Windhoek
Transformational Leadership
on Climate Change Training

Roof of Africa Hotel, Windhoek
18-19 April 2018

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FRACTAL
FUTURE RESILIENCE FOR AFRICAN CITIES AND LANDS

SUMMARY

Future Resilience for African CiTies and Lands (FRACTAL) is a four-year project that is funded by the Department for International development (DFID) and the Natural Environmental Research Council (NERC), within the multi-consortia programme: Future Climate For Africa (FCFA). FRACTALs main overarching aim is to advance scientific knowledge about regional climate responses to anthropogenic forcing, enhance the integration of this knowledge into decision making at the codependent city-region scale, and thus enable responsible development pathways.

The University of Namibia and the City of Windhoek in partnership with the Future Resilience for African CiTies and Lands (FRACTAL) Project hosted a "Windhoek Transformational Leadership on Climate Change training" on 18th-19th April 2018 at Roof of Africa Hotel, Windhoek. The training was transformational in that it equipped decision-makers with knowledge that will allow them to move away from the 'business as usual' way of decision-making, 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 transformative leadership on climate change issues; (3) mainstreaming climate change into city planning and practice; and (4) an introductions to the climate future projections for Windhoek.

ACRONYMS AND ABBREVIATIONS

ACC	African Centre for Cities
CCSAP`	Climate Change Strategy and Action Plan
CoW	City of Windhoek
CSAG	Climate System Analysis Group
DFID	Department for International Development
EIA	Environmental Impact Assessment
EIF	Environmental Investment Fund
FCFA	Future Climate for Africa
FRACTAL	Future Resilience for African Cities and Lands
GCF	Green Climate Fund
GEC	Global Environmental Change
ICLEI	International Council for Local Environmental Initiatives
IPCC	Intergovernmental Panel on Climate Change
MC	Management Council
MET	Ministry of Environment and Tourism
MoU	Memorandum of Understanding
NamWater	Namibia Water Corporation
NDA	National Designated Authority
NERC	Natural Environment Research Council
OBE	Order of the British Empire
SDG	Sustainable Development Goal
SE	Strategic Executive
SOG	Small Opportunities Grant
START	Global Change System for Analysis, Research and Training
TLCC	Transformational Leadership on Climate Change
UCT	University of Cape Town
UNAM	University of Namibia
UNFCCC	United Nations Framework Convention on Climate Change

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INTRODUCTION AND BACKGROUND TO THE WORKSHOP REPORT

Future Resilience for African Cities and Lands (FRACTAL) is a four-year project running from July 2015 to June 2019. The FRACTAL Project is one of five consortia within the Future Climate for Africa (FCFA) Programme. 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. The FRACTAL Project aims to:

1. Advance scientific knowledge on regional climate responses to global change.
2. Enhance knowledge on how to integrate this scientific knowledge on regional climate responses to global change into decision making at the city-regional scale.
3. Responsibly contribute to decisions for resilient development pathways through case studies.
4. Use iterative, trans-disciplinary, co-exploration / co-production processes to enhance the understanding of co-production of climate change knowledge.

The FRACTAL-related activities in Windhoek are based on the Memorandum of Understanding (MoU) with the City of Windhoek (CoW), the University of Namibia (UNAM) and the Climate Systems Analysis Group (CSAG) at the University Of Cape Town (UCT). As part of the planned activities in the FRACTAL project for Windhoek, events such as the Learning Labs, and the "Awareness on Climate change and decision making for Windhoek Councilors" hosted in July 2017 had laid the groundwork for the Transformational Leadership on Climate Change training. In fact it was a suggestion from participants in the Windhoek Second Learning Lab in October 2017 that "Transformational Leadership on Climate Change" training be organized to raise awareness of climate change and decision making in Windhoek, as well as invite other towns to learn from the City of Windhoek. The report covers training activities, an overview of the workshop process along with outcomes and lessons learned from particular sessions.

WORKSHOP PROCESS AND OUTCOMES

In this section, Transformational Leadership on Climate Change (TLCC) Training activities are described based on the Programme (Annex 1).

DAY ONE

Chairperson: *Prof John Mfune, Head of Department: Department of Biological Sciences, University of Namibia*

Prof. Mfune, the Principal investigator for the FRACTAL Project in Namibia observed all protocol and welcomed all the Honorable guests. This was followed by a prayer from a participant.

1. WELCOMING

His Worship Muesee Kazapua, Mayor of City of Windhoek, City of Windhoek

His worship the Mayor started his speech by recognizing the presence of Governor, the British High Commissioner, The CEO of the City of Windhoek, FRACTAL Project and Consortia Representatives present from the other cities, the media, and everyone else

present that morning. His worship said his task on that day was to welcome the people to that important workshop. Welcome to the FRACTAL team in partnership with UNAM and UCT. He said he was delighted to have colleagues from Walvis Bay, Okahandja and Rehoboth. His worship said "Climate Change is an issue that we can no longer continue to ignore as African leaders as it is likely to have negative impacts on efforts to achieve our developmental objectives. Although we have been blessed with good showers in Windhoek for the last few days, climate change is expected to alter patterns of water availability by causing fluctuations in the water cycle and droughts will become more severe in the near future. This will have profound impacts on our people's livelihoods, economic growth and ecosystems". His worship stated that African countries and cities are most vulnerable to climate change largely because of relatively small economies, low levels of household income and greater reliance on climate sensitive sectors which hampers our ability to adapt to the impacts of climate change.

Figure 1: His Worship Muesee Kazapua, Mayor of City of Windhoek giving welcome remarks

His worship encouraged leaders to choose to reduce their vulnerability to climate change by ensuring that the policies adopted are aimed at improving resilience to climate change. His worship said that Windhoek as a city, is trying to adopt a developmental trajectory that takes climate change into consideration. His worship also mentioned that in order for adaptation and mitigation actions to be successful it must be spearheaded by the political leadership. His worship then thanked the FRACTAL Project for sponsoring the gathering and for assisting with the organization and facilitation of the workshop.

2. KEYNOTE ADDRESS AND OFFICIAL OPENING

Honorable Mrs. Laura McLeod-Katjirua, Governor of Khomas Region, Khomas Regional Council

The honorable Governor of Khomas welcomed to all the guests and named each Councilor by name. Special welcome to guests from other towns. She recognized the presence CEO of the CoW and all protocol observed! She brought to attention that she has other programs to attend to so she could not stay. She was pleased to see her fellow politicians attending, and that it was a sign that they are all concerned about Climate Change issues.

Figure 2: Honorable Mrs. Laura McLeod-Katjirua, Governor of Khomas Region giving a keynote address and official opening

The Honorable Governor stated that human-induced climate change has been identified globally as one of the key challenges of the 21st Century. She pointed out that although Climate Change is one of the most important issues on the global political and economic agenda, it has taken at least 20 years to become an international priority because climate change was originally communicated as a scientific problem. She said that to them this subject is complex, confusing and they are happy that there is a general recognition. She further noted that although the developing world is responsible for most of the anthropogenic emissions resulting in climate change, to many in these countries climate change is still an abstract concept because they are largely safe from its worst effects. She added that in Africa, climate change is far from abstract – it is already determining the course of people's lives.

The Honourable Governor explained that, it is predicted that Africa will be one of the regions to be worst affected by climate change and Namibia is no exception. She said that rainfall patterns across Africa have already changed markedly, and yields from rain-fed agriculture could halve in the next decade. She added "In Namibia and especially the Khomas Region that I represent, it is predicted that we are facing a much drier and warmer future" She gave an example of a scenario in Windhoek that was so painful that couldn't be avoided that happened the day before as residents settling in river beds was washed away by rainwater, she believed it was a result of climate change.

The Honourable Governor further explained plans to address the impacts of climate change, in which Namibia ratified the United Nations Framework Convention on Climate Change in 1995, and as such it is expected to adopt and implement policies and measures designed to mitigate the adverse effects of climate change. She said as a result of our participation to this convention we have also developed our National Climate Change Policy and Climate Change Strategy and Action Plan to guide the national response to climate change. She said that The Namibian Government has at numerous occasions called on the regional and local authority governments to streamline the provisions of these policies into their operations.

The Honourable Governor said that the Population is expected to rise to 10 billion by 2050, and many people will live in cities. The Honourable Governor said given that cities already account for 75 per cent of the world's energy use and 76 per cent of carbon dioxide emissions, there is a growing call for cities to be the main battleground for the fight on climate change. The Honourable Governor concluded that Climate change efforts require commitment. She said that Lack of information regarding climate change is seen as a critical barrier at the political level. The Honourable Governor was happy that the CoW has committed to improve the leadership on climate change.

3. PARTICIPANTS INTRODUCTIONS SESSION

Participants were requested to introduce themselves by name and the institution they represented.

4. INTRODUCTORY REMARKS TO FRACTAL PROJECT

Her Excellency Ms. Kate Airey, Order of the British Empire (OBE), High Commissioner of Britain in Namibia

Her Excellency Ms. Kate Airey was very delighted to be the representative from the United Kingdom (UK) Government to give introductory remarks about the FRACTAL Project. H.E Ms. Airey was really thrilled to see Windhoek's decision makers at this training, stating that climate risk management is really important for their work which she knows they are already doing. H.E. Ms. Airey introduced the FRACTAL Project is part of the Future Climate for Africa (FCFA) research programme, aimed at generating fundamentally new climate science focused on Africa, and to ensure that this science has an impact on human development across the continent. FCFA is a five-year research programme (2014-2019) jointly funded by Department for International Development (DFID) (£16m) and the UK's Natural Environment Research Council (NERC) (£4m). FCFA's research is funded as part of the UK's international climate financing commitments and efforts on Sustainable Development Goal (SDG) 13 to "Take urgent action to tackle climate change and its impacts".

Figure 3: Her Excellency Ms. Kate Airey, High Commissioner of Britain in Namibia

The risks from climate change and extreme weather events are increasing, and that improvements in climate risk management are much needed to reduce the impacts, build resilience and enable sustainable development. FRACTAL operates in Lusaka, Maputo and Windhoek, Blantyre, Gaborone and Harare (funded by DFID) and three self-funded cities (Cape Town, Durban and Johannesburg). FRACTAL partners in Windhoek context: UNAM, City of Windhoek, UCT. The knowledge partnerships that FRACTAL is building - across many different types of stakeholders and regions of the world -- are highly impressive. Through FRACTAL and the broader FCFA programme, north-south collaborations are being strengthened and perhaps more importantly, so are south-south collaborations (e.g. Lusaka-Windhoek learning exchange). All aimed to improve linkages between the best practices in the cities. H.E. Ms. Airey stated that dialogues and connections really important. Moreover, the UK universities are interested in building partnerships with Namibia and she hope the UK government support will strengthen these even further.

H.E. Ms Airey mentioned that some of the participants had been involved in previous FRACTAL events in Windhoek, such as the Learning Labs, and the "Awareness on Climate change and decision making for Windhoek Councillors" hosted in July 2017, which had laid the groundwork for the TLCC training. In fact it was a suggestion from participants in the second Learning Lab in October 2017 that "Transformational Leadership on Climate Change" training be organized to raise awareness of climate change and decision making in Windhoek, as well as invite other towns to learn from Windhoek.

H.E Ms. Airey concluded that she is looking forward to hearing how Windhoek works with FRACTAL partners to become a city that is leading the way in reducing climate risks. The training could further strengthen the capacity of City of Windhoek to position itself in Namibia and on the international stage as a front-runner in tackling climate change. H.E Ms Airey commended His Worship the Mayor of City of Windhoek for supporting this initiative. H.E Ms. Airey would like to see personally is Namibia on the national stage, becoming a front runner. This is how we adapt and this is how we take on this challenge. H.E Ms. Airey was proud that UK Government could support this FRACTAL Project.

5. ACTIVITIES UNDERTAKEN IN WINDHOEK SO FAR FRACTAL PROJECT IN WINDHOEK

Prof. John Mfune, University of Namibia

Prof. Mfune requested the participants to look at an image and say what they saw (Figure 4 below). From the participant's responses, Participants agreed that every individual has their own way of looking at things. Prof. Mfune stated that as a transformational leader it is important that in the same situation they can look at things differently. In addition, another person may not understand another's perspective.

Figure 4: Ice – breaker image

In Prof. Mfune presentation, he cautioned the participants that climate change is a reality with examples of Windhoek now receiving rains in April when it is commonly during October, November and December. Prof Mfune was sadden to hear in 17 April 2018 NBC-NEWS that a woman and her child lost their lives as their shack was washed away in close to riverbed by a flash flood. Prof. Mfune explained that at the global scale there is a lot of research and with Conventions such as the United Nations Framework Convention on Climate Change (UNFCCC) has been established and Namibia is signatory to. Cities are complex as lots of components are involved. Even without climate change it is very complex. The FRACTAL Project is addressing decision making contexts as in how, where and what must take place to becoming a climate resilience City. It is thus important that climate information and risks are known to decision makers, for example where you put the settlements and roads. In the CoW, what is the climate information that we need? How can we integrate this in development?

Prof. Mfune mentioned the key opportunities for FRACTAL collaboration in Windhoek:

a. Memorandum of Understanding sighed between City of Windhoek and UNAM.
b. Integration of climate science knowledge in decision-making at city-region scale which contributes to resilient development.
c. Co-production of burning issues and explores solutions in a multi-stakeholder collaborative platform (Learning Labs) for addressing a particular complex social challenge.
d. Peer-to peer learning exchanges with other city partners.
e. Training workshops – new skills and knowledge.
f. Embedded researcher: Ms. Kornelia Iipinge is the Windhoek Embedded researcher– bridging research and practice.
g. Small Opportunity Grants e.g. the Lusaka-Windhoek learning exchange visit.
h. Research Grants e.g. Water Security in Windhoek research project by University of Namibia (UNAM) and NamWater funded by Global Change System for Analysis, Research and Training (START) Global Environmental Change (GEC).

Prof Mfune reported on the Windhoek-FRACTAL Activities that have been undertaken to date below and participants were referred to the printed Windhoek City Digest Issue 1 (http://www.fractal.org.za/wp-content/uploads/2018/04/City-Digest-Windhoek-Issue-1.pdf):

1. The **FRACTAL Windhoek: Inception and First Learning Lab** took place on the 14th to 15th March 2017. The participants identified burning issues and questions. Two key burning issues identified were (i) Water insecurity; and (ii) Inadequate services in informal settlements (water, sanitation and energy).
2. The Windhoek **Climate Risk Narratives** were development by climate scientists and further co-produced by participants at the First Learning Lab. The three climate risk narratives are: (i) Much hotter with a drier rainy season; (ii) Hotter with more rainfall later in the rainy season; and (iii) Warmer with similar rainfall.
3. The **Climate Change and Decision Making Awareness Workshop for Windhoek Councillors** took place on 17th July 2017 (Figure 5). The half day workshop was attended by the Mayor of Windhoek Mr. Muesee Kazapua, five City of Windhoek Councilors and two Windhoek Constituency Councillors. Joint facilitations from the City of Windhoek; UNAM; Ministry of Environment and Tourism (MET); Namibian Meteorological Services; and ThinkNamibia Environmental Awareness and Climate Change Project.

Figure 5: Group photo from the Windhoek Councilor's Climate Change and Decision Making Awareness Workshop

4. The **Windhoek Urban Governance Research** that took place from 14th August to 31st August 2017. The research was aimed at understanding how decisions are made in the energy and water sectors. The preliminary results will be presented later in the sessions.
5. The **Windhoek-Lusaka City Exchange Programme** funded by FRACTAL's Small Opportunity Grant took place 16th -17th October 2017 in Lusaka and 02nd -03rd

November 2017 in Windhoek. Participants for the exchange included representatives from City of Windhoek Councilor and Technical Officials.

6. **Water Security in Windhoek** by UNAM and NamWater. "Water Security in Windhoek: governance, water demand and supply, and livelihoods in the context of urbanization and climate change"
7. **Water Evaluation and Planning system (WEAP) Online Training** funded by FRACTAL took place on 28th -30th November 2017.
8. **City of Windhoek's Climate Change Strategy and Action Plan Stakeholder workshop** on 13-14 March 2018 at Kubata Conference Centre.

Prof Mfune shared some of the Windhoek FRACTAL planned activities for 2018/19 below:

1. FRACTAL's assistance in the City of Windhoek's Climate Change Strategy and Action Plan;
2. Windhoek Third Learning Lab; and
3. Research on energy and informalities in Windhoek.

6. INTRODUCTION TO CLIMATE CHANGE: IMPACTS, STRATEGIES AND ACTION PLANS

Mr. Paulus Ashili, Department of Environmental Affairs, Ministry of Environment and Tourism

Mr. Ashili showed a Namibian Video on climate change by the Think Namibia Environmental Awareness Campaign). Dr. Clemens von Doderer, Resident Representative of Hanns Seidel Foundation Namibia informed that participant that it can be downloaded from (https://www.enviro-awareness.org.na/. The video discussed the difference between weather and climate, rise in average surface temperature, Greenhouse Gases (GHGs) in atmosphere form a blanket, both natural and human causes, and those countries who contribute least will be impacted most.

Mr Ashili explained Namibia very vulnerable, rainfall patterns changing, reduction of freshwater due to increased evaporation, decrease in aquifer recharge, reduced productivity of agriculture, biodiversity and tourism affected, health etc. – waterborne diseases, hydroelectric reduced, and infrastructure not designed e.g. roads washed away. Mr Ashili noted that Namibia as a country need to develop strong mitigation and adaptation strategies in order to increase our resilience to climate changes.

Mr Ashili introduced the Green Climate Fund (GCF); it was established by UNFCCC in 2010. The global purposes of GCF are: Firstly, to make significant and ambitious contribution to combating climate change. Secondly, it is to promote paradigm shift towards low carbon climate resilient development pathways. Lastly, to provide support to developing countries, taking into account needs of countries particularly vulnerable. Namibia's National Designated Authority (NDA) or Focal Point for GCF is Ministry of Environment and Tourism. Which has Access to Fund resources is through accredited sub-national, national, regional and international implementing entities. However, proposal to the GCF should be accompanied by the no objection letter from the NDA.The Environmental Investment Fund of Namibia is the national accredited entity of Namibia.

Mr. Ashili stated the Ministry of Environment and Tourism's responses to climate change:

- Ratified the UNFCCC in May 1995
- Acceded to Kyoto protocol in October 2003
- A multi-sectorial National Climate Change Committee (NCCC) was formed in 2001 to provide overall oversight and to advise government on CC issues
- National Climate Change Policy in 2011 and a National Climate Change Strategy and Action Plan (2013-2020) approved by Cabinet in 2014. The MET is please to know that City of Windhoek is developing its Integrated Climate Change Strategy and Action Plan that is aligned to the National CCSAP.
- Variety of initiatives to promote clean development and renewable energy such as Solar Revolving Fund (MME) and green soft loans and grants of the EIF
- Various projects: Scaling up community resilience to climate variability and climate change in Northern Namibia, with a special focus on women and children (SCORE) (2014-2019); Africa Adaptation Project Namibia (2010-2012); Climate Change Adaptation Project under the Country Pilot Partnership for Integrated Sustainable Land Management (2008-2012); and Community Based Adaptation initiatives through the Small Grants Programme.

Questions and comments by the participants:

1. Why not engage the private sector?

Response form Mr. Ashili: The MET have tried and it is to note that the Private sector sits on the National Climate Change Committee. Some are nominated to be accredited so they can access GCF funds.

2. Why are we more vulnerable than industrialized countries?

Response from Prof Mfune: if there was a serious disaster some of us in Namibia do not have the money so we cannot just buy our way out like in developed countries we have little capacity to cope.

3. How can we get climate funding?

Response from Mr. Ashili: approach the MET and we can assist.

4. General comment: Should have invited national youth council as they are the future leaders.

7. CITY OF WINDHOEK CLIMATE RELATED ISSUES, RESPONSES AND POLICIES

Mr. Olavi Makuti, Health and Environmental Services Division, Department of Economic Development and Environment, City of Windhoek

Mr. Makuti introduced climate change is one of the greatest challenge of the 21st century. The human induced global warming is caused by the emission of greenhouse gases, which trap heat in the atmosphere, causing a gradual warming of the earth's surface. The most important greenhouse gases are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). Namibia is recognized as one of the countries most vulnerable to the impacts of climate change and cities are the battlegrounds to combat climate change.

Mr. Makuti presented the current activities to address climate change by the city of Windhoek:

1. Climate Change Desk established in the Health and Environmental Services Division - Coordinate the City's response to climate change.

2. Integrated Climate Change Strategy and Action Plan for Windhoek- To be finalized by the end of June 2018.
3. Various awareness raising activities in water, energy and climate change issues.
4. The City of Windhoek serves at National Platforms on the (1) GHG Inventory Working Group and (2) National Climate Change Committee.
5. Implementing Climate Change Projects: Compact of Mayors, FRACTAL Project, African Capital Cities Sustainability Forum (Tshwane Declaration) and Windhoek-Bremen Climate Partnership.

Mr. Makuti explained that the City of Windhoek's Integrated Climate Change Strategy and Action Plan will first put emphasis on the focus areas discussed below. This is mainly due to limited resources and these focus areas also represents the burning challenges that are hampering the city from achieving its sustainability goals and climate resilient status.

1. **Human Settlements**
   - Formalization of informal settlements.
   - Control the proliferation of informal settlements.
   - Sanitation issues.
   - Environmental degradation
2. **Water Security and Efficiency**
   - Demand management
   - Augmentation of current supply
   - Water reclamation
   - Behave like a dry City (awareness and policies)
3. **Waste Minimization and Management**
   - Become the cleanest City in Africa
   - Turn waste into a resource (waste to energy, recycling, reuse)
   - Minimize waste production
   - Awareness
4. **Renewable Energy and Energy Efficiency**
   - Renewable energy is one of the most effective tools we have in the fight against climate change.
   - CoW Renewable Energy Policy.
   - Promote the use of renewable energy in the city.
5. **Biodiversity and Ecosystem Goods and Services**

Biodiversity is affected by climate change, with negative consequences for human well-being, but biodiversity, through the ecosystem services it supports, also makes an important contribution to both climate-change mitigation and adaptation.

- Plants remove carbon dioxide from the atmosphere, thus helping to address climate change by storing carbon.
- Vegetation especially along water courses can help reduce the disastrous impacts of climate change such as flooding.

The City needs to protect its biodiversity through:

- Development of biodiversity management strategies.
- Develop policies that promote the protection of biodiversity.
- Enforcement of bylaws.
- Accord conservation status to biodiversity hot spots.

6. **Awareness Raising Activities**

Figure 6: City of Windhoek's awareness posters for the public

7. **Sustainable Transportation**

Windhoek's Integrated Transportation Master Plan: Aims to realize an accessible, efficient, safe and affordable transport system for Windhoek and Namibia.

8. **Disaster Preparedness**

Climate change may increase both the frequency and intensity of disasters. Such as higher temperatures, increased risk of drought, fire and flood, stronger storms with greater storm damage, increased heat related illness and disease and higher economic losses are all directly related to climate change. Disaster preparedness will not prevent the effects of climate change, but can drastically reduce the impacts upon people and community.

The following members of society will likely be most severely affected by climate change:

- individuals that are already more vulnerable such as older persons and children,
- Those that are socially isolated,
- People with various health conditions, and
- Those of lower socioeconomic status.

9. **Healthy Communities**

- Climate change is expected to have a direct and indirect impact on human health.
- City Health Profile.
- Healthy Cities Programme.

8. BUSINESS AS USUAL DECISION MAKING DISCUSSIONS

Mr. Olavi Makuti, Health and Environmental Services Division, Department of Economic Development and Environment, City of Windhoek

Mr. Makuti gave a very short presentation on "Business as usual" in which he explained the way decisions are made in the city of Windhoek. He explained the hierarchy of the City of Windhoek Council in which most of the important decisions are made. Mr. Makuti then explained CoW plans and strategies that are related to Climate change, the first plan he mentioned was Transformational Strategic Plan (2017-2022) which focuses on issues like central to the plan is the city's attempt to respond to climate change through development of renewable energy, alternative water supply schemes, improving land and housing delivery processes and the provision of basic services in informal settlements. The next plan he explained was Water Management Plan which focused on issues like, giving Guidelines the City of Windhoek 'to manage water supply and water use during drought situations. The Drought response plan points to severity indicators, response actions and response program elements.

Mr. Makuti continued with the Windhoek's Disaster Risk Management Plan he said that this Programme has four integral components (phases) and is based on the four phases (continuum) of Emergency and Disaster Management viz. mitigation, preparedness, response and recovery and is a philosophy and strategy for managing all hazards. Developed by City of Windhoek Disaster Management Division - Department of Community Services. The other plan he pointed out was Windhoek's Strategic Environmental Assessment (SEA) Windhoek and Windhoek Townlands plan he added that the SEA was conducted to provide input into and to guide future spatial development and planning, in order to meet the requirements of Section 56 of the Environmental Management Act. It seeks to identify what areas in and around the city is potentially suitable for development, as well as which are more sensitive and thus ideally not suited for development.

Mr. Makuti also talked about the Windhoek's Integrated Transportation Master Plan which aimed to realize an accessible, efficient, safe and affordable transport system for Windhoek and Namibia. The last plan he mentioned was Windhoek Drought Response Plan, he said the Plan outlines guidelines the City of Windhoek will use to manage water supply and water use during drought situations. The guidelines are designed to maintain the health, safety and economic vitality of the community; to avoid adverse impacts to public activity and quality of life for the community; and to consider individual customer needs as much as possible.

Mr. Makuti gave an example of the CoW decision making process case study, he said that the case study looks at the typical decision making process for major developments in the City of Windhoek. In this case the Windhoek Country Club Resort is used as an example (Figure 7). Developed as a resort within the city, the Windhoek Country Club Resort offers 4 Star accommodation (152 rooms), 18-hole golf course and the Desert Jewel Casino, Mr. Makuti explained the process in which decisions will be made and at every stage and all the players involved.

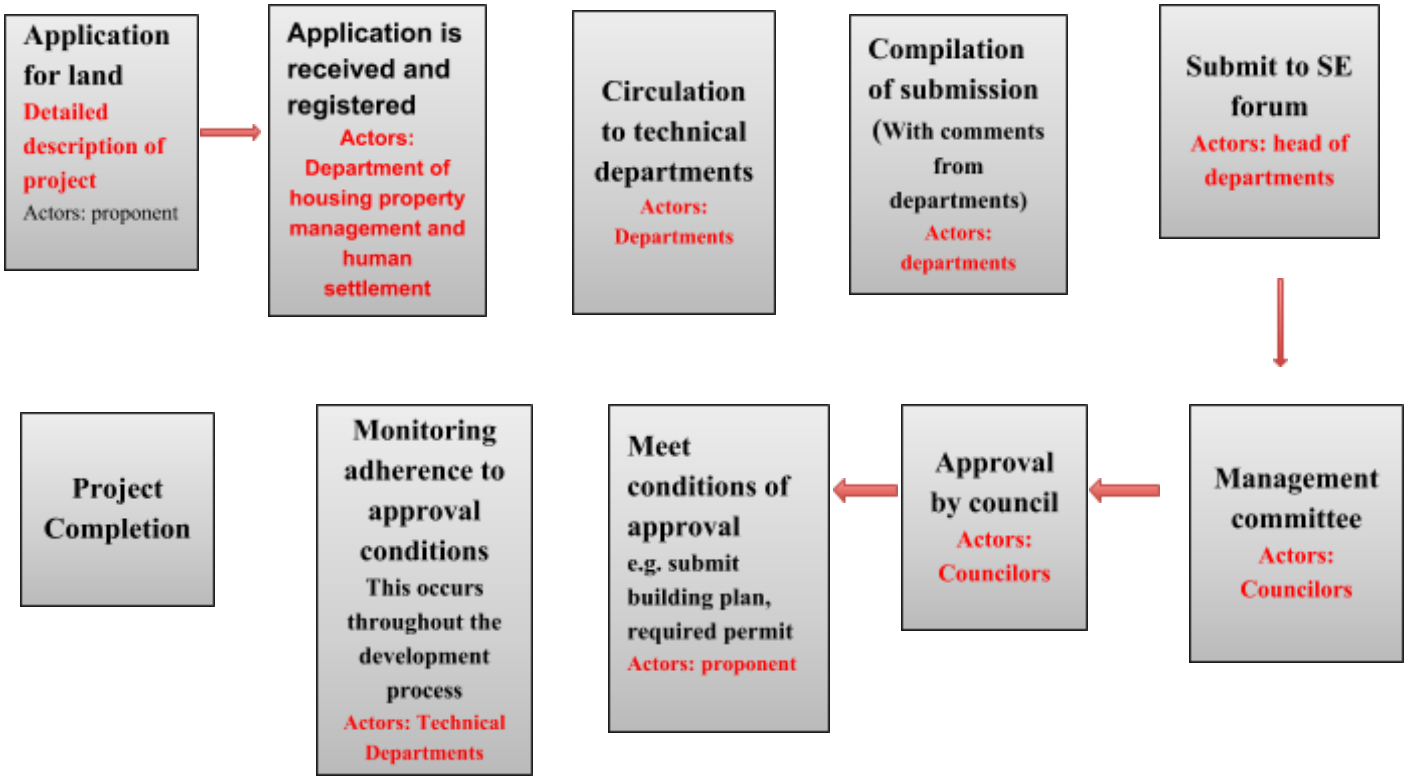


Figure 7: An example of the CoW decision making process case study

The participants were divided into four groups to map out the business as usual" decision making. After the discussion, the flipcharts were kept for Day Two activity on how to mainstream climate change into decision making processes. The four different scenarios were:

1. Development of a new dam north east of Windhoek
2. Formalization of informal settlement in the west of Windhoek
3. Development of circular road around city of Windhoek
4. Development of the news township in the north of Windhoek

Figure 8: Mr. Robert Kahimise, CEO of City of Windhoek

A. Development of a new dam north east of Windhoek

Figure 9: Group discussion by the Group: Development of a new dam north east of Windhoek

Issue: water shortage in Windhoek

City Departments responsible:

1. Water and Infrastructure
2. Community development
3. Housing and property
4. Finance: Budget estimations

The decision-making process steps:

1. Stakeholder identification
    a. Town planners
2. Project details: capacity, size, water flow
3. Roles of stakeholders.
4. Feasibility study.
5. Environmental Impact Assessment (EIA) consultant (can be internal or external).
6. Council approval. Project
7. Tending process by procurement management unit
8. Construction and completion

B. Formalization of informal settlement in the west of Windhoek

Figure 10: Group presentation by the Group: Formalization of informal settlement in the west of Windhoek

The decision making process steps and actors plus timeline:

1. Investigation / assessment of the situation on the ground. (households, demographics, SDGs – 17 goals, health, stakeholder engagement)
    a. City officials: 3 months approximately
2. Proposed layout
    a. City officials: 1-2 months
3. EIA assessment
    a. officials: 1 year
4. Submission for approval to Council –NAMPAB (Namibia Planning Advisory Board), Township boards, Surveyor general.
    a. Line ministry: 6 months – 2 years
5. Engagement with the affected communities
    a. CoW: 1 month

6. Sourcing of funding (planning for services)
    a. Assume that it's already budgeted
7. Construction and hand over
    a. Approximately 4-5 years

*all steps should be aligned to the SDGs

C. Development of circular road around city of Windhoek

Figure 11: Group discussion by the group: Development of circular road around city of Windhoek

The decision making process steps & actors plus timeline:

1. Need analysis
    a. actors: CoW, Community, Khomas Regional Council
2. Planning
    a. Actors: CoW department of infrastructure, roads and planning.
3. Circulation of item for inputs.
    a. for recommendation
    b. Actor: all City technical departments
4. Submission to Strategic Executive (SE) Forum
    a. Recommend to Management Council (MC)
    b. Actors: CEO, Strategic Executive
5. Submission to MC
    a. recommend to council
    b. actor: MC member
6. Submission to Council
    a. approvals
    b. actor: Mayor and City of Windhoek councillors

D. Development of the news township in the north of Windhoek

Figure 12: Group discussions by the group: Development of the news township in the north of Windhoek

The decision making process steps and actors plus timeline:

1. Surveillance
2. Layout of the township establishment
3. Environmental Impact Assessment (EIA)
4. Assessment of the project by the technical team
5. Submission of project to administrative (strategic) executive SE forum
6. Submission of recommendation to MC of CoW
7. MC recommends to the city council for approval
8. Submit to line ministry
9. Procurement process
10. Project implementation
11. Monitoring team with constantly report
12. Site handover to the city
    a. beneficial education

9. Co-production of principles for transformative leadership on climate change issues

Ms. Jess Kavonic, ICLEI - Local Governments for Sustainability

Ms. Kavonic works for ICLEI an organization that supports local council and municipalities across the world gave a presentation on Principles on transformative leadership on climate change, according to Ms. Jess cities have been growing for 4000 years, she said that approximately 70% of the world's population is expected to be urban by 2050. Expected growth means we will have to overcome the same issues in 30 years. She explained that because of climate change we need leaders to deal with this massive change. Ms. Kavonic said we do you need to be transformative and deal with

the complexity. Ms. Kavonic said that they had a conversation about how we need a plan before we apply for funding. How do we move from just talking to actually doing something? Ms. Kavonic explained the principles for resilience aimed at leaders that were developed by Stockholm Institute, but there were very European she said there was need to Africanize resilience and so they worked to make an African version, the principles developed were:

- Promote cross-scale spaces for learning and building relationships
- Work within context (but keep things simple)
- Embracing creativity and innovation (in order to break down barriers)
- Encourage neutral and trustworthy knowledge brokers
- Build networks of intermediaries – improve coordination
- Manage conflicts and tensions at the city level
- Improved participation at multiple levels
- Embrace complexity
- Embrace politics and power – need to learn how to work with these systems
- Recognise that informal systems are critical parts of African cities – work with informality
- Encourage adaptive and flexible policies (rather than prescriptive adaptive capabilities)
- Support regenerative approaches – i.e. building the vision – encourage the conversation of where does the city want to go
- Promote equality in African cities
- Systems thinking - a traditional analytical approach to addressing individual challenges independently will unlikely result in resilient solutions
- Knowledge flows and overlapping research/policy agendas - cities that practice learning by doing, reflection, recording of lessons learned, and effectively integrating them back into the planning process are often more resilient. Improving the link between science/ research and municipal decision making is likely to improve the available knowledge base, enhancing research informed policy.
- Coordinate, cooperate & collaborate - Resilience involves cooperative action and setting priorities that are endorsed by multiple stakeholders working across different sectors, scales and perspectives
- Create diversity

Ms. Kavonic then explained what it means to be a transformative leader she said “When building resilience we need to look beyond local, beyond sustainability and beyond persistence – we need to look towards transformation”. Ms. Kavonic also spoke about ‘Transformation’ in which leaders need to change the system dynamics that created problems, which refers to sometimes needing to break down the resilience of a system that is not working. She said that this may require a change of complex properties such as power, roles, financial patterns, norms and behaviours. In Conclusion, Ms. Kavonic explained that Transformation has multiple phases and it is a process that involves breaking down just as much as it relies on building up. As a system is broken down for change, it needs to be built up to accept that change.

The participants co-produced principles for transformative leadership on climate change for Windhoek Decision makers as shown below (Figure 13).

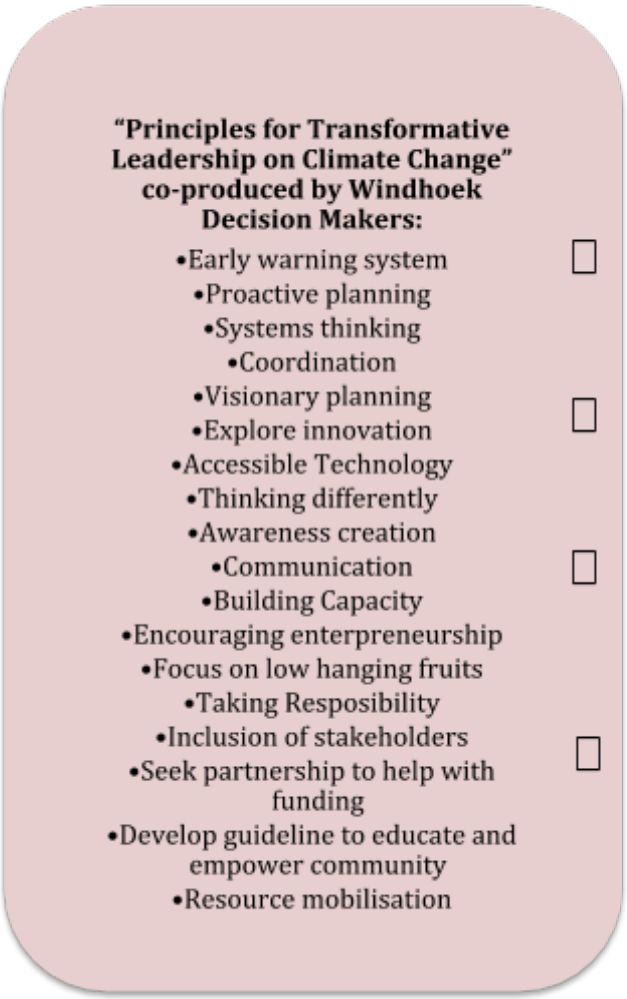


Figure 13: Principles for transformative leadership on climate change, co-produced by Windhoek Decision makers

10. Spilling the beans: A Game Exploring Resilience

Dr. Victor Indasi, Climate System Analysis Group, University of Cape Town

The participants were asked to play a game of resilience, the rules of the game was that each volunteer represented a domestic household. As a group they make up a system. Each of them had different water needs represented by the varying water level marks on their cups. The low water mark represents the minimum water requirement for them to meet their domestic water needs (i.e. water for cooking, drinking, some cleaning). The high water line represents ideal water needs (i.e. water for your non-edible garden plants, washing cars etc.).The bowl of beans represented the sole

water supply. They were then presented with 3 different scenarios and were asked to each try to meet their daily needs without spilling the water.

Figure 14: Dr. Victor Indasi explaining the rules of the game to the participants

The scenarios were:

1. **Scenario 1:** It is an average rainfall year and you need to meet your domestic water needs. Fill your cup with beans from the bowl using the spoon you have been provided. You should try to reach at least the first mark, though the higher water line is better. Do not go past the high water line.

2. **Scenario 2:** It is a *below average rainfall* year. The sole supply of water (the bowl of beans) is under strain. Again you need to meet your water needs. Fill your cup with water (beans) using the spoon you have been provided. You should try reaching at least the first mark, though the high water line is better. Do not go past the high water line.

3. **Scenario 3:** It is a *below average rainfall year.* However you now live in a changed system. The water infrastructure has changed (there are now two water sources). Policies and legislation have led to a change in water demand from the system (different cups). Again, you need to fill your cup with water (beans) using the spoon you have been assigned. You should try to meet at least the first mark, though the high water line is better. Do not go past the high water line. You can use either bowl.

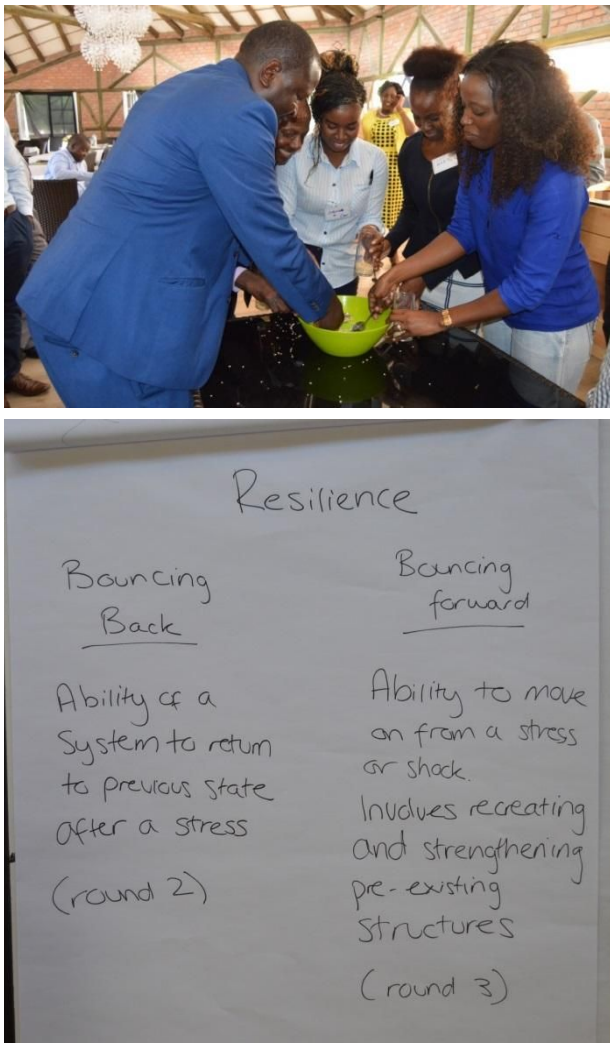


Figure 15: Participants playing spilling the beans game and Reflections by participants during the spilling the beans game

11. Reflections on Day One and closing remarks

Participants stood in a circle, an orange was thrown around and each one was asked to give a reflection of what had transpired during the sessions of the day. This was led by Prof. Scott and at the end of the reflections Prof. Scott, thanked all the participants for actively attending the training.

Figure 16: Participants giving their reflections on Day One

Listed below are the participant's reflections:

1. Happy to meet you and have discussions. Having politicians involved is good. If you look at our Councilors – we have the same problems for a long time. Always more challenges but we need to continue with the aim.
2. It is human behavior about how we react in times of stress and luxury. Key point is being proactive. We copy and paste a lot of policies and they gather dust. But they are good policies and we do not build our own capacity.
3. The City of Windhoek, Regional Council and national governments – it is not just up to them. Important to sensitize the whole agricultural sector. Increasing animal numbers and so on. Need to see how climate change is affecting these areas. Water is life.
4. This was a refresher. We read about it and hear about it on a daily basis. Words must have real purpose. Want to see from tomorrow that leaders create awareness. For me, action is the main thing. How are we going to install these theories? Blame game should end. I do not sleep if things are not right. You will see how I make change in a small space of time.
5. Issue of climate change critical. I have cancelled my engagements for tomorrow so I can be here.
6. A highlight for me is the commitment of our leaders. This will inform our way forward and we will have a strategy focused on action.
7. I admire very much that our leaders are coming together. The workshop has not been about telling them what to do but getting them to generate their own thoughts.

8. Our collaborating efforts will help. Nature will not take care of us if we do not take care of it. Whatever we plan for tomorrow we need to ensure it is being taken care of today. Coordination is key. It requires us all to partake.
9. Workshop was educational. We must not forget we have been elected to serve. We must not neglect this responsibility.
10. Eye opening. Really show matters being taken care of.
11. I have learned a lot. Sometimes we pretend to know things when we do not. We should not just go along. Should learn from others in the group. I learned we are not all at the same level and we need to accommodate other's opinions and knowledge.
12. We must help vulnerable people. We can contribute N$1 per person and this will buy a water tanks. Water tanks cost less than N$3000.00 which can be used in times of water crisis by the people in informal settlements.
13. We should share what we have learned. Windhoek is the number one City and we should share with other towns. We have to go and implement. I learned a lot about water and climate change. We need the implementers (the technocrats) here too.
14. Thank you to City of Windhoek for this wonderful opportunity. Important to be transparent and share.
15. The theme Transformational leadership should be changed to Transformative leaders for Action.
16. I have seen lots of slides before but today was an eye opener. Through NBC media you can inform listeners. I also know who to go to for interviews.
17. Themes worth revisiting over and over. The principles are about being community based. We should involve everyone and be inclusive. Having more junior councilors here would have been nice.
18. I agree that we have heard all this before and we don't need any more workshops but now we need action.
19. I was part of the other workshop (Councilor's awareness workshop on Climate change and decision making) but we wanted to show our commitment to FRACTAL by attending this too.
20. You cannot plan sustainability without climate change. Namibian solutions are needed to address Namibian problems.

DAY TWO

1. CLIMATE FINANCE OPPORTUNITIES

Mr. Lazarus Nafidi, Environmental Investment Fund of Namibia

Mr. Nafidi is the head of corporate communications at the Environmental Investment Fund (EIF), he gave a presentation on climate financing, He started by saying that the EIF was created by an Act of Parliament: Act 13 of 2001. The EIF was established to raise funds for sectors that are reliant on the environment as an economic activity. He said "we are not saying no mining, no activity on lands but we are finding the money so that these activities can continue whilst making sure there are still resources available". Mr. Nafidi said that the mission of the fund is to mobilize maintenance of an endowment fund which will generate sustainable income.

Mr. Nafidi said the fund is strategically focused on natural resource management, community based tourism, green technology promotion, eco-tourism (huge sector and lots of employment), national development which target areas like job creation, research and training. He further explained that the financial sources of the fund are mainly from Government Allocation through National Budget, as well as Environmental levies & conservation. Mr. Nafidi said that we can tackle the products that are really harmful to the environment and we can use to Fund in recycling and waste management. Another income source is Multilateral agencies & Development Partners e.g. through UNFCC adaptation and mitigation projects. The other area is Project management & Administrative fees we host through Ministry of Environment and Tourism (MET).

Mr. Nafidi explained the Climate funding gap, and about impacts like droughts and natural disasters across the world, which means there is a need to adapt or mitigate but there is a big funding gap. $400bn gap – lots of jokes made about this number but that is the reality Mr. Nafidi said. These financing needs to come from somewhere. He further explained that currently Developed Countries especially those that are party to Paris agreement have committed themselves as they know they are the ones who emit the most, they will contribute finances on annual basis to those that will experience the most impacts. A number of funds from the global environment facility also address climate change issues.

Mr. Nafidi continued with the Green Climate Fund which is the latest and largest of the funds. Mr. Nafidi said that the EIF is accredited to the GCF. It is inter-governmental all countries have a say and the industrialized countries don't dictate where the money goes. Aim is to support adaptations and mitigations. Mr. Nafidi further explained about how it work to engage the Green Climate Fund, he said first you have establish and maintain a National Designated Authority or Focal Point (in Namibia that is the (Ministry of Environment & Tourism) the Focal point then identifies entities that can be accredited with resources from the Fund After that they Develop projects to bring forward funding proposals through accredited entities. NDA puts together a strategy to bring together different stakeholders. They don't put out a call but they actively engage. They don't want to pre-empt the needs themselves. When financing architecture funding can be through projects and programmes which can be submitted by accredited organizations to NDA, which can be Grants, concessional loans etc.

Mr. Nafidi also talked about GCF accreditation in which EIF started process in 2014 Mr. Nafidi said it took almost an entire year. He said they screened all procedures e.g. procurement, project management proves it. For example, how do you mitigate risks? How do you assess projections? EIF accredited in micro category (up to N$134m). Mr. Nafidi said the EIF work in fields of grant making (not loans), project management and basic financial and administrative management. Mr. Nafidi noted that AgriBank and Development Bank of Namibia are in the process of getting accreditation. They are looking at climate proof infrastructure e.g. green transport it may also good area for CoW to go into partnership he explained. The NDA – MET – is responsible for getting a good balance of organizations in the country so different stakeholders needs are met.

Mr. Nafidi explained that the Investment priorities are to reduce emissions from energy, Cities and forestry; he added that Namibia does not emit much, we are not very industrialized but we feel more impacts than other countries. Mr. Nafidi said Agriculture is an area really impacted by droughts and these have now become worse. Mr. Nafidi said they are more looking at adaptation. They adopt EWS, change techniques and investing in health, and food security. Mr. Nafidi gave an example of some of the infrastructure issues like the floods this week. He said we need to find different ways of accommodating everyone. This speaks to the planners and environmental engineers in the local authorities. Mr. Nafidi said we need to Climate proof our infrastructures He mentioned the three projects submitted and approved by Green Climate Fund (GCF), Climate proof agriculture in 3 crop growing regions which submitted through Ministry of Water, Agriculture and Forestry. He said the Fund administers but they execute. About reducing food insecurity of subsistence farmers. Here they are looking at introducing new methods such as infrastructure.

Mr. Nafidi went on to explain about empower to adapt which focuses on creating climate change resilient livelihoods through community based natural resource management in Namibia, Mr. Nafidi said they also looks at rangeland and ecosystem adaptation and also looks at springs that are underexploited. The aim is to diversify from livestock rearing to crop production. Where are we at the moment? Mr. Nafidi asked. Through the Green Climate Fund we have accessed $30US and through French development we have 46m Euro. This is to build the capacity of commercial banks to fund renewable energy for example. In total US$ 92 raised in last 5 years, Mr. Nafidi explained. Mr. Nafidi said that if we successfully charge a fee on the import of say batteries or electronic products. Most of this end up in land fill and contaminate ground water. Mr. Nafidi concluded that we should try to champion sustainable waste management and that Planning should start now and we can help with financing.

Questions and comments from participants:

1. Comment: We really appreciate the information, Can I mention a project from CoW that we consider a priority and may qualify. The recharge aquifer?

Mr. Nafidi's response: It is a project that is expensive for our accreditation scope. But there is a lot of co-financing that can go into that.

2. Comment: Perhaps also looking at incineration as a method for destruction of hazardous waste so it does not go into landfill. In developing countries we are more focused on adaptation rather than mitigation.

2. MAINSTREAMING CLIMATE CHANGE INTO CITY PLANNING AND PRACTICE

Prof. Dianne Scott, African Centre for Cities

Prof. Scott starting with her presentation she said that she wanted to talk about mainstreaming, that people have been using the word this week even Mr. Makuti has been using the word mainstreaming. Prof. Scott said that it was very important that we are looking at cities she added FRACTAL is looking at climate change in cities and right now they are looking at 8 cities. She said that From Jess's presentation yesterday we see everyone is responding to climate change. Cities of the north have more resources and concerned with mitigation. There is this north/south tension. Previous speaker talked about funding coming from the north. We are supported and we have just seen how finance is coming. She stated that there are two ways of thinking about how cities respond to Climate Change. One is a dedicated approach and another one is mainstreaming. Prof. Scott explained that dedicated approach as the name suggests this approach needs political support. It involves policy development. It is a dedicated approach. These are the policies you need resources, you also need organizational structure targeting climate change adaptation and/or mitigation.

We have seen people talking about the climate change unit at the national level. There is a climate change desk in Windhoek. So what happens with this dedicated approach is you have political commitment and new structure and a new policy domain, meaning that is it a policy in its own right. It becomes an area of additional work for a municipality. But you have a framework to guide all your activities. We have talked a lot about this yesterday. Previous talk about new frameworks for funding. But, if you have political change you might have a political regime where the policy gets dropped. There is a risk that a new political regime may do a turnaround e.g. Mr. Trump, President of USA. You have got to remember that if you introduce this new policy it might conflict with other policies. Dedicated needs financial commitment and new structure. This can provide a good framework for shaping what happens in the city.

Prof. Scott continued "Let's turn now and look at mainstreaming. It is not a separate standalone policy. It integrates into existing policy. Example spatial planning or housing, water management and the disaster management also a good example. It's like piggy backing onto existing policy. The interesting thing is that it is usually done by Champions. We have our transformative leaders sitting here. They are influential in the dedicated approach. What does mainstreaming do? It adds value in a particular sector. Say water management having a climate change goal added on, it adds on to primary goal and adds value. Water management will have to fund within existing budget. Many of the case studies involved mainstreaming.
For example, Ms. Kavonic: Malawi where they developed guidelines for management of Shire river basin. Fed projection into national government mandate. They guided which stakeholders should guide guidelines. Catchment sector invited all the sectors to drafts the guidelines together. Ultimately this affects the city. This can have added value for the city.

Prof. Scott explained that perhaps not all mainstreaming is the same. In Cape Town colleagues and I were working on a book documenting what mainstreaming has gone

on in Cape Town. There are three types of mainstreaming, *Conceptual mainstreaming*: this is an idea and what it would mean for their department and what thinking needs to occur. Example is from housing. Study on how they thought about mainstreaming climate change. It is conceptual as it is just ideas. *Experimental mainstreaming* :this describes areas and activities that are in the early stages of *te*sting out what integrating of climate change entails in practice, usually on a small or limited scale, before any commitment is made to systemic mainstreaming,

Systemic mainstreaming: This describes areas and activities where climate change has been made a central component of the work, i.e. a policy, programme or project where climate considerations have been integrated into the core logic and design such that it is difficult to lose or remove the climate component. Example is the disaster risk unit. They built platforms out of gravel in informal settlements. When it rains the houses get wet. They said move your houses to these platforms. Making them less vulnerable. But in fact this is adaptation and a response to climate change. You can call it disaster risk, demand management and adaptation to climate change.

Comment: mainstreaming is starting to happen in CoW. There used to be someone who was the only champion. Mainstreaming must introduce several champions. The people who do the town planning should call a meeting where emergency services (least likely people) can make a contribution. Everyone should make a contribution. Involvement of various parties assist that we have a better plan in place e.g. emergency services going into buildings will not die. Need to have an office that develops.

Prof. Scott asked if mainstreaming can be used climate change also. We looked at exercise yesterday that there were these various steps and you are quite correct on first stage and now we need a second stage. Need for both dedicated and mainstreaming approaches. Dedicated is at risk of dropping off if a change of regime. But they do provide a framework. In Windhoek we not only have our national framework but we also have global policies. We are signatories to certain obligations. SDG 11 is urban and SDG13 is climate. Membership organizations, Windhoek and Walvis Bay re members of ICLEI.

Questions and comments from participants:

1. How is this one planned? Which kind of methods should be funded? We have more challenges. We have existing challenges and then also climate change. As councilors we have to provide our planning. It is not easy we have to provide to CoW.

Response from Prof. Scott: The previous speaker spoke about new system. Just a suggestion – there are many other experts – if you want to address water challenge can the finances raised also address non-climate challenges.

2. Comments to Prof. Scott response: if you address climate change may be other challenges are addressed?
Prof. Scott response: Yes that is called co-benefits.
Mr. Makuti: climate change issues and migration issues. CoW has submitted a project about aquifer recharge through UNDP. If you remove climate change then water is still an issue. Three dam system already at its limit.

3. WINDHOEK CLIMATE INFOGRAPHICS

Dr. Laura Burgin, UK Meteorological Office, Hadley Centre

Dr. Burgin explained how mainstreaming climate information is our goal. However, the graphs and maps that are scientifically created are not easy to understand. Dr. Burgin stated that in collaboration with the FRACTAL team are trying to use the idea of narratives or stories. Dr. Burgin showed global climate information projected on average changes in surface temperatures and precipitation (see Figure 18). She stated that Namibia is a complex area of the world and what the global projection indicates is that Namibia will get warmer in the future.

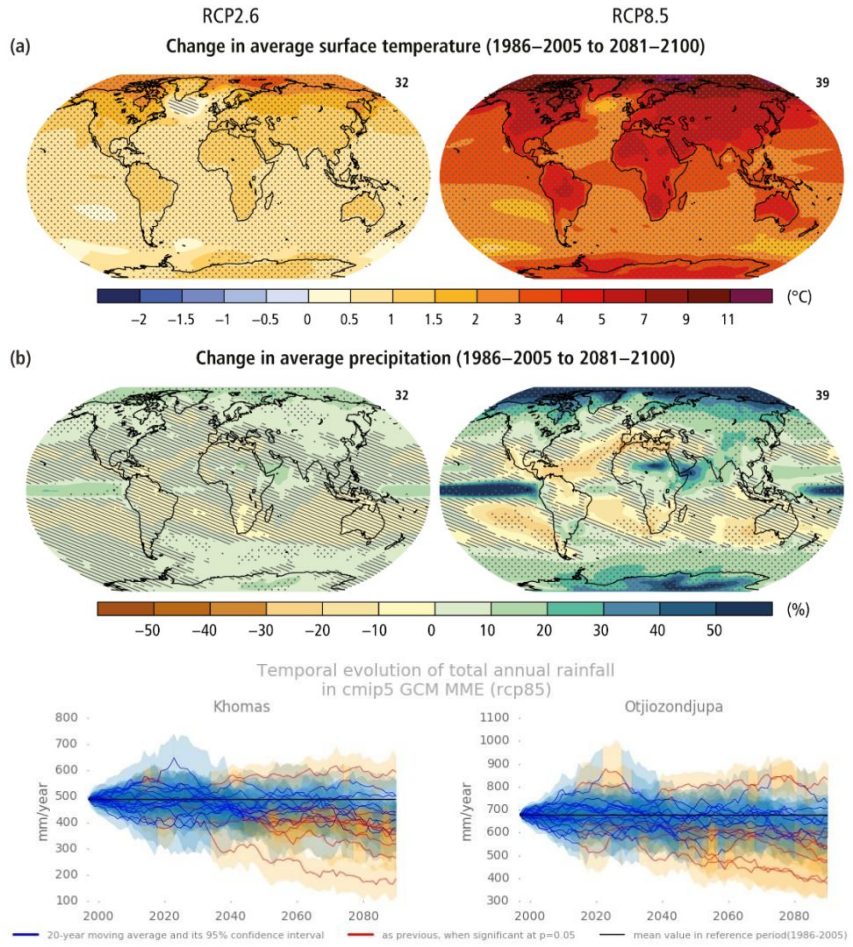


Figure 17: Climate projections graphs

The UK Met office with FRCTAL team has produced a draft the "Windhoek's future climate impacts and adaptation examples" (see Figure 18). The climate infographic was prepared to feed into the proposed City's Climate Change Strategy and Action Plan. Participants said the Climate inforgraph and narratives are plausible futures are conversation starters. Participants requested that the climate infographics and narrative get translated into indigenous languages.

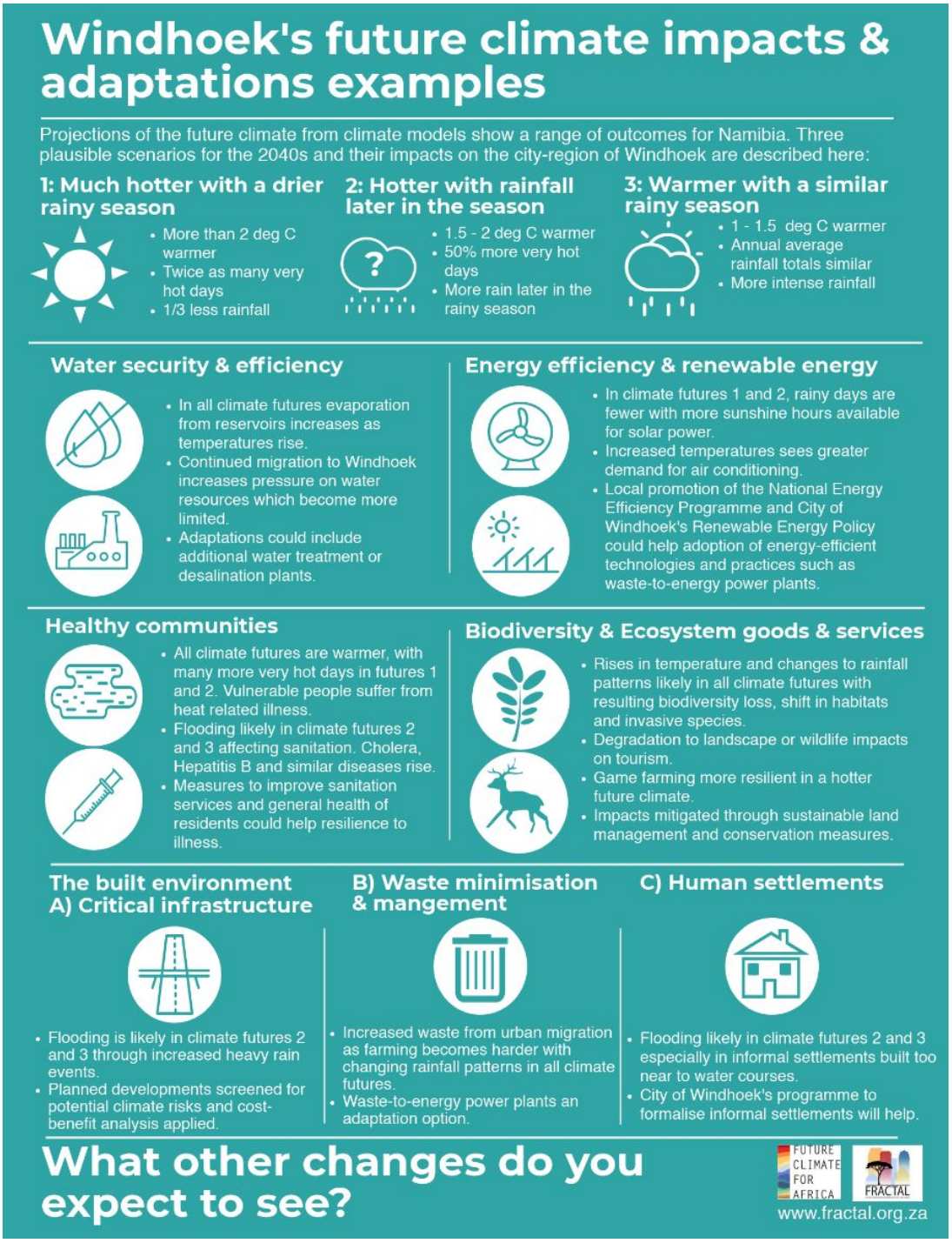


Figure 18: Windhoek's climate Infographic

Dr. Burgin requested participants in pairs to discuss the following questions:

1. How will the area you work in be impacted by the climate in each of these futures?
2. What other factors will be important?
3. What could you implement to limit the impact?
4. What 'seeds' have you already planted to address future impacts. Do you have any examples like the case studies yesterday?

From the group discussions there following points were raised on the City's (current and future) responses to climate change:

1. Opportunity for renewable energy – invest in industry for renewable energy (Scenario 1): Monitor policies, solar energy projects and awareness for communities.
2. Formalising informal settlements
3. Tree planting activities and parks / open spaces with indigenous trees
4. Water harvesting - Subsidised by Municipality
5. Wastewater Reclamation plant expanded for increased reclaim portable water
6. Infrastructure: Design standards and Building codes (ceiling, ventilation)
7. Sustainable urban transport: Transportation Master Plan for Windhoek

4. TRANSFORMATIVE DECISION MAKING DISCUSSIONS

Prof. Dianne Scott, African Centre for Cities

The participants were asked to go back to their group for Day One and continue with the discussion, this time the participants were asked to add at which stage does one need to consider involving a climate change when it comes to decision making? And what type of climate information? This is represented in red font in the report below. After the exercise the groups all chose am representative to present their outcome to the rest of the group.

A. Development of a new dam north east of Windhoek

Figure 19: Group presentation by the Group: Development of a new dam north east of Windhoek

Mainstreaming climate change into the decision-making process steps:

1. Stakeholder identification
    a. Town planners
    b. No climate information needed.
2. Project details: capacity, size, water flow
3. Roles of stakeholders.

a. Yes, climate information is needed

4. Feasibility study.
    a. Yes, climate information is needed. Yes, rain, heat, evaporation and
5. Environmental Impact Assessment (EIA) consultant (can be internal or external).
    a. Yes, water flow planning, climate projections.
6. Council approval. Project
    a. No climate information needed.
7. Tending process by procurement management unit
    a. No climate information needed.
8. Construction and completion
    a. Monitoring and evaluation (adherence) to ToRs
    b. Yes, to make sure that climate information is considered.

B. Formalization of informal settlement in the west of Windhoek

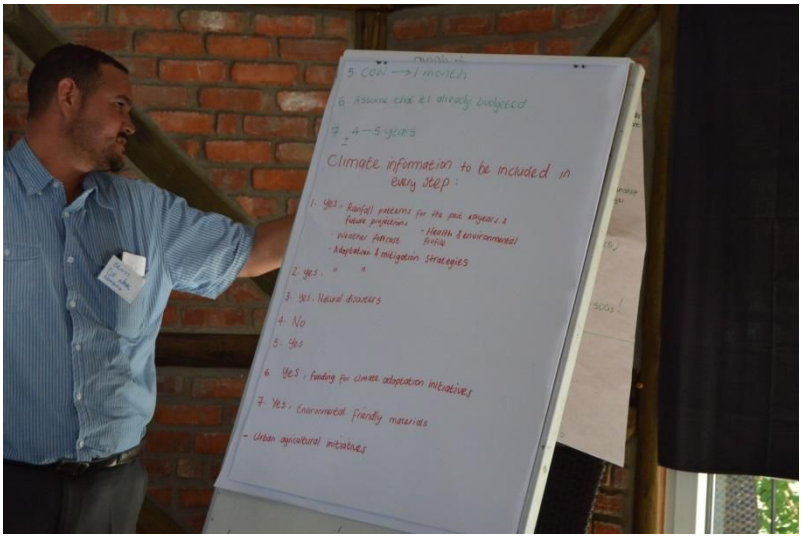


Figure 20: Group presentation by the Group: Formalization of informal settlement in the west of Windhoek

Mainstreaming climate change into the decision-making process steps:

1. Investigation / assessment of the situation on the ground. (households, demographics, SDGs – 17 goals, health, stakeholder engagement)
    a. City officials: 3 months approximately
    b. Yes climate information needed.
        i. Rainfall patterns for the past 50 years
        ii. Future projections
        iii. Weather forecast
        iv. Health and environmental profile
        v. Adaptation and mitigation strategies
2. Proposed layout
    a. City officials: 1-2 months
    b. Yes climate information needed.
        i. Rainfall patterns for the past 50 years
        ii. Future projections

iii. Weather forecast
iv. Health and environmental profile
v. Adaptation and mitigation strategies

3. EIA assessment
    a. officials: 1 year
    b. yes, natural disasters
4. Submission for approval to Council –NAMPAB (Namibia Planning Advisory Board), Township boards, Surveyor general.
    a. Line ministry: 6 months – 2 years
    c. No climate information needed.
5. Engagement with the affected communities
    a. CoW: 1 month
    b. Yes climate information needed.
6. Sourcing of funding (planning for services)
    a. Assume that it's already budgeted
    b. yes, funding for climate adaptation initiatives
7. Construction and hand over
    a. Approximately 4-5 years
    b. Yes, environmental friendly materials and urban agricultural initiatives.

*all steps should be aligned to the SDGs

C. Development of circular road around city of Windhoek

Figure 21: Group presentation by the group: Development of circular road around city of Windhoek

Mainstreaming climate change into the decision-making process steps:

1. Need analysis
    a. actors: CoW, Community, Khomas Regional Council
    b. Yes, EIA. CoW insists on a climate specialist inputs.
2. Planning
    a. Actors: CoW department of infrastructure, roads and planning.
    b. Yes, most important.
        i. Environmental Management Plan

ii. climate projections
iii. rainfall: total, frequency and intensity

3. Circulation of item for inputs.
    a. for recommendation
    b. Actor: all City technical departments
    c. yes, professional opinion and use climate information in doing so
4. Submission to Strategic Executive (SE) Forum
    a. Recommend to Management Council (MC)
    b. Actors: CEO, Strategic Executive
    c. E.M champions (could be department in the City)
5. Submission to MC
    a. recommend to council
    b. actor: MC member
    c. E.M champion
6. Submission to Council
    a. approvals
    b. actor: Mayor and City of Windhoek councillors
    c. E.M Champion

D. Development of the news township in the north of Windhoek

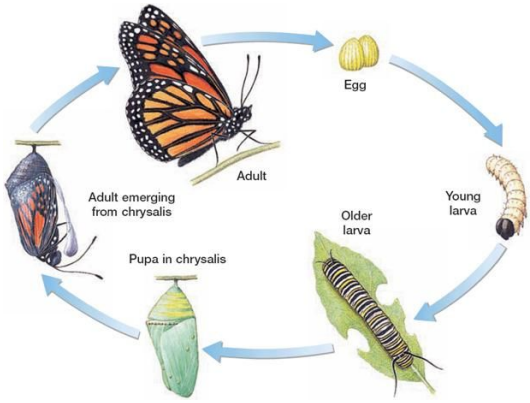
Figure 22: Group presentation by the group: Development of the news township in the north of Windhoek

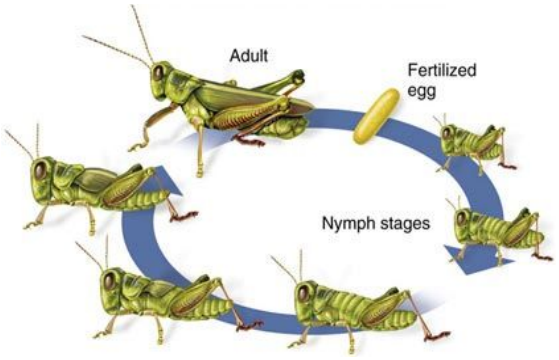
Mainstreaming climate change into the decision-making process steps:

1. Surveillance
    a. yes,
        i. rainfall patterns
        ii. topographic information
2. Layout of the township establishment
    a. yes,
        i. solar energy requirements
        ii. topographic layout (water catchment area)
        iii. water harvesting
3. Environmental Impact Assessment (EIA)

    a. yes,
        i. comprehensive EIA
4. Assessment of the project by the technical team
    a. yes,
        i. align with the City and national climate policies information
5. Submission of project to administrative (strategic) executive SE forum
    a. yes,
        i. all above information
6. Submission of recommendation to MC of CoW
    a. yes,
        i. all above information
7. MC recommends to the city council for approval
    a. yes,
        i. all above information
8. Submit to line ministry
    a. yes,
        i. all above information
9. Procurement process
    a. yes, climate friendly
10. Project implementation
    a. yes, to ensure compliance
11. Monitoring team with constantly report
12. Site handover to the city
    a. beneficial education

After the group discussions Prof, Mfune addressed the participants about what it means to be a transformational leader he said that it is a style of charismatic leadership in which the leader identifies the needed change, create a vision, to guide and transform the organisation. Inspires and challenges followers, engage followers in driving the change, develops them into leaders, achieves levels of performance beyond expectations.





Transformative
(Business unusual)
Complete change
(Complete Metamorphosis)

Business as usual

Incomplete change
(Incomplete metamorphosis)

Figure 23: Representation on changes with relation to of transformative and business as usual decision making processes

Prof Mfune went on to list the qualities of transformational leader, Prof Mfune said a transformational leader is the one that inspires challenges, engages, develops and aligns. Prof Mfune said that transformational leaderships occur when one or more persons engage with each other in such a way that leaders and followers raise one another to high level. Prof Mfune concluded said it is the ability to get people to want to change, to improve and to be led. Prof Mfune encouraged the leaders to make decisions.

5. REFLECTIONS ON DAY TWO

Ms. Jess Kavonic, ICLEI - Local Governments for Sustainability

Ms. Kavonic handed out a reflection form that each participant had to fill in: "The event was……..I particularly loved……But I did not think……..was good. After leaving I am going to make sure that ……I am going to tell my fellow colleagues ……." Only five participants read out their responses as there was not enough time for everyone. See *Table 1* for all participant reflections on Day Two.

Table 1: Participants reflections

No.	"The event was…	I particularly loved…	But I did not think… was good	After leaving I am going to make sure that …	I am going to tell my fellow colleagues …
1	Successful.	Group discussions.	All people got time to contribute.	I should follow up on lessons learnt.	-
2	Well presented.	Hectic sessions for groups.	-	We take action for implementation.	Climate change is real.
3	Very informative.	Interactions and group discussions.	-	I make sure that I become an influence and a champion at my level of influence.	About climate change and its impacts.
4	Enlighting.	EIF presentation on funding projects.	Not enough attendance on day two.	Everyone start thinking of climate change.	To get involved in the climate change issues.
5	Informative and challenging.	The use of our power of influence to create sustainable plus resilient cities.	-	That City's Integrated CCSAP is incorporated in all council items.	That it is our time to make a meaningful impact in our people's lives.
6	An eye-opener, inspiring to have a different leadership style, to do business differently when back to the office.	The topic dedicated to policy formulation set to be mainstreamed with exciting policies. Issues of creating and celebrating champions. The issue of having climate strategy in order to benefit from EIF and other climate funds such as Green Climate Fund.	Did not think accessing procedures of climate related funds was so good.	To implement / share what is acquired from this training.	How beneficial would be to regard the climate change issues serious. To create awareness. Amongst all stakeholders.
7	Fantastic.	Climate impacts and adaptation examples.	Not mentioning other towns present was so good.	I implement transformational leadership.	About transformational leadership and climate change.

8	Brilliant.	Process for mapping out City's decision making process. Presentation on climate change.	-	To fight for climate change.	Tell them about this, the good and effective workshop.
9	Successful.	Commitment from "politicians" Early arrival of dignitaries.	Moving of venue.	-	Windhoek is on the move and it is going to retake its leadership role soon.
10	Very educational, informative and successful.	The case studies of Malawi, South Africa and Dakar presentation.	Planning and coordination was so good.	I Will change the current thinking of our people on climate change.	We need to move on. Life is short.
11	Informative.	City Integrated CCSAP and Interests in this subject.	-	I go for study.	And read more about Climate change and be aware.
12	Useful, involving and meaningful.	Diverse ideas and critical thinking.	Namibian scenarios were enough for climate information.	Climate information is made available and used for decision making.	The reality of Climate change, its effects and opportunities for a robust response and the need for urgent action.
13	Education.	Highlights regarding lack of implementation .	The discussions about proposal on how to implement with little (financial) resource was good.	Make sure that relevant officials and other monitors are informed.	Act more than talk.
14	Good.	-	-	To suggest training on how climate change affect agriculture To encourage Start an awareness campaign on climate change impacts on agriculture.	Inform other government sectors on where funding for climate change related awareness can be sourced.
15	Good.	Climate change information.	-	Yes it was good.	They missed a very important training.
16	Informative.	The practical activities.	Information details and depth was good.	I include climate change in all our planning.	-

17	Informative and inspiring.	The level of participation, encouragement of participation and presentations.	Loved it all.	Ensure existing policy and regulations on climate change are enforced to provide for proper regulations.	Although we contribute little to the greenhouse gasses the fact is, it is real, it is happening and we should do our fair share to try to limited the effects on how rather rare and fragile.
18	Informative.	Proactive.	-	Make contact with the EIF on Namibia.	That environmental change and global warming is real.
19	Very good.	Climate change impact policies.	Presentations were good.	Go work on what was taught.	About the training.
20	Enlighting.	All presenters were great and are passionate about that they do. Keep up the good work.	No dull moment expect learning and fun.	Ensure the Khomas Regional Council Strategy Plan incorporate / integrated climate change.	Share at the Management meeting scheduled tomorrow.
21	Very educational.	Participation on the ground. Presentations.	The training timing was not enough.	That climate change topics are seriously addressed.	About the importance of transformation leadership that I have learned here.
22	Informative and good.	Adaptation and impact case studies from Africa.	The training timing was not enough.	-	-
23	Inspiring.	Brought local authorities and leaders in direct contact with the need for climate change. Experiences share by the leaders on the real life challenges.	The youth were not well presented.	That climate change is part of all the institutional discussions I have.	About the expertise available to assist transformation.
24	Eye-opening, inspiring, informative. A right step in the next	Practical sessions, discussions, games and the presentation.	Lack of youth e.g. young leaders and City Junior Mayor.	Spread awareness on climate change. Inform my colleagues and friends how all of us can be	To step up in order to fight against climate change.

	direction, a call for action.			transformational leaders.	
25	Informative and educative.	Funds in place that can help development of any cities regarding climate change aspects. Put our house in order to get access to these funds.	-	Integrate all the points and comments from all the participants.	To put more effort in the implementation process.
26	Eye-opening to all participants.	-	Lack of involvement of the youth.	That our leaders are hold accountable on issues of climate change and that they understood what was presented. To recommend that similar trainings takes place in Namibian areas those are highly impacted by climate change. Recommend to include Town Planners to consider resilient infrastructures.	Inform colleagues about the informative training.

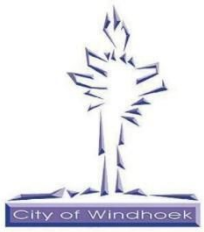
6. CLOSING REMARKS

Mr. Matthew Amadhila, Chairperson of the Management Committee, City of Windhoek

The TLCC training came to an end at 13:00 and closing remarks were given by Mr. Amadhila, who appreciated everyone's contributions and participation, thanked the United Kingdom Government for funding the FRACTAL Project, the FRACTAL team (coordination and facilitation), acknowledged the organizing team and thanked that actively participated during the two days' workshop.

Figure 25: Councilor Mr. Matthew Amadhila, Chairperson of the Management Committee, City of Windhoek

ANNEX 1: Agenda



Transformational Leadership on Climate Change

Programme
18-19 April 2018
Roof of Africa Hotel, Windhoek

Time	Session	Facilitator
Day One: 18 April 2018		
08:00-08:30	Registration and Tea/Coffee	
08:30-08:45	Welcoming by the Mayor of the City of Windhoek, His worship Mr. Muesee Kazapua	
08:45-09:00	Keynote address and official opening by Honourable Ms. Laura McLeod-Katjirua, Governor of Khomas Region	
09:00-09:20	Introductions from the participants	Prof. John Mfune, University of Namibia
09:20-09:25	Introductory remarks to FRACTAL Project by Her Excellency Ms. Kate Airey, OBE, High Commissioner of Britain in Namibia	
09:25-09:45	FRACTAL Project in Windhoek (and Q&A)	Prof. John Mfune, University of Namibia
09:30-10:00	Introduction to Climate Change: Impacts, strategies and action plans (and Q&A)	Mr. Paulus Ashili, Ministry of Environment and Tourism
10:00-10:30	City of Windhoek climate related issues, responses & policies	Mr. Olavi Makuti, City of Windhoek
10:30-11:00	Group photo and Tea Break	

11:00-13:00	"Business as usual" decision making discussions	Mr. Olavi Makuti, City of Windhoek
13:00-14:00	Lunch	
14:00-15:00	Co-production of principles for transformative eadership on climate change issues	Ms. Jess Kavonic, ICLEI - Local Governments for Sustainability
15:00-16:00	Spilling the beans: A Game Exploring Resilience	Dr. Victor Indasi, Climate System Analysis Group, University of Cape Town
16:00-16:15	Reflections and closing remarks	Prof. Dianne Scott, African Centre for Cities
Day Two: 19 April 2018		
08:30-09:00	Climate finance opportunities (and Q&A)	Mr. Lazarus Nafidi, Environmental nvestment Fund of Namibia
09:00-10:30	Mainstreaming climate change into city planning and practice	Prof. Dianne Scott, African Centre for Cities
10:00-10:20	Tea Break	
10:20-11:00	Climate infographics	Dr. Laura Burgin, UK MET Office
11:00-12:30	"Transformative" decision making discussions	Prof. Dianne Scott, African Centre for Cities
12:30-12:45	Reflections	Ms. Jess Kavonic, ICLEI - Local Governments for Sustainability
12:45-13:00	Closing remarks	City of Windhoek
13:00-14:00	Lunch	

ANNEX 2: Attendance register on 18 April 2018

No.	Name	Organisation and position
1	Hon. Mrs. Laura McLeod-Katjirua	Governor of Khomas Region, Khomas Regional Council
2	His Worship Mr. Muesee Kazapua	Mayor, City of Windhoek
3	Her Excellency Ms. Kate Airey	High Commissioner of Britain in Namibia
4	Hon. Mrs. Margaret Mensah-Williams	National Council Member and KRC: Khomasdal Councillor
5	Cllr Ms. Rakel Jacob	Khomas Regional Council: John Pandeni Councillor
6	Mr. David Uushona	Walvis Bay Municipality
7	Mr. Leevi Ileka	City of Windhoek, Mayor's office
8	Mr. George W Esterhuizen	City of Windhoek, Strategic Executive: Housing, Proterty Management and Human Settlements
9	Cllr Ms. Hileni Ulumbu	City of Windhoek Councillor
10	Cllr Ms. Loide K Kaiyamo	City of Windhoek Councillor
11	Cllr Mr. Ian Subasubani	City of Windhoek Councillor
12	Cllr Ms. Penina Inga Ita	Khomas Regional Council: Windhoek Rural Councillor
13	Cllr Mr. George Trepper	Khomas Regional Council: Windhoek West Councillor
14	Cllr Mr. Chistopher Likuwa	Khomas Regional Council: Tobias Hainyeko Councillor
15	Cllr Mr. Fanuel San Shivute	Khomas Regional Council: Samora Machel Councillor
16	Cllr Mr. Kandjii Ambrosius	Khomas Regional Council: Katutura Central Councillor
17	Cllr Mr. Ruben Sheehama	Khomas Regional Council: Katutura East Councillor
18	Cllr Mr. Martin David	Khomas Regional Council: Moses ǁGaroëb Councillor
19	Ms. Nathalia !Goagoses	Minister representative from MURD at Rehoboth Town Council
20	Mr. Ernst de Waal	Rehoboth Town Council
21	Cllr Ms. Valencia Izaaks	Walvis Bay Municipality Councillor
22	Cllr Mr. Matheus J Amadhila	City of Windhoek Councillor, Management Committee

23	Cllr Mr. Ignatius Semba	City of Windhoek Councillor
24	Cllr Ms. Mathilde Ukeva	City of Windhoek Councillor, Management Committee
25	Cllr Mr. Immanuel E Paulus	City of Windhoek Councillor, Management Committee
26	Cllr Mr. Ananias Niizimba	City of Windhoek Councillor
27	His Worship Mr. Johannes Hindjou	Mayor of Okahandja Town Council
28	Mr. Kazombiri Kamuingona	Okahandja Municipality
29	Mr. Robert N Kahimise	City of Windhoek, Chief Executive Officer
30	Mr. Obrien Hekandjo	City of Windhoek, Strategic Executive: Electricity
31	Mr. N Nendongo	City of Windhoek, Strategic Executive: Acting Head of City Police
32	Ms. Zurilea Steenkamp	City of Windhoek
33	Mr. Immanuel Mahichi	City of Windhoek
34	Dr. Clemens von Doderer	Hanns Seidel Foundation
35	Mr. Rodney Seibeb	Hanns Seidel Foundation
36	Ms. Cathy Amutenya	Hanns Seidel Foundation
37	Mr. Mpho Katjivongua	Hanns Seidel Foundation
38	Ron Classen	City of Windhoek
39	P.L Mponyo	City of Windhoek
40	Ms. Mary-Anne Kahitu	City of Windhoek
41	Ms. Jess Kavonic	ICLEI - Local Governments for Sustainability–Africa
42	Dr. Victor Indasi	Climate System Analysis Group, University of Cape Town
43	Prof. Dianne Scott	University of Cape Town
44	Mr. Olavi Makuti	City of Windhoek
45	Prof. John Mfune	University of Namibia
46	Mr. Martin Shikongo	City of Windhoek
47	Mr. Paulus Ashili	Ministry of Environment and Tourism
48	Mr. Sion Shifa	Ministry of Environment and Tourism

49	Mr. Vernel Thomas	City of Windhoek
50	Ms. Saima Haukelo	City of Windhoek
51	Ms. Joseline Coetzee	Association For Local Authorities In NAMIBIA
52	Dr. Laura Burgin	United Kingdom Meteorological Office
53	Ms. Venessa Ndjitaviua	NBC National Radio
54	Ms. Maria Eiseb	Namibia Media House
55	Ms. Jememia Beukes	Namibia Media House
56	Ms. Kornelia Iipinge	University of Namibia

ANNEX 3: Attendance register on 19 April 2018

No.	**Name**	**Organisation and position**
1	Cllr Ms. Hileni Ulumbu	City of Windhoek Councillor
2	Cllr Ms. Loide K Kaiyamo	City of Windhoek Councillor
3	Cllr Mr. Ian Subasubani	City of Windhoek Councillor
4	Cllr Ms. Penina Inga Ita	Khomas Regional Council: Windhoek Rural Councillor
5	Cllr Mr. George Trepper	Khomas Regional Council: Windhoek West Councillor
6	Cllr Mr. Chistopher Likuwa	Khomas Regional Council: Tobias Hainyeko Councillor
7	Cllr Ms. Fransina N Kahungu	City of Windhoek Councillor
8	Cllr Mr. Fanuel San Shivute	Khomas Regional Council: Samora Machel Councillor
9	Cllr Mr. Kandjii Ambrosius	Khomas Regional Council: Katutura Central Councillor
10	Cllr Mr. Ruben Sheehama	Khomas Regional Council: Katutura East Councillor
11	Cllr Mr. Martin David	Khomas Regional Council: Moses ǁGaroëb Councillor
12	Ms. Nathalia !Goagoses	Minister representative from MURD at Rehoboth Town Council
13	Mr. Ernst de Waal	Rehoboth Town Council
14	Cllr Ms. Valencia Izaaks	Walvis Bay Municipality Councillor
15	Cllr Mr. Matheus J Amadhila	City of Windhoek Councillor, Management Committee

16	Cllr Mr. Ignatius Semba	City of Windhoek Councillor
17	Cllr Ms. Mathilde Ukeva	City of Windhoek Councillor, Management Committee
18	Cllr Mr. Immanuel E Paulus	City of Windhoek Councillor, Management Committee
19	Cllr Mr. Ananias Niizimba	City of Windhoek Councillor
20	His Worship Mr. Johannes Hindjou	Mayor of Okahandja Town Council
21	Mr. Kazombiri Kamuingona	Okahandja Municipality
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33	Prof. John Mfune	University of Namibia
34	Mr. Martin Shikongo	City of Windhoek
35	Mr. Vernel Thomas	City of Windhoek
36	Ms. Saima Haukelo	City of Windhoek
37	Dr. Laura Burgin	United Kingdom Meteorological Office
38	Ms. Venessa Ndjitaviua	NBC National Radio
39	Mr. George Mayumbelo	City of Windhoek, Strategic Executive: Human Capital and Corporate Services
40	Mr. Lazarus Nafidi	Environmental Investment Fund of Namibia

41	Ms. Tjiundja Kazohua	City of Windhoek
42	Mr. Robert Maseka	Namibia Daily News
43	Mr. Absalom Shingwedha	Freelance Journalist
44	Ms. Rockey Pinenaar	The Villager
45	Ms. Rinelda	Windhoek Observer
46	Ms. Kornelia Iipinge	University of Namibia