Transforming southern African cities in a changing climate

Project planning and integration workshop

09 November 2018

Paradise Valley Nature Reserve, 10 Oxford Rd, Pinetown, Durban

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Background

The *Transforming southern African cities in a changing climate* project is part of Leading Integrated Research in Africa (LIRA) 2030; a 5-year programme that seeks to increase the production of high quality, transdisciplinary, solutions-oriented research on global sustainability by early career scientists in Africa. The knowledge will be used to address complex sustainability challenges in the region.

The main objective of the project is to better understand the extent to which transformative climate adaptation has been envisioned or implemented in southern African cities, explore interventions that have transformative characteristics, as well as unpack how these might be more transformative in the future to promote equality, inclusiveness and justice. Using Durban (South Africa) and Harare (Zimbabwe) as cases, the project aims to contribute to understanding how theoretical ideas related to transformative adaptation play out in reality (if they do). Considering both cities are faced with the challenge of managing water under changing climate conditions, water resilience interventions will be used as case studies.

Through initial engagements with stakeholders at the eThekwini municipality and the University of KwaZulu-Natal (UKZN), as well as a review of academic and grey literature (including city-specific policy and project documents), the team has shaped the initial project design. Interventions in Durban that have transformative characteristics have also been identified (see information brief). Based on the above three engagements are planned: an introductory engagement, as well as two learning engagements. The introductory engagement was held on the 9th of November in Durban, which aimed to share the project design (including chosen case studies) for input from stakeholders working in relevant fields, explore perceptions of these stakeholders related to transformative adaptation, identify complementarities with other ongoing programmes and think about how research can best contribute to decisions and actions for climate adaptation in Durban. The initial findings of the research (i.e. the literature review and stakeholder meetings) was used as a basis for discussion.

See Annex A for the meeting agenda and Annex B for a list of stakeholders who attended the meeting.

See slides from the meeting here.

Introductions

The meeting started off with a short welcome from Lulu (UKZN). Thereafter, participants were grouped in threes to introduce themselves to one another and discuss their professional/personal lives with the objective of finding three characteristics in common with

one another. Stakeholders introduced their group members and relayed common information back in plenary.

Alice (CSAG) then introduced the *Transforming southern African cities in a changing climate* project. Through this introduction, Alice described the objectives of the broader LIRA2030 programme to support implementation of Sustainable Development Goal 11 (SDG11) in Africa through integrated or transdisciplinary research. SDG11 aims to "make cities and human settlements inclusive, safe, resilient and sustainable" (UNDP 2018). Alice explained that *Transforming African Cities in a Changing Climate* builds on the relationships and connections that have been established through the Future Resilience of African CiTies and Lands project (FRACTAL), as well as the momentum towards climate resilience in southern African cities. With SDG11 in mind, the project aims to explore the notion of Transformative Adaptation (TA) in a southern African city context. In particular, the project hopes to contribute to answering the question: **what is the evidence of and potential for Transformative Adaptation - in the real context of southern African cities - as a response to climate change that promotes equality, inclusiveness and justice, thereby supporting implementation of SDG11?** An important objective of the project is to integrate academic knowledge on the topic of TA with the experiential knowledge of stakeholders working in relevant fields in southern African cities to explore this question. Two cities with climate change adaptation agendas at different stages of maturity (Durban and Harare) have been selected as case, with water resilience as a common climate-related theme.

Alice mentioned the important work on which this project builds, notably: research undertaken by Jo Douwes (Manager: Environmental Planning and Climate Protection Branch) on transformation of local government (eThekwini municipality); Catherine Sutherland on transformative water interventions in the city; and the pragmatic work of the Environmental Planning and Climate Protection Department (EPCPD), the C40 Finance Facility and the eThekwini Water and Sanitation (EWS) department. She then suggested reasons why stakeholders in the city might benefit from this project including *inter alia* cross-city learning as well as integrating the outputs of a reflective academic exercise into ongoing work in Durban. Alice also presented the ethical considerations of the study and emphasized that stakeholders have the right to refuse participation at any stage of the research process.

Sean O'Donoghue (EPCPD) provided a comment on the benefits to the city, stating that these processes of critical reflection, and perhaps broadening the perspective across activities, are important for the city.

Participatory exercise: theory meets practice

Alice described how Durban is considered a global leader with regards to its progressive climate change agenda and implementation of responses - spanning from strengthening climate information sources to implementing interventions such as Ecosystem-based Adaptation (EbA). To spark thinking around the difference between 'business-as-usual' planning and planning for climate change, as well as to get an idea of what and how climate information is used in the city, Alice requested participants to stand in a row and asked three questions related to using climate information, namely: i) who considers they work on issues of climate change?; ii) who considers they use climate information in their work?; iii) who considers they use climate projections in their work? If participants answered "yes" to any of these questions, they took a step forward. After each question, information was gathered on the climate-related work of stakeholders in the room. With each question asked, fewer people stepped forward. Emergent from this activity was that many projects with a climate change focus do not necessarily make use of climate information, and even fewer using future climate projections.

After this exercise, Alice highlighted the complexity of dealing with the intersection of climate variability/change with development in southern African cities, presenting a quote from the Durban Climate Change Strategy (2014): "There are a number of risks that Durban may face in the future. These include changes from year to year in water availability, potential damage to infrastructure, threats to biodiversity and ecosystems, impacts on agriculture and food security, higher energy consumption, and health impacts." Alice explained that several responses to these challenges have been conceptualized in the academic literature using the examples of resistance, adaptation, resilience and transformation to highlight theoretical differences between these responses. She described how transformation or TA has become somewhat of a buzzword in the literature related to climate change, but that critical reflection of this response is needed, particularly with regards to the challenges of implementation, which has been highlighted in Douwes (2018). She also presented some ideas on the "dark side of transformation" (Blythe et al. 2018).

After presenting academic concepts for TA, an exercise was facilitated to gather stakeholder perceptions of TA based on experience. During this exercise, stakeholders spent a few minutes individually jotting down their ideas of TA, after which whey spent 15 minutes in groups silently sharing and brainstorming their ideas. To do this, a group member wrote "TA is… (insert their own idea of TA)" with a marker pen on flipchart paper. Other stakeholders in the group could then start new sentences for their own ideas of TA below this initial characteristic or choose to

place a "✓" next to ideas with which they agreed and an "X" next to those with which they did not agree. After all stakeholders in the group had exhausted their ideas about TA, they spent some time discussing these ideas, including reasons for agreement/disagreement with one another. Groups then prioritized five criteria from their extensive list that they presented in plenary for discussion, and compared with the characteristics summarized in the literature review. Characteristics that were prioritized by the group are presented below. For a full list of characteristics offered, see Annex C.

Characteristics	# times prioritised
Fundamental changes in thinking and doing	4
Inclusive	3
Challenges power asymmetries	2
Must be demonstrable in practice (i.e. theoretical characteristic not good enough)	2
Responsive & flexible	2
Supports capacity development/education	2
Respects and focus on natural resources/nature	2
Addresses climate in combination with other drivers of change	1
Holistic, complex systems thinking	1
Generative rather than punitive	1
Proactive approaches	1
Includes relationships across organisations	1
Sustainable over time	1
Breaks down divisions between adaptation, mitigation and sustainable development	1

This prioritization demonstrates that the set of stakeholders working in Durban associate a fundamental change in thinking or doing most strongly with TA. Inclusivity is also important to these stakeholders, as are challenging power asymmetries, connecting practice to theory, flexibility and responsiveness, as well as developing capacity through these approaches. These perspectives include strong ecological and social justice values, thereby aligning with the literature on adaptation in Durban.

During the plenary discussion following the exercise, several stakeholders expressed their desire to see TA concepts rooted in practice. There was also some discussion about classifying interventions according to nature, intent and/or extent. One stakeholder suggested that many people have transformative intent but don't receive the fundamental support from basic services or structure to implement this intent. Another important consideration, as put forward by one of

the stakeholders, is the need to measure the baseline of a location to understand if truly transformative interventions are being implemented over time. One of the stakeholders emphasized the trade-offs involved in TA, and that this might be one of the main reasons why TA is so hard to implement. Understanding and working within the larger, integrated systems perspective was mentioned as an important characteristic of TA, with specific consideration of social aspects. One of the participants mentioned that TA is more about transformation than about adaptation and that the word "transformation" can become a camouflage for politics if the social aspects are not considered. A need for reimagining was emphasized and digital tools were put forward to consider all elements of a system in an "objective" way (including social elements). The conversation ended off with a comment about the importance of a *process* of transition.

Case studies discussion

Lulu (UKZN) presented the potentially transformative cases of adaptation in Durban (with a focus on water) that were assessed during the literature review. These are summarised below.

Case study	Transformative characteristics/potential
Municipal Adaptation Plans (MAPs)	• Pioneering nature • transformative intention • cross-sectoral work; and • work across spatial, time and governance scales.
The uMngeni Ecological Infrastructure Partnership (UEIP)	• Acknowledges that climate change must be addressed in combination with other drivers of change. • Acknowledges that work is required across spatial, time and governance scales.
The "100 Resilient Cities" programme	• Through this programme, Durban is actively exploring ways to adapt institutions, systems, and processes to facilitate integrated, innovative, and flexible planning.
The Durban Climate Change Strategy and Durban Adaptation Charter	• Identifies and brings together a variety of stakeholders (local governments, national authorities, Business, Residents, Civil Society, and Researchers) involved in this theme, and lays on them the responsibility to implement a list of 17 responses relating to the above-mentioned objectives. • Platform through which to facilitate co-operation between relevant agencies to jointly manage climate change impacts on catchments that supply water to Durban.
The "Sihlanzimvelo" project	• Is a form of CEbA • 'Green job' creation approach; the outcomes promotes greater social and economic equality and rights, and is environmentally sustainable; collaborative across different spatial, time and governance scales

Case study	Transformative characteristics/potential
	• Challenges and changes institutional governance systems
Ecosystem-based Adaptation	Challenges and changes institutional governance systems when necessary, are inclusive (CEBA), & contributes to both adaptation and mitigation
eThekwini Water and Sanitation Department	• Innovative provision and water as a human right • strong connections with research institutions • platforms for inclusive dialogue • engagements with multiple actors to develop policies and practices for water governance; wide networks • good leadership and capacitated and motivated staff; and • creation of 'space of innovation'.

Feedback from the group on cases assessed

MAPs

- A core focus of developing the MAPs was on building champions.
- The learning was captured during this process, which would be beneficial for the LIRA2030 project.
- The intervention was good at getting mayors involved.
- This process supported traction and a network for climate change, on which other work now builds.

EbA

- If we consider this interventions, we should focus more on CEbA

Discussion about Sihlanzimvelo as a potential case study

Sihlanzimvelo was presented as the potential case to assess evidence of and potential for Transformative Adaptation - in the real context of Durban - as a response to climate change that promotes equality, inclusiveness and justice, thereby supporting implementation of SDG11. Thereafter, stakeholders discussed in groups if Sihlanzimvelo is the best case for this purpose, and whether any other potentially transformative projects could be added to the list of cases. This discussion was informed by the exercise and conversation related to TA that took place in the morning.

Stakeholders felt that Sihlanzimvelo is a good case for assessment as it is a practical example of work that is being implemented on the ground. It should be assessed "warts and all" as it is not without challenges. Furthermore, work related to upscaling Sihlanzimvelo is in progress,

which allows the LIRA2030 project to potentially contribute useful knowledge on the process of transforming an adaptation approach across scales.

Participants also felt that Sihlanzimvelo (currently only implemented in third order streams on municipal-owned property) could be compared with other similar river management projects such as the Aller River Pilot Project (ARPP) and Palmiet River Rehabilitation project, which provide a slower, more context-specific and ecologically-sensitive nuanced approach, on larger rivers and their catchments in areas which are owned by various stakeholders in the City.

Shahid Solomon (GIZ) provided some information on the Sihlanzimvelo project. C40 hopes to scale up using three business plans related to; i) physically upscaling; ii) moving the project into a socio-economic transformative space, particularly for employees of the project (i.e. developing capacity and changing socio-economic status of people working for the project); and iii) a focus on whole rivers, not just streams through community-based management partnerships There is a question around how to entice businesses to be part of and support this process. Shahid explained that Durban's water infrastructure is in trouble and that soon, government will need to replace the whole sewer system alternative ways to reduce stress on the system are not implemented. He added an opinion that the LIRA2030 project could support Sihlanzimvelo by helping them understand themselves better, and by providing information on what is happening in other cities that could be applied in Durban. In this regard, the timing of LIRA2030 is good.

Patrick then provided some information on the Palmiet River Rehabilitation Project. This intervention is focused at a catchment scale, developing action plans for biophysical and social improvement of the catchment. Inclusivity is an important component of the project as relationships between the government and citizens are strengthened. Aligned with the project, a climate smart informal settlement book is being developed. The quarry road area is an example of the most transformative stretch of interventions, within which extremely participatory approaches to building ecological infrastructure are being implemented. In this way, the Palmiet River Rehabilitation project illustrates elements of TA.

Another group suggested that expansion of the Sihlanzimvelo project to incorporate projects such as the Palmiet River Rehabilitation Project and Aller River project would present an excellent case of TA. The LIRA2030 project could contribute by helping to understand what works where in terms of such projects, as well as why particular interventions work.

At the very end, Shahid mentioned the Organica Water ("Organica") Resource Recovery Demonstration Facility at Verulam Waste Water Treatment Works in Durban as an example of

TA. This plant makes use of ecological infrastructure to clean water and therefore presents a proactive and progressive approach to water management. The programme is implemented within Ethekwini Water and Sanitation (EWS).

Way forward

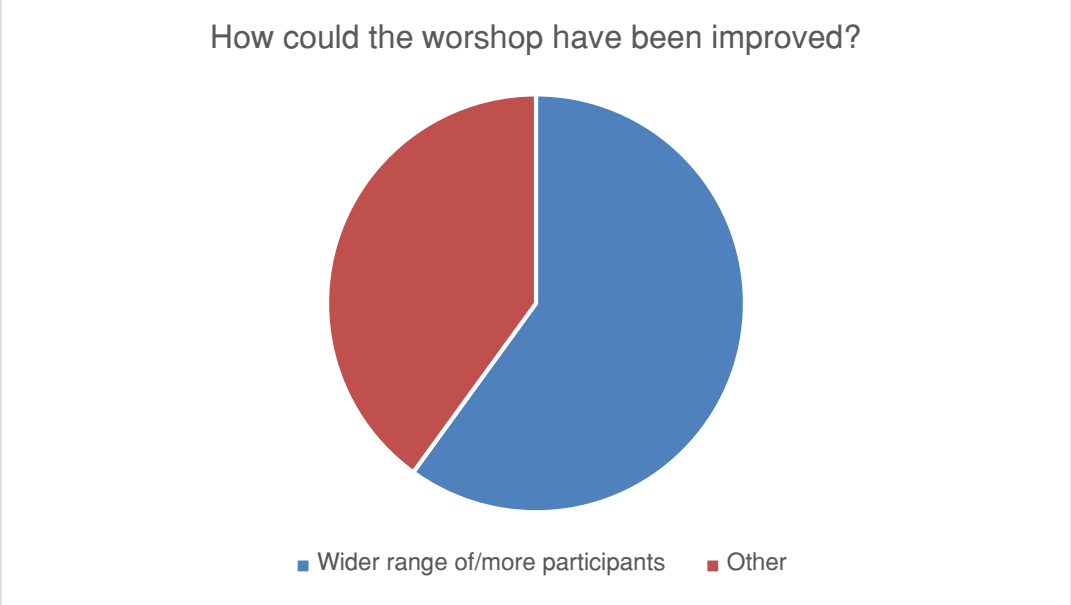
The day ended with Alice elaborating on the way forward for LIRA2030, as well as inviting willing participants to become part of the steering committee for the project (Helge Mehrtens, Jo Douwes, and Sean O'Donoghue expressed interest).

The information and insights gathered during the workshop will be used to plan for the next phase of the project; case study assessment. This assessment will take place through interviews with stakeholders involved in the case studies and analysis according to transformative criteria. The findings from this assessment will be shared at the next learning events in Durban, along with comparable findings from Harare.

Reflections

Lastly, a reflective exercise was undertaken by all participants. These reflections are summarized below, with the full list included in Annex D.

The category 'Other' referred to aspects such as workshop setting, and the effort being made to improve the status quo and on-the-ground application in the City, and the approach taken by the LIRA team.



The category 'Other' referred to aspects such as improved background information on the different projects, which some participants were not familiar with; and improving the management of participants sharing excessively.

References

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United Nations. 2018. The sustainable Development Goals Report. Available online: https://unstats.un.org/sdgs/report/2018

Annex A: Meeting agenda

08h30	Coffee/tea
09h00	Introductions (participants)
09h30	Introduction to the LIRA2030 project & process to date
10h00	Characteristics of transformative climate adaptation; theory meets practice (1)
10h30	Tea
11h00	Characteristics of transformative climate adaptation; theory meets practice (2)
12h30	Lunch
13h30	Case studies discussion
14h30	Proposed research plan going forward
15h00	Final Q&A and closing
15h30	Coffee/tea

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CLIMATE SYSTEM ANALYSIS GROUP
CSAG

LIRA 2030 Africa

Annex B: Workshop attendee list

DRAP

CLIMATE SYSTEM ANALYSIS GROUP
CSAG

LIRA 2030 Africa

Transforming southern African cities in a changing climate:

Project planning and integration workshop

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Paradise Valley Nature Reserve, 10 Oxford Rd, Pinetown

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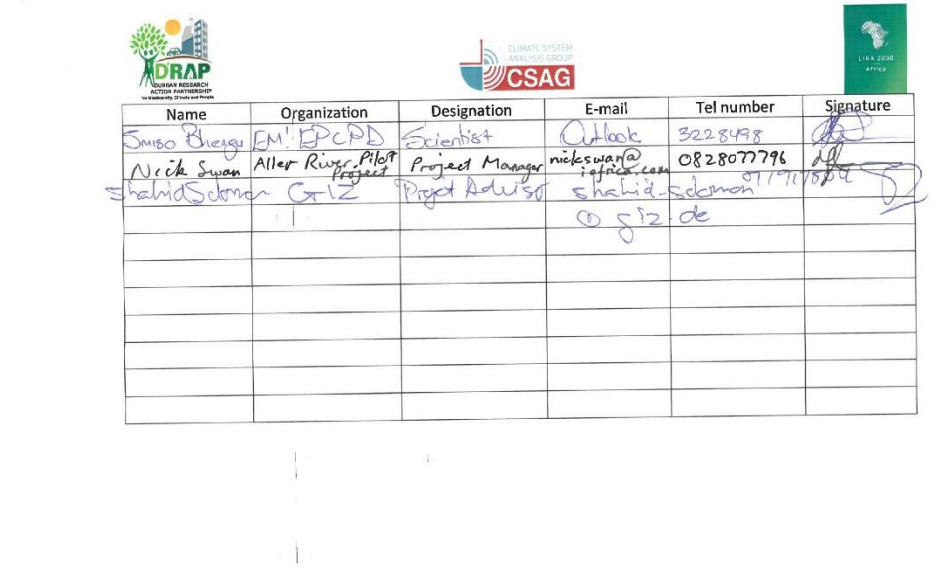

Name	Organization	Designation	E-mail	Tel number	Signature
Smiso Bheqa	EMI EPCPD	Scientist	Outlook	3228498	
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Annex C: Full list of characteristics of TA as suggested by stakeholders

Group 1

- Acknowledging that if we keep things as they are, we might not meet the climate change targets (i.e. Paris agreement)
- Looking at climate adaptation with a social justice lens
- Understanding the current status to see the gap that needs to be filled for TA to happen
- Experts need to manage politicians and not vice versa
- Not only project or intervention specific but can benefit these
- Encourages inclusivity and the building of state-citizen relationships and collaboration
- Moving from business as usual to business unusual (learning through experience)
- Need to be flexible – change based on models may not be correct
- Encourages empowerment and capacity development so things are better off than before things are implemented. Continual improvement of practices.
- Understanding that our interventions/efforts might not be enough to deal with climate change. New interventions and thinking might be needed
- Must be practical: out of the realm of theory and study
- Sustainable

Group 2

- Mind changing
- Holistic approach
- Achieving environmental outcomes that contribute to environmental sustainability and social justice
- Showing far more respect for all fresh water sources
- Guided processes with a clear and shared aim
- Forward thinking
- About challenging existing systems and ways of thinking
- Challenging the present attitudes of manipulation and abuse of our water resources by the city engineering departments
- Very complex
- Exploring new partnerships and opportunities for learning and advancing adaptation action
- Developing less exploitative systems in the management of fresh water sources
- At scale, and across spatial scales

- Not without conflicts and trade-offs
- Necessary to align TA with climate mitigation and prevention approaches

Group 3

- Circular thinking is very important
- Systemic: institutional/social/economic/political
- DIGITAL
- Re-imagining the city (urbanisation and city resilience, socio-ecological justice, socio-techno thinking and financing, political choice and engagement, decentralised governance)
- Adaptation is sometimes just a camouflage for unjust systems
- May be more about transformation than adaptation if it challenges the status quo
- Breaks “the system”

Group 4

- Inspired by a new vision of how nature and society interconnect
- Brining parties from all walks in life into the planning process
- Tailored to suit the needs (and relative impacts of) individual communities/stakeholders
- Thrilled about the concept of “theory meets practice” and helping address core issues at a community level
- Sharing across political boundaries, social, cultural barriers and economic status to better understand each other’s capacity
- Not 100% anthropocentric
- Guided by a set of principles (emergent, responsive, generative rather than punitive, inclusive)
- Practical & preventative approach
- Not driven by profit, commodities or economics: i) developers understand the need for climate resilient development pathway; ii) miners only mine in places that have minimal biodiversity impact; iii) economists not praying to capitalism; iv) consumers consuming more sustainability
- Governance is NB: multi-actor, new approaches to solving problems

Annex D: Full list of reflections from stakeholders

<u>One thing I enjoyed</u>

- There is an effort being made to improve the status quo; transformation needs to happen
- Meeting different stakeholders, sharing common interests and having a common goal of contributing positively while factoring in climate change
- Learning about projects going on in Durban currently and meeting people from extremely interesting lines of work, with informative views and perspectives on transformative adaptation, as well as on-the-ground application of some projects
- The walk to the waterfall; meeting in this setting really sets the mood for discussion, which helped us on our journey.
- Being exposed to people in this area and hearing their perspectives on the issues (in a beautiful environment relevant to the issue)
- Cross-interactions; starting off from broad terrain and reconsideration of reflections post the first interaction – this is a very constructive way of engaging different parties on an agenda
- Participation in a well-designed, well facilitated interesting series of discussions, shaped by a well-designed relevant research project.
- The in-depth detailed discussion and practical approach
- Diversity of participants, their backgrounds and how this affects how I work in the future
- I enjoyed listening to people and hearing their perspectives, especially since there were people from different departments and organisations
- The creative thinking
- Exposure to a more academic/abstract approach to problem solving… An interesting approach.

<u>One thing I learned</u>

- There is a gap between municipal policy and what is happening on the ground; it is big
- Innovative approach towards transformative adaptation. It is imperative for the different municipal departments to break the silo'd mentality and work together
- Dark side of Transformative Adaptation
- About the Sihlanzimvelo project, which is novel and innovative and very positive in most regards
- The basic premise of TA as this happens in the socio-ecological realm with interesting engagement with other people familiar with a particular region/place.
- How the C40 CFF is thinking about focusing and developing its cost-benefit analysis
- Definition and academic discussion of TA

- TA; it's actual meaning and how to link it with our daily work… Thinking about the future
- That TA is highly complex and that people have a number of different opinions
- The importance of linking practical learning with theory, policy and strategy.
- An outline of projects that are on-the-ground to tackle various environmental issues

<u>One thing that could be improved</u>

- Reduction of sewage and industrial waste in the rivers
- Climate challenge challenges could be influenced positively at the ground level; have more representation of this to be more practical with visions
- Knowledge on the different projects etc.
- A wider range of participants from different sectors and backgrounds participating
- Reigning people in from sharing excessively
- Academia meets reality; this was a good start. As a practitioner I experienced interest in thematic framing
- Sihlanzimvelo programme; business case study for the city
- I would have liked it if people from EWS/catchment management would have attended. They would have been a good contributor to the discussion; although I was happy with the level of discussion and information, it would have been nice to have their perspective.
- More participants
- One of the stakeholders (the municipalities) being held more accountable for failures such as absence of maintenance infrastructures.