



Report on Blantyre City Climate Risk Narratives Up-scaling: Virtual Learning Lab

Zoom
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Compiled by
Derek Mamiwa
Dr Burnet Mkandawire

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Attendance

1. Ass Prof Bernard Thole – University of Malawi, The Polytechnic
2. Dr Burnet Mkandawire – Host, University of Malawi, The Polytechnic, FRACTAL Focal Person
3. Alice McClure – Co-host, University of Cape Town & FRACTAL Project Manager
4. Dereck Mamiwa – University of Malawi, The Polytechnic
5. Tawina Mlowa – University of Malawi, The Polytechnic, FRACTAL ECR
6. Kingsley Lungu – WASHTED (University of Malawi, The Polytechnic)
7. Tiyamike Haundi – University of Malawi, The Polytechnic, FRACTAL ECR
8. Mzime Ndebele-Murisa - START
9. Jessica Kavonic — ICLEI Africa
10. Dr. Gilbert Siame — University of Zambia, FRACTAL Focal Person
11. Dr. Chris Jack — University of Cape Town, CSAG, FRACTAL
12. Costly Chanza – Blantyre City Council, Director of Planning
13. Simon Chimwaza – Blantyre City Council
14. Dr Emmanuel Kanjunjunju – Blantyre City Council
15. Dauson Noniwa – Blantyre Water Board
16. Tisungane Kapalamula – Southern Region Water Board
17. Jessica Kavonic, ICLEI Africa
18. Mzime Murisa, START International, FRACTAL Program Specialist
19. Tufwane Mwangomba — Malawi Energy Regulatory Authority, Senior Licensing Officer
20. Amos Mtonya — Chief Meteorologist in the Department of Climate Change and Meteorological Services (DCCMS)
21. Wellington Mitole — Water For People, Senior Program Manager
22. Dauson Noniwa — Blantyre Water Board, Production and Supply Manager
23. Lawrence Chilimampungu —EGENCO, Senior Environment Management Officer
24. Steven Ghambi — The Polytechnic, FRACTAL Team Member
25. Rudo Mamombe — Chinhoyi University of Technology, FRACTAL ECR
26. Tawina Mlowa — University of Malawi, The Polytechnic, Lecturer, Physics & Biochemical Sciences department. FRACTAL ECR
27. Thokozani Malunga — Ministry of Energy, Principal Energy Officer responsible for Alternative sources of Energy
28. Dr Lapologang Magole — University of Botswana. FRACTAL lead researcher, Gaborone City
29. Ass Prof. John Mfune — University of Namibia, Department of Biological Sciences, FRACTAL PI, UNAM
30. Dr. Chipso Plaxedes Mubaya — Chinhoyi University of Technology, International Collaborations Manager

31. Dr. Emmanuel Kanjunjunju — Blantyre City Council (BCC), Director of Health Services, FRACTAL Focal person, BCC
 32. William Chimzinga — Blantyre City Council. Assistant Director of Leisure Culture and Environmental Services; and Desk Officer for Disaster Risk Management
 33. Shadrach Chabwera, Water Users Association, President
 34. Cornwell Chisale — Ministry of Energy, Principal Energy Officer
 35. Simon Chimwaza — Blantyre City Council, Senior Planning Officer
 36. Willie Sagona —Forestry Research Institute of Malawi, Zomba
 37. Daniel Mwalwayo — Malawi Bureau of Standards
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1. Official Opening

The meeting started a little late (around 09:30hrs) as some attendees had problems connecting to Zoom. Mr. Costly Chanza of Blantyre City Council gave opening remarks by highlighting the importance of such a meeting to Blantyre as a city. It was mentioned that Blantyre City Council expected the outcome of the meeting to contribute to the resilience of Blantyre City to climate risks in a far much better way.

2. Orientation on use of Zoom

Alice McClure took participants on a tour of Zoom functions to ensure that they were able to manipulate the platform functions. This was done mainly for the sake of those who used Zoom for the first time.

3. Self introductions

Alice McClure engaged the participants in an interactive process to understand who was in the room, who had been part of the process before, and what participants expected of the meeting. Participants typed their names, organisations and positions in the Zoom Chat. Generally, participants expected to brainstorm and share applicable and relevant knowledge on climate change resilience for Blantyre City.

4. Sharing of Learning Lab objective

Mr. Dereck Mamiwa, who was the focal person for the Climate Risk Narratives for Blantyre city, highlighted that the overall objective of the Learning Lab was to **develop useful knowledge on how to build resilience to Climate Risk Narratives (CRNs) envisioned in Phase One of the FRACTAL research**. It was indicated that it was anticipated that this would assist city decision makers to mainstream resilience strategies in their plans and policies. The expectation was that the invited participants were all stakeholders for the City of Blantyre who were pertinent in contributing to decisions that BT City Council (local authority) might make as regards Climate Change resilience.

Guiding questions for the event were shared as follows:

1. What should Blantyre City do to build resilience to the gloomy future Climate Narratives (CRNs)?
2. How do we get buy-in from Blantyre City decision-makers to implement the knowledge developed?

5. Climate change terminologies

Christopher Jack, as an in-house climate scientist, while sharing his screen, made a presentation on climate terminologies, in the form of a briefing to participants. There was an exercise in which members were asked to give their suggestions on meanings of different terminologies associated with climate change. This was followed by the main presentation which, summarily, had main points as follows:

- We use different words and ways in understanding climate change problems which are complex
- In attempting to understand and solve such complex problems, there is a need to bring together diverse expertise and experience
- Very important to surface a diversity of understandings and broaden our perspectives

Terms like *hazard, mitigation, resilience, climate change, vulnerability, impact*, etc., were defined in the presentation. The presentation also looked at issues of *Climate Risk Narratives, and climate change and its contextual evidence*.

6. Briefing on three CRNs for Blantyre city

Dereck Mamiwa shared his screen in a presentation of Climate Risk Narratives for the Blantyre City. It was mentioned that the Climate Change Narratives Research was a sub-project under the umbrella FRACTAL project, and the main research activity was ***Development of Climate Change Narratives***. The purpose of the narratives was to **co-develop knowledge that would inform climate sensitive decisions in cities in the region.**

It was indicated that Climate Change knowledge is often times contested - partly because of dealing with systems that are complex to analyse; and use of models & assumptions, which are difficult to understand and visualise in real-world, except by experts. In this case, customized communication of climate change information to stakeholders is an important element of climate change management, as this would ensure that information is used correctly. Climate change narratives are therefore a way to go. Narratives are words in form of stories, and they have a strong pull on how the subject of climate change is interpreted. With narratives, it is also possible to model future situations.

The narratives were drafted based on climate change predictions for the Blantyre City by the year 2040. Three climate change scenarios and accompanying assumptions were considered as follows:

1. *Hotter, slightly drier and fewer rain-days;*
2. *Hotter, no change in total annual rainfall, heavier rainfall events and fewer rain-days; and*
3. *Warmer, slightly wetter, heavier rainfall events and fewer rain-days.*

Despite the City of Blantyre being affected by a number of climate sensitive sectors such as energy and water supply, land and population, food security, health and flooding, the ***energy*** and ***water supply*** sectors were chosen as a priority area to be covered in the narratives.

All the three scenarios led to the same consequences in that the position of the city is threatened in terms of energy and water supply.

In conclusion, the presentation indicated that in 2040, Shire River (the main source of energy and water for the City of Blantyre) remains vulnerable to impacts of climate change and variability. The position of the city (the commercial hub of Malawi) is threatened due to heavy water and electricity rationing affecting all social and economic sectors. Unless City authorities, government and other stakeholders invest in less climate sensitive alternative water and electricity sources, the future remains bleak.

After the presentation, some reactions were made. Some participants wanted to know how the Mulanje water project was contributing to water supply for Blantyre. It was indicated that the project was finalized and had slightly improved water supply for Blantyre. There was also discussion on the prospects of interconnection with Mozambique, which would improve energy supply.

7. Overview of Blantyre City Council's medium and long-term priorities with respect to water, energy and other emerging issues

After the tea break, Simon Chimwaza presented an overview of BCC's medium and long-term priorities with respect to water, energy and other emerging issues. The presentation mainly centred on climate change, water and energy. It was mentioned that drawing from the progress made at national level in building country resilience to climatic shocks, BCC, solicited funding to implement the urban component of the Malawi Resilience and Disaster Risk Management Project (MRDRM) from 2020-2024.

It was learnt that a list of priority risk reduction investments have been identified and costed. It is expected that this will support long-term urban planning and investment decision-making as the City looks towards accommodating higher rates of urbanization and minimizing the creation of risks as new built forms are established. Datasets and modelling will be shared across government agencies and local universities for continuous enhancement, research and future updates on the management plans.

MRDRM will support the acquisition of high resolution Digital Terrain Model (DTM) data for the City to allow detailed flood and drainage modelling in order to produce the high resolution risk assessment of the City. The investment in data may also support the assessment of other possible hazards such as landslides, environmental degradation and water scarcity.

Flood and drainage modelling of the City will form the basis for a comprehensive runoff and flood risk management plan for Blantyre. Flood risk will be quantified where possible, providing an evidence base for testing mitigation options and allocating investments. This requires a reliable and accurate city-wide database of assets, infrastructure and buildings, as well as social and economic information in order to understand the full impacts of flooding.

On energy, it was stated that BCC embarked on a waste to energy conversion project that aims at using waste available at the existing landfill (Mzedi) and waste generated in the City to produce energy that will feed the ESCOM power grid. Currently, the company to run the project has been identified and discussions are underway with ESCOM on the technicalities (signing of power purchase agreement with ESCOM and MERA). The council expects this project to wipe out all waste in the City and eventually bring in more entrepreneurs in the waste to energy business.

In a nutshell, in DRM, BCC is working on:

- ❑ Flood hazard maps to demarcate flood risks zones and guide land use planning and emergency preparedness
- ❑ Identification of natural areas that need to be restored and protected for the provision of flood control environmental services to guide land use planning and prioritize investments for environmental protection and restoration.
- ❑ A strategy for urban runoff control and management to guide regulation for green infrastructure, rainwater harvesting and infiltration in private development
- ❑ A drainage infrastructure master plan to guide land use planning, design the most efficient drainage approach and prioritize investments.
- ❑ Prioritized and costed flood risk interventions, including engineering solutions as well as non-intrusive solutions such as green urban infrastructure and improved resilience through flood forecasting, early warning and planning for avoidance as well as effective emergency response and management.
- ❑ Evidence base for a quantified cost benefit appraisal, allowing detailed designs and costing of interventions, and will include capital costs as well as long term revenue costs, providing the full cost of ownership and operation.

In energy, BCC is working to have the following:

- ❑ Waste recycling plant
- ❑ Additional energy into the power grid
- ❑ Clean City due to reduced waste

8. Break-away (Break-out) session: Developing climate resilience strategies for Blantyre

The participants, in their break-out groups and using facilitated semi-structured conversations, worked on formulating resilience strategies for Blantyre city. This was an attempt to address the three CRNs

Table 1 summarises the groups' contributions.

Table 1: A Summary of group discussions

Risk sector	Anticipated challenges	Recommendations	Stakeholders to engage with
Water	<ul style="list-style-type: none"> • Bringing together and working with diverse stakeholders • Implementation hassle <ul style="list-style-type: none"> - lack of funding 	<ul style="list-style-type: none"> • Mobilisation and provision of climate data and services • Deforestation preventive measures • Proactive town planning • Lobbying for funding • Prudent spending of available resources • Regulatory enforcement <ul style="list-style-type: none"> ◦ Serious engagement of security and policing agents • Exploring more water sources • Academic research • Strong political will • More projects/plans that aim at livelihoods' improvements • Advancement/implementation of innovations such as water recycling • Water and energy suppliers to work hand in hand 	<ul style="list-style-type: none"> • Department of Meteorological Services • Forestry Department • Ministry of Local Government & Blantyre City Council) • Academia • Parliamentary Committee on Environment • EGENCO • Blantyre Water Board • ESCOM
Energy	<ul style="list-style-type: none"> • Poverty: one of the factors that lead people into degradation practices such as unsustainable charcoal business • Poor access to electricity in the cities <ul style="list-style-type: none"> ◦ Problem with the usability of the electricity in a lot of households. Mostly, electricity is just for lighting and not 	<ul style="list-style-type: none"> • Adopting district level energy tracking and planning rolled out under the Ministry of Energy to city level • Need to clarify on the costing of purchase of the power produced, considering that power production cost is high, yet ESCOM sells at a much lower price • Making liquefied petroleum gas (LPG) cheaper by exploring the available resources in the country • Exploring more alternative energy sources to preserve the environment <ul style="list-style-type: none"> ◦ Academic research to be enhanced 	<ul style="list-style-type: none"> • EGENCO • ESCOM • MERA • Private energy producers • Ministry of Energy • Ministry of Local Government & Blantyre City Council) • Academia

Risk sector	Anticipated challenges	Recommendations	Stakeholders to engage with
	cooking and heating (a lot of the households still use charcoal)	<ul style="list-style-type: none"> • Lobbying for private investment in energy production 	

Table 2: Stakeholder inputs after the meeting

Knowledge dissemination modality / Sustainability aspect	Salient features of a climate resilience	Stakeholders to engage
Policy briefs, Co-production processes	Make reference to the 2015 NDC	Researchers, City Council
Co-produced knowledge mainstreaming in policies and planning	Aim to build/enhance the city's resilience by: - climate resilience infrastructure; proper urban planning of human settlements and other investments	City Council, MET (DCCSM)
Integrated Water Resources Management	Watershed ecosystems management	Ministry of Water Resources, Water Boards, Power Generation firms
Health services initiatives	Proper waste management – construct landfills to capture and burn methane	City Council, PPP
Lobbying and networking	Industries with carbon capture and storage facilities	Waste adviser, City Council, Malawi Chamber of Commerce and Industry (MCCI)

9. Concluding remarks

Dr Burnet Mkandawire indicated the need to discuss buy-in by decision makers in the next learning lab. He thanked all the participants, including the co-host, Alice McClure for a job very well done. Furthermore, Dr Emmanuel Kanjunjunju, on behalf of the Blantyre City Council, appreciated the interaction the Council had with its stakeholders in the Zoom meeting. The Council expected that the outcome of the CRN project would go a long way in contributing and feeding into the Agenda 2063 which was to replace Vision 2020 for Malawi.

10. Reflection by Core Team

It was generally felt that the meeting was a success, and the participation was almost 100%. The interaction was superb, despite the challenge that some participants joined a bit late due to connection problems. It was agreed that next time, participants should be allowed to join forty minutes before the actual starting time to allow them to get connected in time.

Dereck Mamiwa
Blantyre CRN Focal Person

Dr Burnet Mkandawire
FRACTAL Coordinator - Blantyre

