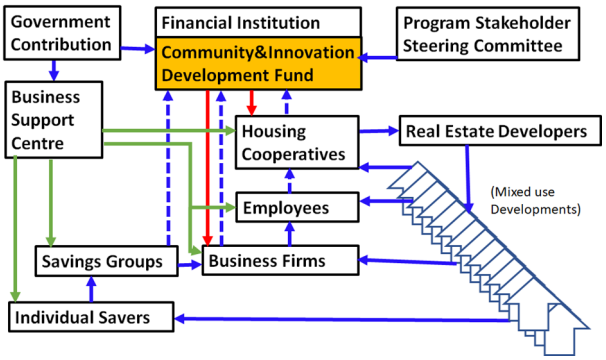
NSOZI

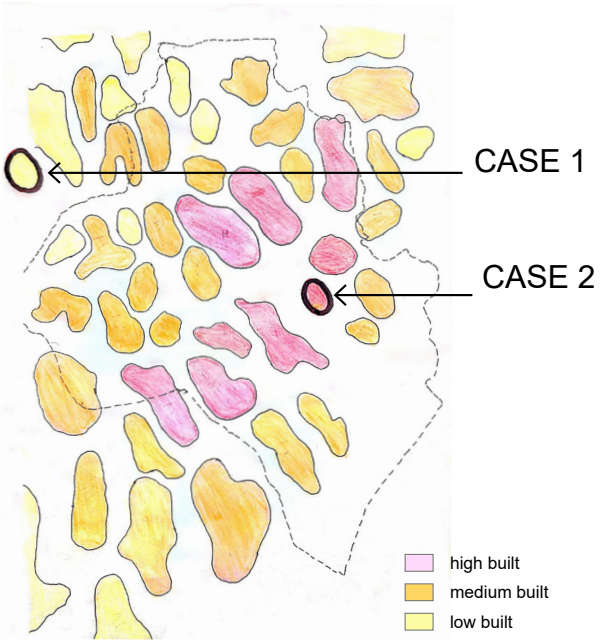
A MODERN, GREEN, RESILIENT METROPOLIS WITH A CLEAR AND UNIQUE IDENTITY

The team proposed a socioeconomic transformation model and an urban restructuring plan based on the city's natural assets to strengthen Kampala's identity as a modern, green and resilient city of hills and valleys and entrepreneurial citizens.

The transformation model was rooted in the informal economy, which it aimed to integrate into the formal economy and thereby increase household incomes while also providing affordable and well-located housing. To do so, Business Support Centres would be created to support capacity building among slum dwellers, a Community Innovation Development Fund would be established to finance business development, and Housing Cooperatives comprised of the employees of the resulting businesses would be created. These Housing Cooperatives, with the support of public finance institutions, would then partner with real estate developers to build mixed-use developments to accommodate the cooperatives themselves as well as businesses and individuals.

The proposed urban restructuring plan envisaged integrated mixed-use neighbourhoods on each hill, which would be structured by concentric roads that, thanks to the replanting of trees and the creation of public open spaces, would slow down stormwater runoff to prevent erosion and reduce the risk of flooding in low-lying areas. The hills would be connected by peripheral commercial roads running along the valleys and would be equipped with transport hubs and Business Support Centres. Planning guidelines would be provided to achieve the new urban structure on both consolidated hills and non-urbanized hills.

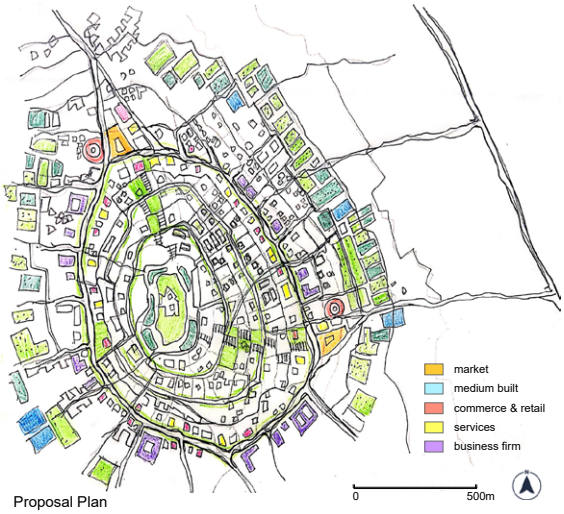




Typology of hills

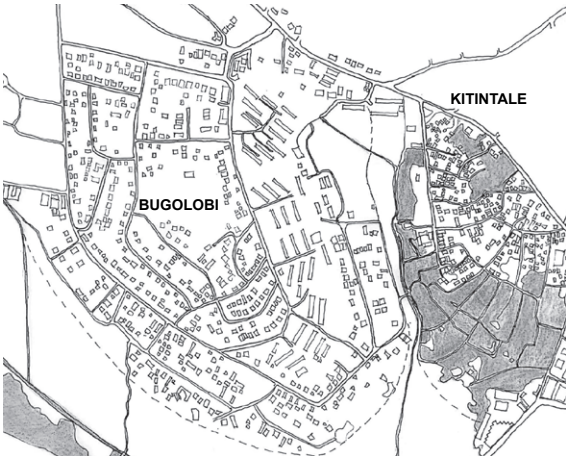
CASE 1_KABULENGWA HILL_WAKISO

Existing Plan

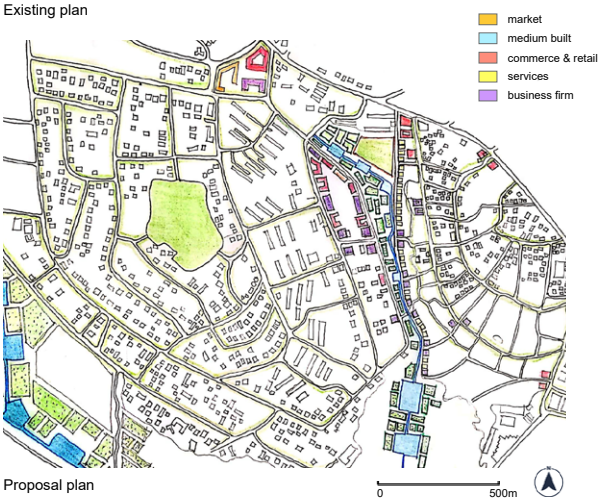


Proposal Plan

CASE 2_BUGOLOBI HILL & KITINTALE_KAMPALA



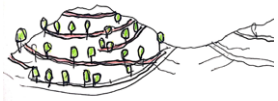
Existing plan



Proposal plan

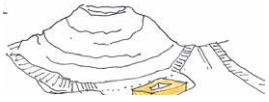
Guidelines for urban development in high built areas

1 - Public open spaces



2 - Concentric roads + trees

3 - Peripheral road + transport hub



4 - Business support center

5 - Front line premises for business films

6 - Commerce + services

7 - Variation in land uses and size of plots

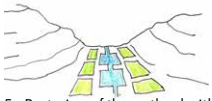
Guidelines for urban development in low built areas

1 - Creating savings groups, settlement level forums for community engagement

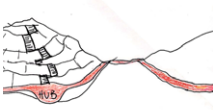
2 - Business support center : formation of firms for employement creation

3 - Setting up housing cooperative

4 - Construction of houses on vacant sites by the cooperative

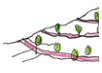


5 - Restoring of the wetland with ponds, water reservoirs and public spaces



6 - Developing peripheral roads

7 - Establishing front line + employments



8 - Planting trees along the roads and hilltops to control erosion

Invest in and harness existing synergies

This section aims to highlight suggestions and actions for implementation in order to provide guidance in how to replicate and disseminate the proposals' best ideas. From the preparation stage to the technical committee and from the discussions with various stakeholders and partners to the Topic Document, the workshop has always strived to emphasize the importance of existing dynamics and initiatives in the Kampala ecosystem as well as the need to invest in and connect them. The Synthesis is the culmination of this effort, bringing together the knowledge and proposals gathered during the workshop to identify 16 synergies to mitigate climate change impacts.

1. Focus on the micro-scale as a reference

EXISTING DYNAMICS: The responsibility to protect the planet starts and ends with the individual, shaped by the decisions and actions one takes every single day. Many communities and institutions act locally on everyday initiatives aimed at consumption and recycling in order to promote available and affordable resources. The pragmatic approach of 'Reuse, Repair and Reinvent' has shaped Kampala's urban space, including the use of yards in even the tightest corners for productive purposes.

HOW TO JOIN FORCES: The micro-level is the best scale to achieve incremental improvements and the best channel for empowering citizens and changing mindsets. The stake of the individual is derived from one's consumption decisions and behaviours. Working on a micro-scale allows for an easier and more effective replication of best practices and the establishment of new rules for distribution-based solutions. It is the optimal scale for experimenting and assessing pilot projects and for achieving quick wins.

2. Disseminate nature-based stormwater management solutions

EXISTING DYNAMICS: The 2002 Drainage Master Plan was updated in 2017, reducing the impact of stormwater in the city. Nevertheless, deforestation, the increase in impervious surfaces and the encroachment on wetlands has reduced water retention and soil infiltration. Concrete stormwater infrastructure worsens the situation by accelerating water run-off and therefore accentuating the risk of flash flooding downstream.

HOW TO JOIN FORCES: Adopt a two-fold strategy targeting both upstream and downstream areas. Improve water retention and soil infiltration upstream through the creation of ponds, flood meadows, rainwater harvesting systems, etc. Slow water run-off through the installation of bioswales and direct it towards the concentric arterial roads rather than allowing it to run directly down the steep streets. Stop erosion through reforestation. Increase accumulation capacity downstream via flood-tolerant open green spaces.

3. Implement preventive actions for natural risk mitigation

EXISTING DYNAMICS: Prevention and mitigation are essential in a changing context like that of Kampala, where rapid urban growth and the effects of climate change are clearly present. The Kampala Climate Change Action Plan takes a holistic approach and shows Kampala's commitment in tackling these challenges.

HOW TO JOIN FORCES: In a country where natural risks and social pressures are significant, the individual responsibility of communities towards their environment is vital in maintaining and developing safe neighbourhoods capable of anticipating and handling unpredictable situations. Therefore, encourage communities to maintain and unblock bioswales, to channel dredging work, to ensure slope stability, to plant trees and helpful species, etc.

4. Regenerate the urban ecosystem to rebalance the city

EXISTING DYNAMICS: Kampala's urban ecosystem is under threat as the historical approach of developing the hills and protecting the valleys is being abandoned. Biodiversity loss, heat island effects and the degradation of the environment pose social, economic and environmental threats to all Kampalans. Organizations such as Shelters and Settlements Alternatives are installing sustainable community toilets in informal districts. Communities are recycling waste into biomass briquettes that emit less pollution than charcoal.

HOW TO JOIN FORCES: Continue improving sanitation conditions, especially in informal settlements with initiatives such as the Nodes' pit latrines. Use bioswales and other nature-based solutions to clean grey and blackwater. Create a network of green spaces that allow for water to naturally flow towards drainage channels in the valleys through multiple small interventions like those around the Nodes. Support recycling activities to improve waste collection. Support NMT and e-mobility. Support clean energy initiatives. Reinvigorate the natural ecosystem and mitigate urban heat island effects through afforestation.

5. Promote and protect urban farming activities for resilience

EXISTING DYNAMICS: Small-scale subsistence urban agriculture is a widespread practice in Kampala that provides additional income to nearly half of the city's households. Backyards, school yards and abandoned spaces are used for this purpose. The KCCA's Kyanja Agriculture Resource Centre and private initiatives such as the Gudie Leisure Farm in Kira are examples of good practices and viable economic models for urban farming, showing how small spaces can be turned into 'gold mines'.

HOW TO JOIN FORCES: Promote urban agriculture and aquaculture in flood-tolerant areas (flood and water meadows). Create urban agriculture hubs (for example, in the Nodes) with rain harvesting systems, crop storage facilities and access to markets. Prevent the occupation of open spaces by converting them into productive spaces for activities such as agriculture.

6. Develop the circular economy as a foundation for restoration

EXISTING DYNAMICS: Many existent and emerging initiatives follow a circular economy approach, from the Resource Recovery and Safe Reuse (RRR) Business Models programme to the various waste-to-energy pilot projects. There are also phone repair shops, the active re-use of car scraps in car yards, waste collection and recycling initiatives, and innovative techniques for organic waste reuse in farming and agriculture. Some specific activities include the conversion of organic waste from KCCA markets into animal feed and fertilizer using black soldier fly larvae by a start-up as well the Coca-Cola and KCCA-supported collection centres for plastic bottle recycling.

HOW TO JOIN FORCES: Scale-up initiatives and transform citizens into active actors in the circular economy through financial incentives, economic support for Savings Groups, etc.; build sustainable business models integrating various actors within the same chain; adapt land tenure and zoning measures to provide more space for these activities including smart logistics. Promote the phytoremediation park by planting species such as cattail, papyrus and duckweed, which offer prime raw materials and by-products for urban furniture, natural food containers, handicraft items and eco-construction materials (roof tiles, wooden and woven straw walls, etc.).

7. Experiment with green and multipurpose infrastructure

EXISTING DYNAMICS: Infrastructural artefacts are part of geographically spread socio-technological configurations and may involve different types of technologies, relationships, capacities and operators, entailing risks and power relationships both formal and informal. This is particularly relevant in Kampala.

HOW TO JOIN FORCES: Pool infrastructure investments and functions into multipurpose solutions that accommodate various functions and utilities into a single intervention and, therefore, allow for savings in space, construction, time and money. Expand, this type of solution as a form of human-centric service delivery in different sectors. Promote multipurpose infrastructure that addresses multiple issues simultaneously such as rainwater accumulation, mobility, heat mitigation, food production, environmental activities, economic activities, (micro-scale) energy storage and production, recreation, and safety and security. Consider infrastructure with multiple technologies as a dynamic system in a continuous process of incremental adaptations over time: construction, assemblage, repair and maintenance. Use football fields as water retention ponds. Promote projects like the Node network, which would provide various activities and services in the same location.

8. Promote a polycentric city and holistic mobility approaches to minimize commutes

EXISTING DYNAMICS: Proximity is the key to alleviating mobility challenges and their footprint on the environment. Land use in Kampala is mostly mixed (especially in informal settlements) and the city has a diverse set of transportation modes that, if strategically organized, can have a major impact. Fifty per cent (50%) of commutes in Kampala are done by foot, mostly along main roads, underutilized railway tracks and across open green spaces.

HOW TO JOIN FORCES: Tackle mobility and spatial planning in an integrated manner, understanding that the main cause of traffic jams is due to the extreme concentration of job opportunities in the central area. Recognize flooding as a contributing factor to mobility issues. Promote mixed and integrated urban planning as well as the implementation of well-structured and integrated transportation systems within every neighbourhood and at different scales. Promote polycentrality in built-up areas by introducing small mixed-use developments or Nodes; plan for mixed-use neighbourhoods on non-developed land; link trunk transport and local transport in each neighbourhood and Node; ensure easy accessibility and connectivity to cultivation zones and fresh produce storage areas; ensure all-weather access to market places on major roads of the distribution network.

9. Integrate all mobility modes together

EXISTING DYNAMICS: Boda-bodas, Ubers and matatu minibuses are important modes of transportation due to the multidimensional socio-material interactions they create. Informal modes of transportation account for most motorized trips in the city and are, therefore, the most common way in which space is navigated and appropriated. Boda-bodas become the only effective mobility option in grid-lock traffic and during strong rains, providing last-mile connectivity. The Pay-As-You-Go model in the energy field is an inspiring concept that could be applied to electric mobility, changing L/100km to Wh/km. An e-bike company is already exploring a partnership with SafeBoda to bring a pilot project with 200 e-motos and five charging stations to Kampala in the near future.

HOW TO JOIN FORCES: Agile, flexible, low-capacity modes of transportation, such as boda-bodas and NMT, offer greater value when trying to efficiently get around the city. Therefore, effective inter-modality is key. Support zero-emission mobility solutions. Integrate boda-bodas and NMT into public transportation networks as feeders to the main corridors and consider providing dedicated lanes for boda-bodas carrying 2 or more people. Consider substituting short BRT trips with NMT in central areas during rush hour to reduce pressure on the transport corridor. Progressively increase safety and security and improve pavements to promote NMT. Promote pilot projects and improve e-mobility access with charging stations, like in the Nodes, and partnerships with SafeBoda and other organizations. Connect the e-Boata Boata network to other modes of transport to ensure its success.

10. Foster community empowerment initiatives and incremental development

EXISTING DYNAMICS: Informal neighbourhoods demonstrate how a network of community actors can overcome not only energy issues but also health and poverty challenges, through such activities as recycling waste materials for the production of biomass energy briquettes or pavers, like the Kasanvu Environment Group is doing in Namuwongo.

HOW TO JOIN FORCES: Community-led mobilizations contribute to the reduction of extreme poverty in Kampala by increasing levels of prosperity at the local level. "We have to start with what we have and in Kampala". Shorten the production–consumption loop, between raw materials and end-users or customers, by dispersing small production units and services within a harmonious urban design; reorganize land use; reshape areas with common spaces to extract, transform, manufacture, store and commercialize production (repair, recycle, farm, etc.).

11. Expand innovative services and business models within communities

EXISTING DYNAMICS: The KCCA promotes various initiatives for environmental preservation that are handled by communities, notably the weyonje (be clean) campaign which was supported by the creation of innovative sanitation facilities in schools. The Ghetto research lab is also experimenting with frugal, innovative ways of building, recycling and farming in Kamwokya.

HOW TO JOIN FORCES: The potential acceptance (or not) of innovation and breakthrough solutions is a sensitive issue and may lead to the collapse of innovative initiatives. To improve community acceptance, changes should be grounded in residents' daily habits and should be incrementally implemented rather than through complete overhauls presented as new solutions, which people may not grasp or understand regardless of how bright or smart they may be. Foster pilot programmes and demonstration projects while also planning for their eventual expansion; conduct shared assessments with communities, academics, and research and development corporations and institutions; build appropriate premises in the city and financing schemes to support and disseminate innovative solutions.

12. Manage the multiplier effect to thwart domino-like effects

EXISTING DYNAMICS: The multiplier effect of a project depends on its replicability and/or its potential to trigger a chain reaction of improvements. There are clear links between economic development, housing, transport and livelihood issues.

HOW TO JOIN FORCES: Stimulate economic empowerment in poorer communities to address the housing crisis. Promote housing construction to create employment, to increase tax collection and to improve health and safety. Support projects with high multiplier effects like the e-Boata Boata water transport system, which has the potential to mitigate road traffic in the Kampala metropolitan area. Promote small and incremental projects that can be easily replicated like the Nodes; encourage projects that may have slower implementation timelines but which have potential for huge impacts like the re-structuring of the hills.

13. Embrace systems thinking and multi-scalar approaches

EXISTING DYNAMICS: Cities are not an aggregation of disconnected elements (i.e., urban spaces vs. nature), but complex and dynamic systems that do not follow administrative and departmental boundaries. Changes in one part of a city have impacts elsewhere, sometimes even outside of the city itself. There are multiple initiatives and projects in Kampala at the individual and organizational level as well as in both the formal and informal sectors that offer immense potential for collaboration.

HOW TO JOIN FORCES: Apply holistic approaches to deal with flooding (addressing both its complex nature and the understanding that the watershed is a system) by developing projects both upstream and downstream and through tangential actions such as strengthening waste collection and recycling. Create platforms for different entities and departments to work collaboratively. Strengthen and integrate informal activities. Keep multi-scalar approaches in mind. Work across administrative boundaries when needed.

14. Support vulnerable groups and ensure gender equity

EXISTING DYNAMICS: Unreliable and unaffordable transportation limits the ability of lower–middle and low income groups to access critical livelihood opportunities. As a result, many often rely on the cultivation of domestic crops, for which they face uncertain outcomes and the risk of poor preservation. Education levels and employment rates are much lower among women than men; with the former, particularly those belonging to lower–middle and low income groups, also being more vulnerable to crime. Nevertheless, women play a leading role in urban farming and recycling activities (e.g., the Uganda Women Entrepreneurship programme-supported production of biomass energy briquettes). Projects such as the Youth Livelihood programme and the Kabalagala Youth Centre also serve as examples of how to implement actions at the ground level.

HOW TO JOIN FORCES: Support neighbourhood empowerment through micro-scale projects such as recycling, farming, trading and manufacturing. Promote programmes such as the Economic Transformation Model project, which could provide training, capacity building and dedicated spaces in neighbourhoods for business development. Promote gender parity through education and trade skill development; increase ownership of land by women; increase access to financial resources and employment in non-agriculture sectors for women; expand services dedicated to specific groups such as female-driven boda-bodas (i.e., specific services at certain times of the day); improve access to water and sanitation in order to reduce the time spent by women and children fetching water; promote green industries as a driver for gender parity.

15. Strengthen identity and attractiveness

EXISTING DYNAMICS: Kampala is a garden city of hills, a lake, green spaces and flora and fauna; a cultural city full of untapped tourism potential with its legacy of remarkable architecture, multiple cultures and religions, arts and more; and a vibrant city of social and entrepreneurial citizens. With so many assets on which to build upon, Kampala has the opportunity to create its own unique identity as a green, culturally rich, socially dynamic city tied together by a 'resilient modernity'.

HOW TO JOIN FORCES: Align all projects and initiatives strategically to the city's identity. Highlight the vibrancy of Kampala which is today expressed through the widespread presence of boda-bodas, carpenters' yards, briquette production premises, car yards, etc.; recognize boda-bodas as an iconic symbol and legacy of Kampala. Promote events such as the Victoria Festival to popularize local products, know-how and arts, to build greater links between diverse communities and to promote attractivity from the lake to the hilltops. Employ the arts to express and convey the identity of Kampala (e.g., transform parts of the city into trendy, artistic centres) and to create awareness both domestically and globally.

16. Structure the implementation and funding process

EXISTING DYNAMICS: The focus area involves numerous initiatives led by various actors, including Savings Groups, NGOs and others. Currently, there is lacking coordination between these groups and projects although many may have compatible objectives. The big challenge is to depart from the habitual silo approach of doing things and to bring on-going actions and actors together.

HOW TO JOIN FORCES: Identify and continue to work with existing actors for the implementation of projects both independently and through PPPs. Measure potential impacts and costs to make informed decisions. Include and provide management skill training as a prerequisite for community groups to access public funds. Support intermediary programmes that connect community Savings Groups with existing sources of funding in order to assist small-scale businesses in developing into SMEs which can employ others.

Testimony

Julien CHIAPPONE-LUCCHESI
Commissioner for European and International Affairs
Diplomatic Adviser to the Mayor of Strasbourg

It's a figure now known: according to the United Nations, 65% of its Sustainable Development Goals cannot be achieved without serious mobilization by local governments. In a world where the urban reality is constantly asserting itself, the next two decades will be crucial for planning a sustainable urban future. This is all the more true on the African continent, where the population living in cities could triple or quadruple by 2050.

It is with this global dynamic in mind that Strasbourg, a major city with an international vocation, is reflecting on ways to contribute, from its own sphere, to the implementation of SDGs through a combination of decentralized cooperation and local urban development. Moreover, Strasbourg has invested itself in the strengthening of ties between France and Africa (Africa-France Summit). While areas of intervention for decentralized cooperation are still strongly influenced by historical links, it is why Uganda emerged as a shifting geography open to a fresh perspective.

It is therefore in this context that Strasbourg and Kampala (KCCA) decided to engage in the co-development of an ambitious first project, with the cooperation of the AFD and the technical support of the Réseau Régional Multi-Acteurs du Grand-Est (GESCOD) and the Strasbourg Urban Planning Agency (ADEUS).

The strategic approach we adopted was to work proactively together to create an assessment, objectives and a "partnership structure". The method involved defining a working relationship first at the political level, comprised of direct contacts, followed by a mutual and careful identification of the fields of cooperation in which to prioritize and invest.

The project is therefore built around three major priorities: development of better-structured, quality urban agriculture; the preservation and densification of green spaces; and the reinforcement of the extracurricular offer to encourage the emergence of a learning environment that is better equipped to deal with the rapidly changing development issues.

These themes of course echo the work carried out by the professionals of Les Ateliers de Cergy, who, through their thorough examination of the urban issues in Kampala, have provided us with immeasurable insights right from the start, accompanied by a well-documented international vision.

At a time when the cooperation between one territory and another must seek above all – even at the risk of failure – to play the role of an integrating body for local actors, Les Ateliers de Cergy serves as an invaluable gateway to an ecosystem of actors, whose actions our project will come to complement.

As a member of the jury for the "Green and Innovative Kampala" workshop held in Uganda at the end of 2019, I had the chance to come into contact with some of the people who make up this ecosystem and to be directly immersed in a multitude of local issues, to which the projects presented to us brought creative solutions and inspired constructive debates. The density of the subjects combined with the proven method of Les Ateliers and the diversity of everyone's perspectives are, in my opinion, a guarantee of "cross-fertilization". In the end, Les Ateliers acts as a "particle accelerator", whose usefulness can be applied to the many different stages of cooperation.

And indeed, Strasbourg and Kampala aspire to create a long-term commitment whose horizon is not fixed: a relationship of trust that we hope will last and be enriched as our cooperation deepens, a true instrument of mutual learning capable of strengthening the internationalization of our territories.

As such, this is the beginning of a real collective adventure. It can also be seen as a contribution to the strengthening of a multilateral partnership, anchored in the territories and based on what is commonly known as multi-track diplomacy.

Lastly, the challenge is also to nourish, within our own scale, Franco-African reflections on new models of sustainable development and the innovative and replicable know-how associated with them.

Swim or die, 2015
By Samson Xenson Ssenkaaba

Cross-cutting paths for implementing incremental change based on frugal innovation and cost savings

NATURE-BASED AND PASSIVE SOLUTIONS TO PREVENT FLOODING

REGENERATION OF URBAN ECOSYSTEMS

CIRCULAR ECONOMY AND CLOSED-LOOP SYSTEMS

GREEN AND MULTIPURPOSE INFRASTRUCTURE

The Context Document presented numerous major challenges to be tackled by the teams. Fortunately, all of the teams were able to see these challenges as part of a larger scheme. Each developed an ecosystemic approach to address many of the concerns, often proposing actions targeting multiple challenges at once.

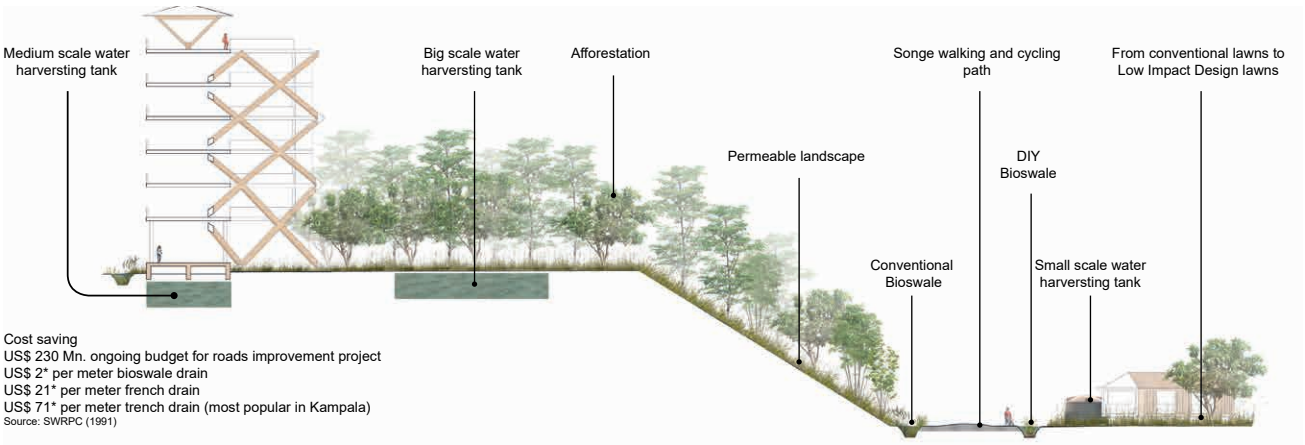
This section of the Synthesis dissects the three projects, highlighting how each proposes to tackle the major issues facing Kampala's sustainable development.

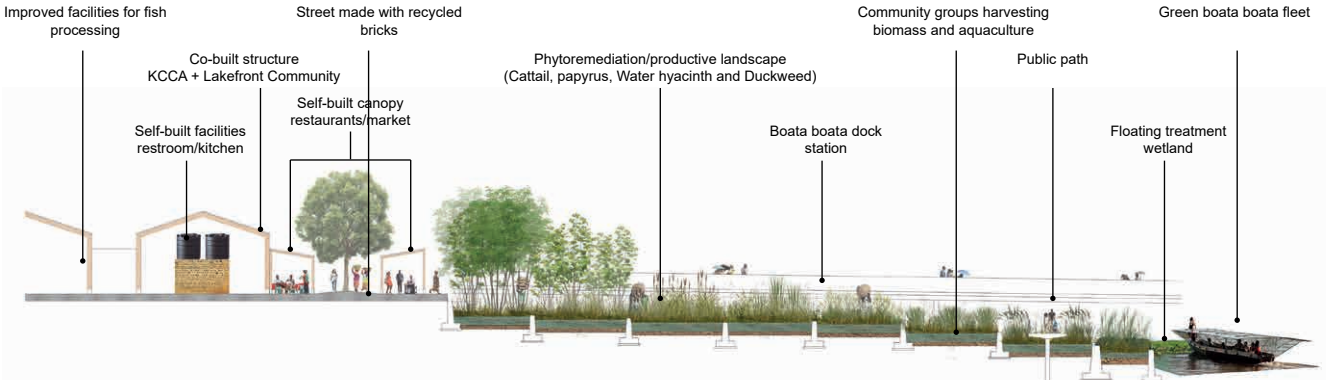
Obviously many of the challenges and issues facing Kampala are closely linked, if not interconnected. These cross-cutting themes were essential components of the proposals, and the teams' responses to them offer an immense potential for regenerating the city and making Kampala more resilient as it faces the effects of climate change. Furthermore, since the proposals drew heavily on existing assets, they offer the opportunity for significant results without having to rely on disruptive measures or dramatic breakthroughs. This translates into smoother transitions towards improved daily habits and the benefit of a potential heightened awareness and sense of empowerment for the city's residents.

NATURE-BASED AND PASSIVE SOLUTIONS TO PREVENT FLOODING

In the past, wetland valleys in low-lying areas were left as open spaces for agriculture and grazing pastures, which acted as barriers against pests, mosquitoes and reptiles. Hills were also much greener and had many more trees than today. With the disappearance of these green elements, the number of natural disasters in Kampala has drastically increased.

All of the teams embraced the idea of considering nature – especially water – as ultra-powerful and unmasterable. Different approaches to nature, and the wetlands in particular, were suggested in the various proposals. The wetlands are a system that links Kampala's hinterlands with Lake Victoria, providing a natural filtering system and ensuring the region's biodiversity. Their role in preserving flora and fauna allows for numerous human activities such as fishing.

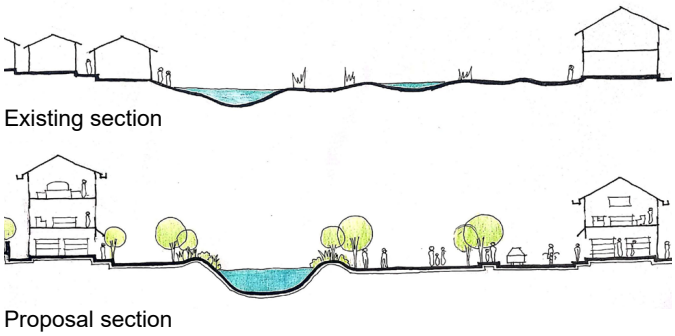




Interventions for hilltops and lakefront

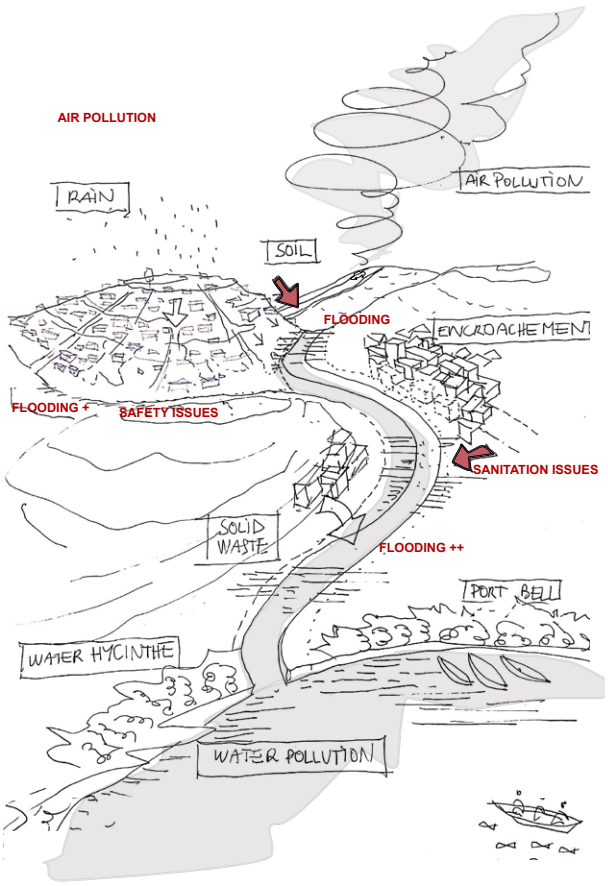
Team A

The proposals included dedicated facilities for harvesting, storing and filtering water as well as those for sanitation that would follow a three-layer approach consisting of hilltops, valleys and the lakefront. The strategies for the hilltops aimed to mitigate flood risks through the creation of upstream facilities that would slow down and reduce water run-off via rainwater harvesting systems, urban restructuring with concentric trunk roads, reforestation (to prevent erosion) and green spaces to help facilitate natural soil filtration. In the valleys, the main strategy was to increase retention capacities in specific locations. Retention ponds, sponge paths and basins were proposed as means to allow for water accumulation in the event of heavy rainfall, but which could have other uses when dry. Conventional and DIY bioswales were suggested for both the hills and valleys to filter and clean water on its way down to Lake Victoria. Downstream, at the lake, the proposal was to create a phytoremediation park along its shores.



On Bugolobi hill, natural solutions to prevent floods and improve the liveability
Team C

A square designed for a hilltop, playing with water and green spaces.
Team A



"An ecosystem in danger"
Team C

Bio-Swales
Flow control,
Infiltration,
Filtration

Water Parks
Detention,
Infiltration,
recreation,
economic activity

Water Harvesting
Retention

Permeable Surfaces
Infiltration

Natural Remediation Buffer
Treatment,
Recreation,
Economic activity

Some of the tools used by the team A
Team A

REGENERATION OF URBAN ECOSYSTEMS

Rapid urbanization, land pressure and an extreme centralization of jobs has forced many urban dwellers to take up residence in informal settlements built over the wetlands. Besides increasing the risk of flooding, the poor sanitation and solid waste collection infrastructure – or the lack thereof – in informal settlements puts the wetlands and downstream bodies of water at even greater risk of pollution. This has consequences such as the exponential growth of water hyacinth, which impacts both fish stocks and water transport on Lake Victoria. Today, only 8% of Kampala's original wetlands remain functional – the soil and water are increasingly polluted and biodiversity in Lake Victoria is under threat. Nature-based solutions do not only mitigate the risk of flooding but they also clean and restore natural ecosystems (water, soil, flora and fauna).

The Nodes, which include pit latrines as part of their basic modular unit, could help to improve sanitation conditions in informal settlements, thereby alleviating the risk of water and soil pollution. The Nodes network could also contribute to the reduction of Greenhouse Gas (GHG) emissions by promoting Non-Motorized Transport (NMT) routes such as walking and cycling paths and by creating links to public transportation. In this way, the project taps into existing practices, while also seeking to adapt to the new weather conditions affecting Kampalans.

Economic development initiatives are another means of generating urban renewal by reshaping the work-home dynamic and creating better relationships between natural assets and the urban pattern. This idea was pursued through the proposed establishment of Housing Cooperatives and Savings Groups, the development of training programmes and the creation of physical spaces in the Nodes and business hubs to provide Kampala's residents with market opportunities.

« Urban ecosystem restored »
Team C

FOOD SECURITY

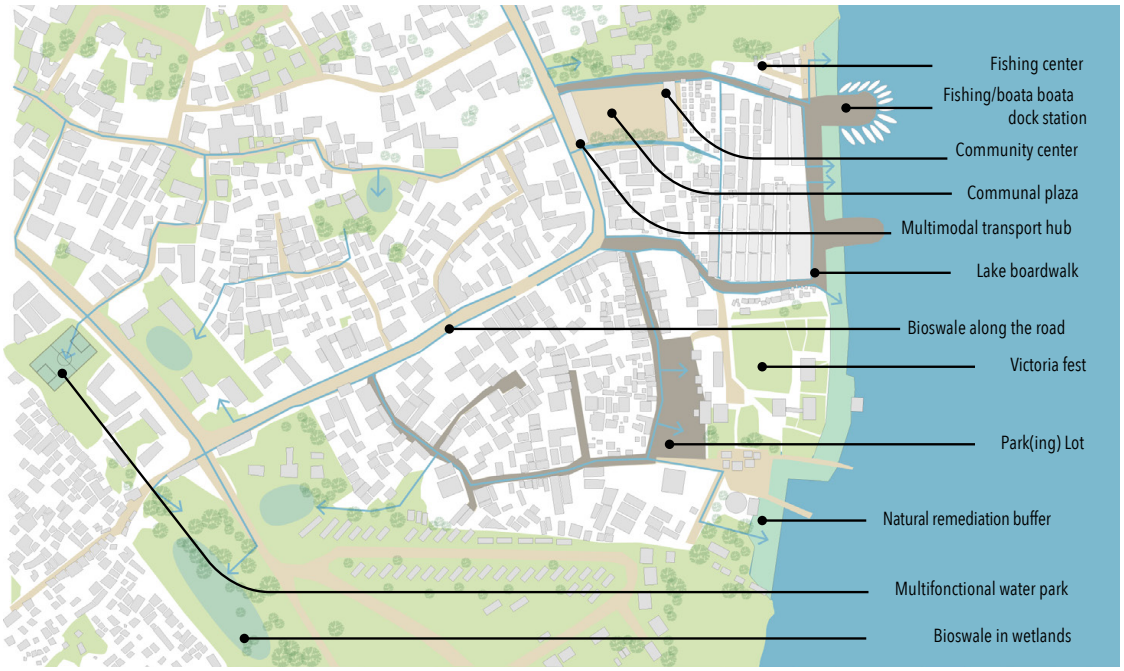
Urban agriculture in interstitial spaces has become a widespread and active reality in Kampala. It mainly takes the form of individual subsistence farming, providing additional income to nearly half of the city's households. Due to land scarcity, urban agriculture is most often practiced in very small, narrow and limited spaces in the city such as backyards, abandoned areas, schools yards, etc. This practice was integrated into the teams' proposals.

For instance, around the Nodes, available open land would be dedicated to urban farming and would benefit from each unit's composting and rain harvesting systems, storage facilities, and market and business development activities. As such, Nodes would be small urban agricultural hubs boasting the added advantage that their green spaces could act as water or flood meadows during heavy rainfall. Similarly, the creation of green areas capable of accepting flooding, such as ponds and parks, were proposed for the valleys. These spaces would also be used to accommodate urban agriculture and aquaculture.

On the lakefront, the proposed natural phytoremediation park could accommodate improved facilities for fish processing as well as aquaculture ponds, therefore providing a space to anchor hese activities during the process of urban renewal. Moreover, a larger fish processing facility than the current one was proposed as part of an activity cluster including aquaculture, fishing, drying and canning.

Using the spaces along the Lubigi channel for food production

Team B



The lakefront has a huge potential for the metropolitan food security

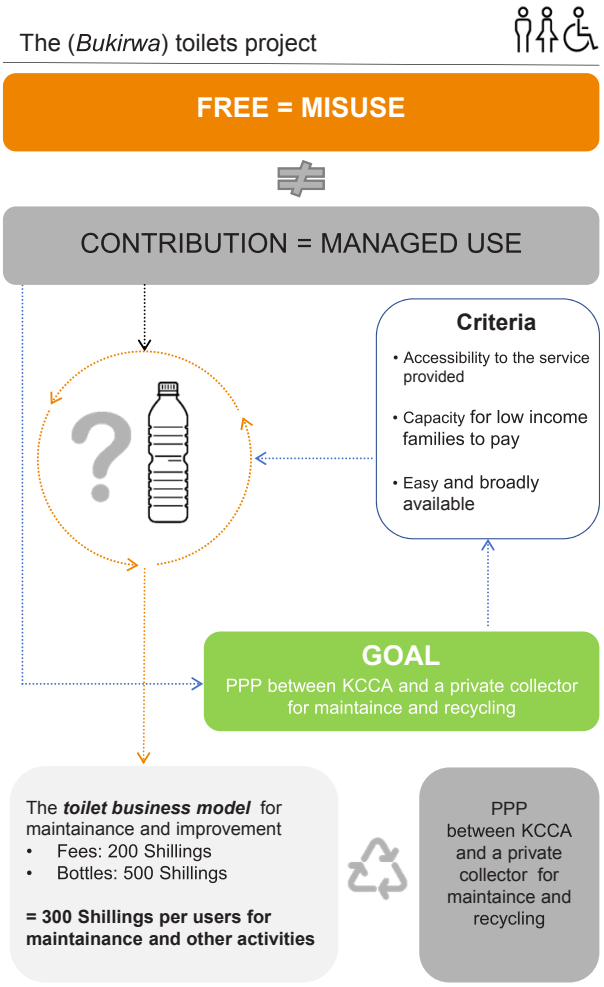
Team A

CIRCULAR ECONOMY AND CLOSED-LOOP SYSTEMS

Waste management is a major challenge. It is estimated that each inhabitant in Kampala generates one kilogram of garbage per day and about 80% of it is never collected. Luckily, many Ugandans have embraced the philosophy of considering waste as a resource and the culture of 'Repair, Reuse and Reinvent' is deeply rooted in the habits of Kampalans. Of the many innovative initiatives, some of the most widespread are the production of biomass energy briquettes made from organic waste and pavers from recycled plastic. The teams leaned on these and other initiatives to propose strategies for scaling-up and developing a significant local market for practices that incorporate sustainability and the circular economy.

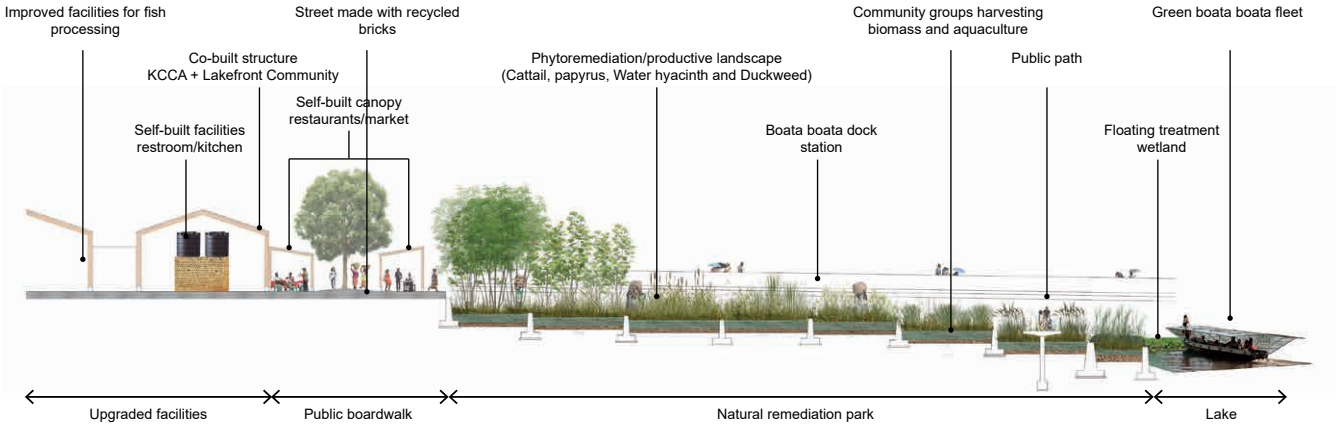
The idea of paying to use public toilets with used plastic bottles tests the criteria for expanding circular economy-based green business models. Plastic bottles that users pay with to use the toilets are sold to a Private–Public Partnership (PPP) between the KCCA and a private collector for maintenance and recycling. This protocol is already operating at the Kisaasi Primary School, where pupils bring plastic bottles in exchange for money.

Other proposed projects along these lines include the creation of a communal waste sorting and recycling facility as part of upgraded informal settlements and the use of bricks and pavers made from recycled plastic for the construction of sidewalks and other public infrastructure. By-products from cattail, papyrus, water hyacinth and duckweed in the proposed phytoremediation park could also be used to build urban furniture, natural food containers, handcrafts and eco-construction materials (roof tiles, wooden and woven straw walls, etc.). Additionally, the placement of the fish market next to the fisheries would also promote the circular economy model by closing the production-consumption loop.



A maintenance system for management; recycling in exchange for use of toilets.

The toilets project
Team B



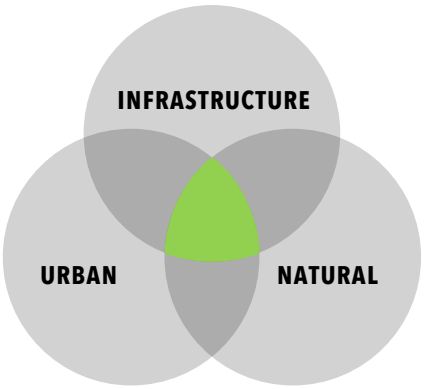
The proposed plan along the lake takes advantage of the local ecosystem.
Team A

GREEN AND MULTIPURPOSE INFRASTRUCTURE

The workshop was an opportunity to integrate and test the concept of Heterogeneous Infrastructure Configurations (HICs) – a concept notably developed at Makerere University – which considers infrastructure more as a social production of service delivery than a technical response. In the same spirit, Les Ateliers encouraged the teams to think about multifunctional infrastructure in a flexible and user-centric way.

Nodes are in a sense multifunctional spaces capable of integrating responses to three major challenges: flooding, informality and mobility. In addition to their basic initial unit are a number of other possible modules which can be added later. Intended for a variety of purposes and activities, these units include: a large toilet block, a police post, an electric Boda (e-Boda) charging station, water storage, a market place, food storage, post boxes, etc. The open green space around them would be used for urban agriculture, but also act as a flood meadow in the event of heavy rainfall. The pedestrian paths were also designed to behave as 'green sponges' that could direct and absorb water run-off.

Such nature-based solutions are intended to be integrated into the existing and future grey infrastructure. Other examples include lowering the ground level of existing sports fields and some public spaces so that they can also serve as retention ponds and basins. Furthermore, the creation of ponds and recreational facilities would offer added social and economic value to the area's wetlands.



Team B

Open green spaces allow urban agriculture near the location of the Nodes.

Team B

The wetland can have multiple uses while preserving its natural assets.

Team A

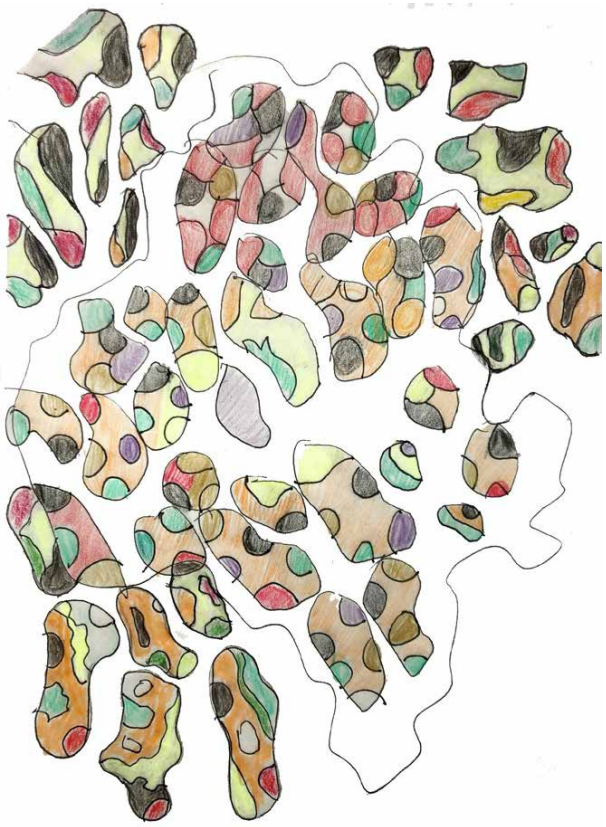
POLYCENTRALITY AND IMPROVED MOBILITY

Traffic jams and mobility challenges are often cited as the main concerns for most Kampalans. Three strategies were developed by the teams to address these issues: improve the provision of local services and amenities to reduce the number of commutes; create multimodal transportation hubs and improve NMT; and introduce water transport.

Mixed-land-use planning reduces the number of commutes. Moreover, the proposal to introduce mixed-use planning on every hill and to connect the hills through a network of peripheral arterial roads running through the valleys would not only reduce the number of commutes but it would also address the challenges posed by the city's complex topography. This way, traffic would be mostly contained on the main arterial roads, thus reducing the need to traverse other neighbourhoods to move across the city. This same idea of polycentrality applies to the Nodes, which would bring jobs, amenities and services closer to where people live and therefore minimize the number of daily commutes.

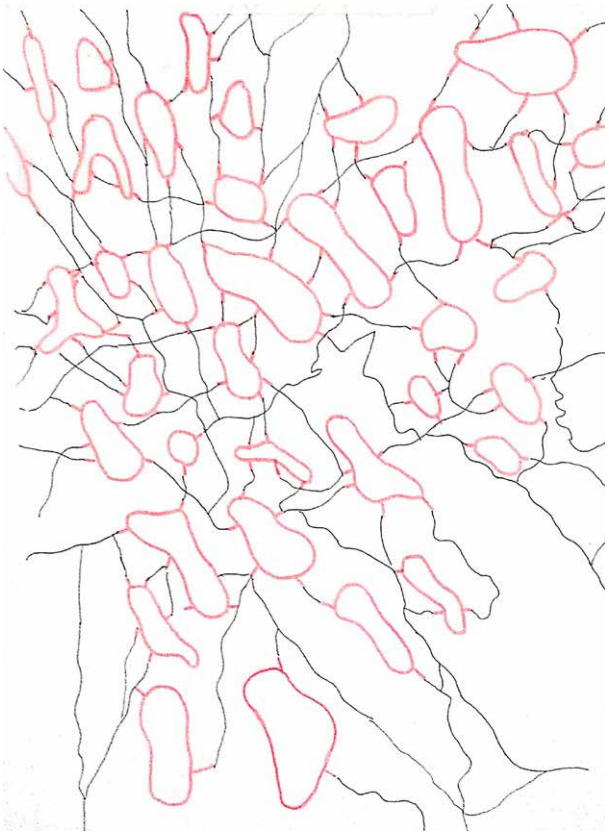
Multimodal transport hubs at the bottom of every hill along the peripheral arterial roads and as part of the Nodes were proposed for those who would still need to leave their neighbourhoods. One of the criteria for identifying the placement of Nodes is indeed the proximity to BRT trunk spines, bus and taxi routes, and main pedestrian corridors. With regards to the latter, Nodes would serve to enhance inter-modality by acting as anchor points for a network of NMT paths along the wetlands. While these NMT routes would not formally be part of the Nodes, the role of the 'clock tower' in the basic initial unit to act as a visual landmark would increase the visibility of each Node and thereby reinforce the use of NMT. In turn, this could ultimately lead Nodes to become larger transportation hubs. Furthermore, Nodes could serve as central points in an extensive network of solar-powered charging stations for electric motorcycle taxis (e-Bodas).

On a larger scale, electric boats on the lake are used to connect different neighbourhoods and neighbouring cities that are difficult to reach by road. By expanding the network of electric boats, called boata-boatas, traffic congestion in Kampala could be reduced and better accessibility and connections between cities bordering Lake Victoria could be provided. Multimodal transport stations along the lakefront could support the boata-boatas while also providing opportunities for business, leisure, trade and tourism as well as reconnect Kampala with the lake.



The hills are a great scale to plan polycentrality with the natural assets. Landuse – mixed use at neighborhood level

Team C



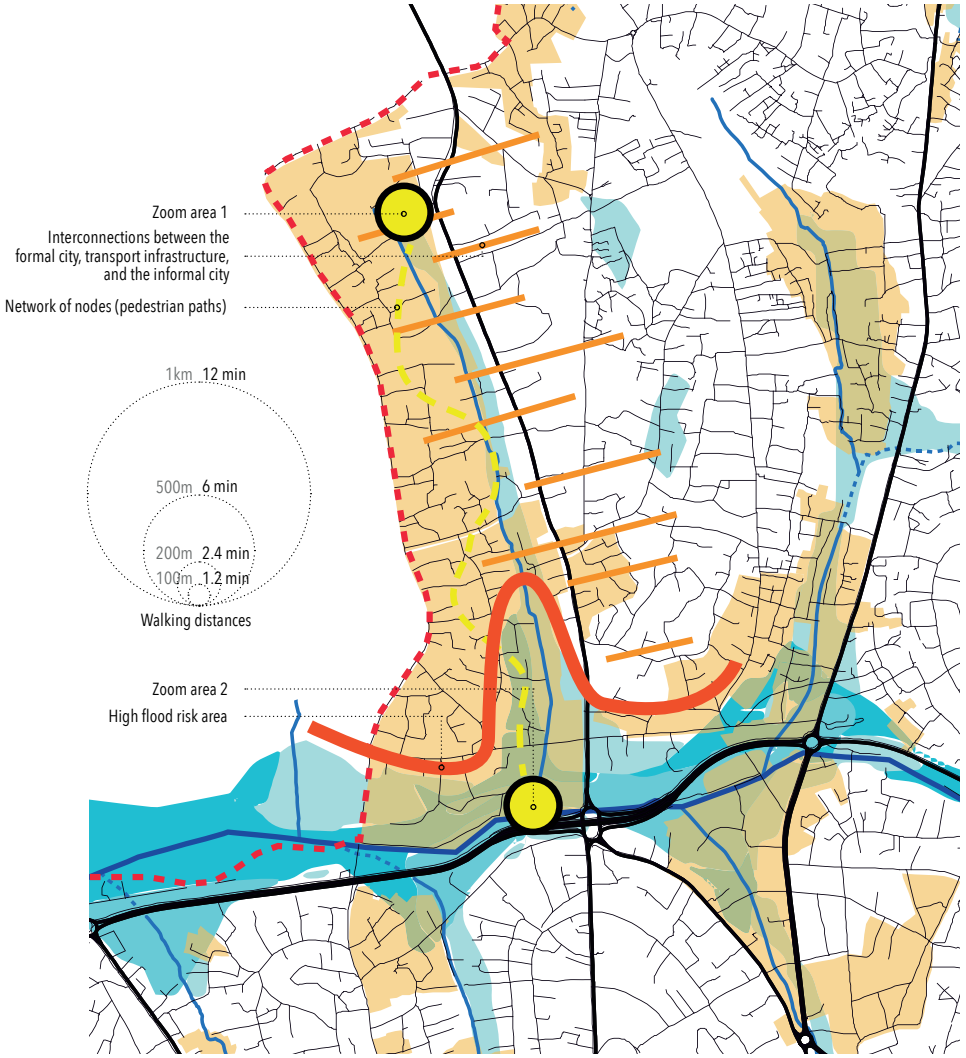
Roads – Reorganization of Mobility

Team C

Implementation of nodes is related to the access with transport infrastructure and quality non-motorized linkages.
Team B

"The choice for the project location within the community is based on the following, replicable principles :
– Availability of land within a densily built informal settlement;
– Convergence of points of natural water bodies and/or runoff and drainage;
– A locus forming part of a network of pathways promoting NMT, and nearby a point with easy access to transportation.

In the Bwaise area, Lubigi Wetland is intersected by two parallel north-south elements, namely the canal and the Kampala Gulu Highway (becoming Kampala Masindi and Bombo Road further south). This road is of importance as it is one of the proposed Bus Rapid Transit (BRT)"



The lakefront becomes part of the mobility system with the "boata-boatas".
Team A

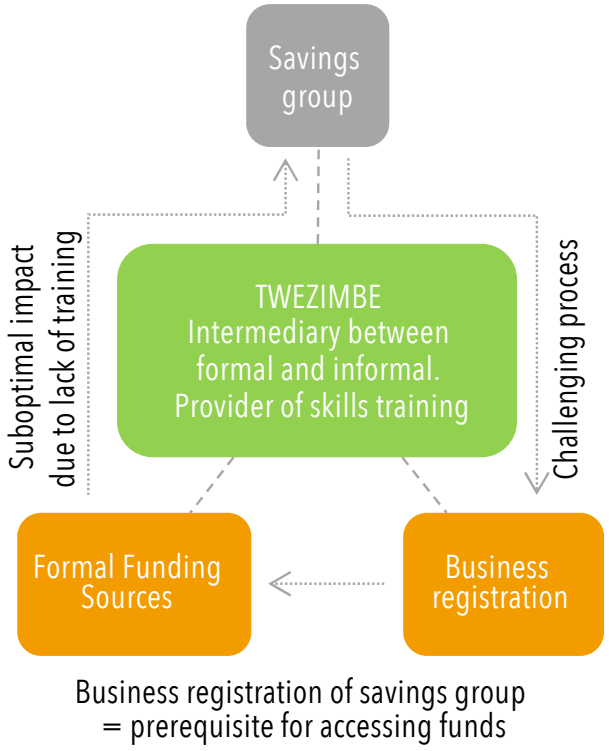
COMMUNITIES AND BOTTOM-UP INITIATIVES

Kampala is today a survival city. Its rapid population growth is placing tremendous pressure on the city's capacity to provide jobs, infrastructure and basic services such as housing, transportation, water, waste collection and sanitation. The involvement of all stakeholders is vital, from top-down commitments to bottom-up initiatives. Communities have a significant role to play at the neighbourhood level when it comes to awareness creation, maintenance and the promotion of green economic activities that follow sustainable business models.

The teams identified the Savings Groups as a support structure which could foster a culture of collaboration and partnership among stakeholders, while also serving as a source of awareness creation and capacity building. Savings Groups, and communities more broadly, would be supported by the creation of community spaces in the Nodes, where community organizations could present, promote and implement their projects as well as tap into possibilities for innovation already present in informal settlements. The Twezimbe Programme was also introduced as a compulsory business management training for Savings Groups to access existing funding sources for developing SMEs which could employ others.

Fostering green economic activities through the creation of spaces for community groups to support biomass and aquaculture initiatives, communal waste sorting and recycling, and the development of 'wetland champion' spaces and events could also contribute to the promotion of the environment and its value.

The proposed projects relied heavily on communities to practice self-construction. For instance, the proposed upgrade to the fish market would start with a co-built structure by the KCCA and lakefront community, followed by self-built facilities such as a canopy, restaurants and market.



Existing impediments (arrow) and positioning of Twezimbeas intermediary between actors

Team B

The NGO Gloneva with the communities of Namuwongo under the covid epidemic

Images from Gloneva

The Jury

The jury has gathered assembly of local authorities, elected representatives from East Africa – including the Lord Mayors of Dar Es Salaam and Dodoma (Tanzania) and the Nakuru Governor of Kenya – invited international experts and decentralized cooperation actors.

Serving much like a complementary team, the jury assimilated, analyzed and adapted the ideas and actions proposed by the three teams to further advance the work laid forth. In doing so, they also brought their own vision of Kampala to the table.

The jury members recognized the innovative character of the proposals, as well as the possibility to easily implement them. The jury day was also welcoming the preliminary event of the Africa-France Summit for sustainable cities and territories, with the help of the French Embassy and the Regional Economic Service of the French Government.

"The workshop created a lot of ideas to think about. Planning something new is easier than changing something existing; affecting people, communities to become the drivers of change. The discussions have enriched Kampala City".

ENG. ANDREW KITAKA, KCCA
EXECUTIVE DIRECTOR

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The jury members working on the teams projects

Conclusion

The Kampala workshop benefited from a unique situation in which it was able to serve as a major milestone in the larger cooperation and exchange already launched by the French Government. It was therefore also an excellent opportunity for Les Ateliers to demonstrate its methods of interaction, engagement and innovation in tackling urban development issues as well as a chance to share the extensive knowledge and experience the association has accumulated over the years.

› The workshop implementation process was inspired by the current AFD-supported cooperation between the KCCA and Grand Est Solidarités & Coopérations pour le Développement (GESCOD). A major event, held in April 2019 at the European Parliament, brought together KCCA decision-makers and numerous experts to discuss the topic of "In Africa and in France, building sustainable and inclusive cities of tomorrow, together".

› In addition, Les Ateliers presented the conclusions drawn from the Kampala workshop at the World Urban Forum (WUF) in Abu Dhabi. The Lord Mayor of Kampala attended the session organized by the Partenariat Français pour la Ville et les Territoires (PFVT).

› Discussion and exchanges are on-going with AFD Uganda and AFD Headquarters regarding transport issues.

› The Africa-France Summit for Sustainable Cities in Bordeaux will be an occasion to deliver key messages concerning urban regeneration based on the case of Kampala.

In the long term, KCCA's ability to leverage ongoing synergies will only further help Kampala increase its visibility and attractiveness. By continuing current actions and engaging in events on the subject, the workshop's full title – Green and Innovative Kampala: Generate Synergies and Join Forces for an Urban Transition to Face Climate Change – can fully come to fruition.

Ak'omuntammu, 2016
By Samson Xenson Ssenkaaba

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FEEDING
HARVESTING


RAZAKA
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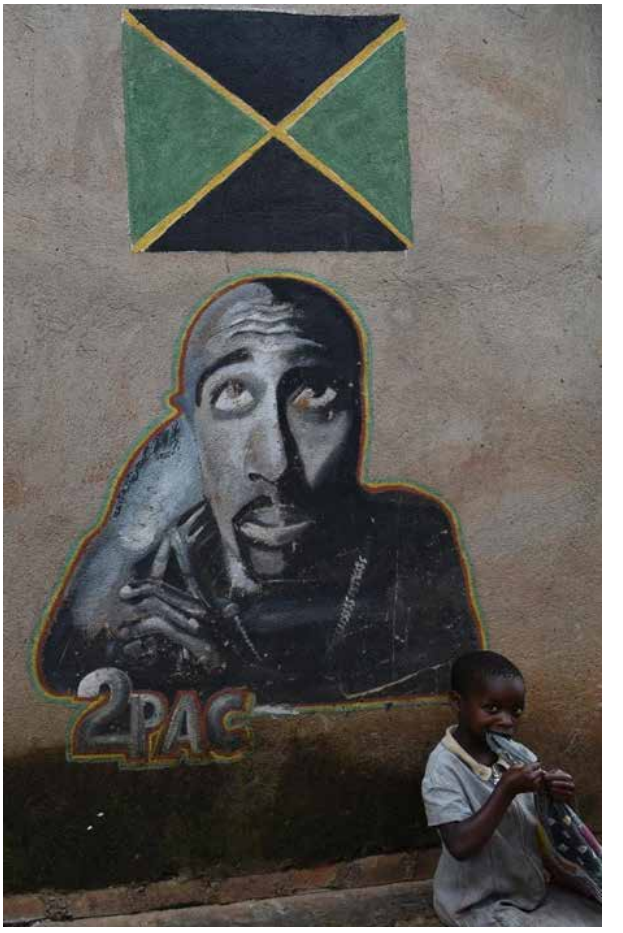
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PARADIGM SHIFT
TO LEVERAGE


HAVE
NEED

Kampala 2019
Workshop
Synthesis

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