K I N G S T O N

A City Adapting to a Changing Climate

Nature-based Solutions (NbS) for Urban Youth.

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 novel project implemented by the United Nations Environment Programme (UNEP) and financed by the Global Environment Facility (GEF) through its Special Climate Change Fund.

Since 2018, CityAdapt has been implementing climate resilience pilot interventions through EbA or Nature-based approaches in urban and peri-urban communities in Kingston, Jamaica, Xalapa, Mexico and San Salvador in El Salvador.

City Adapt
RECONNECTING CITIES WITH NATURE
LATINAMERICA AND THE CARIBBEAN

UN environment programme

JAMAICA

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Reaching Youth in Urban Schools with Nature-based Solutions…the CityAdapt Way

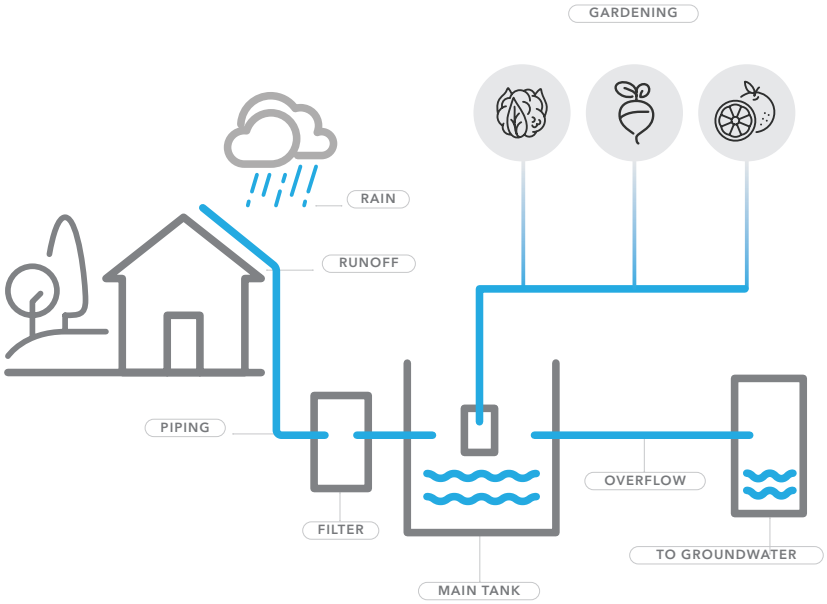
Jamaica is the third largest English-speaking nation in the Western Hemisphere after the United States and Canada, where nearly 30% of the population of just under three million are under 15 years old.

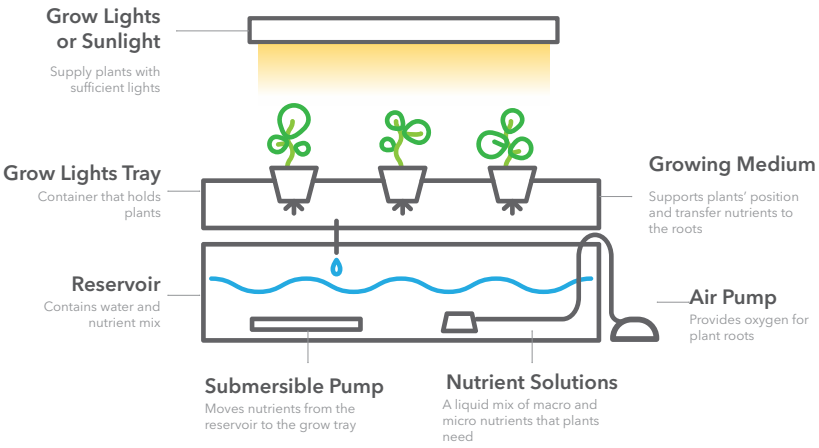
In Kingston and the wider Kingston Metropolitan Area, the CityAdapt project has partnered with the Jamaica 4-H Clubs to implement a range of interventions to build climate resilience in several schools and in the community.

Greenwich Town Rainwater Harvesting and Water Purification Systems

A combined rainwater harvesting, drip irrigation and greenhouse system was installed to boost the water supply and drought resilience of this low-income inner-city community in Downtown Kingston. Sediment and carbon filters connected to the system provide water that is safe for drinking and household use.

Rainwater Harvesting





Greenhouses, Hydroponic Farming and Container Gardens in City Schools

A combined rainwater harvesting, drip irrigation and greenhouse system was installed to boost the water supply and drought resilience of this low-income inner-city community in Downtown Kingston. Sediment and carbon filters connected to the system provide water that is safe for drinking and household use.

Tivoli Gardens High School Hydroponics Greenhouse: A Nature-based Solution designed to grow consistent yields of food crops to support the school's nutrition programme, while increasing resilience to changing climatic conditions in the Industrial Belt of the city.

Rainwater Harvesting and Greenhouse Project at Kingston Technical and Camperdown High Schools: The water supply and storage system at both schools have been boosted by this combined rainwater harvesting, drip irrigation and greenhouse system, with the added benefit of increased water supply for agricultural production.

Support for Special Needs, Water Management and Drip Irrigation System for Abilities Foundation: This Nature-based solution (NbS) supports year-round cultivation of a mini-commercial school garden; to the benefit of this special needs school and community. Rainwater running off the surface is diverted into underground catchments, and then feeds into a climate-smart drip-irrigation system to nurture seedlings and crops in the greenhouse.

City schools have benefited from climate-controlled greenhouses with state-of-the-art precision-irrigation systems, as well as container gardens, where space is limited. Students have been trained in the agronomy practices necessary for establishing and maintaining these space-saving container gardens; and in hydroponic farming, a new climate-smart way to grow crops, other than planting in the soil.

CityAdapt Urban Beekeeping and Entrepreneurship

Under the CityAdapt Project, the Jamaica 4-H Clubs has facilitated the specialized training of 50 persons from urban and peri-urban communities in Beekeeping for their livelihoods and entrepreneurial activities. Additionally, 250 beehives and equipment have been provided to the bee entrepreneurs to sustain their honey production and to diversify into bee wax, bee pollen, candles and other spin-off products.

Beekeeping training practical session at a Jamaica 4-H bee colony and farm.

"I've learned a lot. I got mostly practical advice from my friends, but CityAdapt helped me with the theory; and to know how to look for the germs and care for my bee box. It was a very. empowering experience. I'm really empowered to move forward in my business."

- **Willie Brown**
  Bee Entrepreneur

"Many lessons were learnt from the CityAdapt Project as it relates to Eco- system-based Adaptation interventions at the school level. These, plus the apiculture training for young persons in our urban spaces, are all aligned to the Ministry of Agriculture's new 'Face of Food' campaign aimed at increasing Jamaica's food security levels through Agribusiness Development, and of course, utilizing climate smart agriculture technology for greater resilience and adaptation."

- **Villet Kelly-Bennett**
  Business and Entrepreneurship Development Manager
  Jamaica 4-H Clubs

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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An Intervention from
CityAdapt
RECONNECTING CITIES WITH NATURE
LATINAMERICA AND THE CARIBBEAN

Implemented by
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Executed by
JAMAICA

Funded by
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