ASSAR

Adaptation at Scale in Semi-Arid Regions

University of East Anglia

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Adaptation at Scale in Semi-Arid Regions

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- As we understand more about the **global impacts of climate change**, so we need to know how people can **effectively respond and adapt** to these changes.

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- Home to hundreds of millions of people, the **semi-arid regions of Africa and Asia** are particularly vulnerable to climate-related impacts and risks.
  - These regions already experience **harsh climates**, adverse **environmental change**, and a relative **paucity of natural resources**.
  - People here may be further marginalised by socio-economic challenges, including high levels of **poverty**, government processes that prevent sufficient participation and **low levels of development**.

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- Although many people in these regions already display remarkable resilience, these **existing pressures are expected to amplify** in the coming decades.

- Therefore, it is essential to understand how to **empower people, local organisations and government** to adapt to climate change in a way that minimises their vulnerability and promotes their long-term resilience.

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- ASSAR aims to transform climate adaptation policy and practice in ways that promote the long-term well-being of the most vulnerable and those with the least agency.

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- To achieve this ASSAR is:
  - Working with diverse stakeholders in a coordinated manner across 11 countries in southern Africa, eastern Africa, western Africa, and south Asia, to investigate the **root causes of vulnerability.**
  - Examining vulnerability through an **interdisciplinary and gender-sensitive lens**, focusing on both **climate and non-climatic stressors.**
  - Engaging with multiple levels of governance – from local communities to national and regional institutions – to understand what is needed to proactively spur **widespread, effective and sustained adaptation** that has positive and lasting effects on **socio-economic development.**

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- Over its 5-year lifespan, the **cross-regional and cross-disciplinary comparison** of research findings will enable ASSAR to develop a **unique and systemic understanding** of the processes and factors that impede adaptation and cause vulnerability to persist.

Project Phases

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Phase 1

REGIONAL DIAGNOSTICS

Investigate what people in semi-arid regions currently know about climate change, and what they're doing to adapt to these changes.

At the same time, compile detailed climate projections to highlight region-specific vulnerabilities and challenges.

Phase 2

REGIONAL RESEARCH

Use the information gathered from the first phase, and add to it through novel case study research, to explore strategies for developing adaptive capacity at multiple scales - from individuals to business and governments - within each region.

Phase 3

RESEARCH UPTAKE

Promote research into use across all regions, by informing adaptation practices at multiple scales, and in different contexts, and enabling take-up of research insights in policy and practice interventions.

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Regional Diagnostic Study

Southern Africa

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THUTO KE THEBE

UNIVERSITY of BOTSWANA

UNIVERSITY OF NAMIBIA

The regional to sub-national context

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- Ecologically and culturally diverse
- High numbers of poor people
- Limited access to services
- High unemployment levels
- Few opportunities for diversifying livelihoods
- High levels of HIV and AIDS
- Limited natural resources and low agricultural productivity
- Limited institutional capacity at the local scale
- Reliance on subsistence agriculture, natural resources, employment and remittances

Climate Change, Trends and Projections

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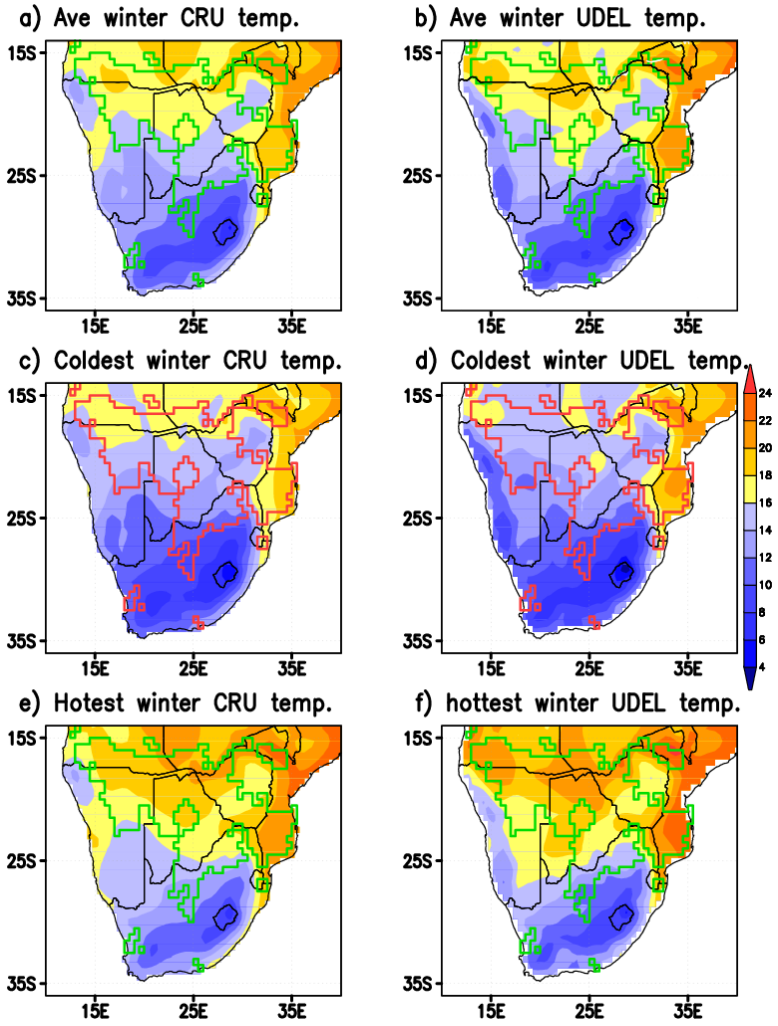
- Seasonal and highly variable rainfall (inter-annually and intra-seasonally) ➔ frequent floods and droughts
- Predicted: ⇧1 – 4°C by 2050
- Predicted: multi-decadal variability to continue; uncertainty in direction of change into the future



Risks, Impacts and Vulnerability

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- Reduced water availability, reduced crop and livestock productivity
- People settling in floodplains
- Lack of marketing of livestock
- Degradation of natural resources
- Livestock and crops under strain
- Limited livelihood options
- Limited institutional capacity
- Cultural beliefs and superstition
- Lack of knowledge of adaptation options

The Adaptation-Development Spectrum

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Responses:

- Social networks for assistance
- Reducing the size of livestock herds and supplementing livestock with food and water
- Forecasting and food storage
- Water efficiency, water management and water harvesting
- Soil and water conservation, conservation agriculture
- Diversification of livelihoods, crops and livestock
- Changing planting dates

The Adaptation-Development Spectrum

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Barriers

- Lack of coordination
- Framing of climate change as an environmental issue
- Lack of awareness of climate change, vulnerability, impacts and adaptation
- Lack of technical capacity
- Limitied natural and financial resources
- Lack of access to information
- Lack of effective decentralization and limited institutional capacity at a local level
- Reactive approach versus long-term planning
- Insuffiecient evidence base on benefits of adaptation versus costs
- Conflicting programmes implemented by government

Conclusions

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- Current adaptation measures are not sufficient
- Novel adaptation strategies and measures need to be developed and implemented
- Information on adaptation options needs to be made more readily available
- A common goal and more integration is needed across sectors towards the implementation of widespread and effective adaptation
- Alternative livelihood options need to be created through the provision of appropriate enabling policies and institutions

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