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# Toward a regional response to climate change

*- Transboundary aspects of  
adaptation to Climate Change*

***A DFID funded Regional Climate Change Programme  
for the SADC region***



*Water, Health & Food Security and CC Knowledge Sharing  
Workshop, Cape Town, February 2009*

*Appreciating your financial, social and ecological assets*

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- Why a regional programme?
- Vulnerability in the SADC region
- Risk-based transboundary adaptive management (the adaptive management cycle)
- Programme purpose, outputs and structure
- A Kafue case study?

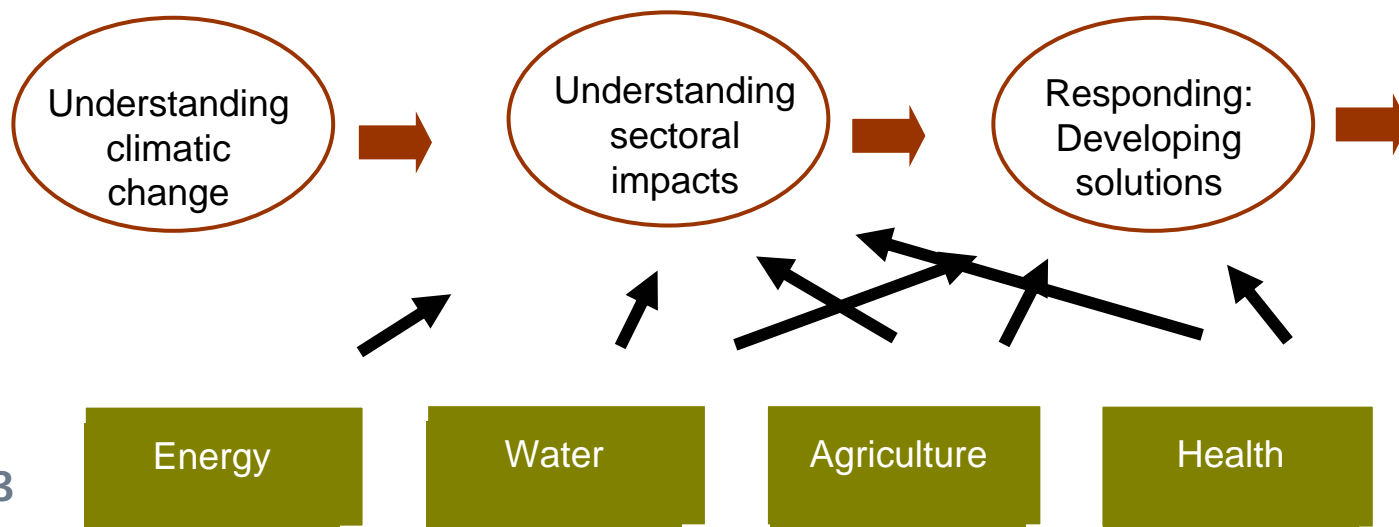


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# Shared water resources, health & food security are sensitive political issues even without climate change...



- ❑ Regional responses defined by political boundaries and secular interests
- ❑ Common institutional arrangements are few
- ❑ Need collective lobbying for international funding
- ❑ Leverage economies of scale - common info and responses
- ❑ Platform and structures to respond to transboundary issues (e.g. shared water resources)
- ❑ Identify transboundary 'hotspots' and migration of people



Ensure environmental stability - **water**  
Eradicate extreme poverty and hunger - **food security**  
Combat HIV, malaria and other diseases - **health**

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SADC countries are fast becoming water constrained economies with climate change further impacting water degradation



## *Spatial development in SADC*

Many SADC centres of economic development are located on watershed divides - Johannesburg, Gaborone, Harare, Windhoek, Dar - all water scarce cities

## *Development cornerstones in southern Africa*

- Social stability
- Political stability
- Foreign Direct Investment

Water resource availability and allocation will destabilise these cornerstones: water degradation - quality (reduced dilution capacity) and quantity **result in water constrained economies** (adapted from Turton, 2008)

population density; urbanization/migration;  
climatic conditions: reduced rainfall, increase in  
extreme events, changes in rainfall patterns,  
inadequate institutional arrangements  
- cannot cope with complexity



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*“The Zambezi basin is the most significant and most impacted basin in terms of climate change in the region and yet our response is probably the weakest” - Zambezi Basin Forum, Nov 08*



**Transboundary institutional arrangements are bound by national political interests and can constitute a barrier**

QuickTime™ and a  
TIFF (Uncompressed) decompressor  
are needed to see this picture.

Calls for a basin wide climate adaptation plan (ZAPA) - to augment Zambezi IWRM plan and the Zambezi Investment Plan

Recommended establishment of a Zambezi Basin Trust Fund

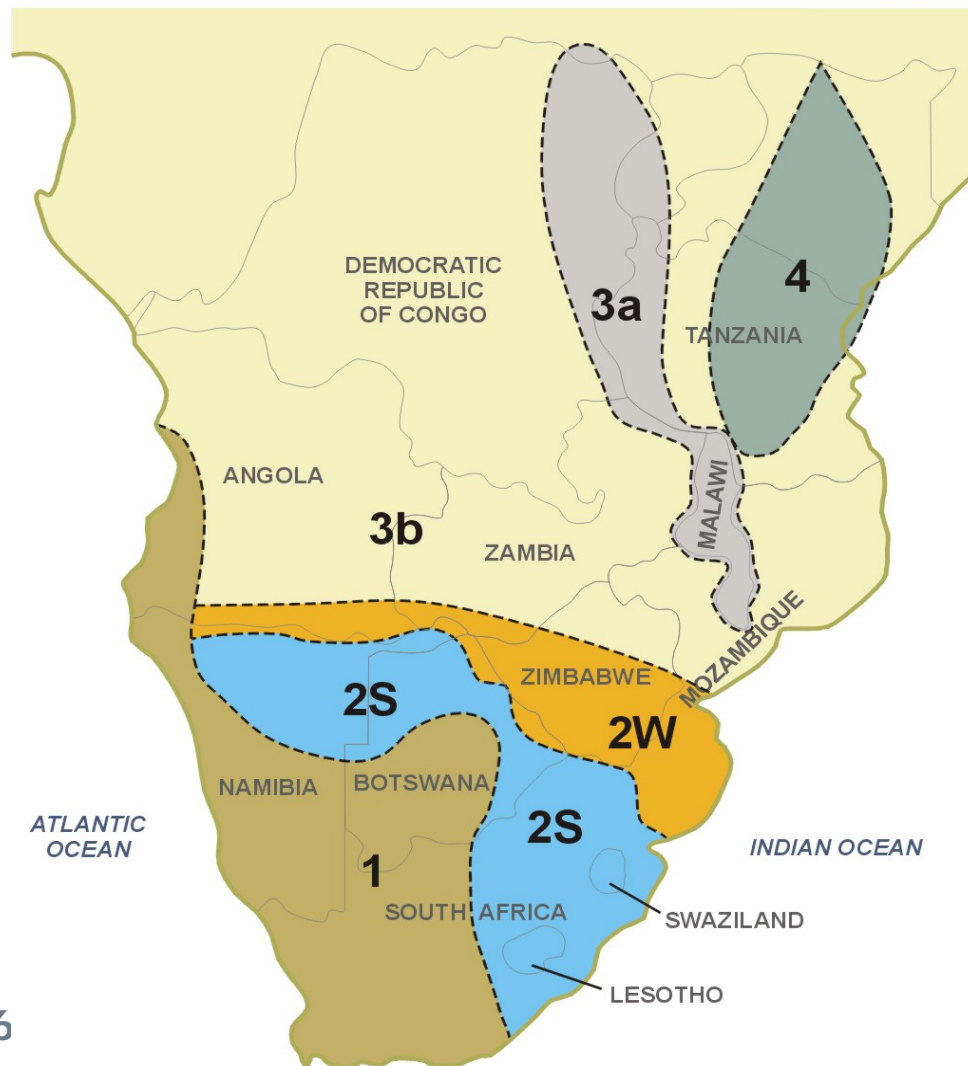
ZAMCOM to be established March 2009 - Interim Secretariat established last week

Support for a Kafue case study on climate risk

Nine SADC countries and about 105 million people (close to half of entire SADC population).

International CC negotiations affect SADC - but we do not influence international negotiations and funding. Choosing battles by identifying critical thresholds - which systems do we need to strengthen the most?

## SADC sub-regions



**Region 1:** <400mm; CC: Significant warming W&S; reduction in winter rainfall. Heavy g/w dependence; sparsely populated

**Region 2:** 400-1000mm. CC: mod temp Increase; winter drying; small decr in rain= large decrease in run-off - impact on subsistence and dryland agri. 2W: heavy dependence on subsistence agric; civil wars & Economic turmoil-weak institutions; ltd access to healthcare; malaria

**Region 3:** high rainfall; CC: incr in extremes Cyclones; sea level rise (Moz); mod temp incr; Decr winter rainfall, incr summer (mod); malaria endemic; pop pressure - refugees

**Region 4:** lower, bi-modal rainfall; links with East Africa & Malawi; incr summer rainfall, mod temp incr.

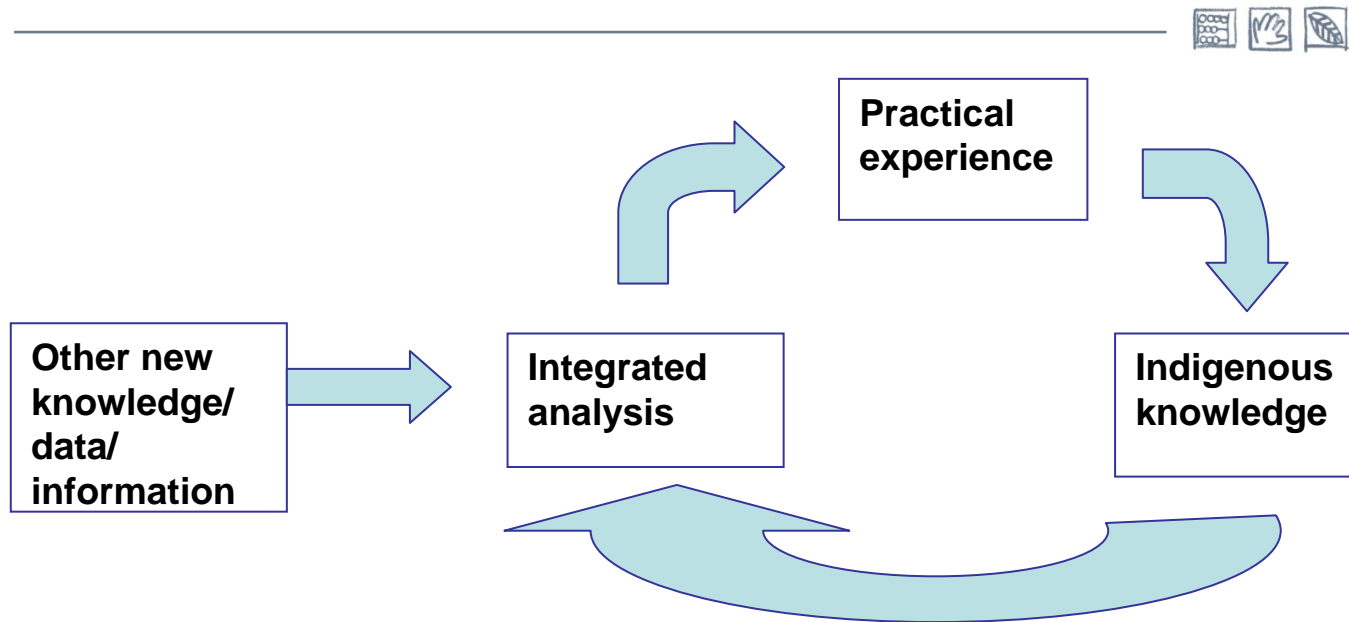
S: strong economies and institutions

W: weak economies and institutions

a: population pressure

b: weak economies and poor infrastructure

## Entrenching adaptive management into development cycles and processes can facilitate the integration of CC responses



- ❑ Useful integrated information (science with socio-economic analysis)
- ❑ Experience informs Indigenous Knowledge - feeds back into analyses
- ❑ New information brings life into the process - cycle is repeated again and again - successful adaptation responses



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The purpose of the programme is to enable transboundary adaptation to climate change, with equitable access to climate funding, in southern Africa



Programme outputs:

- Integrated scientific analysis on climate change risks and responses is available to improve adaptive management
- Indigenous knowledge is validated and used in scientific assessments
- Viable, stakeholder-led, transboundary-relevant climate adaptation options are identified and presented to funders
- Transboundary relationships for responding to climate change and influencing climate policy are strengthened



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### **CC in the Kafue - an RCCP case study**

Hydropower, protected areas and vulnerable wetlands, dry land and irrigated agriculture, large dams, vector borne disease (livestock & human)

- Access indigenous knowledge
- Integrate with Climate and scientific assessments & disseminate information
- Prioritise adaptation options - feasible financial proposals
- Apply adaptive management - key stakeholders

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# The regional programme will strengthen relationships and build platforms to enable collaborative response



*..enabling environment to deal with issues related to food security, water, health and energy...*

Figure 1: RCCP enabling structure

