

# WINDHOEK CITY DIGEST

The Future Resilience for African Cities and Lands (FRACTAL) project has been operating in Windhoek (and 8 other cities) since 2015 as a partnership between the University of Namibia, the City of Windhoek and over 20 international partners. The focus has been on engaging many diverse people to think through and co-generate knowledge on what decisions facing Windhoek are climate-sensitive, how the climate affecting Windhoek is changing, who has what power to act in reducing climate risks, and what is needed to put Windhoek on a more climate-resilient development pathway. The first phase of the FRACTAL project is currently wrapping up. This Digest (the 4th and last issue in the series) shares news of FRACTAL events and activities that have happened over the last 6 months, and provides links to where more information can be found. The journey of Windhoek becoming a more climate-resilient city is ongoing. FRACTAL partners and stakeholders are currently refining plans for what the sustainability phase of the project, running until March 2021, will entail. Thank you to all for your engagements with and contributions to the project. We hope that the progress we have made together can continue to grow!



## Highlights

### WORKSHOP | Awareness workshop on climate change for City Junior Councillors



Above: Junior Councillors discuss the World Climate Game

[Junior Councillors](#) on 12 April 2019 at the City of Windhoek (CoW) Council Chambers. The workshop engaged Junior Councillors in discussions around climate change impacts, adaptation and mitigation. It enhanced the exchange of knowledge, ideas and good practices, simulating climate change negotiations by using the World Council Game.

The youth assessed the current climate change impacts affecting them, their vulnerabilities and possible future actions. They were briefed on current framework, policies, strategies and action plans and also on how they can become climate change actors at a local and international level through youth

FRACTAL and the Namibia Youth Coalition on Climate Change (NYCCC) co-facilitated an [Awareness Workshop on Climate Change for City of Windhoek](#)



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engagement and networking on climate change issues.

The Junior Councillors reflected that the workshop was informative, thought-provoking and educational to them as they are the future custodians of this planet. They commented that

they were ready to carry on good practices in order to strengthen the youth climate movement, recognizing that they have a responsibility not only for their generation but for the generations to come.

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## VISIT | Sustainability Institute

A team from the CoW visited the [Sustainability Institute](#) in Stellenbosch, South Africa on 11 February 2019. The team included CoW representatives Mr. Fillemon Hambuda, Mr. Olavi Makuti and Ms. Saima Haukelo, as well as Prof. John Mfune and Ms. Kornelia lipinge from the University of Namibia. They wanted to learn from the Sustainability Institute as the CoW is looking to establish a city focused Environmental Sustainability Centre.

The Sustainability Institute is located in Lynedoch Eco-village, where the focus is sustainable living and learning. At the Sustainability Institute, various programmes support the local community within the Lynedoch Valley. This includes education offerings at all levels, from Lynedoch Children's House for infants to a Primary School, a junior

and senior aftercare youth hub, a Learning for Sustainability TVET College and a partnership with University of Stellenbosch's School of Public Leadership that means they can offer a Postgraduate Diploma in Sustainable Development and MPhil in Sustainable Development and several short courses.

The Lynedoch Eco-village is pioneering approaches to creating socially diverse ecological communities. The Eco-village is based on eco-design principles such as solar-powered electricity, water harvesting, and reused/reclaimed building materials with reduced financial cost and a low footprint. It has a title deed with the Stellenbosch Municipality, and residents are supplied with municipal water. However, wastewater is treated onsite and reused for gardening & irrigation purposes.

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## VISIT | Windhoek-Lusaka attend Maputo Final Learning Lab

The Fourth Maputo Learning Lab took place on 21-22 May 2019, at Macaneta Resort. Thanks to funding from a

FRACTAL city exchange grant, Lusaka and Windhoek teams attended the event, sharing their experiences. Their

presentations sparked conversations about solutions in African cities (e.g. the wastewater reclamation in Windhoek). The Windhoek team included Mr. Olavi Makuti and Ms. Mary-Anne Kahitu from CoW, and Prof. John Mfune and Kornelia lipinge from the University of Namibia. From Lusaka, the Deputy Mayor Hon. Mrs. Chilando Chitangala, Mrs. Brenda Mwalukanga from Lusaka City Council and Dr. Gilbert Siame from the University of Zambia all attended.



Above: The Windhoek and Lusaka delegates join the Maputo Host team at the final Maputo Learning Lab on 22 May 2019

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## DIALOGUE | Academic Dialogue

In June, FRACTAL held an Academic Dialogue at Kubata Hotel, Windhoek. This Dialogue was aimed at bringing lasting results through engagement with the academic team. Participants discussed what has been achieved at the city level in the FRACTAL project and how this can be further built on moving forward.



Above: Attendees at the Academic Dialogue

It also provided a platform for the academic team to engage with one

another and share their knowledge, ideas and opinions on climate change impacts and vulnerabilities. The engagement was deemed necessary in order to build relationships and initiate cooperation in the climate science community, aiming to enable further development through scientific action. Participants were asked to note ideas on what climate change-related research could be conducted in Windhoek. An example of possible research was to investigate the implementation of anaerobic bio-digestion at Ujams Wastewater Treatment Plant to produce methane, which can be used to power the outskirts of Okahandja Park and nearly informal settlements which is an alternative to produce energy.

## Research | Energy Provision and Legislation in Windhoek's Informal Settlements



Left: Participants at the Energy Research Feedback Session in Katutura

The Energy Provision and Legislation in Windhoek's Informal Settlements research were funded by the FRACTAL Small Opportunities Grant and conducted by UNAM & CoW. The research objectives were: (1) to determine the energy sources in the informal settlements; (2) to quantify the bio-energy and the impacts arising from collection/harvesting methods around the city plant resources; and (3) investigate the institutional arrangements that exist between the city and informal settlements relating to energy. The research area was three sections of three informal settlements in Windhoek: (1) Goreangab: Hidino Hishongwa, Kahumba Kandola District and Tlabanelo; (2) Havana: Cuba, Kabila, and Namibia Nalitungwe; and (3) Okuryangava: Okahandja Park, Kilimanjaro, and Babilon. The research included: 288 Household surveyed in April 2019; Focus Group Discussions with Informal Settlement Community and Section Leaders on 11-12 May 2019 and Key Informant Interviews. A

Research Feedback Session was hosted on the 10 June 2019 in Katutura. The Feedback Session participants included CoW officials from Health & Environment Division and Human Settlement Department, Informal Settlement Community Leaders, Section Leaders, and the FRACTAL local team. Research findings included:

1. Most residents in informal settlements use dry wood for fuel, which they collect 2-3 times per week, travelling more than 10km to obtain. This has implications for woody vegetation and time spent collecting firewood.
2. The CoW (Renewable Energy Policy of 2017) has policies and regulations around energy supply and other services to city residents including informal settlements that need to be implemented.
3. Continuous dialogue and information sharing are needed between the CoW and residents in order to address challenges for the mutual benefit of all parties.

## WORKSHOP | Local Authorities Workshop on Climate Change & Decision Making



Left: City of Windhoek Health Care Risk Waste Facility in Windhoek Northern Industrial Area

A Local Authorities Workshop on Climate Change and Decision-Making took place on 6-7 June 2019 at Protea Furstenhof Hotel, Windhoek. With ten local authorities invited, only three attended: Karibib Town Council, Keetmanshoop Municipality and Mariental Municipality. The Local Authorities testified that they are not doing much in terms of climate change but were thankful to attend and learn from CoW. The participants visited the

CoW's Health Care Risk Waste Facility (HCRWF) at the Solid Waste Management Division in Windhoek. The HCRWF comprises a combination of burn and non-burn technologies as well as air pollution cleaning equipment that ensures any potential air pollution is eliminated and treated. There was a recommendation for the National Climate Change Committee to communicate information to other local authorities in Namibia.

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## TRAINING | Climate Information Training #2

The Accessing and Interpreting Climate Information Training was a continuation of the first Climate information session. The training took place on 11-12 June 2019 at Kubata Hotel, Windhoek. Participants included representatives from the Namibia Meteorological Services; Ministry of Agriculture, Water and Forestry; Ministry of Environment and Tourism; and Private Consultants. The training content focused on climate

science background, data availability, presentation and interpretation.

The participants got a chance to translate the Windhoek Climate Risk Narratives into drawings/pictures. An exercise on climate scenarios for decision-making using the [KNMI Climate Explorer](#) was undertaken. At the end of each session, participants were asked to write down what needed to be



considered in terms of using climate information in decision making. All the notes were added to the Climate Evidence Box which was then used as a basis for exploring the [distillation of climate information](#) during the Windhoek Final Learning Lab.



Above: Participant at the training

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## LEARNING LAB | Final Windhoek Learning Lab



Above left: A group discussion on interpreting climate information at the Final Windhoek Learning Lab in June  
Above right: Group photo of participants



The [Windhoek Final Learning Lab](#) took place on 17-18 June at Arebbusch Travel Lodge. The Lab aimed to (i) showcase: sharing results of research, training and activities; (ii) identify impacts: looking back and reflecting on what has been achieved in the lifetime of FRACTAL; and (iii) what next: steps/processes to be taken forward post-FRACTAL. The Lab was attended by visiting guests from the Maputo City Council, Eduardo Mondlane University and the University of KwaZulu Natal. A presentation on Windhoek's water resource planning under climate change and discussion on the

development of Windhoek's Wastewater Master Plan was led by Aurecon. Other sessions included: Climate Science Distillation; capacity mapping and development to enhance climate governance; and organizational capacities needed to deliver climate-resilient decision making and action. As the project draws to a close, the FRACTAL team hopes that the information, experiences, engagements and learnings have further capacitated those working to develop and service the city of Windhoek to take on issues of climate change now and in the future.

## Caucus | FRACTAL Urban Caucus in Lusaka



Above left: Windhoek Team with Hon Deputy Mayor of Lusaka and Hon Deputy Mayor of Harare  
Above right: Radio Talk show: Exploring Cities needs southern African cities



The FRACTAL Urban Caucus took place in Lusaka from 19-21 June 2019 at Golden Peacock Hotel in Lusaka, Zambia. The Caucus brought together representatives from a variety of countries, sectors, government levels and groups to talk about urban resilience in southern African cities, with a focus on climate change. The youth group from Lusaka provided several touching inputs to the event. The Windhoek team attended the second and third days of the event. The team included the following from CoW: Mr. Fillemon Hambuda; Mr. Olavi Makuti and Ms. Mary-Anne Kahitu. In addition, Prof. John Mfune and Ms. Kornelia lipinge from the University of Namibia also attended.

The Windhoek team participated and contributed to various parallel sessions, giving their input to a panel discussion: Decision-making in cities - Windhoek and Maputo.

In the session exploring the needs of southern African cities, city partners discussed how the cities decided on

their needs, if there were any changes to this process during the course of the FRACTAL project and if they experienced any tensions around the needs that FRACTAL could meet or could not meet in terms of research. From this discussion, it was noted that cities had different approaches to identifying the city needs and/or burning issues. For example, in Harare, the FRACTAL research team engaged with Harare City Council and the Zimbabwe National Water Authority through consultative meetings and an inception meeting. In other cities, such as Windhoek, they held learning labs where stakeholders selected the burning issues through a prioritization process. Some of the tensions experienced at first were that stakeholders had not grasped the FRACTAL project concept and hence expected that the project would assist in a different way - for example, at the initial FRACTAL engagements in Maputo, participants thought incorrectly that FRACTAL would be able to assist in infrastructure development.

## REFLECTIONS | FRACTAL Feedback

At the final Windhoek Learning Lab participants were asked to note down their reflections on the overall FRACTAL project. Questions were around what the major learnings were, how to take these forward and who is responsible?

MAJOR LEARNINGS	HOW TO TAKE THESE LEARNINGS FORWARD	WHO IS RESPONSIBLE?
Taking climate change information and incorporating that into the day-to-day work environment	Training partners and technicians to involve decision-makers in there events and to run the events e.g. learning lab training	All stakeholders - individuals who took part in the workshops
The system is complex; not everything is what you expect; challenges with institutions' "complexity"	Encourage environmentalists/climate scientists to simplify info in all their awareness activities/workshops/training	Grassroots citizens involvement - FRACTAL labs etc. have created inspiration and ownership among all city actors
The type of engagements of the FRACTAL project create an environment whereby different stakeholders shared their experiences	Action must be taken by politicians and municipal government, communities, media, academia	The champion should be the Climate Desk at CoW
Simplifying of climate change information	Need continuous and updating on the parameters and effects that are required in the city's climate resilience assessments.	CoW and UNAM to take action and implement the learning

## Recent publications

1. Scott D., Iipinge K.N., Mfunze J.K.E., Muchadenyika D., Makuti O.V., and Ziervogel G. (2018) [The Story of Water in Windhoek: A Narrative Approach to Interpreting a Transdisciplinary Process](#) *Water* 2018, 10, 1366. The main learnings from this story are that the lack of decentralized power and resources serves to exacerbate water crises at the local level and hamper climate adaptation, despite a proactive and innovative local municipality. The paper also shows that the narrative approach provides the thread of the story to simplify a very complex set of arrangements and contradictions.
2. Iwai. S., Scott D., Iipinge K.N., and Mfunze J.K.E. (2019) The Contradiction between Economic Efficiency and Social Justice: A Discourse Analysis of Namibia's Water Supply and Sanitation Policy 2008. (Submitted to a journal, in review).
3. Ndebele-Murisa M.R., Mubaya, C.P., Pretorius, L., Mamombe R., Iipinge, K.N., Mwalukanga B., Mfunze J.K.E., Siame G.S., and Nchito W.S. (2019) City-to-city learning and knowledge exchange for climate resilience in southern Africa. (Submitted to a journal, in review).



## Interesting Articles

- Enabling transdisciplinary and cross-city learning to address burning issues in FRACTAL cities. June 2019:  
<https://start.org/news/enabling-transdisciplinary-and-cross-city-learning-to-address-burning-issues-in-fractal-cities/>
- Helping Windhoek plan for climate change by Stockholm Environment Institute:  
<https://www.sei.org/featured/windhoek-climate-change-plan/>
- The FRACTAL LAB, a learning experience by Reinhold Mangundu:  
<http://www.progress-namibia.com/main/post/the-fractal-lab-a-learning-experience-for-me-by-reinhold-mangundu/>
- University of Cape Town shares climate-change expertise in Africa (February 2019):  
<https://www.news.uct.ac.za/article/-/2019-02-19-uct-shares-climate-change-expertise-in-africa>
- Windhoek acts on climate change (June 2019).  
<https://www.namibian.com.na/189744/archive-read/Windhoek-acts-on-climate-change>

## Events

7-9 October 2019 | African Climate Risks Conference 2019 in Addis Ababa, Ethiopia

**For more information about FRACTAL contact the Windhoek Team:**

Prof. John Mfune, Principal Investigator, [jmfune@unam.na](mailto:jmfune@unam.na), +264612063743

Mr. Olavi Makuti, City of Windhoek Focal Point, [Olavi.Makuti@windhoekcc.org.na](mailto:Olavi.Makuti@windhoekcc.org.na), +264612093518

Ms. Kornelia Iipinge, Embedded Researcher, [kniipinge@unam.na](mailto:kniipinge@unam.na), +264612064726

[www.fractal.org.za](http://www.fractal.org.za) | [www.unam.edu.na](http://www.unam.edu.na) | [www.windhoekcc.org.na](http://www.windhoekcc.org.na)

