



# FRACTAL: Learning Labs, Dialogues and Embedded Researchers in Southern African Cities



## FUTURE RESILIENCE FOR AFRICAN CITIES AND LANDS (FRACTAL) *Growing Climate Knowledge for Action in Urban Africa*



Graphic representation of FRACTAL co-production process (Source: FRACTAL, 2016)



### Authors

**Katinka Lund Waagsaether** (*katinka@csag.uct.ac.za*);  
**Alice McClure**, *Climate Systems Analysis Group,*  
*University of Cape Town*



### Aim of the project

The aim of the **Future Resilience for African Cities and Lands** (FRACTAL) project is to: (i) advance scientific knowledge about regional climate responses to human activities such as burning fossil fuels, changing land surface cover etc.; and (ii) to work with decision-makers to integrate this scientific knowledge into climate-sensitive decisions at the city-regional scale, particularly for water-, energy- and food-related decisions with a lifetime of 5 to 40 years. FRACTAL is designed to work across disciplines within the scientific community and foster strong collaboration between researchers, city government officials and other key decision-makers in southern Africa.

### Aim of co-production:

Processes and modalities for knowledge co-production are an integral part of the FRACTAL project design, from the team structure through to the engagements in each city. In its most basic sense, knowledge co-production in FRACTAL can be defined as the combining of two or more different types of knowledge, skills and working practices by bringing together people who think and act in often very different ways in order to create new knowledge for addressing societal problems of shared concern and interest. The co-production approach is used to provide a mutual learning platform where capacity building can take place and the ethic of working together and collaboration for solving problems in cities is facilitated.

## Context:

The project has been implemented at the city-regional scale to influence decision-making in the city context. Co-production was not explicitly defined in the proposal, and, as noted in the FRACTAL working paper on 'Transdisciplinarity, co-production, and co-exploration' (Taylor et al., 2017), the understanding of co-production is evolving throughout the project. Co-production was not introduced at a certain stage to produce a climate-related product but is a continuous, ongoing working ethic and principle for building relationships to solve problems related to climate change in southern African cities.

## Who was involved and what were their roles?

Climate Systems Analysis Group (CSAG) led the consortium of researchers who designed and implemented the co-production process. Researchers were embedded in the cities of Lusaka, Maputo, eThekweni, Windhoek, Harare, Gaborone, Blantyre and Cape Town. The Embedded Researcher works to sensitise academics and practitioners so that neither enter engagements (e.g. Learning Labs or Dialogues) with ignorance, and plays a crucial role in understanding and bringing together the two spaces of academia and practice.

## How was co-production done?

### Build common ground

The Learning Labs and Dialogues are co-production spaces for stakeholders within cities to gather, get to know each other and share and develop knowledge. Dialogues are smaller, more focused gatherings aimed at unpacking particular elements of a broader, complex issue defined in the larger Learning Labs. Both are periodically convened in the three FRACTAL cities to understand the socio-economic context of these urban areas, unpack how climate change might intersect with these dynamics and co-produce knowledge that will contribute to climate resilient development. The frequency of Learning Labs and Dialogues vary from city to city based on how the process and engagements have evolved, with twelve Learning Labs having taken place across the three cities to date.

## Dates

June 2015–June 2019



## Countries

Zambia, Namibia, Mozambique, Zimbabwe, Botswana, Malawi and South Africa



## What was co-produced?

- The most significant co-production element of FRACTAL is the **learning process** itself. Transdisciplinarity co-production, in FRACTAL, is an inclusive approach for creating new knowledge and generating research that contributes to solving complex problems in cities. Emphasis is placed on the knowledge that FRACTAL produces, as well as the lessons learned through the process of people from different disciplines and backgrounds working together.
- **Policy briefs and inputs to policy documents:** These were proposed by government representatives and co-developed through consecutive engagements by practitioner and scientist.
- **Climate change narratives for FRACTAL cities:** co-produced through repeated discussions and additions enabled through FRACTAL Learning Labs and Dialogues.





## Benefits of the co-production approach

- Having a transdisciplinary co-production approach has changed mindsets and led to a recognition of the value of other disciplines, other industries and other people and to an awareness of the importance of collaboration. Relationship building is a key benefit. Because people are heard, they want to continue engaging and thus see value in these learning processes.
- Learning is also a key benefit of participating in the process.
- Gaps in knowledge for climate-resilient decision-making have been filled through conversations and interactions among climate scientists, governance researchers or decision-makers themselves, producing tailored, tangible knowledge outputs through climate change conversations in the Learning Labs and Dialogues.

### Co-explore need; co-develop solutions

Rather than a neatly, pre-designed step-by-step process, the project enabled a very open and emergent, yet somewhat messy space, from which learning, knowledge and products would emerge. Because of this, co-production processes have differed from one city to the next and defining the concept neatly for the project as a whole is difficult. A commonality across each of the cities is the use of Learning Labs and Dialogues as the key mechanisms of co-production. These processes are designed to be emergent and co-productive, gathering people from diverse disciplines and backgrounds in a room to identify and unpack burning issues for each city and generate a joint knowledge output. Also key to each city process is the Embedded Researcher approach. Embedded Researchers are supported by representatives from partner universities and municipalities, playing a central role in establishing networks and relationships and organising the Learning Labs and Dialogues in each city.

The Embedded Researchers are contracted by partner universities in FRACTAL cities but sit and work within the municipal governance structure. They play an intermediary role between city officials, researchers and politicians, ensuring ongoing and effective flows of communication, data and information. The FRACTAL Embedded Researchers have been crucial for facilitating conversations and knowledge exchange between science, policy and practice, thus supporting transdisciplinary knowledge co-production.

### Co-deliver solutions

While FRACTAL co-production is strongly focused on process and learning, there have been co-delivery of discrete outputs such as city policy briefs, working papers, journal papers and city-specific climate risk narratives. However, solutions start with people and the FRACTAL process has focused strongly on growing the networks within the city to tackle complex problems.

### Evaluate

Learning is integral to the FRACTAL processes. The FRACTAL learning framework facilitates learning among all actors and feeds into the project's monitoring and evaluation process.

### Lessons to learn from:

- **Need sufficient time:** Building relationships and trust takes time. As highlighted by a FRACTAL partner, having sufficient time for each engagement, and for the number of engagements over a period of time, is the biggest success factor that comes to mind.

- **Facilitation:** How and what one facilitates is central to enabling learning and collaboration. Ensuring that the process and learning is fun, takes place in a safe space and enables the building of trust and relationships is key.
- **Valuing the less tangible:** Learning, trust and relationship building is central to enabling good co-production. It is important that all partners involved see the value of these characteristics of co-production. Thus, an open dialogue on these was included at the beginning of the Learning Lab process.
- **Continuity of persons engaged:** Institutions and organisations engaged in the co-production process need to understand the importance of continuous participation in the process by the same individuals. Designing events that people enjoy, and from which they derive a personal and professional value, is an important motivator for people to stay in the process.
- **Not underestimating the challenge of the ‘third space’:** The difficulty of working in a ‘third space’ – a hybrid space where individuals from different backgrounds come together – should not be underestimated, and any project and process should be designed with this in mind. A ‘third space’ may, for example, be the space in which a social and physical scientist get together to share and produce knowledge; the space in which an academic and a city practitioner get together, or the space in which all of the above come together to share and produce knowledge. It is a space that will break down the disciplinary/professional/practitioner binaries, and allow for the production of new types of knowledge.
- **Flexibility:** All actors need to feel ownership and see the value of what is being learnt or produced. This requires all actors to be engaged from initial project design, or, if this is not possible, the project should be designed with a high level of flexibility, enabling content to be shaped during the course of the project.

## REFERENCES

Butterfield, R.E., Coll Besa, M., Burmeister, H., Blair, K., Kavonic, J., Bharwani, S., Cullis, J., Spires, M. and Mwalukanga, B. (2018) ‘Inspiring climate action in African cities: Practical options for resilient pathways’, FRACTAL Working Paper #7. Oxford, UK: Stockholm Environment Institute Oxford Centre. (<http://www.fractal.org.za/wp-content/uploads/2018/04/Butterfield-R-Inspiring-Climate-Action-in-African-Cities-compressed.pdf>).

McClure, A. (2018) ‘Principles for transformational leadership on climate change’. FRACTAL Blog, 17 July 2018. Cape Town: University of Cape Town. (<http://www.fractal.org.za/2018/07/17/principles-for-transformational-leadership-on-climate-change/>).

Taylor, A., Scott, D., Steynor, A. and McClure, A. (2017) ‘Transdisciplinary, co-production and co-exploration: Integrating knowledge across science, policy and practice in FRACTAL’, FRACTAL Working Paper #3. Cape Town: University of Cape Town. ([http://www.fractal.org.za/wp-content/uploads/2017/03/Co-co-trans\\_March-2017.pdf](http://www.fractal.org.za/wp-content/uploads/2017/03/Co-co-trans_March-2017.pdf)).



Lusaka 3rd Learning Lab (Source: R. Jones, 2017)



Lusaka 5th Learning Lab (Source: R. Jones, 2017)