The mission: ... apply the climate knowledge that contributes to societal well-being.

- Capacity development considerations
- Key questions and issues
- What success can look like
- What might be “failures”
- The role of values
- WCRP challenges

This is a regional social activity requiring effort
In 2011: The postulated elephant in the room: different knowledge communities

The 2019 elephant: Can the climate scientist stand in the shoes of another?
- decision maker
- the developing nation
- the career limited ECR
- the W.E.I.R.D nation

PS: It’s about embracing diversity
“The four Scientific Objectives … rely on the WCRP community working together … through partnerships, capacity building, education, engagement, and communication.”

[WCRP Strategic Plan 2019–2028]
What is Capacity building/development?

The ubiquity with which the term is used seems only matched by the diversity of ideas about what it means or involves.

Selected definitions off the web

- obtain, improve, and retain the skills, knowledge, tools, equipment, and other resources
- the ability of people, organizations, and society as a whole to manage their own affairs successfully.
- building integrated, evidence-based, inclusive and well-funded national strategies and plans to achieve sustainable development
- capacities to achieve own goals ... at individual, organization and policy level
“Most vital is enhanced support for a WCRP research community which embraces diversity, demands equality, and builds capacity for the future. This support must be interwoven with every implementation blueprint, every scientific activity, and every infrastructure enhancement as we take the Strategic Plan forward.” [WCRP Strategic Plan 2019–2028]
1. Context:
   • A globally science community of heterogeneous priorities and values.
   • Capacity development is often as much needed for the “enablers”
   • Inflexible institutional mandates weaken evolving capacity needs
   • Neglecting context leaves a weak legacy – not “one size fits all”

2. What Capacity, for Who, and Why?
   • Developing capacity to do X may be contingent on capacity to do Y
   • The capacity bottleneck may not be the presumed need
   • The motivations of different players / participants may be at odds

3. (some) Hurdles and Barriers: HOW TO …
   • identify what capacity to develop when context is poorly understood
   • match activity to the reality of the agency agendas and limitations
   • sustain and retain capacity with a region
   • accommodate differing worldviews and values
   • measure “success” in terms important to all parties.
A trans-disciplinary team focused on implementing co-designed research on fundamental science and its application in the decision world of 9 African cities.
A deeply challenging experience that developed capacity of agencies, scientists, decision makers, and has left a deep legacy on the continent


Maoyi, M., Abiodun, B., Prusa, J. and Veitch, J. (2017) *Simulating the characteristics of tropical cyclones* over the South West Indian Ocean using a Stretched-Grid Global Climate Model *Climate Dynamics*, 50 (5-6), pp. 1581-1596

A deeply challenging experience in trans-disciplinary research that developed capacity of agencies, scientists, decision makers, and has left a deep legacy on the continent.

Embedded research in Maputo

Unpack climate uncertainties

Physical science research informed by societal needs developed individual and institutional capacity from the international scientists through to city councilors.
In a capacity development perspective, engaging the CONTEXT emerged as paramount to enabling effective growth of capacity.
How to increase the science capacity in Africa?

START, CDKN, WCRP, SIDA and UCT collaborate on the first Africa-CORDEX evaluation team, led by U. Cape Town, consisting of 30 African scientists leading the analysis & use of CORDEX simulations in Africa.
Using research as a vehicle for capacity development

Phase 1

Cohort concept:
- Participation endorsed by each individuals home institution
- Working in regional teams with collaboration under mentorship
- Workshop series over three years framing ongoing research
- Build targeted and ancillary skills
- Establish momentum through ongoing commitments
CORDEX–Africa Phase 2

Example: Future changes in extreme rainfall events and circulation patterns over southern Africa – Izidine Pinto

17 countries; 21 Institutions

Cohort concept continued … building individual capacity, regional network collaboration, context incorporation
Stories of capacity development “failures” (anonymous)

1. Assumptions of base skill: the case of MM5 capacity development
2. Presumption of purpose: Parachute training by a western nation
3. Competing agendas: “Capacity development” in modeling versus participant desire for analysis skills $\rightarrow$ a series of black box simulations
4. Unintentional arrogance: The instance of a global program’s top-down generation of anger
5. Brain drains: Capacity Development that takes people out of the region
6. Condescension: establishing a program that excludes local competency
7. “Fire and forget”: multiple agencies “let’s run a training workshop”, leading to competition among potential participants for the per diem.
1. The link to climate services
   • Many climate services have variable ability to responsibly identify, construct, interpret, and communicate actionable climate science.

2. Values
   • Increasingly it is understood that individual and institutional values play a substantive role how capacity development is implemented, most especially the weakness to stand “in the other persons shoes”.

3. Challenges for the WCRP
   • How to effectively engage with heterogeneous contexts?
   • “Climate science for society” is inherently a social activity that intersects at the regional and local scales; how to effectively make this connection.
   • How to balance the western–led science agendas.
To grow capacity, grow confidence

In the end one clear lesson emerges, one clear metric of success: Have the participants grown in confidence to engage with their established peers, to initiate new research, to let inquisitiveness take risks.

All the skill development and growth of conceptual understanding comes to naught if the participant has no confidence to implement their new capacity.

Personal closure: one of the humbling moments was when a competent, intelligent ECR said “I feel intimidated by you”: who’s problem is that?