

Current: Post doctoral research



- African Climate & Development Initiative, University of Cape Town
 - Collaborative **CC Response Framework and Implantation Plan** agriculture, Western Cape Province
 - ✧ SA **water scare** country: natural availability, pollution, ↑ demand, CC
 - ✧ Agriculture in Western Cape: vibrant and highly diverse
 - Major importance is high-value export commodities, most irrigated
 - ✧ Competition with urban developments and ecological water needs
 - ✧ Disaster risks = flash flooding and droughts, invasive vegetation
- ➔ Majority of Framework objectives and Implementation activities focus around water management

Current: Post doctoral research



TIAS Autumn School:

- How to **facilitate transformative change** in the agricultural sector for sustainable water management
- The role of water governance research and proactive CC adaptation

Previous: PhD research:

- Complex water governance arrangements at the catchment/ regional scale
- Role of Horizontal Cooperation in the Adaptive Management of regional SESs
- **RQ: When does horizontal cooperation contribute to adaptive management in complex governance arrangements?**



- Conceptual Design:

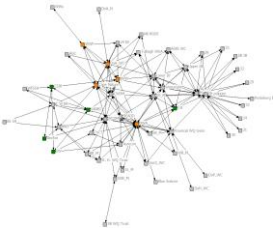
Adaptive Management ← → **Polycentric Governance**
(learning, collaboration) (multi-mode governance context)

- Assessment of Horizontal Cooperation:

quantitative

Social Network Analysis

- heterogeneity (learning)
- cohesion (collaboration)



qualitative

Ostrom's 8 Design Principles

- conditions for self-org. & coll. action
- robustness of arrangements

- Finding:

- Horizontal Cooperation necessary but insufficient for Adaptive Management
- Nested governance structure: horizontal cooperation complemented by vertical integration

Previous: PhD research:

- complex water governance arrangements at the catchment/ regional scale
- Role of Horizontal Cooperation in the Adaptive Management of regional SESs
- RQ: When does horizontal cooperation contribute to adaptive management in complex governance arrangements?
- Conceptual Design:
 - Adaptive management
 - Polycentric governance

TIAS Autumn School:

- ➤ Journal articles- situate my research and findings in the larger discussion on water governance
- ➤ How to take the research forward –continuation in the same catchment
- ➤ Ostrom's Design Principle: 7 and 8 ➔ regional SES

- Finding:
 - Horizontal Cooperation necessary but insufficient for AM
 - Nested governance structure: horizontal cooperation complemented by vertical integration

Planned: comparative studies

- **Water-Energy-Food-Land-Biodiversity-Nexus** research at the regional/catchment scale
 1. Two adjacent catchments in the Western Cape province
 - Key component: Mapping and analysis governance structures

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- Suitable combination of methods: for assessing governance arrangements beyond water governance/sector
 - Mapping governance arrangements for each Nexus component vs. action situations

1. Comparative Nexus research across different regions on existing data sets

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- TIAS Autumn school participants involved in Nexus studies
- Analyses of existing data sets
- Development of a joint framework