**Green-Gray Infrastructure Accelerator for Climate and**  
**Water Resilience in African Cities**  
  
*The Green-Gray Infrastructure Accelerator equips city leaders, communities, and partners with the tools, know-how, and network to rapidly scale resilient nature-based solutions (NBS) and green-gray infrastructure (GGI) across cities and nearby watersheds. It works with an initial cohort of 11 cities across seven countries. We support these cities to use nature and inclusive approaches to address critical infrastructure gaps and unlock funding for scalable impact.*

**The Challenge**

In 2024, floods in Kenya claimed hundreds of lives, displaced over 100,000 people, and wiped out 65,000 hectares of farmland. In Kumasi, Ghana, temperatures now frequently exceed 40°C, making outdoor work dangerous. In Johannesburg, South Africa, the Jukskei River is clogged with plastic waste, causing overflows during heavy rains that worsen floods and endanger homes.

Across Sub-Saharan Africa (SSA), climate change is an everyday reality; floods, extreme heat, and water insecurity are escalating. Yet resilient infrastructure approaches for cities remain severely underfunded. [Rapid urbanization](https://desapublications.un.org/publications/world-population-prospects-2022-summary-results) and insufficient infrastructure leave communities highly vulnerable, especially the 60% of SSA’s urban population living in [informal settlements](https://unhabitat.org/sites/default/files/2022/03/unhabitat_wfp_joint_report_100322-1.pdf). Without immediate action, these risks will further jeopardize public health, disrupt livelihoods, and strain economies.

**A Natural Opportunity for African Cities**

**Green-gray infrastructure** combines nature-based solutions with traditional infrastructure. Examples include forests and check-dams for flood reduction, mangroves and seawalls for coastal protection, and green roofs and bioswales for stormwater management. In African cities, GGI solutions can enhance air quality, protect against flooding and heat, improve water security, and create green jobs. Community-supported approaches can also advance gender and social equity by building decision-making capacity and technical skills in vulnerable communities.

GGI solutions are often more [resilient to climate extremes and more cost-effective](https://www.wri.org/insights/collaboration-nature-based-solutions-key-resilient-city-infrastructure) than traditional gray infrastructure alone representing a win-win for city leaders and investors to address both climate and infrastructure challenges. However, limited technical capacity, a lack of bankable projects, and insufficient financing often hinder adoption.

Research by the World Resources Institute (WRI) and the World Bank, in collaboration with the African Development Bank analyzed 300 NBS and GGI projects across SSA. The report finds that, while the number of projects has steadily increased since 2012, only 16% of these projects focus on urban resilience. Given the significant climate and socio-economic benefits observed from these projects, cities need to urgently scale GGI to address infrastructure and climate needs.

**The GGI Accelerator** works with cities in SSA to overcome NBS adoption challenges and deliver effective, context-tailored climate and infrastructure solutions. It offers cities technical assistance across the arc of project development—from feasibility to financing, and from pilot implementation to scale and replication. Through the effective scaling of GGI, these cities will become more livable, equitable, inclusive, resilient, and vibrant.

The GGI Accelerator builds long-term resilience by providing cities with comprehensive support in five key areas:

1. **Policy Guidance & Institutional Development**: We support cities to institutionalize NBS and GGI through equitable strategies and policies, improved regulations, and alignment with climate and water resilience goals. Regionally tailored research and access to technical experts raise awareness about NBS’ climate and socioeconomic benefits and drive buy-in from governments, donors, and communities.
2. **Project Development & Implementation:** We provide guidance on NBS and GGI through strategic [risk and opportunity assessments](https://www.afd.fr/en/carte-des-projets/developing-strategic-framework-nature-based-solutions-urban-areas), as well as gender and social equity (GESI)-responsive participatory planning. Cities receive technical assistance on locally appropriate NBS species selection; establishing enabling conditions to advance projects toward feasibility; community and stakeholder outreach; and monitoring, evaluation, and learning (MEL) systems.
3. **Funding, Finance, & Economic Analysis:** We connect cities with funders and investors, develop business cases, and support financial structures to facilitate transactions, improve project bankability, and unlock sustainable funding. We also host investor roundtables to develop innovative financial approaches and accelerate investment.
4. **Peer Learning & Capacity Building:** We facilitate peer-to-peer learning exchanges where cities share best practices, foster collaboration, and strengthen technical skills for planning, implementation, and maintenance.
5. **Communications & Stakeholder Engagement:** We enhance visibility and build momentum for NBS and GGI adoption through outreach to policymakers, communities, and investors, helping cities secure critical buy-in and scale impactful solutions.

# Our Cities

The GGI Accelerator is working with an initial cohort of 11 cities in seven countries: Addis Ababa and Dire Dawa (Ethiopia), Kigali and Musanze (Rwanda), Johannesburg and Gqeberha (South Africa), Bukavu and Uvira (DRC), Nairobi (Kenya), Kumasi (Ghana), and Brazzaville (Republic of Congo). Highlights include:

* **Johannesburg, South Africa:** Indigenous plant rehabilitation in the Jukskei River catchment will reduce flood risk and solid waste pollution, mitigate urban heat, and enhance water security and livelihoods for [1.2 million residents](https://www.wri.org/update/suncasa-nature-based-solutions-alexandra-johannesburg#:~:text=Greening%20the%20Jukskei%20River%3A%20Scaling,Resilience%20in%20Johannesburg%2C%20South%20Africa&text=Alexandra%20Township%20is%20a%2020,built%20to%20house%20750%2C000%20residents.) in Alexandra Township.
* **Addis Ababa, Ethiopia:** A watershed investment program will offer a cost-effective approach to restore the Gefersa Catchment, enhancing water security for over 300,000 city residents.
* **Dire Dawa, Ethiopia:** Dechatu River catchment restoration will benefit over 200,000 people in flood-prone areas and provide employment for 4,000.
* **Kigali, Rwanda:** Restoration in the Nyabarongo River watershed will reduce flood risks and soil erosion, benefiting nearly 1 million residents.
* **Bukavu, DRC:** Ruzizi Basin restoration will mitigate flooding, enhance energy security, and protect hydropower for Rwanda, Burundi, and DRC.
* **Nairobi, Kenya:** Restoration of the Nairobi River will catalyze a green economy, reduce flooding impacts for vulnerable communities downstream, and mitigate urban heat.
* **Brazzaville, Republic of Congo:** NBS will be embedded into urban policy to strengthen flood resilience and expand urban greening to protect biodiversity corridors, culminating in a formal plan for pilot project implementation.

**Supporting Initiatives**

The GGI Accelerator is led by [WRI Africa](https://www.wri.org/wri-africa), [Cities4Forests](https://cities4forests.com/), and the [Urban Water Resilience Initiative](https://www.wri.org/initiatives/urban-water-resilience-africa) with support from [DANIDA](https://um.dk/en/danida) and the [WRI Ross Center for Sustainable Cities](https://www.wri.org/cities). It aligns with the [SUNCASA](https://www.wri.org/initiatives/suncasa) project, funded by the [Government of Canada](https://www.international.gc.ca/global-affairs-affaires-mondiales/home-accueil.aspx?lang=eng).

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