A SADC regional response to the SDG’s
Climate Change and southern Africa

Programme overview and networking opportunities
Presentation to BIMF-FBIP Forum

11 May 2016
About SARUA

The Southern African Regional Universities Association (SARUA) is a membership-based organisation of Vice-Chancellors of public and private universities in the Southern African Development Community (SADC) region, which structures its activities across four focus areas:

**Thought Leadership**
- Research and commentary exploring critical and systemic topics facing higher education and senior higher education leadership in the region

**Purposeful Engagement**
- Share this critical information with decision makers in a way that promotes purposive interaction and dialogue

**Capacity Building Support**
- Individual, institutional and regional capacity, systems and structures in response to defined issues

**Advocacy and Influence**
- Develop a regional consensus around the key priority areas requiring collective engagement and advocacy for policy changes
SARUA’s purpose

1. To promote, strengthen and increase higher education, training and research through institutional collaboration and capacity-building initiatives across the SADC region.

2. To promote SADC universities as major contributors towards national and regional socio-economic development.

SARUA’s purpose responds directly to the SADC Protocol on Education and Training (2000)
SADC at a glance

- 15 countries, including two Small Island Developing States (SIDS) and the world’s 4th largest island
- 277 million people
- 33% of Africa’s land area
- 25% of Africa’s population
- 109 public universities and 515 technical universities/colleges (2012*)
- Fast-growing private university sector: 467 accredited institutions (2012*)
- Three major university languages of tertiary instruction and research:
  - English
  - Portuguese
  - French

* SARUA. 2012. A Profile of Higher Education in Southern Africa. Vol 1: A Regional Perspective
Southern Africa and climate change [1]

Projected change in the annual average temperature (°C) over the SADC region relative to 1970–2005

2040 – 2060

Left column: median projection according to RCP 4.5 – a stabilization scenario in which total radiative forcing is stabilized shortly after 2100

2080 – 2099

Right column: Median projection according to RCP 8.5 – a scenario based on increasing greenhouse gas emissions over time

Southern Africa and climate change

Projected change in the annual average rainfall (mm) over the SADC region relative to 1970–2005

2040 – 2060

Left column: median projection according to RCP4.5 – a stabilization scenario in which total radiative forcing is stabilized shortly after 2100

2080 – 2099

Right column: median projection according to RCP 8.5 – a scenario based on increasing greenhouse gas emissions over time

SARUA PCCCD: Long term vision

• In 2010, SARUA member Vice-Chancellors initiated the SARUA Programme for Climate Change Capacity Development with the following vision:

“To significantly enhance the climate adaptive capacity and resilience of the SADC region through the development of a collaborative network of higher education institutions capable of pooling resources, maximising the value of its intellectual capital and attracting significant investment into the region.”
Framework for action

• The 2010 *Framework for Action on Climate Change and Adaptation in Higher Education in SADC* acted upon the real challenge of climate change as a *shared threat* and *knowledge gap* which required a regional response:
  • to create awareness and to sensitise communities, governments and the private sector about the risks of climate variability and change for development prospects in the region;
  • to significantly improve research and knowledge generation on climate change, adaptation measures and the associated costs and benefits;
  • to better disseminate information and knowledge amongst all stakeholders;
  • to strengthen regional scientific policy development and implementation as well as institutional capacity; and
  • to improve regional capacity for active participation in international policy networks.

• In 2012, SARUA commenced with a regional *Climate Change Counts* mapping study to verify and define the knowledge and research gaps.
Climate Change Counts mapping study

12 countries

1654 stakeholders

563 workshop attendees

349 survey responses

1595 pages of analysis

1 Needs analysis of SADC stakeholder priorities on climate change

2 Institutional assessment of SADC university capacity to address needs identified

• Volume 1, Number 1: Knowledge Co-Production Framework
  • Full Report [English / French / Portuguese]

• Volume 2: Country Reports
  • Number 1: Angola [Portuguese version available]
  • Number 2: Botswana
  • Number 3: Malawi
  • Number 4: Mauritius
  • Number 5: Mozambique [Portuguese version available]
  • Number 6: Namibia
  • Number 7: Seychelles
  • Number 8: South Africa
  • Number 9: Swaziland
  • Number 10: Tanzania
  • Number 11: Zambia
  • Number 12: Zimbabwe

Available at www.sarua.org
Key implications for regional knowledge co-production

- Strengthen the role and status of CRD science and technology
- Expand the role that researchers in Africa are playing in the area of CRD
- Implement policy interventions at national level which facilitate international co-operation in CRD research
- Strengthen Higher Education sector and university leadership commitment to CRD
- Review university policies and campus management practices to include CRD ‘modelling’ and more student participation
- Strengthen university / stakeholder partnerships for CRD at national and sub-regional levels
- Invest in a pro-active approach to institutional development pathways to create ‘critical mass’
- Initiate a process of staff capacity development across the region

SARUA Programme for Climate Change Capacity Development
May 2016
Knowledge Co-production Framework

**Knowledge Co-production Research Themes**

1. Green economy and sustainable energy and infrastructure technology innovations
2. Social dynamics of adapting to environmental change: Sense making, social learning and social transformation
3. Indigenous knowledge, resilience and cultural, social and technological innovation
4. Climate change resilience: A focus on health and well-being
5. Monitoring and mapping biodiversity and complex social-ecological systems changes for Climate Resilient Development
6. Resilient landscapes for people, food and ecosystems
7. African futures are resilient (AFAR): Governance, participation and social-ecological system change

**SARUA Programme for Climate Change Capacity Development Focus**

- Higher Education
- Development
- Focus

May 2016
HE enrolments in SADC are lagging

“If SADC countries continue along their current higher education trajectory without making significant changes, the region is projected to achieve a 16,3 per cent higher education enrolment rate by 2050. This progress is insufficient when compared to the current global gross tertiary enrolment ratio of 30 per cent, and will erode the future of higher education institutions in the region.”

Piyushi Kotecha, CEO: SARUA
Presentation to Extraordinary Meeting of SADC Ministers of Higher Education and Training, 2012
A dearth of post-graduate degrees

- Southern African universities are not producing enough PhD’s to become a next generation of knowledge producers and policy-makers.

* SARUA. 2012. A Profile of Higher Education in Southern Africa. Vol 1: A Regional Perspective
A regional need for CC & SD specialists

“We need specialists trained on climate change issues, adaptation and mitigation in each and every Ministry or organisation. Universities need to introduce programmes on climate change, long term or short term, in order to capacitate communities. Communities must be well informed on issues of climate change and survival skills.”

Spokesperson from the Ministry of Agriculture, Swaziland

*Climate Change Counts* workshop, June 2013
Rationale for a Master’s degree

• A key area for climate change curriculum innovation was identified in the mapping study at the Master’s degree level:

“The Master’s degree therefore seems to be a key ‘curriculum innovation point’ for further development, especially via partnerships with universities that already have such Master’s degrees, and those that are ready to, or in the process of developing Master’s degrees. E-learning approaches and shared courseware are further important strategies for curriculum innovation.”

• A Master’s degree will create a feeder mechanism for more PhD’s and more informed policy responses over time
University Delivery Consortium

- The University Delivery Consortium (UDC) was appointed after an Expression of Interest (EOI) and Request for Proposal (RFP) process among SARUA members and comprises 20 individuals from seven universities across five countries:

- Rhodes University
- Universidade Eduardo Mondlane
- University of Mauritius
- The Open University of Tanzania
- Sokoine University of Agriculture
- University of Namibia
- University of Cape Town (coordinating university)
Principles guiding the SCIN

- **Inter- and transdisciplinarity:** An emphasis on inter- and transdisciplinary approaches to teaching and learning; while recognising the importance of disciplinary contributions to interdisciplinarity.

- **Relevance:** Responding to and guided by regional climate change and development concerns, policy and research in SADC (not donor-driven agendas).

- **New knowledge:** Emphasis on research-informed curriculum development with pathways for further research.

- **Innovation:** New approaches to thinking included in the curriculum; Integration of different types and forms of knowledge; Focus on core competences; Incorporation of aspects such as values and ethics, relational understanding, aesthetic appreciation, equity and social justice, a futures orientation, care and concern and sustainability.
Network participation is open

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1. University Delivery Consortium
   - Consortium of SADC universities, responsible for developing the shared Master's curriculum and courseware:
     - Open University of Tanzania (TZ)
     - Rhodes University (ZA)
     - Sokoine University of Agriculture (TZ)
     - Universidade Eduardo Mondlane (MZ)
     - University of Cape Town (ZA)
     - University of Mauritius (MU)
     - University of Namibia (NA)

2. Participating Universities
   - SADC universities, faculties, schools and centres who wish to use and/or customise the curriculum and courseware, or contribute resources to assist SARUA and the delivery consortium

3. External Stakeholders
   - Government, non-profit and private sector stakeholders, including international universities who wish to participate in the SCIN and to exchange information on climate change in tertiary education

4. Individual Contributors
   - Individual researchers, academics and subject matter experts with a specific interest in climate change and tertiary education curriculum design, who wish to contribute to and benefit from the network

Participation gives voluntary access to a formalised peer review process, to review drafts of curriculum and courseware
Participation via the Peer Review Group

- Peer Review Group (PRG) is an academic reference group, open to registered SCIN participants
- PRG participation is voluntary
- Peer review contributions are formally acknowledged
- There are three peer review opportunities:
  - The PRG ensures regional perspectives in the curriculum and courseware
  - Regional case studies and learning material can be submitted to add to resource packs
  - SCIN participants are able to contribute elective modules using a standardised toolkit
Master’s Programme module structure

The curriculum comprises three initial core and four initial elective modules:

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<td>Core 1: Key Concepts of Climate Change and Sustainable Development</td>
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<td>Core 2: Transdisciplinary Thinking and Skills</td>
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<td>Core 3: Mitigation and Adaptation in Theory and Practice</td>
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<td>Elective 2: Climate Change and Ecosystem Services</td>
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<td>Elective 3: Climate Change and Resilient Urban Development</td>
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<td>Elective 4: Climate Change and Social Justice</td>
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Research Project

SCIN will publish a module development toolkit and establish a publishing platform in 2016 whereby additional modules can be contributed to the curriculum.
Publishing approach

• The curriculum is produced to facilitate different modes of delivery: face-to-face, blended and on-line
• The publishing model supports Open Access to ensure the widest possible impact
• Participating universities not only have access to the knowledge base, but also be welcome to contribute, as it becomes a focused publishing platform
• To support different forms of contributions, Gold Route Open Access – with formal peer review and Green Route Open Access – with no pre-publication peer review, will be accommodated
• A toolkit will be developed by the UDC in 2016 to assist in elective module development and will be published using the same approach
Opportunities for collaboration

OPTION 1: CONTRIBUTE TO MASTER’S PROGRAMME

• SANBI / SARUA / UWC (or other partner) to develop a specialised elective module on Biodiversity Informatics (BI) for the SARUA Master’s programme, to be made available for regional use:
  • Specialisation might require localised delivery at one institution
  • Elective structure could mean incorporation of BI module in other regional programmes

OPTION 2: DEVELOP A STANDALONE PROGRAMME

• SANBI / SARUA / UWC (or other partner) to develop a joint funding proposal to develop a full Biodiversity Information Management Master’s programme/curricula for delivery at the partner university
  • Will require dedicated time and effort
  • Joint proposal with existing partners has more chance of success and can spread effort according to capacity

OTHER OPTIONS…?
Future Vision: Centre for BIM

• SANBI has a vision and strategy to develop a Centre for BIM ad to develop a modular Curriculum for BIM
• SARUA and its partners are busy with a customisable Master’s programme in climate change and sustainable development
• Opportunities exist for:
  • Learning lessons from the SARUA process and adapting the approach
  • Collaborating to contribute to the existing process
  • Jointly pursuing an additional programme in BIM which can make a contribution to southern African biodiversity management and development
• It is a first attempt at co-creating regional qualifications and with the emphasis in future years on internationalisation and harmonisation within SADC universities, comes at an opportune time for collaboration
• Specialised research can follow in specific areas of interest
Knowledge Co-production Framework

Knowledge Co-production Research Themes

1. Monitoring and mapping biodiversity and complex social-ecological systems changes for Climate Resilient Development
2. Indigenous knowledge, resilience and cultural, social and technological innovation
3. Resilient landscapes for people, food and ecosystems
4. Social dynamics of adapting to environmental change: Sense making, social learning and social transformation
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SARUA Macro Research Network themes

• Example of a future research cluster for Master’s students and graduates

Monitoring and mapping biodiversity and complex social-ecological systems changes for CRD

This research theme focuses on biodiversity, ecosystems and water within a social-ecological systems perspective, placing emphasis on enhanced observation and monitoring. Many of the knowledge gaps identified in the mapping study needs analysis related to the lack of systematic and reliable long-term data in different sectors to serve as baselines for research, modelling and monitoring.
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SCIN online registration: http://www.surveymonkey.com/s/scinregistration