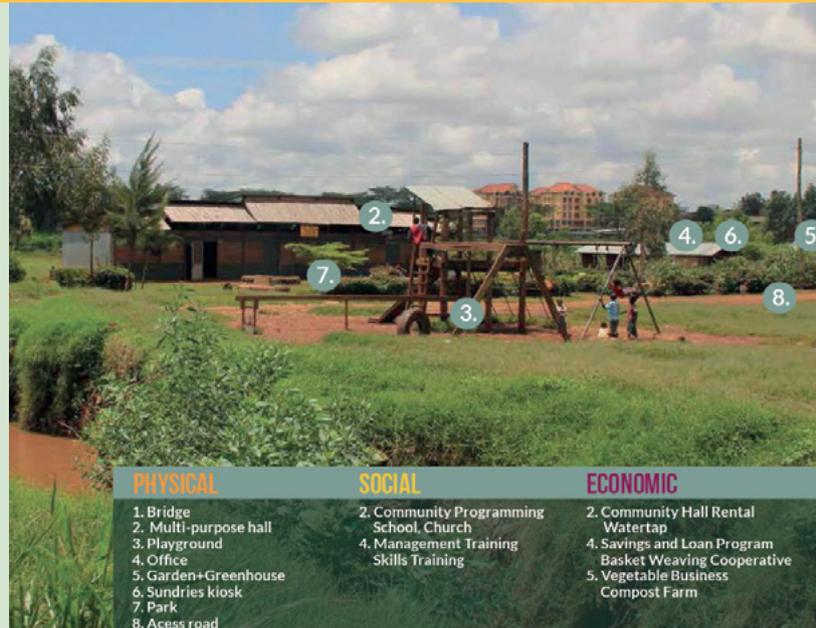


Delving into the Cityscape: Transforming the connections between urban environments, social factors, and public health in Nairobi, Kenya



PHYSICAL

1. Bridge
2. Multi-purpose hall
3. Playground
4. Office
5. Garden+Greenhouse
6. Sundries kiosk
7. Park
8. Access road

SOCIAL

2. Community Programming School, Church
4. Management Training Skills Training

ECONOMIC

2. Community Hall Rental Watertap
4. Savings and Loan Program Basket Weaving Cooperative
5. Vegetable Business Compost Farm

The photo on the left shows the land adjacent to Nairobi Dams. KDI, 2010
 On the right, the photo shows the transformation of this same community public space in community-operated spaces that generated incomes and address health risks, water and sanitation needs, KDI, 2010

- Dump sites in Nairobi have become a breeding ground for life-threatening health risks and diseases, like malaria, cholera and typhoid.
- In the New Nairobi Dam Community, this hazardous environment was converted into a healthy and productive space through localized engineering, planning and design solutions.
- Green space, composting toilets, and small farms are bringing health and environmental benefits to the community.
- Collaborative community efforts can create sustainable solutions and generate income.

Accumulating risks in Kibera's urban ecosystem

Kibera, an informal settlement in Nairobi, Kenya, is densely populated and home to approximately 250 000 people. The settlement is situated alongside Ngong River, running along its southern edge. In the past, residents collected water from the [Nairobi Dam](#), which is fed by the Ngong River. The dam water became hazardous for consumption due to pollutants accumulated during the course of the river, spreading diseases such as malaria, typhoid and cholera, and illnesses caused by chemical effluents pumped into the river from industries. The dam has become a breeding ground for mosquitoes and a dumping site, exacerbating disease outbreaks and flooding. Addressing these challenges makes a clean and green environment essential. Together with New Nairobi Dam Community (NNDC) Kounkuey Design Initiative (KDI) built the first public space dedicated to achieving this.



Aerial view of Kibera. A Oranga, 2023

"As a member of our community, we grew weary of the challenges posed by the pollution in our surroundings. The rainy season transformed our area into a swampy, impassable mess, leading people to use it as a dumping ground for anything they deemed unfit elsewhere. Consequently, this hazardous environment began to take a toll on the health of our community, especially the children. Motivated by a common purpose, we united and resolved to take action, transforming this place into a habitable environment for all."

Pamela Olesia, NNDC member A Oranga, 2023



Empowering the community through participatory visioning and co-design

Step 1: Assessment, communication, organising and prioritising

In 2006, KDI started working with the New Nairobi Dam Community, a group of residents living around the dam fed by the Ngong river, with the aim of remediating the unsafe and polluted area and the health risks posed for the community.

In 2006 KDI conducted a series of workshops with community members and the local administration. Through these workshops, the community identified their challenges, including flooding, poor sanitation and poor health from the pollution and contamination of their environment. The community's understanding of the relationship they had with the river and the dam in their area was crucial in shaping their priorities. Flood protection, improved sanitation, and a clean ecosystem were their top priorities. The community's participation played a vital role in the remediation process.



Left: Community voices shaping priorities on flood protection, sanitation, and clean ecosystems, KDI, 2006
Right: Community clean-up efforts paving the way for collaborative solutions. KDI, 2006

Step 2: Planning and design that responds to community needs and stakeholder views

Through a series of workshops, participatory planning, and design sessions, the residents actively identified solutions to the pressing issues they had raised. The workshops and focus groups provided a platform for residents to express their priorities, including flood protection, improved sanitation, opportunities for youth, and income generation.

Their inputs were carefully synthesized to design a comprehensive and integrated response that addressed multiple community needs. Collaborating with KDI, the residents gradually transformed their ideas into a consensus design that not only fulfilled their social aspirations, but also promoted ecological and health benefits. Recognizing the importance of long-term sustainability, the residents established NNDC as the entity responsible to manage site operations and maintenance.

"As a member of the community, I was involved in co-designing and planning our project from the start. We were the planners and designers, and KDI provided technical support to bring our vision to life. Through this process, I realized that no one is limited and that we all have a role to play in changing our communities"

Constant Nyongesa, NNDC Member, 2006



Left: Community members collectively building the Multipurpose Hall. KDI, 2008
Right: Transforming Lives: NNDC unites to build a sanitation block, KDI, 2013

Step 3: Implementation

Planting, landscaping-driven engineering, solid waste management activities carried out from 2006 to date and improved sanitation services were coupled with community-led site operations and maintenance. The activities changes polluted unhealthy conditions into green, clean environments and improved health for community members living near the river and dam.

The involvement of residents in both project design and implementation ensured that interventions were aligned to the community's vision and long-term commitment. In a community-led approach, the Kibera Public Project Space 01 established NNDC as a leader in environmental remediation and community development efforts in Kibera.

Appreciation of the approach has led to the expansion of the 'Kibera Public Spaces Projects' as a partnership between NNDC and KDI, emphasizing the relationship between the river, the people, and the ecosystem in Kibera.



Left: A carefree child embraces a clean, flood-free environment at Kibera Public Space Daycare, during the rainy season. A Oranga, 2023
 Right: Harvesting health in greenhouse-grown, toxin-free vegetables, A Oranga, 2023

Step 4: Building partnerships for small wins and long term change

The NNDC group's further implementation stages between 2006 and 2023 involved partnering with other organizations to serve the wider community. Beyond the environment and health infrastructure improvements made since 2006, the interventions have opened childcare services, partnered with a sports outreach program to offer a feeding program for a neighbouring school, and set up a greenhouse provided by the Ministry of Agriculture to urban agriculture.

The site generates collective community income, providing resources to pay for health services and other social needs. Some group members left due to their expectation of quick returns. The group has a constitution to guide members and encourage patience to sustain activities to reach goals that may also take time, taking steps that produce smaller changes along the way. As the Kiswahili saying goes 'Haba na Haba hujaza kibaba' meaning the path to success is paved with small wins. The group continues to grow and build partnerships for continuity and sustainability.

The pathway for change and its impact

The community initiative has transformed the local area into a safe and habitable space, with a sanitation block, public park, farm, green house, drainage channels, and a multipurpose hall.

The facilities have significantly improved the health of community and reduced environmental pollution. They now have access to safe water, sanitation, and vegetables. Flooding during the rainy season has been prevented by channeling water to the river. Everyone in the area can access the facilities equitably in a cleaner, healthier environment.



Unstoppable Joy: Children play freely in rain-soaked public spaces, protected from flooding A Oranga, 2023



From pollution to solution: A compost pit toilet providing safe and eco-friendly sanitation, A Oranga, 2023

"Before our project, our environment was a disaster: a dumpsite, graveyard, crime spot, breeding ground for mosquitoes, and flood zone. We used to suffer from diseases such as cholera, typhoid, and malaria. But through a long process of co-design workshops, we transformed our community into a clean and habitable space. We created a farm, built a sanitation block and drainage channels, and channeled water to the river to prevent flooding. Despite the long process and lack of allowances, I am grateful to have been a part of it. Now, I have access to clean sanitation facilities, and my children have a safe and clean place to play even when it is raining without worrying about disease. The project gave us skills, resources, and productive spaces for our health, social well-being, and environment."

Pamela Olesia , NNDC member, 2023

Ongoing action, issues and opportunities

The initiative has transformed a polluted environment into a sustainable and scalable space. The community partnerships with KDI and other organizations have enabled them to establish a thriving farm supporting food needs, a sanitation facility and water point promoting health, a multifunctional hall for social networking as facilities that generate income for the community.

The changes have not only been material. Along the way, community members have built expertise in waste management, leadership, and site management.

People have managed power dynamics by selecting leaders who anchor them in achieving change collectively, even over longer periods of time. Collaboration within the community and with partners has leveraged change and built broad support for their cause. These strengths and the unwavering commitment of the community is making it possible to secure a sustainable future.

"The community group has forged partnerships not only within their immediate surroundings but also with a range of other organizations. These collaborations have led to the development of projects that not only support the community's sustainability but also maintain a healthy environment. As a result, they have created attractive, productive spaces that are self-sustaining, benefiting both the community and their surrounding ecosystem."

Prisca, KDI community associate, 2023



Urban farming practices flourish in the revitalized environment, restoring the ecosystem and providing nourishing food for the community. A Oranga, 2022

What we have learned and can share

An area once plagued by pollution and turned into a dumping site has had a remarkable transformation. Through collaborative efforts, the community has turned the space into a safe and habitable environment, with essential amenities such as a sanitation block, a public park, a farm, greenhouse, drainage channels, and a multipurpose hall. The positive effects have been profound, significantly improving the health and well-being of community members, preventing flooding during the rainy season, strengthening social cohesion and bringing a heightened sense of belonging within the community.

It demonstrates the power of co-designing solutions with communities that prioritize a combination of social, ecological, and health benefits, and their impact in a cleaner, healthier environment for all.



The NNDC Community: A remarkable journey of co-design, implementation, and sustenance for community health and environment, KDI, 2007

Polluted dumping sites can be transformed into safe, habitable and productive spaces. It calls for processes that engage and build the capacity of the community and that support local communities to forge partnerships with organizations, including technical agencies such as engineering firms, to leverage their expertise. The process matters. Solutions can be co-designed with communities for a range of challenges, including flooding, sanitation, poverty, and can be chosen and prioritised with communities for the combination of their social, ecological, and health benefits with the community. There are useful technologies and design solutions to share, such as in the sanitation block, public park, farm, greenhouse, drainage channels, recycling plant and multipurpose hall.

The community in partnership with others can overcome challenges and address obstacles, such as delayed funds. Skeptical partners can be brought on board through through collaboration. Collaborative community work yields sustainable solutions, promoting well-being and public health through planning and applying integrated approaches in underutilized urban spaces.



Left: Safe productive space: Co-designed by the community for recreation, protection, and health. A Oranga, 2023
Right: Community-led water collection point for clean, water, KDI, 2018

Where to get more information on the intervention

1. [Kibera Public space project](#)
2. [New Nairobi Dam Community](#)
3. [The Nairobi Dam: from community resource to open sewer – and back again](#)
4. Loewenson, Mhlanga et al., (2022) Learning from Initiatives on equitable urban health and Well-being in East and Southern Africa, EQUINET Discussion paper 127, EQUINET, ISUH, Harare <https://equinetafrica.org/sites/default/files/uploads/documents/EQ20%Dis20%127ACE20%ESA20%UH20%synthesis.pdf>



Turning Trash into Treasure: Community members recycle plastics, contributing to a cleaner, healthy environment. A Oranga, 2023

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