

WINDHOEK CITY DIGEST

Highlights



Above: Group discussion photo from the stakeholder workshop of the City of Windhoek's Integrated Climate Change Strategy and Action Plan, 13 March 2018 | Photo: Kornelia lipinge

WORKSHOP | City of Windhoek's Integrated Climate Change Strategy and Action Plan

The City of Windhoek (CoW) has proactively taken steps to improve its climate resilience and to address potential and actual climate change impacts faced by the city. It is against this background that the CoW is developing its Integrated Climate Change Strategy and Action Plan (ICCSAP) to act as a framework for the city's response to climate change and to ensure that national obligations are streamlined into the city's operations.

Supported by FRACTAL, a [Stakeholder workshop for CoW ICCSAP](#) took place on 13-14th March 2018 at Kubata Conference Centre, Windhoek. The workshop brought together CoW's Departments and other relevant stakeholders including the Ministry of Environment and Tourism, and Namibia Energy Institute. During this workshop main areas in the city that are affected by climate issues were identified, and adaptation and mitigation measures were proposed.

The identified themes of the CoW ICCSAP are:

1. Water Security and Efficiency
2. Energy Efficiency and Renewable Energy
3. Biodiversity and Ecosystem Goods and Services
4. Healthy Communities
5. Sustainable Transportation
6. The Built Environment:
 - a. Critical Infrastructure
 - b. Waste Minimization and Management
 - c. Human Settlements



Above: Group photo from the stakeholder workshop of the City of Windhoek's Integrated Climate Change Strategy and Action Plan, 14 March 2018 | Photo: Kornelia lipinge

TRAINING | Transformational Leadership on Climate Change for Windhoek's Decision Makers



Above: Group discussions on mapping decision making process at the TLCC Training | Photo: Kornelia lipinge

FRACTAL hosted the [Transformational Leadership on Climate Change \(TLCC\) Training](#) on **18-19th April 2018** at Roof of

Africa Hotel, Windhoek. The idea came from the Windhoek Second Learning Lab that took place on 31st October 2017, where it

was proposed that high-level leadership is needed to enable and support the development and implementation of climate change strategies, plans and intervention measures that make a real difference on the ground in the City of Windhoek.

The TLCC training was designed to equip decision-makers with knowledge that will enable them to move away from the 'business as usual' way of decision-making that is usually short-term oriented and largely sector specific, towards a more forward looking and integrated or holistic approach, a requirement for the development of climate resilience cities. Sessions focused on: (1) showcasing adaptation inspiration cases undertaken to address climate challenges in Africa; (2) [co-produced principles for transformational leadership on climate change issues](#); (3) mainstreaming climate change into city planning and practice; and (4) an introduction to the projections of future climate conditions for Windhoek.

Her Excellency Ms Kate Airey the British Commissioner to Namibia gave the introductory remarks. The training workshop was attended by City of Windhoek

Councillors, Honorable Governor of the Khomas Regional Council, Windhoek Constituency Councillors, the City of Windhoek's Chief Executive Officer and Strategic Executives, and representatives of the Association for Local Authorities in Namibia. The Okahandja Town Council, Rehoboth Town Council and Walvis Bay Municipality were also represented by the Mayors and technical officers.

The TLCC training featured: on [NBC News-8](#) at which Prof John Mfune and Councillor Mr. Christopher Likuwa of Tobias Hainyeko Constituency shared some insights and highlights of the TLCCC; in [Political leadership needed to mitigate climate change](#) an article in The Namibian Newspaper; on NBC National Radio in an interview with Mr. Olavi Makuti at 06:45 on 20th April 2018; and in [City of Windhoek Aloe Newsletter June 2018](#). The City is keen to see more, similar training sessions implemented with the next TLCC focused on the City's Strategic Executives in August 2018.



Above: Councillor Mrs Hileni Ulumbu giving her reflections on Day 1 at TLCC Training | Photo: Kornelia Iiping

PRINCIPLES FOR TRANSFORMATIONAL LEADERSHIP ON CLIMATE CHANGE

EARLY WARNING SYSTEM | PROACTIVE PLANNING
SYSTEMS THINKING | COORDINATION | VISIONARY PLANNING
EXPLORE INNOVATION | ACCESSIBLE TECHNOLOGY
THINKING DIFFERENTLY | AWARENESS CREATION
COMMUNICATION | BUILDING CAPACITY
ENCOURAGING ENTREPRENEURSHIP
FOCUS ON LOW HANGING FRUITS | TAKING RESPONSIBILITY
INCLUSION OF STAKEHOLDERS | RESOURCE MOBILISATION
SEEK PARTNERSHIPS TO HELP WITH FUNDING
DEVELOP GUIDELINES TO EDUCATE AND EMPOWER COMMUNITY



FRACTAL
FUTURE RESILIENCE FOR AFRICAN CITIES AND LANDS

Co-produced by Windhoek decision-makers

Above: The principles for transformational leadership on climate change that were co-produced by Councillors, senior officials and researchers at the TLCC Training event hosted by FRACTAL

ENGAGEMENTS | FRACTAL Project with National Climate Change Unit

The Ministry of Environment and Tourism (MET) Climate Change Unit has been participating in FRACTAL activities by giving presentations on the 'Introduction to climate change: impacts and national responses'.

The MET Climate Change Unit met with FRACTAL team on 16 April 2018 at the MET Offices to discuss their climate information needs. These include average temperature and rainfall projections for 2030 to 2050 for regions of Namibia.



Above: FRACTAL Team with the Climate Change Unit representatives in Windhoek | Photo: Dianne Scott


RESEARCH | Windhoek Future Climate Impacts and Adaptations Infographic Developed

An infographic for Windhoek’s future climate impacts and adaptation examples from the Windhoek Climate Risk Narratives that were developed and further co-produced (i.e. iterated by scientists and city stakeholders) in the Windhoek First Learning Lab. The infographic is per the themes from the City of Windhoek’s Integrated Climate Change Strategy and Action Plan.

Windhoek's future climate impacts & adaptations examples


Projections of the future climate from climate models show a range of outcomes for Namibia. Three plausible scenarios for the 2040s and their impacts on the city-region of Windhoek are described here:

1: Much hotter with a drier rainy season




- More than 2 deg C warmer
- Twice as many very hot days
- 1/3 less rainfall

2: Hotter with rainfall later in the season




- 1.5 - 2 deg C warmer
- 50% more very hot days
- More rain later in the rainy season

3: Warmer with a similar rainy season




- 1 - 1.5 deg C warmer
- Annual average rainfall totals similar
- More intense rainfall


Water security & efficiency




- In all climate futures evaporation from reservoirs increases as temperatures rise.
- Continued migration to Windhoek increases pressure on water resources which become more limited.
- Adaptations could include additional water treatment or desalination plants.




Energy efficiency & renewable energy




- In climate futures 1 and 2, rainy days are fewer with more sunshine hours available for solar power.
- Increased temperatures sees greater demand for air conditioning.
- Local promotion of the National Energy Efficiency Programme and City of Windhoek’s Renewable Energy Policy could help adoption of energy-efficient technologies and practices such as waste-to-energy power plants.




Healthy communities




- All climate futures are warmer, with many more very hot days in futures 1 and 2. Vulnerable people suffer from heat related illness.
- Flooding likely in climate futures 2 and 3 affecting sanitation. Cholera, Hepatitis B and similar diseases rise.
- Measures to improve sanitation services and general health of residents could help resilience to illness.



Biodiversity & Ecosystem goods & services




- Rises in temperature and changes to rainfall patterns likely in all climate futures with resulting biodiversity loss, shift in habitats and invasive species.
- Degradation to landscape or wildlife impacts on tourism.
- Game farming more resilient in a hotter future climate.
- Impacts mitigated through sustainable land management and conservation measures.




The built environment

A) Critical infrastructure




- Flooding is likely in climate futures 2 and 3 through increased heavy rain events.
- Planned developments screened for potential climate risks and cost-benefit analysis applied.

B) Waste minimisation & magement





- Increased waste from urban migration as farming becomes harder with changing rainfall patterns in all climate futures.
- Waste-to-energy power plants an adaptation option.

C) Human settlements



- Flooding likely in climate futures 2 and 3 especially in informal settlements built too near to water courses.
- City of Windhoek’s programme to formalise informal settlements will help.

What other changes do you expect to see?

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RESEARCH | START GEC Project: Water Security in Windhoek

The ***Water Security in Windhoek: governance, water demand and supply, and livelihoods in the context of urbanization and climate change*** research funded by the SysTEM for Analysis, Research and Training (START) through the Global Environmental Change (GEC) Programme. The researchers were from the University of Namibia (UNAM) (Prof. John Mfune, Prof. Lawrence Kazembe, Dr. Ndeyapo Nickanor, Mr. Gerhard Iputa), NamWater (Mr. Johannes Sirunda) and UNAM Multidisciplinary Research Centre (Dr. Earl Lewis) was conducted from April 2017 to May 2018.

A Stakeholder Workshop was held on 27th April 2018 in the Library Auditorium at UNAM Main Campus where research findings were presented. You can find the full report [here](#).

Research areas and key findings:

Water Governance - Ujams Wastewater Treatment Plant, Windhoek as a case study of processes, timelines and actors

Different actors are involved in discussions around and decision-making for addressing water supply, pollution from industrial waste and solutions to water insecurity. Issues are usually dealt with on a case-by-case basis so that each time an

alternative solution is found to a problem. Climate change rarely features in the content, usage or application of these decisions and solutions.

Impact of drought on water resources used to supply Windhoek (Swakop River in particular)

The Swakop River is a critical water source for central Namibia and the city of Windhoek, with water being transferred from the Kombat Karst Aquifer and the Von Bach and Swakoppoort Dams on the river in times of water scarcity. The analyses of drought, streamflow and rainfall data (from 1969 to 2016) showed that there are drought periods, but that these are almost always followed by a wet period.

Modeling the synergies and hotspots of water supply and demand in the context of climate change and urbanization

Urbanization of 3.1% per annum combined with climate shifts may affect water security in this semi-arid zone by changing water demands. Any water management planning must therefore account for the cyclical prevalence of drought in the region as well as the growth in population and water usage.

TRAINING | Assessing Institutional Capacity for Integrating Climate Information into Decision-making for the City of Windhoek's Integrated Climate Change Strategy and Action Plan

Assessing Institutional Capacity for Integrating Climate Information into Decision-making for the City of Windhoek's Integrated Climate Change Strategy and Action Plan took place on 28th June 2018, in the Parks Division Boardroom, City of Windhoek. The all-day session was attended

by representatives of several departments in the City of Windhoek involved in the development of the CoW ICCSAP.

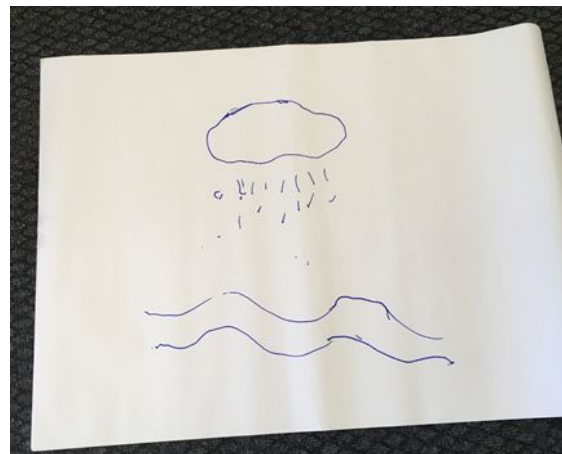
This training was facilitated by the Stockholm Environment Institute (SEI), partners on the FRACTAL Project. SEI

showcased decision-making methods that could support the prioritization of adaptation actions and the assessment of institutional capacity strengths and needs. The methods showcased were Analytic Hierarchy Process (AHP) and the Climate Capacity Diagnosis and Development (CaDD) tool¹.

The workshop highlighted how approaches such as AHP and CaDD can open new conversations and discussions between stakeholders from various city departments who may have differing priorities and perspectives.

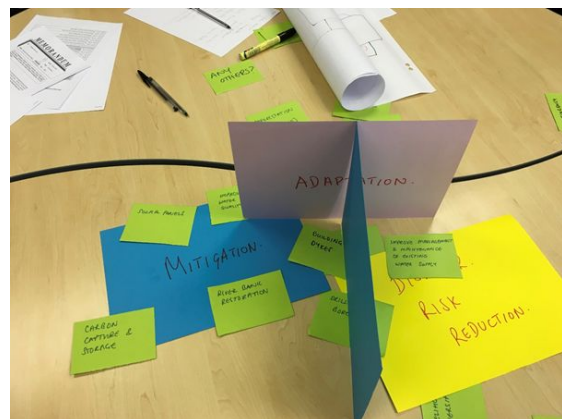
Using the AHP method and co-producing economic, social, climate and environmental criteria, the representatives from the different departments worked collaboratively to rank three proposed options from the earlier [CoW ICCSAP Stakeholder Workshop](#) as an example (the options considered were water efficiency measures, drilling boreholes and rainwater harvesting). This illustrated a transparent, collaborative decision-making process and raised questions and discussions from participants about how decisions are currently taken in the city, how they could be taken differently and what further information may be needed for decisions about priorities in the ICCSAP to be taken.

Using the CaDD approach, participants then discussed institutional capacity needs required to integrate climate into decision-making and implement climate change actions proposed as part of the ICCSAP. Following on from this, SEI will be doing more detailed work using the CaDD approach with the Department of Infrastructure, Water and Technical Services, planned for August 2018.



Above: Navigating a maze together; and the diagram drawn that describes the priority for the City of Windhoek's ICCSAP (a cloud, raindrops and a river)

Below: Exercise exploring language and terminology associated with climate change, for example: adaptation, mitigation, disaster risk reduction and development



¹ <https://www.cadd.global/>, CaDD is developed by Trioss (<https://www.trioss.global/>)

OTHER FRACTAL CITIES | Lusaka and Maputo Learning Labs

The **4th Lusaka Learning Lab** in Zambia took place on the 17-18th April 2018 with the High Level Breakfast and the Lusaka Policy briefs were launched. A highlight of the Lab was the discussion around the peri-urban perspective with regards to inadequate water supply and groundwater abstraction. A quiz was played with a prize of coffee being won.

The participants produced a [Lusaka to](#)

[Maputo Learning Lab Link video](#) sent to the Maputo Learning Lab as a part of the FRACTAL Learning Lab Link. Read up on a [newcomer's perspective - 4th Lusaka Learning Lab](#) by Max Leighton a Social Researcher from the University of Reading.

A Lusaka Governance Dialogue will be held in August 2018 and the 5th Lusaka Learning Lab is planned for early November.



Above: Group photo from the 4th Lusaka Learning Lab, Zambia | Photo: Max Leighton

The **First City Dialogue of Maputo** in Mozambique was held 23rd February 2018 at the Maputo Municipality Training Center. Participants included governmental ministries, parastatal and municipal organizations related to the water sector.

Water issues faced by the Maputo Municipality and the Great Maputo Region were presented and debated and possible solutions thereof discussed as well as existing projects and programmes.



Above: Group photo from the First City Dialogue of Maputo, Mozambique

Did you know?

His Excellency the President of Namibia Dr. Hage Geingob has declared 25th May 2018 as a **National Cleaning Campaign Day**.

Interesting Articles

- [The FRACTAL workshop “a learning experience for me”](#) by Reinhold Mangundu.
- [The bridge between science and practice: embedded researchers share experiences and insights](#) article by FRACTAL Project Embedded Researchers published on the START International Inc website, May 2nd 2018.
- [Here are three ways that cities can adapt to changing climate](#) published in The Conversation, by Dr Anna Taylor, Research fellow, Stockholm Environment Institute and University of Cape Town.
- [How African cities’ residents are creating climate change solutions](#) published in The Conversation, by Alice McClure and Gina Ziervogel, University of Cape Town.

EVENTS

13 August 2018 | Transformational Leadership on Climate Change Training for City of Windhoek's Strategic Executives, **Windhoek**
14-15 August 2018 | Third Windhoek Learning Lab, Windhoek
16-17 August 2018 | CaDD Tool Deep Dive for City of Windhoek's Department of Infrastructure, Water and Technical Services, Windhoek
October 2018 | Namibia Talanoa Dialogue, Windhoek
31 October 2018 - 2 November 2018 | 19th WaterNet/WARFSA/GWP-SA Symposium, Zambia

FRACTAL

Future Resilience for African Cities and Lands (FRACTAL) is a trans-disciplinary group of researchers from partner organisations around the world. Together with a broad range of stakeholders, they are working to co-produce 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. FRACTAL is a four year project within the multi-consortia [Future Climate for Africa](#) (FCFA) programme - jointly funded by the UK's [Department for International Development](#) (DFID) and the [Natural Environment Research Council](#) (NERC).

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