

Water *for* Cities

TOWARDS SUSTAINABLE WATER AND
SANITATION FOR RESILIENT
AFRICAN CITIES



ICLEI Africa offers technical expertise and services related to water and sanitation to a wide range of subnational governments and cities.

ICLEI
Local
Governments
for Sustainability

SURE
WATER
AFRICA
SUSTAINABLE • URBAN • RESILIENT



“If we reimagine how we view water in our cities and consider it as a precious commodity, as a life-giving resource and not merely a service to be delivered we can re-engineer the way we manage water in our cities and leapfrog traditional approaches to water management.”

~ Kobie Brand, Regional Director: ICLEI Africa

Sustainable water and sanitation are an essential part of the solution in transitioning towards a more climate resilient future for African cities.

Join ICLEI to benefit from our services related to water and sanitation.

ICLEI
Local
Governments
for Sustainability

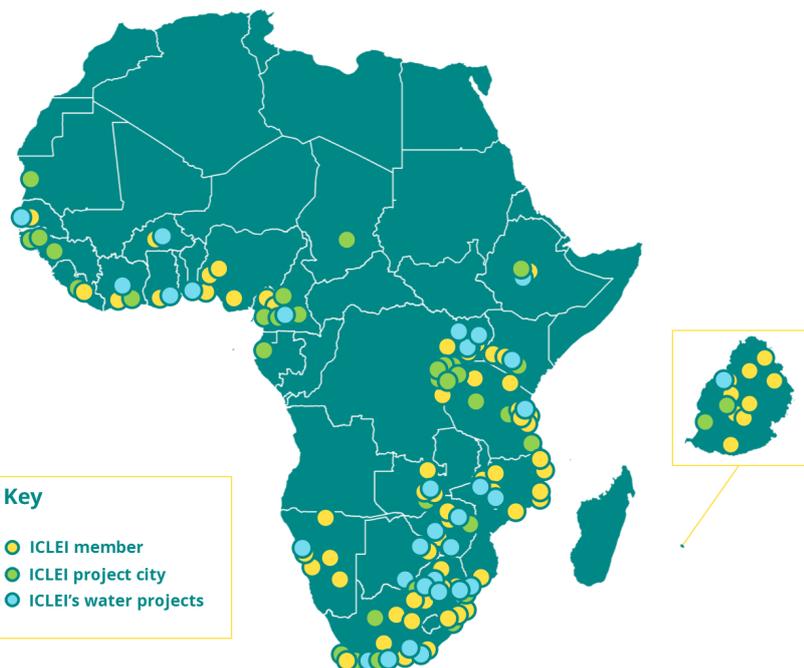


ICLEI - LOCAL GOVERNMENTS FOR SUSTAINABILITY

Working across sub-Saharan Africa

ICLEI envisions a world of sustainable cities that confront the realities of urbanisation, adapt to economic and demographic trends and prepare for the impacts of climate change and other urban challenges. This is why ICLEI unites local and subnational governments in creating positive change through collective learning, exchange and capacity development.

ICLEI Africa is located in Cape Town, South Africa, and works with local governments across the continent in moving towards a shared and sustainable urban future.

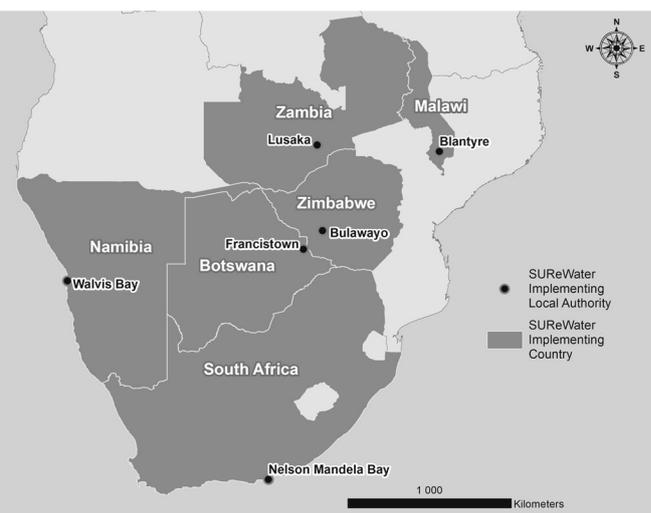


SUSTAINABLE URBAN RESILIENT WATER FOR AFRICA: DEVELOPING LOCAL CLIMATE SOLUTIONS

Building water and climate resilient communities in Africa

Sustainable Urban Resilient (SURE) Water for Africa: Developing Local Climate Solutions is a southern Africa project that aims at contributing to climate change adaptation and foster resilient, urban water planning at the local government level. The project is supported by the European Commission and the national governments of the project countries.

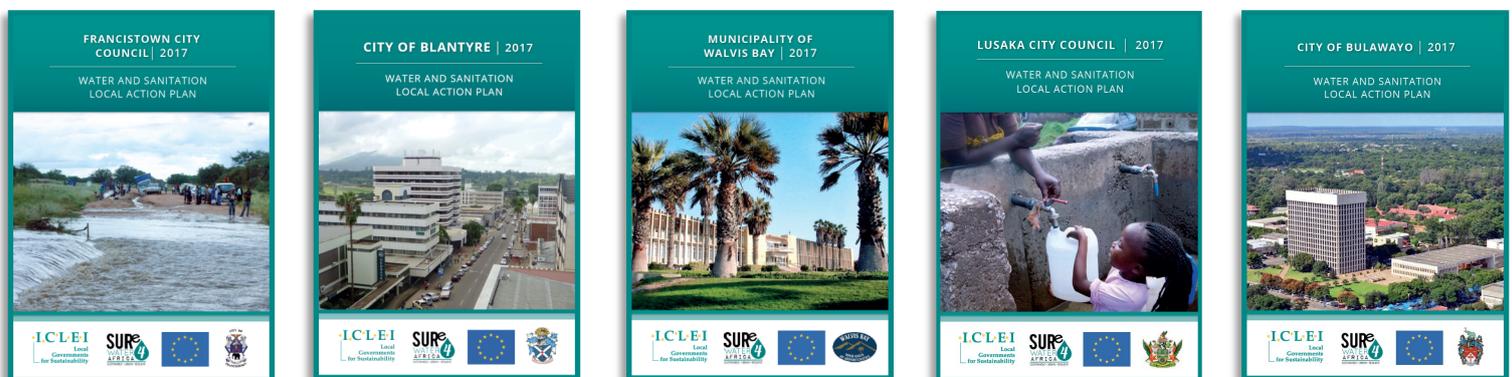
SURe Water for Africa focuses on promoting urban well-being and resilient cities through addressing the nexus of climate change and water. In particular, it focuses on droughts and floods, while identifying priority adaptation measures to assist the most vulnerable sectors within the participating cities.



The project has three objectives:

1. To improve understanding of current and projected climate change risks associated with flooding and drought and to develop capacity amongst policy- and decision-makers to apply such knowledge to influence their decision making processes.
2. To strengthen and/or develop local action plans integrating urban water management with flooding and drought intervention frameworks.
3. To strengthen local, national and regional knowledge management and to facilitate information sharing on the water/climate change and urban development nexus.

Local Action Plans:



The project is implemented by ICLEI Africa and partners in the following six countries located in the Southern African Development Community (SADC) region: Botswana, Malawi, Namibia, South Africa, Zambia and Zimbabwe.

Water challenges

– ranging from chronic water scarcity to lack of access to safe drinking water and sanitation services, to hydrological uncertainty and extremes (floods and droughts) – are perceived as some of the greatest threats to global prosperity and stability.¹

In Africa, water demand is increasing at a **higher** rate than population growth.²

It will not be possible to reach the Sustainable Development Goals (SDGs) in Africa without an **African water revolution.**³

It is estimated that **half** of the **urban infrastructure** that will make up African cities by **2035** has yet to be built.⁴

The world could face **40% water deficit by 2030** under a business-as-usual scenario.⁶

70% of people in sub-Saharan Africa do not have toilets.⁵

Over the next **20 years**, the urban population of sub-Saharan Africa is predicted to **double.**²

1 Sadoff, Claudia W.; Borgomeo, Edoardo; and de Waal, Dominick. 2017. Turbulent Waters: Pursuing Water Security in Fragile Contexts. World Bank, Washington, DC. Available at: <https://openknowledge.worldbank.org/handle/10986/26207>

2 Jacobsen, M., Webster, M., & Vairavamoorthy, K., 2013. The Future of Water in African Cities: Why Waste Water?. Directions in development;

environment and sustainable development. Washington, DC: World Bank. Available at: <https://openknowledge.worldbank.org/handle/10986/11964>

3 Malin Falkenmark Symposium Outcome at World Water Week 2016, Call for an African Water Revolution: A Triple Green Future for Humanity. Available at: <http://www.siw.org/wp-content/>

uploads/2017/05/Call-for-African-Revolution.pdf

4 UNWater. 2017. The United Nations World Water Development Report 2017: Facts and Figures. Wastewater the Untapped Resource. Available at: <http://unesdoc.unesco.org/images/0024/002475/247553e.pdf>

5 WaterAid. 2015. It's No Joke: The State of the World's Toilets 2015.

Available at: http://www.wateraid.org/-/media/Publications/Its_No_Joke_2015_the_state_of_the_worlds_toilets.pdf?la=en

6 UNWater. 2016. The United Nations World Water Development Report 2016: Water & Jobs: Facts and Figures. Available at: <http://unesdoc.unesco.org/images/0024/002440/244041e.pdf> cited in this document as 2030 WRG, 2009.

Water *for*

Cities worldwide are facing severe physical, social, environmental and economic impacts due to climate change. These are anticipated to be felt with greater intensity in the developing world, particularly in sub-Saharan Africa, in the near future. Coupled with this, cities in Africa also need to plan for increasing populations, rapid urbanisation and the rising demand for more infrastructure.

The impact of climate change on water resources and infrastructure is particularly profound. It is well recognised that freshwater is linked to all aspects of human development and wellbeing. Its availability is the single largest major natural limit to economic growth, given that all other sectors are dependent on its secure supply. Water resources are globally scarce and cities are having to resort to extreme measures to establish water security. It is therefore particularly important for cities to implement more efficient water management practices.

Superimposed on these existing scarcities and supply challenges, are the impacts of current climate variability and climate change. There is growing realisation that the impacts of climate change in Africa will be experienced through floods, droughts and extreme weather events, with very direct and potentially severe socio-economic impacts. This is translating into recognition that cities need to adopt integrated and innovative water management strategies. As a result, it is vitally important that the design of infrastructure, and the daily operations and long-term planning of cities



Cities

REIMAGINING RESILIENT WATER-WISE CITIES IN AFRICA

and water utilities, take climate change into account.

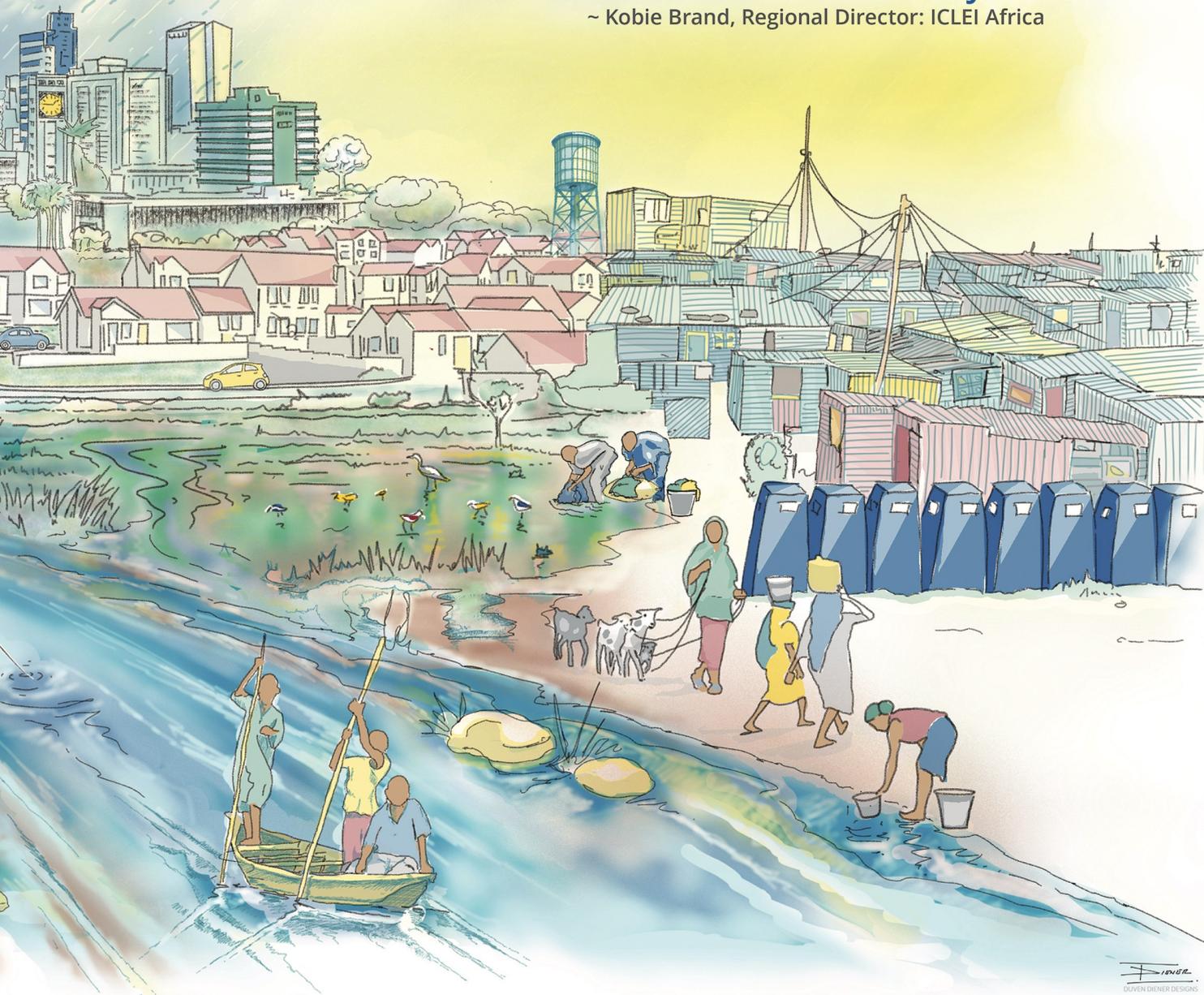
A sustainable and secure supply of water can act as a key catalyst to unlock Africa's development potential. Such an approach has the potential to create a ripple effect and inspire the continent to meet the ambitious globally adopted Sustainable Development Goals by 2030.

Smarter, more resilient water infrastructure is needed to meet the needs of today and demands of the future, and cities can harness a variety of innovative solutions to transition towards a more climate resilient future. This includes, among others, nature-based solutions, harnessing of wastewater and stormwater as a resource instead of an end product, and design and implementation of decentralised infrastructure that is more resilient and adaptable to the needs of growing cities.

Water will be the defining resource in our urban future as it will determine how and where we live, our economic successes and failures, and our growth. It will ultimately shape the cities of the future. **Cities across Africa** can make a choice to develop smartly, to harness innate innovation and to turn water challenges into water opportunities. With home-grown, local solutions and leapfrogged technology, they can indeed become the world's leading water-wise and climate resilient urban hubs.

"Water will be the defining resource in our urban future."

~ Kobie Brand, Regional Director: ICLEI Africa



WATER AND SANITATION IN AFRICA: SOLUTIONS AND SCENARIOS

*Of all our natural resources,
water underpins sustainable development
as perhaps none other.*

Food, energy, health, industry, biodiversity—there is no sphere of planetary life or human endeavor untouched by water.¹

One of the World's Sustainable Development Goals (SDG 6) focuses on water, and calls for **ensuring access to water and sanitation for all.**

Sub-Sahara Africa can address the strong growth in water demand expected for 2030 and meet SDG6 provided it starts addressing its current water challenges and embraces opportunities that **improved wastewater management** can provide.³

Stormwater harvesting

can have multiple benefits as an alternative untapped water supply source which can improve water security for cities. If not treated to potable standards, it can be used for irrigation.²

By simply **fixing leaks** in our global urban supply systems we can save **32 billion** cubic meters of treated water each year.⁴

Investments in small-scale projects

that provide access to safe water and basic sanitation in Africa could return an estimated economic gain of approximately US\$28.4 billion a year, or 5% of GDP, based on a 2016 report.⁵

In Africa, under-collection of water bills has been estimated at US\$500 million per year. Improving **the collection rate of water bills** is an obvious way of increasing water revenues without raising tariffs.⁶

New and innovative finance mechanisms and models

are required to support operation and maintenance of existing water and sanitation infrastructure and investment in new infrastructure for our shared urban future.

1 Sadoff, Claudia W.; Borgomeo, Edoardo; and de Waal, Dominick. 2017. Turbulent Waters: Pursuing Water Security in Fragile Contexts. World Bank, Washington, DC. Available at: <https://openknowledge.worldbank.org/handle/10986/26207>

2 Jacobsen, M., Webster, M., & Vairavamoorthy, K., 2013. The Future of Water in African Cities: Why Waste Water?. Directions in development;

environment and sustainable development. Washington, DC: World Bank. Available at: <https://openknowledge.worldbank.org/handle/10986/11964>

3 Malin Falkenmark Symposium Outcome at World Water Week 2016, Call for an African Water Revolution: A Triple Green Future for Humanity. Available at: <http://www.siwi.org/wp-content/>

uploads/2017/05/Call-for-African-Revolution.pdf

4 UNWater. 2017. The United Nations Water Development Report 2017: Facts and Figures. Wastewater the Untapped Resource. Available at: <http://unesdoc.unesco.org/images/0024/002475/247553e.pdf>

5 WaterAid. 2015. It's No Joke: The State of the World's Toilets 2015.

Available at: http://www.wateraid.org/-/media/Publications/Its_No_Joke_2015_the_state_of_the_worlds_toilets.pdf?la=en

6 UNWater. 2016. The United Nations World Water Development Report 2016: Water & Jobs: Facts and Figures. Available at: <http://unesdoc.unesco.org/images/0024/002440/244041e.pdf> cited in this document as 2030 WRG, 2009.

SHARING LESSONS BETWEEN CITIES



exchange knowledge and best practices, consider emerging challenges and innovations and explore collaborative action. These aims are geared towards seeking a paradigm shift for more sustainable, resilient and equitable urban water and sanitation practices in Africa.

AWASLA is open to all African local and subnational governments (and their associations) that are committed to achieving more sustainable and effective urban water and sanitation management practices in African cities.

Regional and international organisations, non-governmental organisations, research institutions and individuals who wish to exchange knowledge and best practices for urban water and sanitation in Africa can participate as network associates. For more information visit www.awasla.org.

The Africa Water and Sanitation Local Authorities (AWASLA) Network is a dynamic, interactive and dedicated pan-African network for African local governments and their associated institutions engaged in all aspects of the urban water cycle (water supply, sanitation, storm and wastewater management). AWASLA provides a unique platform to enable local governments to

AWASLA aims to:

- Promote knowledge exchange
- Develop and enhance capacity
- Facilitate connections
- Empower advocacy

AFRICAN WATER ADAPTATION THROUGH KNOWLEDGE EMPOWERMENT

In an era of significant urbanisation trends on the continent, business-as-usual methods of supplying water and sanitation services to African cities is unlikely to be sufficient. Climate change impacts projected for Africa provide further impetus for finding innovative ways and means of supplying water and sanitation services to Africa's growing urban population.

Recognising that small-scale, home-grown, climate-friendly technology and infrastructure has the potential to play a role in addressing this need, the **African Water Adaptation through Knowledge Empowerment (AWAKE) project** aims to enhance and share knowledge on the opportunities and constraints that city stakeholders in southern African city regions might face in upscaling their ideas.



ICLEI AFRICA WATER-FOCUSED PROJECTS

SUPPORTING THE MANAGEMENT OF URBAN RIVERS IN AFRICA

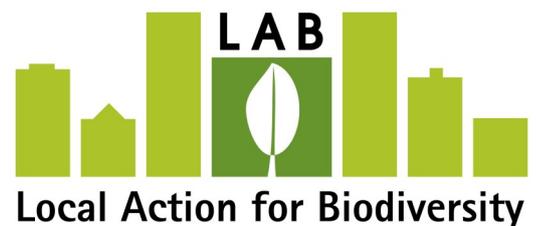


ICLEI Africa's four-year cutting edge project, **Urban Natural Assets for Africa: Rivers for Life (UNA Rivers)**, supports local governments in three diverse African cities (Lilongwe, Dar es Salaam and Addis Ababa) with the management of their urban rivers for improved human well-being and climate resilience. The project focuses on mainstreaming biodiversity and ecosystem services into land use planning and local government decision-making processes whilst also building local government capacity, and that of important actors within the city. This is done through better coordination and community-based activation, contributing to strengthening sustainability and resilience at the local level, enhancing human well-being and poverty alleviation.



TAKING ACTION FOR WETLAND CONSERVATION AND MANAGEMENT

Under the auspices of the global LAB programme, the **Local Action for Biodiversity: Wetlands South Africa (LAB: Wetlands SA)** project is currently being implemented in 11 municipalities throughout South Africa. The aim of the project is to protect priority natural wetland resources, thus enabling the supply of ecosystem services and promoting resilient communities under a changing climate within South Africa.



Through the project, ICLEI aims to

- improve local government knowledge and understanding of the value of wetlands,
- initiate the process of integrating wetlands and ecosystem services into local government planning and decision making, and to
- implement and pilot on the ground wetland projects within the participating municipalities.



PROVIDING ACCURATE CLIMATE INFORMATION FOR DECISION-MAKERS



Future Resilience for African Cities and Lands (FRACTAL) is a 4-year project (initiated in June 2015) coordinated by the Climate Systems Analysis Group at the University of Cape Town. The aim of the FRACTAL project is to advance scientific knowledge about regional climate responses to human activities (such as burning fossil fuels, changing land surface cover, etc.) and work with decision makers to integrate this scientific knowledge into climate-sensitive decisions at the city-regional scale (particularly decisions relating to water, energy and food with a lifetime of 5 to 40 years). FRACTAL is designed

to work across disciplines within the scientific community and foster strong collaboration between researchers, city government officials and other key decision makers in southern Africa.



EKURHULENI DECLARATION ON WATER AND SANITATION FOR CITIES

African local leaders call for urgent, transformative and collective action to:



Deliver safe and adequate water supply and sanitation

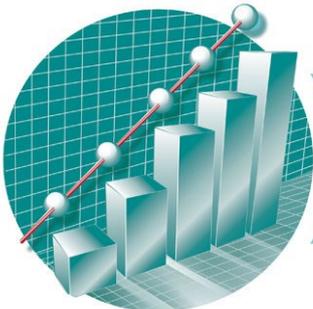
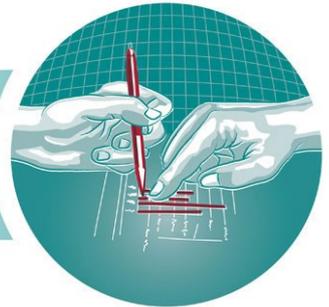


Build and maintain sustainable infrastructure

Enable decentralised and nature-based solutions



Implement local strategies and action plans

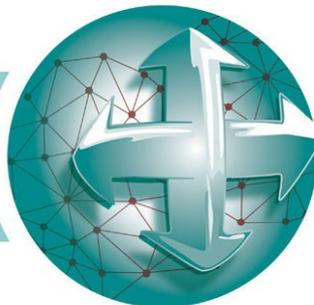


Improve data and knowledge management



Develop capacity and foster partnerships

Enable horizontal integration and vertical alignment



Improve access to financing



Communicate, educate and raise public awareness



Foster transparency and accountability

This Declaration was an outcome of the Local Climate Solutions for Africa (LoCS4Africa) 2017 Congress and has been adopted by local government leaders from across Africa.

ICLEI Africa, supported by the United Cities and Local Governments of Africa (UCLG-A), C40, their members and other city networks will promote, advocate and disseminate this Declaration through relevant regional and international platforms.



UCLG AFRICA
United Cities and Local Governments of Africa
Cités et Gouvernements Locaux Unis d'Afrique
CGLU AFRIQUE



ICLEI: A CITY NETWORK DRIVING SUSTAINABLE URBAN SOLUTIONS



ICLEI - Local Governments for Sustainability is the leading global network of over 1,500 cities, towns and regions committed to building a sustainable urban future. By helping our members to become sustainable, low-carbon, ecomobile, resilient, biodiverse, resource-efficient, healthy and happy, with a green economy and smart infrastructure, we impact over 25% of the global urban population in over 85 countries.

At ICLEI Africa, we serve our African members from our offices in Cape Town, South Africa, where we work with cities and regions across 23 sub-Saharan African countries. Our work is conducted by a dynamic and passionate team of professionals who work with cities to ensure a more sustainable future.

Key thematic areas include urban planning, infrastructure, water and sanitation, climate change and energy, and nature-based solutions. The projects underpinning these themes are designed to strengthen local leadership and promote good governance, foster innovative partnerships and enable new finance options.

For more information, visit www.africa.iclei.org.

Sustainable water and sanitation are an essential part of the solution in transitioning towards a more climate resilient future for African cities.

Join ICLEI to benefit from our services related to water and sanitation.

These include, amongst others:

- Integrated urban water management services
- Sustainable sanitation solutions
- Catchment management
- Economic evaluation of water-related ecosystem services
- Water-climate-food nexus solutions
- Green and blue infrastructure design
- Nature-based solutions



Contact us

ICLEI Africa Secretariat

Knowledge Park 3,
Century City, Cape Town
Tel: +27 21 202 0381
Email: iclei-africa@iclei.org

Photo credits:

Back page: Kanyama community members (WAMTechnology CC, 2014)

All other images: Grace Stead



Disclaimer: This document was developed with funds from the European Commission as part of the 'Sustainable Urban Resilient Water for Africa: Developing Local Climate Solutions' project (DCI-NSAPVD/2012/303-795). The project, document and views expressed herein can in no way be taken to reflect the official opinion of the European Commission.