Water Solutions for Resilient Cities: The contribution of policy briefs co-produced by FRACTAL and city partners to a more climate change and water resilient city

Wilma S. Nchito
Senior Lecturer
University of Zambia

URBAN CAUCUS
GOVERNANCE BRIEF | 4
SEPTEMBER 2019

FRACTAL
FUTURE RESILIENCE FOR AFRICAN CITIES AND LANDS

KEY FINDINGS

1. The co-production of knowledge can contribute to creating a more resilient city.
2. Collaborative co-productive actor networks are beneficial to city learning as multiple points of view are included.
3. Different types of knowledge, i.e. from academia, professionals/practitioners and community members are important to inform policy.
4. It can take time to see the results of co-production.

Introduction and aim

This brief aims to outline the processes which were undertaken by the City of Lusaka FRACTAL team in developing policy briefs. The policy briefs were the output from a series of Learning Labs[i] held in the city over the course of the FRACTAL project (2015-2019). The briefs were not an initially planned output but the idea emerged iteratively from the second of the Learning Labs. It was realised that a lot of valuable information concerning the 'burning issues' was being brought up in the Learning Labs and discussed in detail but there was no mechanism of communicating what the team had brought together in a condensed format which could easily be read and understood by laymen and decision makers. The essence of this brief is to retrace the steps undertaken by the FRACTAL team in creating these nuggets of valuable information which we called Policy Briefs. The briefs covered the four 'burning issues' related to water and benefited from the wide scope of competencies from the different members of the Lusaka City team lead by the embedded researcher[ii].

Context

Lusaka, the capital of Zambia has 1,747,342 people and covers an area of 360km². However, the city has sprawled and those who depend on it for services are estimated to be 2.4 million (CSO, 2011). The city has battled with rapid urbanisation. The rate of urbanisation has led to the continued growth of informal settlements, which were inherited from the colonial period and which have become entrenched as permanent features in the cityscape. These informal or unplanned areas are home to at least 70% of the population. They provide alternative shelter for city residents ranging from skilled professionals who work in the formal economic sector to those with little or no skills who make up the informal sector. The rapid growth in population has led to various problems. Among the many problems, the participants identified a number of 'burning issues' in the water sector during the first Learning Lab. The 'burning issues' were:

- Inadequate water supply and sanitation at the city scale.
- Declining groundwater levels.
- Increased flooding.
- Groundwater pollution.

These issues were also framed against a backdrop of changing climatic conditions. Although Lusaka does not have a river flowing through it, it relies on water abstracted from the Kafue River Iolanda Treatment Plant which is 50km away as well as water from several boreholes dotted around the city. The distribution of water is not equitable and some more affluent areas in the city receive piped water straight to their homes whilst the informal settlements rely on communal arrangements of water supply. Newer residential developments in the city rely on individual boreholes and septic tanks, which increases concerns for groundwater safety.

The city experiences flooding during the summer rainy season due to the flat nature of the terrain, the geology and poor siting of infrastructure. The underlying limestone and dolomite create viable aquifers from which groundwater can be abstracted. However, due to the growth of the city it is possible that more water is being taken out of the aquifers than is being put back naturally through rain. The underlying dolomites are easily contaminated as pathogens can quickly find their way to the groundwater through fissures. As a result, the city experiences outbreaks of diarrheal diseases such as cholera, the last outbreak having been during the 2017/2018 season. Cholera is now almost endemic to the city with a few cases of the disease being recorded annually. Contamination is caused by pit latrines used in unplanned settlements, which lie in areas with a high water-table. Other possible sources of contamination are shallow wells, cesspits, and septic tanks which are the main option for onsite sanitation. Studies have shown that the quality of groundwater has deteriorated over time and if interventions are not put in place the city will have groundwater which cannot be used.

This is a major threat to the water security of the city and projects such as the Millennium Challenge Account[iii] (MCA) sought to improve the water supply sanitation systems. The sanitation sector faces a massive hurdle in the form of the flat terrain and geology, hence the city is still far from providing a water borne sewerage system for the greater proportion of its residents.

This scenario creates issues, which the FRACTAL team picked out as being prominent and needing immediate attention. These were called the 'burning issues'. Discussions about these issues were threaded through all Learning Labs and addressed in one format or other.

Development of policy briefs to address trans-disciplinary water issues

The idea to write policy briefs was mooted as one of the outputs to come from the Learning Lab processes that the city of Lusaka was undertaking as part of the FRACTAL project. The policy briefs would be guided by the 'burning issues' which had been synthesised from the first few Learning Labs. Learning Labs for the city of Lusaka included a range of participants from a variety of both government and civic institutions. Some of the participating institutions in the Learning Labs were Lusaka City Council (LCC), Ministry of Local Government, Water Resources Management Authority (WARMA), Lusaka Water Security Initiative (LuWSI) Network[iv], GIZ, NWASCO, Lusaka Water and Sewerage Company (LWSC) Climate Change Secretariat (Ministry of National Development Planning), academics and students from the University of Zambia, Zambia Homeless and Poor Peoples Federation, Village Water. Many of these were from LuWSI. The various activities and brainstorming sessions during the Learning Labs were not only a learning process but also created a vast wealth of information. Since one of the aims of FRACTAL was to influence decision-making around water and climate change issues, it was decided that the messages from the Learning Labs needed to be disseminated among high level officials who could influence policy. One way of disseminating the key messages was to hold 'High Level Breakfast' meetings. Three of these meetings were held on 7th July 2017, 20th April 2018 and 16th November 2018. The breakfasts presented a platform where messages could be presented to a small group of officials. These included the Minister of Water, Environment and Natural Resources, the Mayor and councillors of Lusaka, the Deputy Vice Chancellor of the University of Zambia who were invited to different breakfast events. Another option for dissemination of the 'burning issues' to policy makers was the publication of policy briefs. The following steps were taken.

1. Identification of 'burning issues'

'Burning issues' were identified through collaborative processes during the Learning Labs. The first Learning Lab provided a general overview of the problems the city was facing and particpants in subsequent Labs deliberated over aspects of the issues, including solutions. The 'burning issues' were presented at High Level Breakfast meetings, where input was solicited.

2. Writing teams and the process of writing briefs

Writing teams were constituted from participants from partner institutions in the city who had participated in the Learning Labs. The local writing team consisting of university lecturers, engineers, council staff who were invited by the FRACTAL embedded researcher. A two day writing exercise was undertaken in Lusaka to put together the first drafts of the four policy briefs (31st October and 1November 2017)). The authors sought to incorporate the key messages and lessons that had come out of the Learning Lab process concerning the four 'burning issues'. Facts and figures were also incorporated to make the information relevant. The team was made up of the following institutions or agencies: Lusaka City Council (LCC), the University of Zambia, Water Resources Management Authority (WARMA), LuWSI, GIZ, NWASCO, Lusaka Water and Sewerage Company (LWSC), Climate Change Secretariat (Ministry of National Development Planning), Zambia Homeless and Poor Peoples Federation (SDI affiliate). Each team had an academic assigned to it and was as representative as possible. Grassroots participants were involved through Zambia Homeless and Poor Peoples Federation. Drafts of the policy briefs were forwarded to the international Lusaka City team for inclusion of climate information and for further editing. Each brief presents specific and overarching recommendations in a bid to try and offer solutions to the problems.

3. Editing and proofing

The international Lusaka City Fractal Team co-edited and further enhanced the briefs. Editing was done online as the briefs where shared with the team. The team met after a Learning Lab and the international Lusaka City members were assigned to different briefs according to their interests. The international FRACTAL members of the Lusaka team were from AURECON (South Africa), Stockholm Environmental Institute (SEI) (United Kingdom), African Centre for Cities (ACC), the Met Office Hadley Centre (UK), and the University of Cape Town (South Africa). They brought an external perspective on the issues and problems the city is facing. The different experts gave their input on the content of the briefs after which they were passed back to the local team for fact checking and to see if the story being told was accurate.

4. Final production and dissemination

The final edits were done through online interactions with changes being made to the document. This went on for several months until finally the final format was agreed upon. The final product was arranged by the Lusaka City team member from AURECON. The briefs were finally printed and made available for the final Learning Lab held in the city at the end of the project from 13-14th November 2018 at Protea Hotel. Copies of the briefs were sent to the Ministry of Local Government, the Mayor's office and were distributed to the councillors. The councillors were very pleased with the content of the briefs as they could see issues which affected them articulated simply and clearly.

Conclusion

The process of creating these policy briefs was co-productive in nature. The different sources of information and the involvement of people from different world views and professional backgrounds

and sectors made it a trans-disciplinary output. It is not every day that a hydrogeologist will sit down with a climate scientist or a member of the community to discuss problems and figure out possible solutions. This has been the very collaborative nature of the FRACTAL project. It has enabled the joint creation of knowledge through interactive learning and one of the tangible outputs has been the four colourful policy briefs. The briefs are titled: Water Supply and Sanitation; Preparing for increased Flooding; Groundwater Pollution: Key Threat to Water Security and Health; and Lusaka City Faced with Severe Consequences of Declining Groundwater Levels. It is hoped that they can be reproduced and widely disseminated through out the city. They can be viewed and downloaded from the FRACTAL website (http://www.fractal.org.za/lusaka/).

---

i. The Learning Labs were facilitated collaborative learning sessions where academics, city officials and civil society organisations came together to discuss Lusaka's water and climate change issues. Altogether five Learning labs were held in Lusaka.
ii. The role of the embedded researcher was to act as a link between researchers in academia and policy makers in the local authority. They ensured that climate related research was incorporated into policies and practice at the local authority.
iii. A five year (2013-2018) water supply, sanitation and drainage infrastructure project funded by the United Sates Government (US$354,757, 640).
iv. LuWSI is a multi-stakeholder collaboration comprising over 25 entities from the Private Sector, Government agencies International development and financing Agencies and, Civil Society Organizations which aims at: assessing, prioritizing and monitoring water security threats and solutions among other activities related to water security in the city of Lusaka.

References

Central Statistical Office, 2011. Census of Population and Housing. Government Printers, Lusaka