Southern African Adaptation Colloquium

25-26 November 2013

FULL REPORT

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Day 1: Monday, 25th November 2013

Opening address:

The colloquium was officially declared opened by Professor Mark New- The Pro-Vice Chancellor and Director of the African Climate and Development Initiative (ACDI), University of Cape Town. In his welcome address, Prof. New stressed the importance of creating an environment to interact and share ideas, stressing the fact that this is the first attempt at bringing professionals in the field of adaptation together. He thanked the sponsors and the promoters of the colloquium for their generous support and participation. The sponsors and the promoters according to Prof. New are: The City of Cape Town, the University of Cape Town (UCT), the African Climate and Development Initiative (ACDI), South African National Biodiversity Institute (SANBI), Climate Change Think Tank and the Adaptation Network.

Keynote Lecture:

The colloquium lectures and discussions opened with a keynote presentation by Professor Karen O'Brien from the University of Oslo, Norway; who is also a member of the science committee for Future Earth. She started by provoking the thinking of her audience about adaptation, using Norway as a case study, she spoke about "*the adaptive challenge of climate change*" probing into questions such as:

- How do we respond to adaptive challenges?
- How do we start talking about adapting to a 4^0 world?
- We can adapt, yes, because we are human, but what are we adapting to?

- How are we framing the problem of climate change?
- Why do we resist adaptive challenges?

Referencing the works of Heifetz et al. (2009) in their book on the '*The Practice of Adaptive Leadership*' she compared the 'technical problems of adaptation with the 'adaptive challenges. She explained that 'technical problems' of adaptation are "problems that could be diagnosed and solved", oftentimes within a short period of time, "through the application of established knowledge and know-how"; while "'adaptive challenges could only be addressed through changes in people's assumptions, beliefs and worldviews and through changes in priorities, habits and loyalties". In explaining ways by which we can respond to 'adaptive challenges', she suggested the following:

- Learn to recognize the adaptive elements of the problem;
- Explore individual and collective blind spots;
- Recognize and work with different worldviews;
- Identify hidden assumptions and beliefs;
- Connect with the core values of others;
- Focus on the 'adaptive work' rather than only the technical aspects of climate change

"Meeting adaptive challenges requires *an adaptive formulation of the problem* (i.e. we need to see exactly how the challenge comes up against the current limits of our own mental complexity), *and an adaptive solution* (i.e. we ourselves need to adapt in some ways)". She stressed that we need to adapt from the *'inside-out*' first if we want to successfully adapt the world '*out there*' to climate change. She concluded with citations by Paolo Freire (1970) in the '*pedagogy of the oppressed'* by noting that 'adaptation' is NOT neutral -"The educated individual is the adapted person, because she or he better "fit" for the world". "Translated into practice, this concept is well suited to the purposes of the oppressors, whose tranquility rests on how well people fit the world the oppressors have created and how little they question it"

Session 1: Enablers of and barriers to adaptation

This session began with a presentation by **Sheona Shackleton** from Rhodes University, and it was followed by a group discussion session, facilitated by Gina Ziervogel from the University of Cape Town. In her presentation titled, "*An exploration of the factors that affect local people's ability to respond to multiple stressors in the rural communal areas of the Eastern Cape, South Africa"* Shackleton began by 'conceptualizing barriers and enablers'. Using the adaptation case study from the Eastern Cape through findings from a 4 year project on vulnerability and

adaptation, she observed that there is need for adaptation as levels of vulnerability and risk begin to increase.

She however cautioned that "many factors and conditions (barriers) operating at different scale may impede our ability to respond to these risks. "Particularly, vulnerable and marginalized people face considerable hurdles". '*Barriers*' according to Shackleton "are processes and conditions that hamper adaptation, the internal and external constraints that undermine or block the deployment of adaptive strategies"; while "'*enablers*' are possible entry points for action, they are the factors that increase the capacity of the actors to adjust practices, or conditions for success". Focusing on the findings from her research, she highlighted some of the examples of barriers to sustainable and resilient adaptation as:

Entrenched historical and structural barriers: " The residual effect of apartheid continue to endure in the communal areas, and they have changed relatively little"
Social and cognitive barriers: "Social problems such as corruption, crime, violence, drug and alcohol dependency are impacting on every aspect of people's lives"
Organizational and institutional barriers: "Local government is failing in many of its mandates. Dependency on a system that is not delivering"

Having defined *'enablers*' as possible entry points of action, she highlighted some examples of enablers of adaptation among rural people in the study area as:

- Community organizations that have emerged in response to stressors, thereby encouraging collective innovation.
- Local and indigenous knowledge and past adaptation strategies, these include use of natural resources safety nets. People's own perceptions and understanding of weather changes.
- Kin networks and neighborliness among rural people
- Relatively healthy and intact ecosystem
- Willingness among many people to change the way they do things and to become agents of change

She concluded her presentation by profiling some challenges that one could encounter in thinking about '*barriers*' and '*enablers*' as follows:

- Difficulties in distinguishing barriers to adaptation from those factors that undermine adaptive capacity
- Lack of adequate understanding of how barriers act together to aggravate and intensify one another.
- In planned adaptation, more embedded social-cultural barriers may only emerge at a later stage, so it is important to always anticipate these.

Discussion session: *Barriers and enablers of climate change adaptation: Insights from South African cities*

This session was chaired by **Gina Ziervogel**; Ziervogel initiated the discussion by presenting a brief framework for barriers to adaptation as illustrated by Tschakert et al. She noted the following:

- Barriers and limits are interwoven with decision making under uncertainty
- Facilitating transformative change would involve external policy interventions and a need to see the transformative change from social justice perspective.

She presented the following as the way forward:

- The need to see barriers to adapting to climate change as an emerging field, hence the need for systematic analysis
- Interdisciplinary approach should be adopted
- There is a need for a wealth of household level research
- Emerging work at city and municipality scale should be supported
- The need to identify key stakeholders
- The need to understand 'barriers' in the context of non-climate changes

And case studies were presented by the following people:

- **Anna Taylor** presented the case studies from t*he City of Cape Town:* Focusing more on *'technical planning and political intervention* within the context of 'barriers and enablers of climate change adaptation' in the City of Cape Town', Taylor highlighted the following:
  - Linking the Department of Environment with relevant stakeholders to develop adaptation plan of action for the city
  - Looking at what the adaptation measures are
  - How rainfall pattern would change in the city, and what that means for drainage infrastructure in the city.
  - Climate do not usual feature significantly in the annual budget
  - Lack of oversight on the part of political body to prioritize climate change
  - The need for more voices to address the issue

"Adaptation is too political for the technicians and too technical for the politicians" she quoted.

- **Meagan Spires** presented the case studies from *the Nelson Mandela Bay Municipality*: Findings emerging from the research conducted in the Municipality reveal the following:
  - Labour and skills challenges

- The political biome needs to be more focused on climate change issues, as there is no climate change unit within the municipality at the moment
- Passionate individuals within the municipality are setting up informal network
- Adaptation is about people, passionate people drive adaptation

- **Lisa McNamara** presented the case studies from *the City of Johannesburg:* In her discussion on the research findings from the City of Johannesburg, McNamara focused more on 'adaptation barriers and performance culture' and she highlighted the following:
  - The research focus more on governance with respect to climate change adaptation
  - Performance culture in Gauteng was a barrier
  - Although flooding in the province has generated a lot of attention, but there are no strategies in place to forestall or manage future occurrences
  - Climate change issues are not being integrated into incentive system
  - There is the need to embed climate change issues into wider scope of municipality planning
  - It is necessary to begin to network governance into collective action
- **Penny Price** participated as a *discussant* and she offered a general response to the discussion from technical and political perspective as follows;
  - Need for technicians and politicians to start working together
  - Performance management systems should be seen as non-technical adaptation practices, and it should be well integrated into policy implementation
  - There is a need to constantly report the work that researchers are doing
  - The need for more synergies and partnerships should be prioritized.

In conclusion, Ziervogel noted that there isn't much literature about social and institutional barriers to climate change adaptation, and urged researchers to explore this area. She emphasized the need to use the colloquium and other relevant means as opportunities for change.

Session 2: Links between Disasters risk Reduction and Climate Adaptation

In this session, presentations on the links between disaster risks reduction and climate adaptation were given by the following four people:

Coleen Vogel from the University of Pretoria started this session with a presentation, titled: *"Co-designing adaptation"- corporates, counsel(ci)llors, citizens and curmudgeons!* Vogel noted that disaster picture has changed, as people start moving and migrating; she cautioned that tradition (our way of doing research) could become a *blind spot*, stressing that when tradition becomes a blind spot, there is bound to be *absence of connectedness*. She then recommended

the need to start taking '*our model*' to the community. Citing the works of Ison et al. on the '*Tradition of practice*" - "When a tradition becomes a blindspot...When we stop looking back.. And we no longer appraise the value of a set of practices-- our mental furniture prevents action"

Consequently, "what began as a wonderful idea has involved into blind practice as consequence of the loss of connectedness with context, the very connectedness that gave meaning in the first place" Vogel stressed the importance of transdisciplinary approach as follows:

- Solving problems beyond disciplines orientated practice
- The need to rethink 'tradition of practice'

She highlighted the need for collaborations with co-creators. The co-creators according to Vogel are:

- Other scientists
- Civic society
- Government
- Business organizations
- Life coaches, social media experts, innovation hubs, etc.
- Curmudgeons (grumpy, old thinkers...those who disagree with us!)

She emphasized the need to start 'reframing the entry point of engagement' using the "Inverted Architecture' as illustrated by Glantz (2007). In conclusion, 'making meaning' according to Vogel would require that practitioners/scientists and other relevant stakeholders start:

- Using fresh approaches
- Moving away from linear, 'dialogue' approaches to an 'inverted architecture' approach
- Working *with* rather than *for* citizens

Martine Visser, Environmental and Policy Research Unit (EPRU), School of Economics, University of Cape Town (UCT). Visser gave an economic perspective to the subject of risks and adaptation in her presentation, titled: "*Determinants of adaptation and insurance interest in a flood-prone urban informal settlement: Experimental evidence from Cape Town'.* The research was designed to achieve the following:

- Explore the determinants of adaptive behavior and insurance uptake in a flood mitigation context.
- The study area (khayelitsha) was situated in a low lying area with a high water table, in an informal settlement area of Cape Town.
- The communities in the study area are vulnerable to flooding

The research was conducted by 'playing games' with the respondents in order to identify their risks preferences with respect to adaptation strategies they are likely to adopt during flooding event. Three (3) individual characteristics were used to model adaptation strategies, these are:

- Do nothing
- Least costly
- Most costly

Findings from the research revealed that:

- Risk preferences are correlated with adaptive strategies
- Risk preferences (lottery tasks) are not correlated with demand for insurance
- No correlation between past damage from flooding and interest in insurance

Visser concluded that insurance is not a real solution in the context of mitigation risk of damage from flooding.

Christina Culwick, *(Gauteng City Region Observatory, GCRO).* In a presentation titled: *"A multidisciplinary approach to understanding disaster risk: The case of flood disasters in Ekurhuleni,* Culwick began by exploring and explaining what dealing with complex issues in cities entail, she itemized them as follows:

- Complex challenges require complex understanding and approaches
- Cities are at the intersection of many compounding factors resulting in potentially high risk and vulnerability
- Disasters occurring in urban centres, often cause extensive damage
- Integration can reveal hidden components/blind spots of individual approaches

In explaining the research methodology for dealing with complex challenges in cities, Culwick proposed 2 scenarios as the 'correct' methodology for addressing complexity in disaster-risk reduction in cities, these are:

- **Single perspective approach**: this involves Climate scientist, community member and municipal official dealing with the complex problems individually, without consulting one another
- **Integrated perspective approach:** This involve bringing the 3 actors together in a roundtable discussion with a view to finding solutions 'collectively' to complex challenges in the city.

Culwick concluded with the following observations:

- Integration is always greater than the sum of their parts

- Single perspectives cannot reveal intersecting factors
- Reframing problems forces thinking beyond conventional boundaries

Claire Davis (CSIR), effective communication of climate information for decision making has always been a challenge in most African countries. In her presentation, titled: *Communicating climate information for decision making,* Davis approach the issue from the Southern African (SADC) perspective, and stressed the need to effectively communicate climate change information to end users to ensure climate resilient development. The overall aim of her research is to: "build capacity among SADC member states in understanding climate change and climate variability, and its threats and opportunities, so that these can be integrated into decision-making for a climate-resilient future. A Handbook- "*Climate Risk and Vulnerability"* was published from the research findings, and series of training were designed across SADC regions.

Davis described the lessons learnt as follows:

- Engaging with stakeholders
- Providing platform for needs assessment
- Capacity building
- Monitoring and evaluation

And she noted that getting the right people to attend the training workshops was the biggest challenge. The ways forward according Davis are:

- Need for improved communication that is driven by end-users
- Aligning the various funding streams meant for supporting capacity building in SADC
- The need to track stakeholders' uptake of climate information.

Serious Fun "Climate Scenario Game"

This session ended with a 'climate scenario game' facilitated by Chris Jack and Joseph Daron of Climate Systems Analysis Group (CSAG, UCT).

The overall aim of the 'game' is to identify factors that influence people's decisions in using climate information:

- Sometimes the level of information is inadequate
- People have different factors affecting their decisions

Session 3: Physical Climate Science and Adaptation

This session opened with presentation from Mark New (ACDI).

Mark New: *The IPCC WG1 2013 Report: Implications for adaptation- What's New?* The following were identified as new additions in the 2013 IPCC report:

- New forcing scenarios- RCPs
- New generation of global climate models
- Near-term climate projections

He stressed that although the uncertainty hasn't changed, but our understanding about uncertainties is increasing, and it is increasing our knowledge base. In conclusion, the following observations were made:

- The models are better, not necessarily in terms of information needed to help make informed decisions
- Decadal forecast is still highly experimental
- There are still many areas of improved evidence and understanding, and this creates a challenge for approaches that are no co--xxx
- The more the climate science gets done, the more our understanding
- And this underscores the need for more interdisciplinary research

Mathieu Rouault (UCT)**:** *Impact of ENSO on Southern African Climate in CMIP5 coupled models.* The following are the take away lessons from the presentation:

- Sea-level rise is not going to be homogenous, and it is wind that is mostly going to drive sea-level rise
- The pacific is controlling our climate
- There is need for improved couple model
- There has been relative success in reproducing the ENSO/Southern African Climate relationship
- There is no consensus between model on the future of El Nino
- Get ready for the next drought, it would happen anytime soon
- Chances of drought increases during El Nino

Guy Midgley (SANBI)**:** *Adaptation research flagship of the NCCRP, Long term adaptation Scenarios (LTAS).* The following are the key points from the presentation:

- We don't understand risks very well
- There is need to reduce long term risks in adaptation planning

- It is important to think about high-level adaptation policies
- We need to look at the current National Development Plan (NDP), and see how it fits into LTAS
- LTAS seeks how to help policy implementation
- We need to ask radical questions, e.g. what is SA's development vision for 2050? What is SA's target for poverty reduction?
- Impact scenario-What does a 4^0 temperature rise means for Agricultural production in SA?
- LTAS phase 2 focus on food and water security, using available tools and technology

Bruce Hewitson (CSAG): *Ethics and uncertainty of climate projections.*

Examples of ethical issues:

- Who holds the knowledge?
- What accountability is really in place?
- There is need to check on the ethics of climate service
- There is danger of abuse- both intentionally and unintentionally

Session 4: Mainstreaming Adaptation

Penny Price (Western Cape Province) started this session, and she highlighted the provincial roles as:

- Mainstreaming climate change into provincial government
- Information and research development
- Development of the Western Cape climate response strategy
- Integrate climate change into existing structure, strategic plans and frameworks
- Work transversely and develop partnerships with key stakeholders

The Bergrivier Case Study

- Development of Bergrivier adaptation project
- Multi-stakeholders workshop
- Agricultural framework
- Making it a bigger picture

Amanda Bourne (Conservation SA), presented a topic titled; *'Climate change response in the Namakwa District-working with local government*

Mapping vulnerability with respect to extreme events in the district, key lessons were:

- Sensitizing,
- Mainstreaming, and
- Spatial representation of information

Gaps and challenges

- Can be difficult to get people together and stay focused
- Change is slow

Lisa Constable (ERM): *"Understanding and managing the risks associated with extreme weather and climate change in a business context"*

- Systemics and web of impacts
- Helping companies understand their web of impact
- Flood risks mapping
- Climate change will amplify existing risks
- Stress and scenario planning

Timothy Fasheun (Department of Agriculture and Environmental Affairs, KZN); *Climate change responses as a stimulus for economic development*

- Development of a provincial independent power producer/renewable energy programme.
- Both government and private sector need to encourage more partnerships
- Exploring the potentials of green economy

Kgaugelo Chiloane, (Eskom); "*Weather and climate change impacts on the power generation utility- Eskom Adaptation case studies.* The presentation focused on the following:

- Eskom climate change strategy
- Eskom climate change adaptation strategy
- Eskom vulnerability and adaptation research projects
- Eskom case studies and research findings

Chiloane concluded:

- Eskom infrastructure is vulnerable to the negative impacts of weather, climate variability and long term climate change, therefore it needs to invest in adaptation
- Weather, climate variability and extreme events comprise Eskom's strategic objective to "keep the lights on"
- Weather and climate related impacts cost Eskom business millions of rands

Public Lecture: Mark Stafford Smith; "Framing climate change adaptation for response-centered policy decisions

The public lecture was titled: *"From climate science to adaptation decision-making"* The following points were made:

- Adapt, Innovate, advocate...
- Business as usual is not option
- Adaptation must increasingly manage the risk of divergent possible futures, and need for transformation

Re-framing our adaptation message;

From: Disempoweringly complex, all-encompassing, problematic, uncertain and distant

To:

- Solutions, not-problem-oriented
- Decisions today, not in 2070
- Risk management, not uncertainty
- Social and economic issue, not (only) environmental
- Emergent challenges, not (only) local responses

Day 2: Tuesday, 26th November

Serious fun: Mapping the community of practice

Bettina Koelle and Mandy Barnett

Audience was divided into groups to discuss some of the 'haves' and 'needs' with regards to climate change adaptation in South Africa. Each group came up with points and then shared them with the rest of the audience and were written up on a poster set on the wall at the front of the venue.

Some of the points raised around what South Africa *has* were:

- Plenty of data, methodologies and information around vulnerabilities and climate change impact

- Adaptation is seen as a way of life in Africa and something that has always occur
- Strong scientific community with innovative and motivated individuals
- There is seen to be a common experience of people living on the 'edge' in South Africa and Africa in general
- There is no shortage of committed people in South Africa to drive the processes.
- South Africa has many intact ecosystems
- Good infrastructure and technical capacity for early warning systems
- Disaster management frameworks are already in place
- A large diversity of knowledge not just scientific
- We already have some climate change response policies and conducive policy and legal frameworks

Some of the points raised around what South Africa *needs* were:

- We need to have more ethical frameworks.
- Integration at the post –project phase is important. Implementation must be continued after the end of a project.
- We need the wisdom to focus our efforts.
- We need resources at a grassroots level for work to be d
- Better communication of research to civil society.
- More user friendly information.
- We need more support for champions.
- Need more downscaling scenarios.
- Lessons from adaptation research need to filter up to the national level.
- More need for healthy ecosystems.
- We need to do longer term planning and include adaptation into engineering projects
- Incorporate climate change into the school curriculums.

Session 1: Communication, knowledge sharing and strengthening the community of practice

Brenda Martin (Project 90 by 2030) "*Participatory community engagement, reflections from practice"*

Martin explained how the vision of the organization had shifted from being focused on carbon footprints towards the balance between conservation and social needs in communities. With the help of German funding, the organization had managed to install numerous demonstration sites in the Eastern Cape and Kwazulu Natal.

Although their main expertise was in energy, outside advisors were brought in to help with water needs.

In her example of Msobumvu in the Eastern Cape, their work showed that the community already had decision making processes and structures in place. They used this structure and each member was assigned a portfolio and then engaged with the organization.

She described how there were numerous needs in Kwazulu Natal where there was little access to water for the community and this was a principle stressor.

With the help of funding there was introduction (technological introduction) of energy into the community. However the entry points were not energy, but rather strengthening community relations and community enhancements rather than climate change. Some of the focus was therefore on access to energy, food and water.

Some of the key points were:

- The community was very responsive to economic change, more so than other potential changes.
- It is important to take time and listen to what the community has to say
- The organization must not create dependency
- Trust is very important between all those involved
- There is a need to make clear when you plan to leave and that you will definitely leave as this encourages independence
- Operate within a toolkit – not just a set plan to allow for flexibility
- Prepare to work together, encouraging partnership and autonomy

Joseph Darron (CSAG): "*Visualizing climate Information in Africa"*

The focus of the presentation was about how we interpret information. He stressed that we do not have enough information about how information is used by climate change adaptation practitioners.

The progress of an ongoing survey was shared. The survey was intended to help to understand how practitioners understood and used climate data and information. Part of the presentation involved audience participation in an informal survey to judge how people responded to different presentation of information.

Some of the key points raised were:

- The way in which information is presented is important

- There are multiple visualizations of information and people disagree about the message of that information
- The confidence of the audience is related to the likelihood for change

Antoaneta Letsoalo (Department of Economic Development, Environment and Tourism, Limpopo) "*South Africa's Attitudes to Climate Change"*

The original speaker, Antoaneta Letsoalo was unavailable to attend, so the Karodia (need full name) presented in her stead.

Karodia presented some of the results of a survey conducted at the COP 17 provincial summits was presented. The survey examined attitudes to climate change of South Africans attending the summit. The South African responses were compared with responses from those of European countries.

It was noted that South Africans performed well compared to their European counterparts. However, it was noted after a question from the audience that the survey questions were asked of those attending the summit, so they did not represent the general population of South Africa. It is understood that those in the field of climate change would be more likely to have in depth knowledge of the issues related to climate change.

Nick Hamer (Rhodes University) *"The use of Theatre for Development to share scientific knowledge in rural communities"*

The presentation described work done by Rhodes University in the Eastern Cape involving local communities. The aim was to use drama as a tool for sharing scientific findings in a meaningful way. One of the aims of the process was to avoid a "one-way" flow of information from the facilitators to the community.

A social learning group was formed where drama was used as a tool to create dialogue and facilitate learning around the issues of climate change and how that may affect the livelihoods of the local community.

The process allows for sensitive issues to be discussed in a way that gave confidence to those involved to express their own opinions through the use of fictitious characters.

Two professional actors from the Rhodes Drama Department provided mentoring for local actors. The aim was to translate research findings into a professional drama performance with the overall theme being about change in the community.

Some of the key points raised were:

- The facilitators needed to be careful to avoid a one way flow of information. Perhaps they made the mistake in the reverse and went too far in the other direction
- It was important to have authentic voices and not preaching with the aim of having balance
- This was a Knowledge translation process where the overall theme was about change
- Exploration not explanation
- A balance between entertainment and a place for dialogue
- Received generally positive responses and it was found to resonate with people
- The process is difficult and there is no quick-fix

***Discussion session**:* facilitated by **Georgina Cundill** (Rhodes University):

Topic: *"Building conversations on community level adaptation: Practitioner researcher and community perspectives on processes that build capacity to respond to uncertain futures"*

This session was chaired by Georgina Cundill from Rhodes University. Cundill started the discussion by introducing some ideas around social learning for adaptation and the use of knowledge gained for community adaptation at multiple levels.

She noted the following:

- The need for developing a handbook that reflected the feedback from NGOs and communities involved in adaptation
- The need for an interactive process of social learning for adaptation
- Social learning provides a change in understanding
- Practitioners must move from a core network and share what works with others
- The need for sustained interaction over longer periods of time and reflexivity in tackling issues
- More of a focus on social context and agency and the relationship between peoples values and their actions (practice)
- Peoples aspirations and values need to be taken into account
- Capabilities need to be seen in the light of their vulnerabilities and we need to expand these capability

Nokwanele Mamkeli, member of the community had a short talk about her positive experiences working with the facilitators in her community.

Georgina Cundill continued, and talked about how the way in which a project is closed off is extremely important and that practitioners need to be mindful of what is left behind in the

community. The focus needs to be on helping to expand agency and the power to make changes and to build skills. This ultimately will help to enable the ability to deal with whatever circumstances arise in the future.

Georgina Cundill handed over to **Taryn Pereira** from EMG, who opened with the on the question of whether presenting specific climate information to communities was helpful or useful to them.

She went on to note some of the following points:

- In selecting where to operate, we must look at the potential for an ongoing relationship where people want help
- In reference to her experiences in Goedverwacht It was found that people were hungry for information and this was evidenced by many of them having attended the 90by 2030 workshops
- It was found that people were genuinely interested in being involved and gaining more insight into the problems

She described many experiences in Goedverwacht where she found that the community had concerns about water, over irrigation and access to markets. The community was constrained by their status as tenants on the land and lack of land ownership and insecurity acted as a barrier to actual change.

Further, she noted that:

- Insecurities can block or prevent change from happening
- There is a need to manage expectations and be open about limitations when engaging communities
- The relationship therefore needs to be open and transparent
- It was useful to use past experiences with weather events in determining potential future responses and this provided good insight into the problems
- There was a high demand for climate change information and there was a need for science and global politics information to be tailored to what the community wanted and wanted and required
- Due to the difficulty of obtaining meaningful data and projections for a small area it was challenging to decide what information needed to be shared with the community. It was useful to focus on the uncertainty of projections

It was found that many of the community's pressing concerns were about over irrigation and water insecurity relating to alien vegetation and not framed through the issue of climate

change, but were nevertheless related. Due to the lack of ownership of the land actual action and change was hindered.

Questions were posed to the community such as "*What do you want for you children?"* And "What threat does increasing energy prices have on the community?" The responses gave insight into the relationship between the community's concerns and their beliefs. The team managed to reflect back what the community already knew to some extent but from a different perspective while adding in new information that was useful to them.

Ian Schasse was a community member involved in the project. He started off by mentioning that he had an interest in vegetation and water resources in his community. It was only after he was showed the weather data for his town that he realized how small his town actually was as there was very little information available.

Some of the points that he raised were that:

- There were language barriers between the facilitators who spoke predominantly English and the mostly Afrikaans speaking community.
- He raised the point that for many in the community, the climate predictions were of limited use and that personal experience of climate change was of value.

Some of the immediate problems that they faced were few services provided by the municipality and that their water was supplied by the church and there were limits to how much water could be extracted from the river. Although they had received some funding to remove alien vegetation from the land, they had not received official permission to do and since they did not own the land they could not proceed.

In the open discussion some general points were raised:

- It is important to work from a base of existing actions and processes before moving forward
- There are some ethical questions about the involvement of researchers working in communities, in particular the value that communities actually get out of the interactions
- Brenda Martin made the point that it is very important to bring local government into the processes and get them involved as soon as is possible
- There is a need for comprehensive methodologies that build on existing strategies and continued relationships
- In many cases work of individuals goes beyond the call of duty or the salary that those involved are receiving

Colleen Vogel made the following points:

- The interaction of the researchers in the communities can be a challenge and it must be understood what the researchers are learning and gaining from the interactions
- Researcher must be aware of the possibility of what they are doing and asked whether it is potentially irresponsible
- It was emphasized that the social learning process included ongoing feedback and reflection.

Taryn Pereira made the following points:

- It was important to reflect on what worked and what did not work in the process
- There was a need to measure the significance and impacts of their actions and how the individuals involved had been changed in the process

Some other general points that were raised by the audience were that project funding could be a source of contention what could be potentially problematic. There was a need to encourage transparency in the process to address such issues.

Many people in the community may not enjoy these processes and find themselves excluded. We need to understand this and find ways of including those members.

Session 2: Ecosystem based adaptation and ecological infrastructure

David Black (Anchor Environmental) and **Ancois de Villiers** (Conservation SA) "*Assessing the cost-effectiveness of ecosystem-based approaches to adaptation in wetland and rangeland systems"*

The following points were made:

- Limited information available about rangelands rehabilitation
- Need to understand the benefits in soil rehabilitation and the potential erosion risks versus the actual rehabilitation
- The costs of maintenance are a critical factor and there is a long lead time before changes can be seen
- Maintenance alone will not help with resilience

Research focused on Kamiesburg uplands where it is projected that there will be continued degradation and erosion. We are presented with two options, either to use ecological based adaptation or engineered solutions when it comes to the effect of climate change.

Some of the key points that were made:

- EBA approaches generally cost more than engineering solutions or are prohibitively expensive
- Where there are very low population densities, the question of who actually benefits is an important one
- Preventions is always better than cure
- There is a need to approach these challenges from different perspectives

Carlos Ruiz Sebastian (UCT): "*Preparing for climate change in East African coral reef communities"*

Sarah Birch (ICLEI- Local Governments for Sustainability): *"A Framework for decision-making for Urban Ecosystem-based Adaptation"*

Some of the problems facing cities are rapid urbanization with a corresponding loss of ecosystem services. These ecosystem services have a positive role to play at the urban level. Many cities are also biodiversity hotspots.

Some of the key points that were made:

- There is a difficulty for planners to decide what solutions need to be used to adapt to climate change when presented with multiple options
- Need to understand how to help decision makers in this regard
- This presents an opportunity for social learning
- Need for a network of cities cooperating together
- The word transience was introduced

Geoff Brundit (UCT) "*Transitions to a Low Risk Coast: Lessons from Cape Town"*

The lecture was started with some background into what transitions are and the kinds of risks that cities around the world face in terms of sea level rise. Using evidence of insured and uninsured losses around the world, he made the case for a need for transitions to take place.

He used the example of the Netherlands, where transitions had already taken place when the reclaimed land and mentioned that the same had been done in Cape Town by reclaiming the Foreshore. This had resulted in the problems associated with sea level rise being shifted along the coast to Milnerton.

Some of the key points that were made:

- There is a need for longer term perspectives
- Society has competing visions of what they want for the future

- There are significant challenges to implementation including lack of planning, over-reliance on past experiences and an emphasis on reactive adaptation
- We must explore multiple option and encourage participation from civil society

Discussion session 1: "*Framing adaptation action"* Facilitated by Guy Midgley (SANBI)

Francois Engelbrecht from the CSIR presented a talk titled *"Actionable messages for adaptation (the future is uncertain, but not in a random way)".* Engelbrecht started the presentation with some background into what climate scientists actually know about climate projections, what data is available and how it is uncertain. He mentioned uncertainty in anthropogenic forcing, systematic errors, natural variations and earth processes that we do not yet understand. There are many different models and there is continuous improvement. He emphasized that there is enough information to 'actionable'.

Some of the key points that were made:

- There is much data and projections available but there is some level of uncertainty
- The data is not unpredictable and is not random
- Regional models do not add uncertainty but do provide more information
- The global climate system is becoming less variable due to less sea ice
- There is an extremely strong signal that South Africa is warming and this alone is an actionable message

Mandy Barnett (SANBI) presented a talk titled *"The experienced and lessons of South Africa's National Implementing Entity (NIE) to the Adaptation Fund."* Barnett explained some of the background to the fund, and that it was established by the parties to the Kyoto Protocol.

Some of the key points that were made:

- The timeframes that they work within can be much shorter than other organizations
- The projects that are chosen need to be tangible and have concrete results
- There must be multiple benefits to the communities that are involved
- Connecting science to indigenous knowledge is very important
- It is useful to have an integrated picture between environment and the built environment

Tracey Cumming (SANBI) presented a talk titled: *"Framing adaptation actions: Ecological infrastructure supporting ecosystem based adaptation"*. Cumming explained that the aim was to access "sustained investment in natural resource management" by mainstreaming "biodiversity conservation into government priorities" Parallels were drawn between

traditional built infrastructure and ecological infrastructure with the aim of promoting the understanding of the need for maintenance and conservation of ecosystems, thus providing ecosystem services.

Mark Stafford Smith (CSIRO) *"When is mainstreaming premature?"*

Some of the key points that were made:

- Mainstreaming works best when embedded in "business as usual"
- Mainstreaming is generally accepted as good but fails often
- Mainstreaming fails when new tools are needed
- We need better planning and forethought

Discussion Session 2: *"Towards a community of practice for Climate Change Adaptation in South Africa"*

This discussion session was chaired by Mandy Barnett (SANBI) and speakers included Anna Taylor (ACC), Vhalinavho Khavhagali (DEA), Sarshen Scorgie (Conservation SA), Katinka Lund Waasgsaether (Indigo Development and Change), and Intelligent Chauke (SALGA).

The main aim of this session was to discuss what the adaptation 'community of practice' in South Africa currently looks like, and what potential there is to grow and develop this community to strengthen and grow the network of those working in the adaptation space in South Africa. **Anna Taylor** talked about how South Africa has many passionate and dedicated people and a strong interpersonal network but is often too reliant on strong individuals. We also lack institutional structures and these individuals risk "burning out". She also mentioned the need to better connect with our neighbours in the Global South.

Some of the key points that were made by the contributors:

- Different sizes of municipalities make it difficult to borrow ideas from each other
- We may be limited within our own networks of practitioners
- There needs to be more of a link between the sciences and policy

At the close of the discussion session the an open discussion was had with the audience as to what actions or steps can be taken moving forward to strengthen the Southern African adaptation community of practice. There was a strong sense from the audience that a meeting opportunity such as the colloquium, was useful for networking and interacting with others working in the field and it was felt that it would be useful to have other such similar events. Regarding who would be mandated to play a coordinating or managing role in growing the community of practice it was suggested that the Adaptation Network, who already play a similar

role in the adaptation space, would be best placed to do so. All those interested in assisting to foster and grow the network and community of practice were encouraged to liaise with the Adaptation Network.

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