

Transforming southern African cities in a changing climate

Project planning and integration workshop

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Harare Municipality, Town House, Harare



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Background

The *Transforming southern African cities in a changing climate* project, led by the Climate System Analysis Group (CSAG) at the University of Cape Town (UCT) is part of <u>Leading Integrated</u> <u>Research in Africa (LIRA) 2030</u>; 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 City of Harare and the Chinhoyi University of Technology (CUT), as well as a review of academic and grey literature (including city-specific policy and project documents), the team shaped the initial project design. Two or three events are planned in each city: an introductory event followed by learning events, as well as data collection. The introductory engagement in Harare was held on the 3rd July 2019, aiming to share the project design for input from stakeholders working in relevant fields, explore perceptions of these stakeholders related to transformative adaptation, identify complementarities with other ongoing programmes in Harare and think about how research can best contribute to decisions and actions for climate adaptation in the city. The initial findings of the research (i.e. the literature review and stakeholder meetings) was used as a basis for discussion at this meeting.

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

Slides from the meeting are attached separately.

Introductions

The meeting started off with a short welcome from Chipo (CUT). 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 <u>Future Resilience for African CiTies and Lands</u> 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 cases, with water resilience as a common climate-related theme. Alice also introduced the team from CUT, University of Kwa-Zulu Natal (UKZN) and CSAG.

Alice mentioned the important work on which this project builds, notably: FRACTAL as well as the literature review on transformative adaptation in southern African cities that has been undertaken in the first few months of the project. She then suggested reasons why stakeholders in the city might benefit from this project including *inter alia* cross-city learning with Durban, the opportunity to inform adaptation planning in Harare, as well as stakeholders learning from one another in Harare. Alice presented the ethical considerations of the study and emphasized that stakeholders have the right to refuse participation at any stage of the research process.

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 then introduced the concept of Transdisciplinary (TD) research and reasons why this approach is important in the context of the complex problems with which we are faced: Complex problems, such as those associated with climate change, can't be solved by a single line of thinking, discipline or method. Many knowledge types – including academic and non-academic





– need to be integrated to better understand the systemic aspects of these problems, as well as potential solutions (Polk 2015). Transdisciplinarity insists that research is situated in context, and that research questions respond to societal problems (Polk 2015, Klein 2013). In this way, transdisciplinary (TD) research aims to produce knowledge outputs that are socially robust.

<u>A short video on the TD approach</u> was shown, after which participants created a large circle and Alice suggested some principles for TD research. Those participants who agreed with the principles that Alice suggested took a step forward and additional principles were voiced by some participants. The principles offered by Alice and other participants are listed below.

- We should try to use concepts that transcend disciplines and knowledge types.
- Respect one another.
- Try and listen and provide input.
- Be honest and transparent
- Tolerate and even welcome discomfort and unresolved tensions; they are often moments of learning.
- Understand that people have different perspectives.
- Try and respect nature
- Humility
- Understand the context

Introduction to theory meets practice: risk and adaptation in Harare

Chipo and Mzime (CUT) provided a short introduction on the adaptation agenda related to Harare, explaining that most of the climate change actions are focused on rural areas in Zimbabwe. Very few, if any, interventions are focused on Harare as a city and urban areas in general. They mentioned that work that has been undertaken in rural environments does help build an understanding of climate risk in cities, but that they are also have specific characteristics and vulnerabilities as rapidly developing urban areas. One risk for Harare, in particular, is water security as water provision for all citizens is already a challenge for the city (i.e. the infrastructure has not kept up with the expansion of and migration into the city). Climate projections point to more erratic rainfall, which might lead to increased frequency of droughts and floods when the rain does fall. This will exacerbate the existing water-related vulnerabilities of the city. Moreover, Harare is situated near the top of the watershed in which its water supply dam is located. Rainfall that supplies Harare therefore runs through the city and into this water source. Development, urbanisation, pollution and degradation of the natural ecosystems (such as wetlands) contributes to limited recharge and poorer water quality in the dam. The issue of lack of transparency in







dealing with wetland encroachment was also discussed. Chipo and Mzime reiterated the importance of looking at future climate projections and what they mean in terms of planning for the city going forward, emphasizing the need to shift away from the "business as usual" way of doing things.



Alice then introduced the notion of Transformative Adaptation (TA): adaptation that changes the fundamental attributes of a system in response to climate and its effects. She put forward the following questions that should underpin who we respond to climate change in a more transformative way: i) why is a city, population or group of people vulnerable? and ii) how can

we address these underlying vulnerabilities?

Alice positioned the transformative approach in relation to several other responses (or non-responses) to stressors (with a focus on climate), drawing on the literature: resistance, adaptation, resilience and transformation. She provided examples of these approaches using various sectors (see Table 1).

Sector	Collapse	Resistance	Resilience	Transformation
City Planner: urban planning	No strategy (e.g., informal land use or systemic corruption)	Resistant to innovation (e.g. authoritarian)	Flexible in methods, tolerates some negotiation on aims (e.g. co-op, patronage)	New vision (e.g. shift from market to strategic planning)
Potable water provision	Formal provision inadequate with many inequitable, informal alternatives (e.g., water vendors unregulated)	Single goal coupled with high capacity to enforce preferred delivery mode (e.g. water vendors arrested)	Single goal coupled with flexible delivery , negotiation in management practice (e.g. water vendors regularized and accommodated)	New vision (e.g. decentralized community water management system, local harvesting etc.)







Sector	Collapse	Resistance	Resilience	Transformation
Disaster Risk Management	Inability to respond to increasing disaster risk; excessive disasters	Existing urban systems shielded against increasing hazards (e.g. flood defence infrastructure)	Different options considered and trade-offs made: economic, political, and social (e.g. local coast retreat)	New vision (e.g. focus on and fix vulnerability instead of hazard - root cause paradigm; risk management as part of wider social safety net, ecosystems integrated into resilience)

Alice mentioned that the need for more transformative approaches are being recognized globally because incremental responses to climate change are simply not adequate. However, transformation or TA have become "buzzwords" in the literature related to climate change and critical reflection of this response is needed, particularly with regards to the challenges of implementation, which has been highlighted in Douwes (2018). She also mentioned that the IPCC points out that climate change adaptation might not be enough hence the push towards transformative adaptation She also presented some ideas on the "dark side of transformation" (Blythe et al. 2018).

Exercise: theory meets practice

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 a 'transformed' Harare in terms of water provision and services for the year 2030 (10 years from now).

After individual reflection, participants gathered in groups of five (four groups in total) to reflect on the water sector in Harare and answer three questions:

- 1. What makes Harare and its people vulnerable to climate change, especially in terms of water? (think about biophysical, social, governance etc.)
- 2. What type of interventions might be needed to address these vulnerabilities and why?
- 3. What are the characteristics of these interventions? Do these match up with those identified in Durban?

Stakeholders spent 50 minutes discussing these questions, after which they provided feedback, which is presented below.







What makes people of Harare vulnerable?	What types of interventions	What are the characteristics of these interventions?
	might be needed to address these vulnerabilities?	
Group 1		
 Infrastructure development on ecologically sensitive areas (e.g. wetlands) Harare sites in catchment area Under-capacity/overloading sewage systems Siltation Lack of climate change policy at relevant city departments (water, environment and planning) Under-investment in water & resilient infrastructure (e.g. stormwater) Indiscriminate dumping of waste Urban poverty and limited access to public services & infrastructure – especially informal settlements Lack of relevant climate information and its impact in local areas Weak WASH sector governance across national and local levels 	 Investment in resilient water infrastructure Inclusive and participatory approaches to climate change response at the planning, implementation and policy formulation Co-ordination of inter- departments Awareness on climate issues Capacity building at different levels (technocrats/ decision makers/ politicians) – e.g. for climate responsive planning (strategic planning and spatial planning) for the city Technologies – grey water recycling, bio-digestors, rainwater harvesting, use of renewable energy Protection of greenbelts, wetlands and other ecologically sensitive areas and hydrologically sensitive areas (greening the city) Review and strengthening of planning regulations (green building) Efficient land use development (e.g. urban morphology) 	 Inclusive Technologically advanced Disruptive Integrated Participatory Transformative Co-designed Co-produced Contextual Holistic systems approach
Group 2		
Biophysical	Climate change awareness	Shift mindsets to
DroughtFloodingHeatwaves	 Climate adaptation plan (Harare specific) Rainwater harvesting 	 Inclusivity Integrated/holistic thinking Forward thinking (proactive)
Deforestation Socio-economic	Subsidy for rainwater & clean energy	instead of reactive)Challenging power
Children and women exploitedInfrastructure shortagesGovernance	 Water resource sensitive design (urban design) Integrated water resource 	asymmetries
 Lack of policy implementation and enforcement Lack of political will 	 • Upgrading of infrastructure 	







W/b	at makes people of Harara	What	types of interventions	\٨/٢	nat are the characteristics of
	at makes people of Harare		••		ese interventions?
vui	lerable?	-	be needed to address	une	se interventions?
			vulnerabilities?		
•	Limited resources		stainable development on		
Cro	ss-cutting		etland areas		
•	Wetlands degradation		loption of cleaner energy		
			LL UNDERPINNED BY		
		R	ESEARCH)		
	up 3			1	
Biop	physical		ew water sources (e.g.	•	Inclusivity
•	Exploitation of natural		nzve, upstream)	•	Financial sustainability
	resources		etlands preservation	•	Behavioral change
•	Site/location of HR		evolution	٠	Good governance (&
•	Pollution		oncentrate on growth points		implementation of plans)
•	Harare = industrial hub		aise awareness, spread	•	Cohesiveness
•	Variable climate		stainability information,	٠	Holistic planning
Soc			havior change	•	Capacity building
•	Increasing population trends		forcing policies as city	•	Smart technology
•	Income levels		ater	•	Greening the city
•	Economic status		clamation/harvesting/recycling		
•	Gender issues		ass/public transport (e.g.		
•	Lifestyle/behavior		ectric trains)		
•	Disease/outbreak		epresentation of women &		
Gov	vernance	yo	uth at decision making level		
•	Poor planning		frastructure investment		
•	Citizen participation (limited)		conomic growth		
•	Corruption		/7 availability of water		
•	Human resources = ill	• Ca	apacity building		
	equipped lacking financing	• Up	odate masterplan (adhere to		
•	Lack of policy/strategy	pla	ans)		
•	Lack of trust between city and	• Ar	nend culture of politics		
	residents				
Gro	up 4				
•	Population pressure	• W	etland conservation	٠	Will from government
•	Economic decline	• Fι	Ill enforcement of		authorities
•	Loss of wetlands = loss of	er	vironmental legislation	•	Behaviour needs to change
	water	• Ha	armonise environmental	•	Inclusion of real nature
•	Commercial abstractions of	le	gislation and city by-laws	•	Hold government accountable
	water	• Lii	nit/eradicate political		for actions
•	Pollution of water sources	int	erference in local government	•	Environmental court at national
•	Obsolete	(p	erhaps in update of Harare		level
	policies/legislations/by-laws	m	asterplan?)	•	Context matters
•	Location of Harare (in relation		pedite the harmonization and		
	to its water source)		ws making processes		
•	Poor governance (especially	• Pr	esidential decree on wetlands		
	nature and infrastructure)	• De	ecentralisaiton		







What makes people of Harare vulnerable?	What types of interventions might be needed to address these vulnerabilities?	What are the characteristics of these interventions?
 Poor enforcement of environmental legislation Lack of public awareness 	Efficiency in the water supply system of the city	

In terms of factors that contribute to vulnerability of people in Harare, all groups mentioned poor governance, especially in terms of limited enforcement of strategies as a key contributor. Most groups also mentioned lack of dedicated plans or policies for Harare, and limited mainstreaming of climate change in existing guidance documents. Population pressure (i.e. increasing population in the city and associated demands), poverty and degradation of natural resources were also put forward by most groups.

Common interventions that were identified across the groups, in order to deal with these vulnerabilities, include improved planning and guidance documents, as well as infrastructure and/or efficiency in water services through various measures.

The characteristics of transformative interventions that were put forward were grouped into themes, as presented below, as well as the number of times these characteristics were mentioned. These characteristics provided the foundation for the discussion about case studies. Interestingly, the characteristics of TA that groups brainstormed were very similar to those that were selected in Durban. The only addition was the characteristic related to disruptive technology.

Characteristic	# times mentioned
Integrated/holistic	5
Inclusive	2
Ecological sustainability	2
Technologically advanced/disruptive	2
Forward thinking	1
Challenge power	1
Participatory	1
Contextual	1
Backed by will	1
Accountability	1







Case studies discussion

After gathering stakeholder perspectives on TA and reviewing those characteristics that were put forward, a discussion was facilitated to identify potential cases of TA in or around Harare based on stakeholder's knowledge, focusing on water. The case studies that have been selected in Durban (<u>Sihlanzimvelo</u>, complemented by <u>Aller River Pilot Project</u>, <u>Wizeways</u> and the <u>Palmiet</u> <u>Catchment Rehabilitation Project</u>) were presented to spark thinking about TA in cities. All these programmes focus on river or stream management as an approach to increase employment and invest in ecological infrastructure that will mitigate against more frequent flooding under conditions of climate change. However, the implementation and funding model differs between them. <u>A video</u> that briefly describes the Sihlanzimvelo project was also shown. Sihlanzimvelo is particularly interesting because it has been selected by the C40 Finance Facility as a programme with transformative potential and is currently receiving funding to develop a business plan that will support upscaling from 285km to 3000km.

Two cases in Harare that contain potentially transformative characteristics were put forward by participants, as described below.

- A project focused on Water, Sanitation & Hygiene (WASH), coordinated by UNDP and UNICEF, implemented by the Ministry of Local Government.
- Harare Wetlands Trust (HWT), which has already transferred some management rights to Community-Based Organisations (CBOs) through community stewardship programmes. Memoranda of Understanding (MoUs) have been formed between those groups managing areas of catchment (affiliated with the Environmental Management Agency) and the city environment department. The main aim of the trust is to conserve the wetlands surrounding Harare, which are currently being degraded through rapid urban development. Awareness on issues of environmental management is being grown within communities surrounding the wetlands. The trust is a coalition between many organisations, backed by the political will from the environment council. Their main aim is to manage recharge streams, siltation and application of fertilizers. Harare water is also involved as they are mandated to sample and analyse pollution of surface and groundwater. CBOs have, in the past, raised legal cases against government and won. The work has been unfunded for some time but has recently been supported by DFID/TRACE and UNDP.

The group discussed the timeliness of the LIRA2030 project as the masterplan for Harare is currently being updated and will be developed by the end of the year. This masterplan will



influence the development of local plans. The update is being led by the Department of Physical Planning. LIRA2030 findings could potentially contribute to this masterplan.

A conversation was also had about the involvement of private sector in the issue of wetlands conservation. Representatives from HWT explained that the Zimbabwe Building Contractors Association, which are a collection of real estate agents, support the HWT. The trust is also working with GreanPeace and parliament to improve legislation related to development on wetlands.

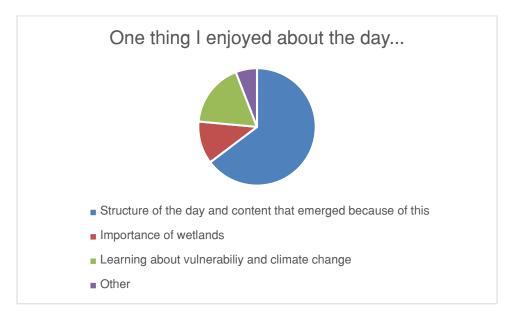
Way forward

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.

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 Harare, along with comparable findings from Durban.

Reflections

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







References

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Annex A: Meeting agenda

Learning lab 1 agenda

08h30	Coffee/tea
09h00	Introduction to the LIRA2030 project & objectives for the day
09h20	Getting to know one another and setting the tone for the day
09h50	Transformative climate adaptation (theory meets practice): an introduction to framing & concepts
10h30	Теа
11h00	Characteristics of transformative climate adaptation (theory meets practice): an exercise
12h30	Lunch
13h30	Case studies discussion (including findings from Durban) & exercise
14h30	Research progress & proposed research plan going forward
14h45	Final Q&A
15h00	Reflection & closing
15h30	Coffee/tea







Annex B: Workshop attendee list

Name	Organisation	Email address	Phone number
Bobo Tinashe	City of Harare	tbobo92@gmail.com	0774557061
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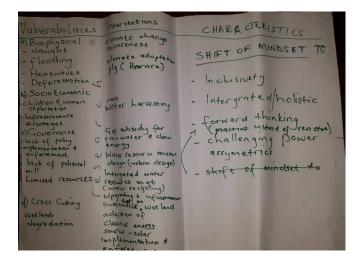


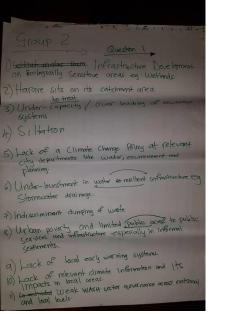
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Annex C: Photos of flipcharts from group discussions





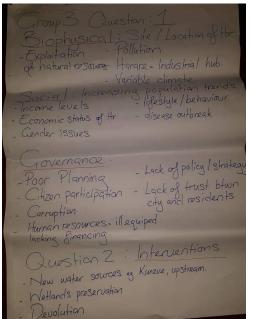
- Investment in resilient water infrastructure. e) (Co-ordina Inclusive and participatory approaches to climate change vesponse at the planning, implementation - and policy. Simulation 3) (0-ordination of into-department (1) Husdrevess on all mate issues.
 (apacity Building at different hore's (technocrits, d/makes/ pointains) for all mate responsive panning (shategit planning) for the city.
 - 6) Technologics Grey water ray him the digeters ray water track where rare shing use of energy
 - 7) Arctection of arean belts, usedavels and other embryingly a areas + hydro lagically scretche areas my areaning the ady 2) Review and strengthening of planning regulation/shad

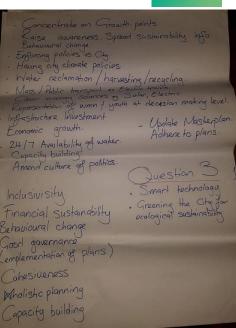
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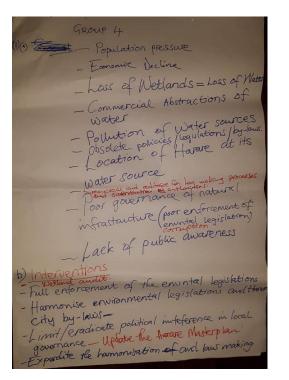


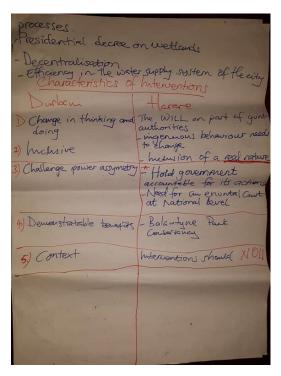


















Annex D: Full list of reflections from stakeholders

One thing I enjoyed about the day...

- The discussion, looking from different institutes really gave all angles to the water issues. The integration of various sectors really paints a broader picture
- The tea and lunch
- The importance of wetlands in aiding the provision of water, water is indeed a key natural source, therefore everyone deserves it. Thus it should be of paramount importance to ensure that it is available to everyone and carry out research on how best to come up with alternatives to acquiring it.
- I enjoyed learning about climate change and critical interventions needed to build resilience on climate change vulnerabilities
- Structure of the program in terms of having short power point presentation and then being put into groups and discuss certain issues and later on give feedback and interrogate whatever was presented
- stakeholder participation
- How vulnerable we as residents of City Harare are
- The hot discussion on some of the interventions which can be done by City of Harare to ensure that there is no depletion of wetlands through infrastructure development
- Wetlands matter too!
- Teamwork and interactive collaboration of people from different backgrounds is important for coming up with collective ideas
- The cross-cutting discussions.
- The plenary and discussion that were participatory and inclusive
- Group interactions
- The opportunity to gather together with researchers and NGOs with a facilitator who is able to see the links and disconnects between the Harare wetlands/water/climate change issues and the players
- The interactive nature of the process
- I enjoyed the multidisciplinary contributions from various professions institutional/organisational dimensions on the climate change Agenda

One thing I learned from the day...







- How interlocked the system really is. The government, city council, NGOs are so tangled up, there is need for harmonising/ synchronising our efforts of sustainability
- The city of Harare is under serious threat from the effects of climate change and intervention measures are urgently needed
- Climate issues in Harare are almost the same as in Durban. Land barons and politicians are also causing climate change
- The importance or vitality of interdisciplinary approaches to tackling matters of interest, especially in researches
- Transformative adaptation to climate change
- Politics is the major hindrance that might deter the success of adaptation and transformative adaptation strategies but research should constantly go on maybe power dynamics may change in the future
- holistic approach
- The most affected areas by climate change. How politics plays a critical in transformative interventions. How a holistic approach is a step towards building resilience to climate change
- Transformation adaptive measures which can be adopted by HCC to prevent water shortages associated with climate change. Improving decision making processes and ensuring that all departments work together in order to reduce causes of global warming
- As City of Harare we need to start thinking and doing like city planning authorities not chaos planning authorities
- Cities transformation is a long-term process which needs stakeholder involvement and coordination.
- Harare city council is trying to do work to consider wetlands
- The need to deal with climatic change in a holistic and systemic manner that address climate change issues in a proactive manner instead of reactive manner
- Trans-disciplinary approach
- Seeing the climate change and water issue from a transformative intervention aspect
- The need for participatory research processes that build ownership
- I learnt that climate change cuts across disciplines and should be discussed in a more holistic approach. All sectors in the urban fabric matters for instance planning, environment, architecture, energy etc

One thing that could be improved...







- I think making this knowledge more general such as wetlands and conservation efforts or citizen participation. There is great need for ordinary people to know these things that do affect them
- The importance of water harvesting and water recycling at the domestic level
- There is need for a modern master plan together with LEAP for Harare
- Rainwater harvesting is essential i.e. the importance to use natural ventilation so as to save water. To be as open as possible to climate change and treat it with the urgency it deserves.
- Resilience to climate change and wetland conservation
- Stakeholders invited-The program should involve more people especially the minorities such as woman and children who are vulnerable.
- emphasise on the importance of education
- How the city will continue to suffer from water shortages if we do not preserve wetlands
- Improve our transport system so as to reduce the carbon footprint associated with private transport through introduction of mass public transport system which is efficient i.e. electric trains
- Let us conserve water, stop littering and be the change you want to enjoy in your home, town, city and nation at large!
- Integrated water resources management as an important aspect for city transformation. Research is also an important tool to initiate the whole process.
- More exercises to allow a variety of voices.
- Inviting policy makers to such workshops which can improve in gaining political will on issues that require their input and approval
- Time management
- It would be good to have a clear description of climate change versus human destruction activities- the results of which are blamed on climate change.
- Effective representation of the urban poor communities
- Public perception on climate change and environmental issues can be improved through sharing relevant information with friends, family and broader public.