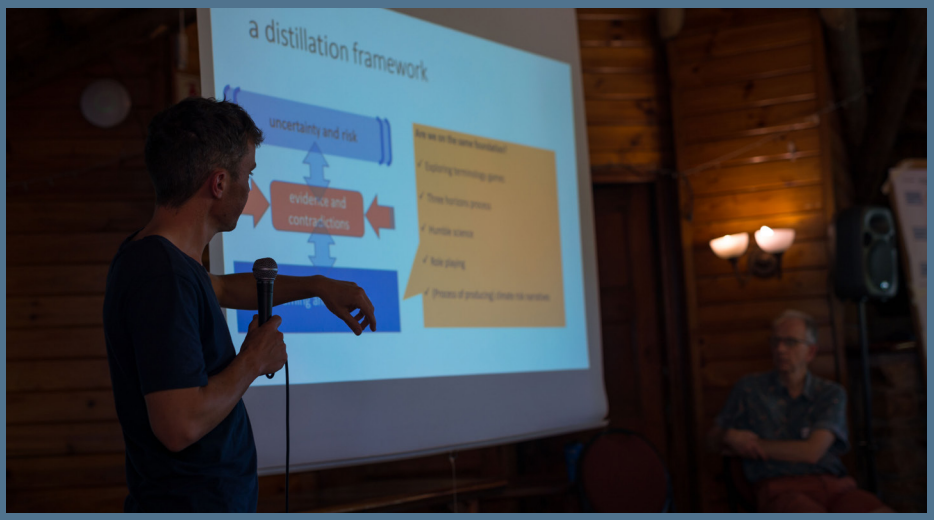

IMPACT STORY | 3

Stories worth telling

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CROSS-CITY

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DISTILLATION OF CLIMATE INFORMATION THROUGH TRANSDISCIPLINARY CO-PRODUCTION

The provision of climate information to support climate risk management activities typically focuses on the interface between climate science and decision makers or 'users'. Meeting user needs requires tailoring available products so they are relevant to the user's context. Underlying information production assumptions are considered the domain of experts. Yet experts each make choices about appropriate source data, models, methods, assumptions, framing of uncertainty, and interpretations of the evidence. The resultant, numerous climate information sources can sometimes contradict each other. There are concerns about the potential consequences of this characteristic of climate risk management. FRACTAL's distillation framework is grounded in transdisciplinary engagement, acknowledging the subjective elements of climate information construction by taking a humble science stance, opening assumptions and decisions up for interrogation, including the trade-offs between reducing uncertainty and increasing the risk of error.

THE CHANGE STORY

During city engagements the FRACTAL climate scientists avoided providing climate information during the initial exploratory phase of the project. They felt that bringing climate science with its technical complexity, uncertainties, and specific problem framing, into these early engagements could limit the scope of engagement and exploration of the problems by directing thinking, and might perpetuate the 'external expert' - 'recipient/ user' power dynamic.

In subsequent engagements, climate information was introduced using Climate Risk Narratives (CRNs). Initially developed by climate scientists from outside the cities they referred to, the CRNs were introduced as discussion items rather than definitive climate information. CRNs map out plausible futures and are strongly rooted in the local risk context. Importantly, the scientific evidence supporting them is transparent, technically simple, and rests on minimal assumptions or methodological decisions. Iteration around the narratives formed an important part of the information distillation process. In particular, unpacking the complex potential impacts of future climate change within the city context was the focus of much effort. This was closely related to the mapping and unpacking of climate risk in the cities. Within FRACTAL's cities, distillation processes occurred at different depths. These processes were guided by a framework that has been iteratively developed by the FRACTAL team and supports interrogation of the question or problem framing. The framework considers the sources, stakeholders, audience, methodologies, decisions, transparency, and whether there are uncertainties or contradictions. It also considers how the process is communicated beyond the project.

The framework was applied in different ways in Windhoek, Lusaka and Maputo, and will be applied in Cape Town and Johannesburg in the future.

FRACTAL
FUTURE RESILIENCE FOR AFRICAN CITIES AND LANDS

RELATED IMPACT STORIES (IS) | What is the climate narrative in Lusaka? (**IS12**); Moving towards integrated and inclusive climate change planning in Windhoek (**IS15**).

The Future Resilience for African Cities and Lands (FRACTAL) project aims to address the challenge of providing accessible, timely, applicable and defensible climate information that is needed by decision-makers operating at the city-region scale in southern Africa. FRACTAL impact stories have been collaboratively developed by various research teams. They highlight key methods, engagments and research findings from the FRACTAL project.

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UNPACKING THIS STORY

The distillation process promotes trust building, transparency, and common understanding as priorities over data analysis, modelling outputs and statistics. This had the most evident impact with city stakeholders. While it was never intended that the CRNs be incorporated into policies or plans, they have been used in two FRACTAL cities, suggesting that they provide a valuable engagement point between decision-making and climate science.

In Windhoek, the Integrated Climate Change Strategy and Action Plan (CCSAP) process presented a pathway to impact and the revised CRNs provide key storylines within the ICCSAP. A climate science training for councillors focused on underlying assumptions and building trust between disciplinary experts and decision-makers. Further exploration of key issues such as extreme rainfall (drawing on CORDEX simulations) and the risk of increasing temperature on wastewater reuse processes also fed into the process.

CRNs prompted stakeholders to explore possible climate risks in Lusaka. A key distillation focus was the Kafue River as a water source. The co-production of the Water Evaluation And Planning model and deliberation over assumptions in the model, combined with the exploration of the range of uncertainty and how this related to water supply is a strong example of distillation. Learnings were used to develop four policy briefs around groundwater, water supply, water quality, and flooding.

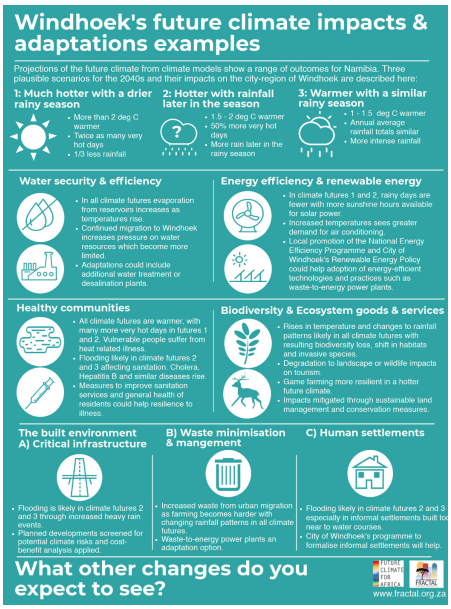
A more critical framing in Maputo meant that CRNs were not as well received. However, ongoing engagements highlighted the complexity of the issue of water in the city and Water Risk Narratives were developed as an alternative framing.

LEARNINGS

Where distillation processes contributed to strategies and action plans there is the potential for long term sustainability of the impacts. However, the key learning has been that the value of building trust and mutual understanding across disciplines is equal to the value of the climate information product itself.

Other learnings included:

- Agreeing how to frame the challenge helps ensure productive engagement. Framing a problem as a development or governance challenge can be more productive than framing it negatively
- Incorporating existing policies and plans is helpful.
- There is a strong narrative around the barrier of uncertainty in climate science. Using devices such as CRNs to explore uncertainty in a different way is helpful. Often it drops away as a significant barrier once systems are better understood.
- Engaging decision-makers in deciding on assumptions and decisions in the information production process creates strong ownership and trust in the resultant information.
- Transparency and humility builds valuable trust and relationships.



Co-developed climate information for Windhoek

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