



K I N G S T O N

A City Adapting to a Changing Climate

Urban Tree Planting by
Jamaica's Forestry Department

A UNEP CityAdapt Publication, 2023

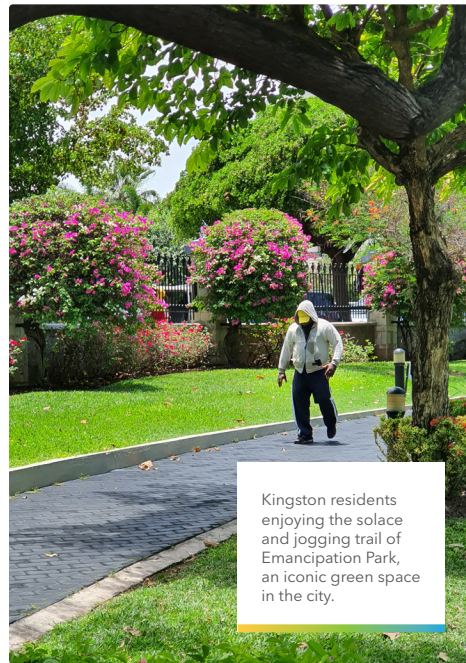
Kingston is one of three medium-sized cities in Latin America and the Caribbean, which has benefited from CityAdapt - Building Climate Resilience of Urban Systems through Ecosystem-based Adaptation (EbA)- a project implemented by the United Nations Environment Programme (UNEP) and financed by the Global Environment Facility (GEF) through its Special Climate Change Fund.

CityAdapt has been implementing climate resilience interventions through EbA or Nature-based approaches in urban and peri-urban communities in Kingston (Jamaica), Xalapa (Mexico) and San Salvador (El Salvador).



Jamaica's rapid urban expansion is weakening critical urban and peri-urban ecosystems in the face of the unavoidable impacts of climate change.

Limited urban planning and exponential infrastructure development such as the construction of heat-absorbing multi-storey residential complexes in Kingston, the national capital, have led to increased density of the urban space, the removal of trees and the resultant warmer temperatures.





Engaging Communities, Reducing the Urban Heat Island Effect: The CityAdapt Method.

Located between mountains and the Caribbean Sea, Kingston is vulnerable to multiple climate threats, including sea level rise and coastal erosion, tropical storms and subsequent flooding that causes landslides, intense rainfall, as well as increasingly long droughts.

Urban day to day activities such as car and factory emissions, tend to emit significant amounts of energy which make cities prone to accumulating heat. Grey infrastructure, which includes buildings and roads, absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies. This results in what is called the Urban Heat Island effect.

The Forestry Department, the lead Agency managing Jamaica's forestry resources, has been implementing tree-planting and land rehabilitation projects across the capital city under the CityAdapt Project.

Urban tree-planting is key for increased water infiltration and mitigation of flooding in the city.

Tree-Planting Intervention Sites under CityAdapt

- Rose Town Foundation
- Rockfort Community Centre
- Windward Court (Bower Banks)
- Tarrant High School
- Vauxhall High School
- Excelsior High School
- Mountain View Primary School
- Jamaica Defence Force Headquarters (Up-Park Camp)



"I think the degree to which we had to engage with the communities in urban spaces is something we learnt under the CityAdapt Project.

It is absolutely essential that when you're going into a space where the people not just live and work, that you bring them on early, you bring them on completely, and where possible, you ensure that there are actual benefits they can get upfront, such as employment for some people, and access to free seedlings, mostly fruit trees."

- **Ainsley A. Henry, JP**
CEO, Forestry Department and
Conservator of Forests

Forestry Department Interventions under the CityAdapt Project

12,532

The total number of trees planted under the CityAdapt project.

9950

drought resilient trees planted in forest reserves in the Hope River Watershed, the major source of Kingston's water supply.

3224

trees (timber, fruit, and ornamental) planted in schools & lower-income communities

2582

seedlings planted in the Port Royal Protected Area (Gallows Point Mangrove) in partnership with the University of the West Indies (Mona) Centre for Marine Science.



Plant a Tree Today: Cool Down the City and Reconnect with Nature

- Planting trees in urban areas helps to increase shading, thereby reducing urban heat and restoring the natural cooling function that vegetation provides.
- Planting trees improves air quality in urban areas as trees remove carbon dioxide from the atmosphere, absorb air pollutants, and produce oxygen.
- Planting trees helps to improve water quality in urban areas. Trees prevent runoff and erosion, resulting in better water quality and reduced flooding.
- Planting trees, such as fruit trees, helps to increase food security especially in socially vulnerable, low-income urban areas, providing a cost-effective source of healthy, nutritious food.
- Studies show that living near trees & well-landscaped grounds can improve health, happiness & wellbeing, reducing the stress that often attends urban living.
- Planting trees has an important aesthetic value, helping to beautify urban spaces and soften the look of hard concrete infrastructure.
- Planting trees supports improved urban biodiversity and a healthy ecosystem. Trees attract birds, bees, and other wildlife that have important ecosystem functions.
- When planting trees in urban spaces, tree species such as drought-resistant species, must be carefully selected to ensure that they are suitable for where they are planted in order to have maximum benefit.

What are Nature-based Solutions (NbS)?

Nature-based Solutions (NbS) are inspired and supported by nature to protect, sustainably manage, or restore natural ecosystems. They encompass a wide range of climate change mitigation and adaptation measures to improve urban resilience by using nature to deliver social, ecological, and economic benefits.



"In small-island developing states like ours, Nature-based Solutions are well-suited as climate-change adaptation measures because they are cost-effective in comparison to human-engineered grey infrastructure. They also offer a range of benefits and co-benefits to strengthen critical ecosystem services such as biodiversity conservation and regulated water resources.

The targeted activities under this UNEP CityAdapt Project took note of the vulnerabilities in our urban spaces. The unique lessons learnt will inform our policies and responses to cope and adapt to the vicissitudes of a changing climate for generations to come."

- **Shanice Bedward-Grant**
National Coordinator, CityAdapt Jamaica

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