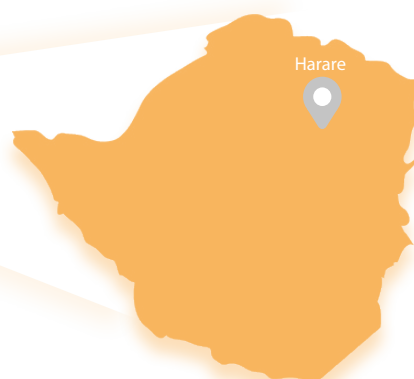


Summary of FCFA work in Zimbabwe

[Future Climate for Africa](#) (FCFA) aims to generate fundamentally new climate science focused on Africa, and to ensure that this science has an impact on human development across the continent. FCFA's research in Zimbabwe was conducted in the capital city, Harare and was led by [FRACTAL](#) consortium partner Chinhoyi University of Technology.



Highlights from Harare

- Less engagement than other FRACTAL cities, with research focused on transferability of relevant climate knowledge
- Work included START's Africa Global Environmental Change (GEC) project exploring the [City's climate-water-energy nexus](#) to understand climate vulnerability and inform policy and practice in Harare City Council
- [Embedded Researchers](#) helped bridge divide between science and practice
- [Climate Risk Narratives](#), [Learning Labs](#) and a [Think Tank](#) helped explore decision pathways, particularly related to the upgrades to the Morton Jaffray Water Treatment Plant.
- FRACTAL partly responsible for engagements on improving planning and mainstreaming climate adaptation plans at the city level.

About FRACTAL

[FRACTAL](#) (Future Resilience for African Cities and Lands) aimed to understand the decision context and the climate science required to contribute to climate-resilient development in nine southern African cities (Blantyre, Durban, Cape Town, Gaborone, Harare, Johannesburg, Lusaka, Maputo, Windhoek). The FRACTAL team aimed to contribute to an advanced understanding of scientific knowledge about climate processes, regional and local climate trends to improve understanding of southern Africa's climate 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).

The project engaged with scientists, engineers, government representatives and other stakeholders. Working together, the researchers and stakeholders are co-producing relevant knowledge that will support resilient development pathways and enable decision-makers to better integrate pertinent climate knowledge into their resource management decisions and urban development planning.

Exploring water issues in Harare

Prior to FRACTAL's involvement in Harare, few city-focus climate knowledge projects had been carried out. FRACTAL played a pivotal role initiating stakeholder reflection on decision-making processes involving climate information. The development of [Climate Risk Narratives](#) for Harare initiated this reflection by understanding the [perceptions of climate change](#) among decision-makers. Through the appointment of two [Embedded Researchers](#) (ERs) in Harare City Council, a new approach was implemented to focus on building relationships and [receptivity of stakeholders](#) to issues relating to climate variability and climate change. The ERs were responsible for investigating the city's [climate-energy-water nexus](#), as part of START's GEC project, to further the understanding and engagements around cross-cutting issues of the City's water and energy sectors.



Water supply is severely restricted by droughts and ageing infrastructure in Harare.

Through increasing the receptivity of stakeholders, [greater awareness and willingness for engagement](#) and exploration of these cross-cutting issues emerged. Funding from the Small Opportunities Grants supported [learning exchanges](#) with Windhoek and Lusaka, which offered stakeholders from Harare the opportunity to [share and learn from the experiences on best practices](#) in other southern African cities. This fostered new approaches for effective collaboration in the water and energy sectors. The increased engagement and appetite for shared learning within the city led to researchers and the Zimbabwe National Water Authority (ZNWA) proactively seeking additional funding to ensure the continuation of the ERs.

The Embedded Researcher approach

The [Embedded Researcher \(ER\) approach](#) was adopted by FRACTAL to bridge the science-policy divide (most notably for climate science). Early career researchers from local universities were appointed as ERs to work within government spaces (e.g. municipalities) in Southern African cities. The aim of this approach was to co-explore and co-produce knowledge, create and sustain learning opportunities to integrate climate information into cities, strengthen urban governance networks and share lessons between African cities and beyond.

Harare Think Tank

A [Think Tank](#) session held under FCFA's Innovation Fund to explore perspectives that underpin decisions in Harare. A small group of decision-makers specifically related to the upgrade of Morton Jaffray waterworks in Harare were engaged through semi-structured discussions. The Think Tank revealed the City operates primarily on a crisis decision-making basis, suffers from political interference, lacks policy guiding decision-making processes in the water sector, and lacks financial resources. FRACTAL's principles of collaboration, co-production, and co-exploration have therefore been noted to be critical for bridging the gap between researchers and decision-makers in Harare.

The Morton Jaffray Water Treatment Plant

Harare City Council is mandated to provide potable water to the Greater Harare area. However the city infrastructure designed to supply 350 000 people is severely under capacity to provide water for the growing population. The water infrastructure is also affected by climate as water supply is limited during droughts and contamination issues arise for periods of above average rainfall. The Morton Jaffray Treatment Plant, originally built in 1956, was upgraded in 1994 to increase the capacity of the plant, and again in 2010 as a response to a cholera outbreak. Despite these costly upgrades, the plant is still operating at a 58% capacity and is unable to sufficiently provide water to households across the Greater Harare area.

In order for the Morton Jaffray plant to sufficiently supply water to the City and be climate resilient, upgrades need to be proactive rather than reactive in times of crisis. FRACTAL's Embedded Researchers engaged with discussions around future upgrades to the plant to [explore the decision-making processes around water in the City](#) and to provide key climate information into considerations for the upgrade.

Selected Additional Resources

Mubaya, C., Mamombe, R. and Ndebele-Murisa, M. 2019. [Exploring perspectives that underpin decisions for southern African urban development: Insights from Harare](#), Zimbabwe. FRACTAL Think Piece. University of Cape Town, South Africa.

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Pretorius, L. et al. 2019. [An Embedded Researcher approach to integrate climate information into decision making in southern African cities: lessons from FRACTAL](#). FRACTAL Working Paper. University of Cape Town, South Africa.

Scott, D. & Taylor, A. 2019. [Receptivity and judgement: expanding ways of knowing the climate to strengthen the resilience of cities](#). FRACTAL Working Paper. University of Cape Town, South Africa.

Steynor, A., Leighton, M., Kavonic, J., Abrahams, W., Magole, L., Kaunda, S. and Mubaya, C.P., 2020. [Learning from climate change perceptions in southern African cities](#). Climate Risk Management, 27, p.10020.


Contributing Authors

Roy Bouwer, SouthSouthNorth, South Africa

Alice McClure, Climate Systems Analysis Group, University of Cape Town, South Africa

For more information, visit <http://www.fractal.org.za/> or contact alice@csag.uct.ac.za or info@futureclimateafrica.org

 www.futureclimateafrica.org

 Twitter: [future_climate](https://twitter.com/future_climate)



Presentation at FRACTAL Annual General Meeting 2019 in Cape Town, South Africa. Credit: CCKE, FCFA

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