

Urban Ecosystem-based Adaptation: towards a framework for decision-making

South Africa Adaptation Colloquium

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Sarah Birch – ICLEI - Africa

Programme Manager: Climate change and biodiversity

sarah.birch@iclei.org



Local Solutions to Global Challenges

Connecting Leaders • Accelerating Action • Pioneering Solutions



Who we are

- Connecting Leaders
- Accelerating Action
- Pioneering Solutions

12 *mega-cities*

100 *super-cities and
urban regions*

450 *large cities*

450 *small and medium-sized
cities and towns*

84 *countries*

Drawing on the worlds largest network of local governments working on Sustainability



Global offices serving the network



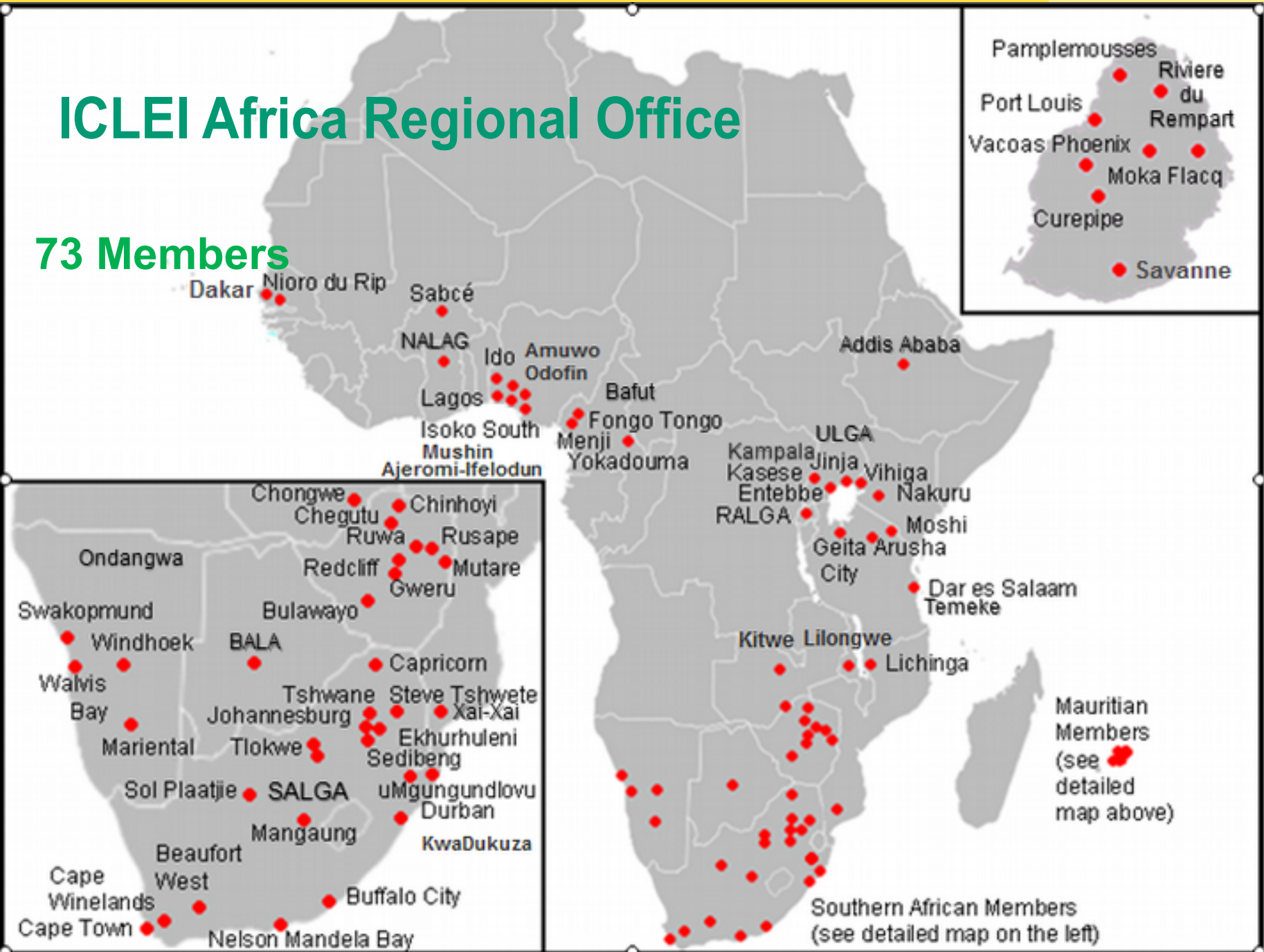
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ICLEI Africa Regional Office

73 Members



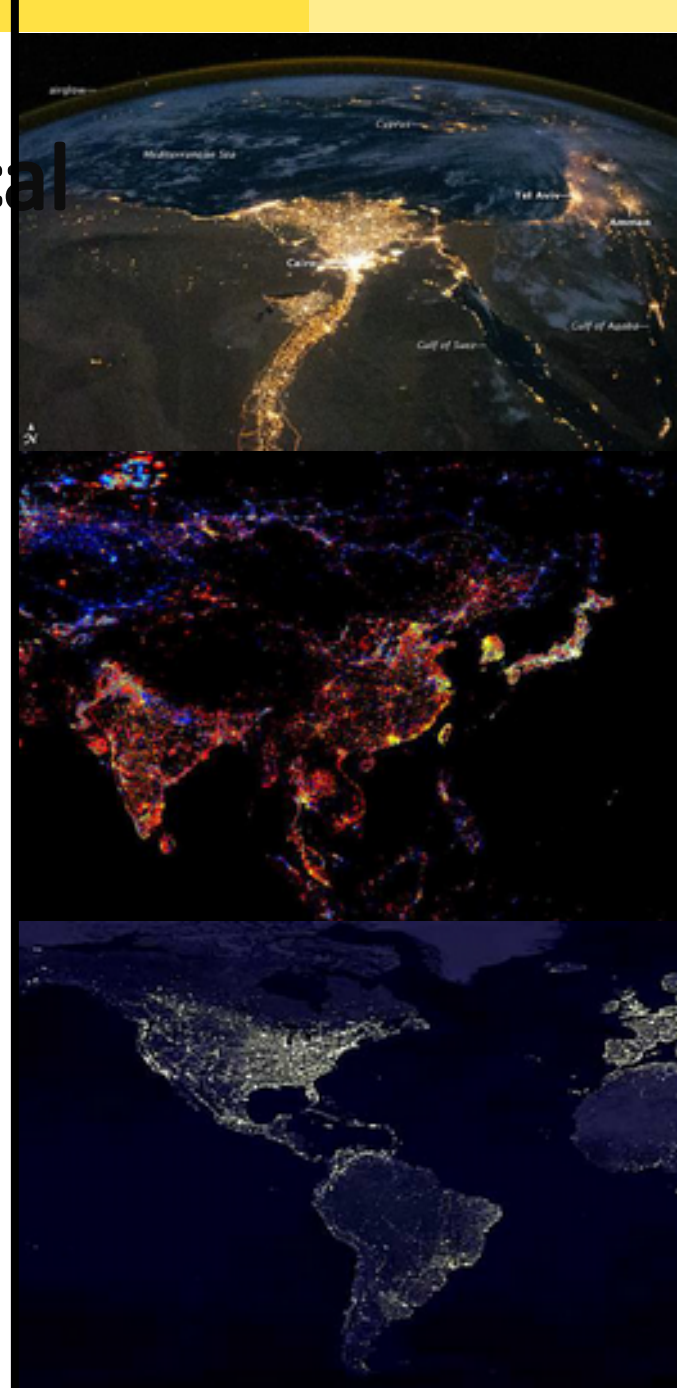
● Why Focus on Cities & Local Governments?

*Rapid urbanisation + decentralisation + degradation
and loss of ecosystem services*

(**Africa – SoAC)

Cities consume **75%** of the world's resources utilized globally, therefore have a large footprint outside of cities' borders.

- Globally **50%** urbanised
- At least **40%** of the world economy depends on biological resources.
- Many cities in Biodiversity hotspots.

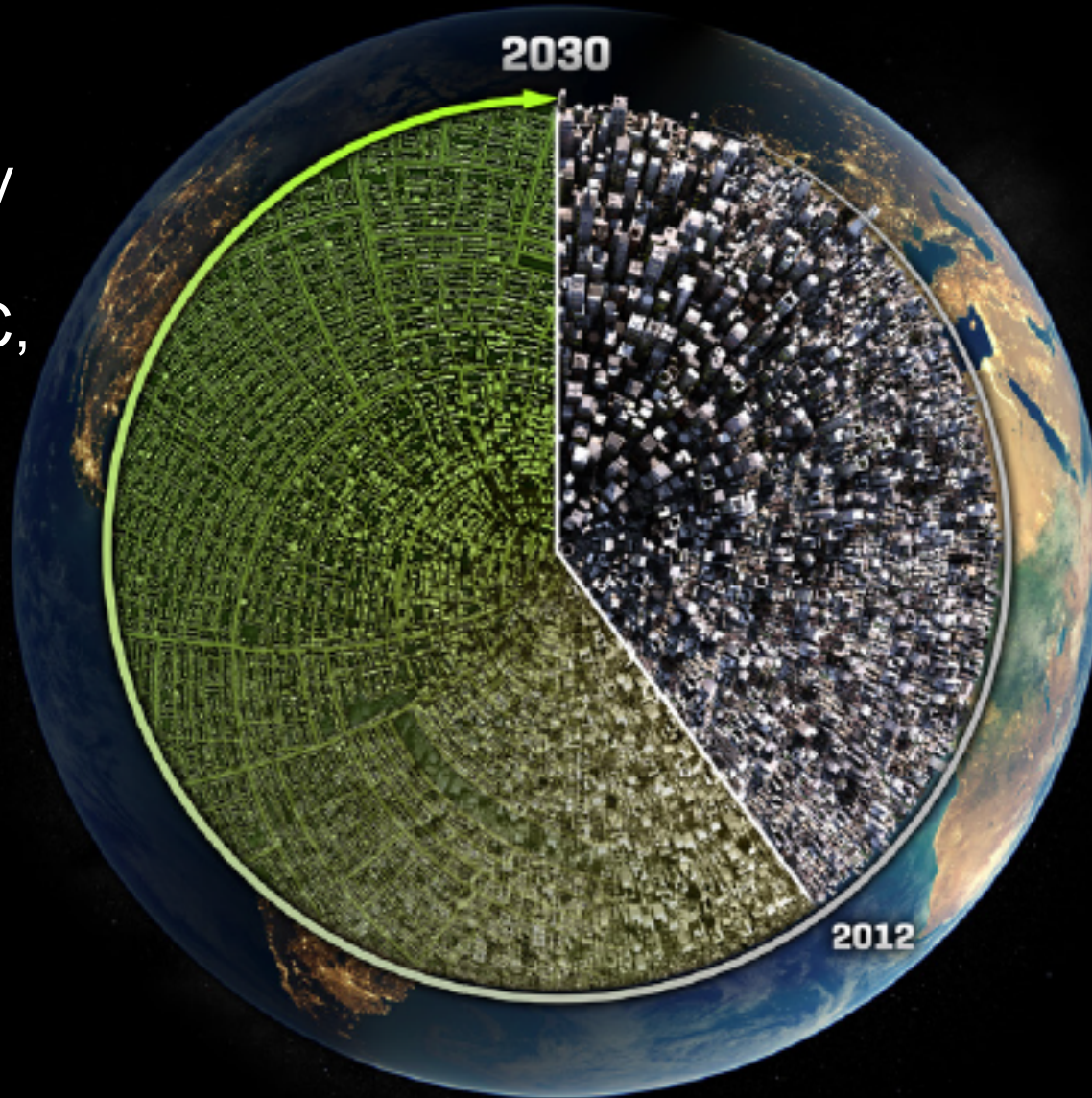


CHALLENGES & OPPORTUNITIES

MORE THAN 60% OF THE AREA PROJECTED TO BE URBAN IN 2030

HAS YET TO BE BUILT

Cities
Biodiversity
Outlook
(CBD, SRC,
ICLEI)



Future Proofing Cities (DIFD, ATKINS)

5 million

Number of people in Bangkok that could be at risk of flooding by 2070.

20%

Percentage of repairs due to climate change to the Konkan railway network in western India that facilitates trade and energy services between Mumbai and Mangalore.

17%

Estimated area of Mombasa that could be lost from a 0.3 m sea level rise causing the loss of hotels, cultural monuments, and beaches that draw tourists.

\$418 million

Cost per year of replacing the ecosystem services (e.g. water provision, flood prevention) provided by Durban's network of green open space, 38 per cent of the city's total budget.



44 million

Number of people pushed into poverty by increases in food prices in the second half of 2010, many located in urban areas.

\$39 billion

Economic loss from recent flooding in Bangkok through damage of more than a million buildings and impacts on commerce and industry.

85%

Percentage of Dhaka submerged by recent flooding.

1.9 million

Number of people affected by recent flooding in Manila.



CHANGING CLIMATEchanging communities



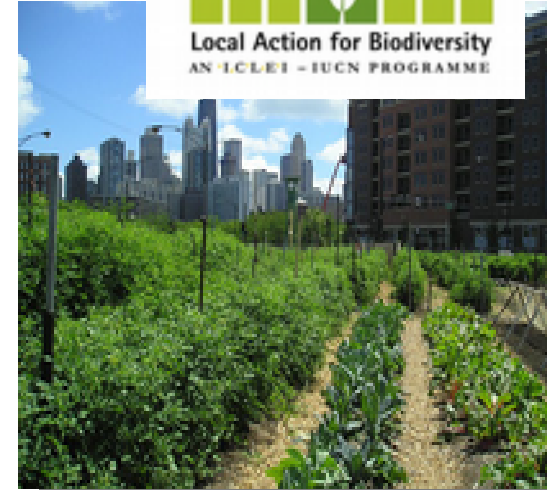
...New Solutions



URBAN BIODIVERSITY

- Biodiversity does not only occur in the country side (parks/game reserves) but all around us, even in cities/urban areas.
- Urban areas mostly contain restored and remnant ecosystems which are very essential for ecosystem services and processes:
 - Freshwater supply, carbon storage, climate change preparedness, cooling, flood water attenuation, urban agriculture, health benefits – clean air, open spaces, culture and society, property rates...etc.
 - Climate change adaptation/resilience/transilience

When and Where is EBA appropriate in urban areas, how do we decide?



Some departure points

- The role of EBA is recognised as an NB part of urban adaptation and DRR, but not yet well defined.
- CCA is relatively new in itself in African LGs, and there is acknowledged need by LGs for direction around assessing impact and for frameworks to guide decision-making and M&E.
- This is particularly so for linking Ecosystems/natural infrastructure to reduce vulnerability in highly populous areas.



“Ecosystem-based approaches to building resilience in urban areas: making the case for a framework for smart decision-making criteria”

- When Is EBA appropriate in urban areas?
- How, in African context, do we link strongly to poverty alleviation, to unique cityscapes?
- How do we decide and make decisions between a suite of adaptation measures?
- How can the effectiveness of urban EBA be measured? Linking the M&E and the Durban Adaptation Charter for Local Governments.
- What will help decision-makers in municipal departments?

DURBAN ADAPTATION CHARTER

● For Local Governments Adapting to a Changing Climate ●

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www.durbanadaptationcharter.org

Principle 6:

Prioritise the role of functioning ecosystems as core municipal green infrastructures

“We will ensure that sustainable management, conservation and restoration of ecosystems and the related ecosystem services are used to enable citizens to adapt to the impacts of climate change, which is known as Ecosystem-based Adaptation (EbA). We will strive to maintain and enhance resilience and reduce the vulnerability of ecosystems and people to the adverse impacts of climate change.”

● ***“Ecosystem-based approaches to building resilience in urban areas: making the case for a framework for smart decision-making criteria”***

- Funded by the Climate and Development Knowledge Network (CDKN) Innovation Fund II,
- Implemented by ‘ICLEI – Local Governments for Sustainability – Africa’,
- eThekweni as lead city.



South Africa

City of Tshwane & eThekweni Municipality (Durban)

Zimbabwe

City of Mutare

Botswana

City of Gaborone

Tanzania

Temeke Local Municipality, Dar es Salaam

Structured Interviews & Detailed Case Studies

Urban Conservation Farming, Improving Resilience in Mutare

Ecological Corridor for the Segoditshane River in Gaborone

Rehabilitation of Mangrove Forest to Improve Local Resilience in Temeke Local Municipality, Dar es Salaam.

Research & Case Study Outcomes

Background Paper: Key Concepts, Good Practices, and Current status of Urban EbA in Africa and globally.

Innovation Workshop: Backcasting

Workshop Outcomes: Principles and Criteria required for decision making; Informed local government participants ready to infuse ideas into their local government; Basis for a Decision-making Framework; Community of Practice.

OUTCOMES & FEEDBACK LOOP: Capacity strengthened; Ideas Inspired; Community of Practice; Knowledge and practice shared Globally via ICLEI Gateway to Solutions

Process



Backcasting

Backcasting and Change Laboratory theories were utilised.

- These are used in Complex situations with many stakeholders, where there is a desired future but its unclear how to reach it.
- This was a **social-learning** process where long term perspective help to let go of the present way of meeting specific social needs.
- The city groups worked on there own contextual challenges to come up with locally relevant actions and indicators.

EBA workshop

Culture of sharing and inspiration

- Providing current innovations and solutions!
What is possible!

Planning the future of resilient urban systems

- Going through backcasting with key opportunities in each city

Principles and Guiding questions for Urban EBA

- SMART indicators not quite realised

Action Plans and Learning process

Cities tested the model to come up with locally specific principles and guiding questions for a Framework

Next steps – test, refine, more social-institutional learning!
Community of Practice!

- SEEKING FUNDING!



Setting the scene for a useful decision-making framework for Urban EBA in Africa

Driving questions:

- When is EBA appropriate
- How to compare them to other adaptation approaches
- How to assess effectiveness over time.

Outputs towards Framework:

Guiding questions for considering urban EbA approaches

Guiding principles for informing urban EbA Approaches

Criteria for assessing **RELEVANCE** of EbA interventions

Criteria for assessing **EFFECTIVENESS** of EbA interventions

Additional criteria for ONGOING EFFECTIVENESS

Some Reflections

- **A highly ambitious process**, with range in stakeholders, different degrees of understanding and experience. **RAISING OUR LEVEL OF AMBITION.**
- LGs are 'learning by doing' but helpful frameworks are needed.
- The importance of **diversity of stakeholders**: LG (Planners, Water Engineers, Transport Managers, Conservation Officials, Sustainability Professionals), Nat Gov, NGOs (Wildlands, WESSA, ICLEI), Academic, Funders etc.
- On a number of occasions the importance of change and transformation came up with a strong emphasis on using this opportunity for change to disrupt the current status quo. **Thus rather than resilience the principle of disruptive processes and transformation through EbA was emphasized. RADICAL CHANGE.**



Some Reflections

- **Highly varied indicators for each LG.** What then is useful as a framework across diverse contexts? **Broad level indicators, guiding questions and principles are useful as a starting point for thinking through concepts and engaging in the complex process.**
- **Performance management for EBA is challenging.** Particularly looking at attribution, cause and effect relationships between interventions and outcomes. Robust baselines are a must.
- **Uncertainty of the capacity of ecosystems to deliver adaptation services – thresholds.**
- **Cost-benefit (social/economic) of urban EBA is challenging and not always what we expect.**
- **However, despite numerous challenges, EBA can provide low and/or no-regret interventions with a host of co-benefits (social, economic)....which all LGs seem to be seeking given the UNCERTAINTY of how exactly climate change will unfold at the local level.**

Some participant reflections:

- The framework developed provided **a useful beginning point**.
- The usefulness of the open-ended framework for **stimulating critical thinking** and providing support for making preferred futures explicit and then subjecting these possible pathways to review.
- The process of envisioning a preferred future and then exploring what would need to be in place to make the preferred future a reality, was viewed as a useful process that linked to many of the planning processes already being worked on in a number of the cities. **What was new was the review of these city planning processes through the lens of EbA** and particularly the principles that were synthesised out of the discussion in the workshop and the background paper.
- While workplace based learning is important the time together in the workshop and the emerging framework provide an **innovative supporting structure to critically review their work and to develop plans for a future that is very different** to the one we are currently heading towards.
- Some participants had **'Ah-ha' moments!** With one City Planner leaving with a renewed sense of vision and enthusiasm – to the point he is doing a masters in sustainability!

ICLEI – Local Governments for Sustainability is the oldest and longest standing network of local governments and cities working on Sustainability, with over 1200 world wide. Over 20 years ago, the organisation was started by local governments, and is led by local governments for local governments.



It is served by over 250 urban sustainability professionals in 15 offices around the globe.

The network is the **Local Government and Municipal Authorities (LGMA) Major Group** lead at the UNFCCC, and CBD. It leads on the Mexico City Pact, the Durban Adaptation Charter, and the Local Government Climate Roadmap.

URBAN EBA work can be found at the DAC website, ICLEI AFRICA website and ICLEI Cities Biodiversity Center website. Please contact Sarah Birch if you wish to contribute to a Community of Practice, or wish to be selected to write a Blog.

Durban Adaptation Charter website:

www.durbanadaptationcharter.org

ICLEI Africa ONLINE Participatory Process Adaptation Tool:

www.resilientafrica.org

Local Climate Solutions for Africa (LOCS2013)

www.locs4africa.iclei.org

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