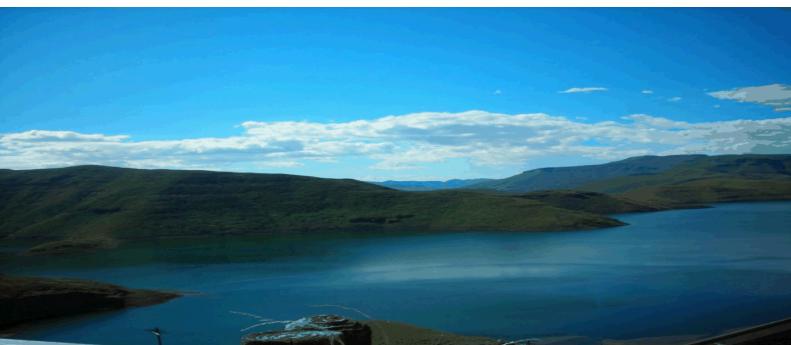


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# Institutional Resilience & Adaptive Capacity

## Uton Center Conference: Water Resilience in a Time of Uncertainty

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# Overview

Transboundary water cooperation can both enable and constrain adaptive capacity, or the ability of riparian states to recognize and respond to changing circumstances.

Experience in the Orange-Senqu River Basin in southern Africa demonstrates how a deeper understanding of problem structure and power dynamics can illuminate opportunities for strengthening institutional resilience.

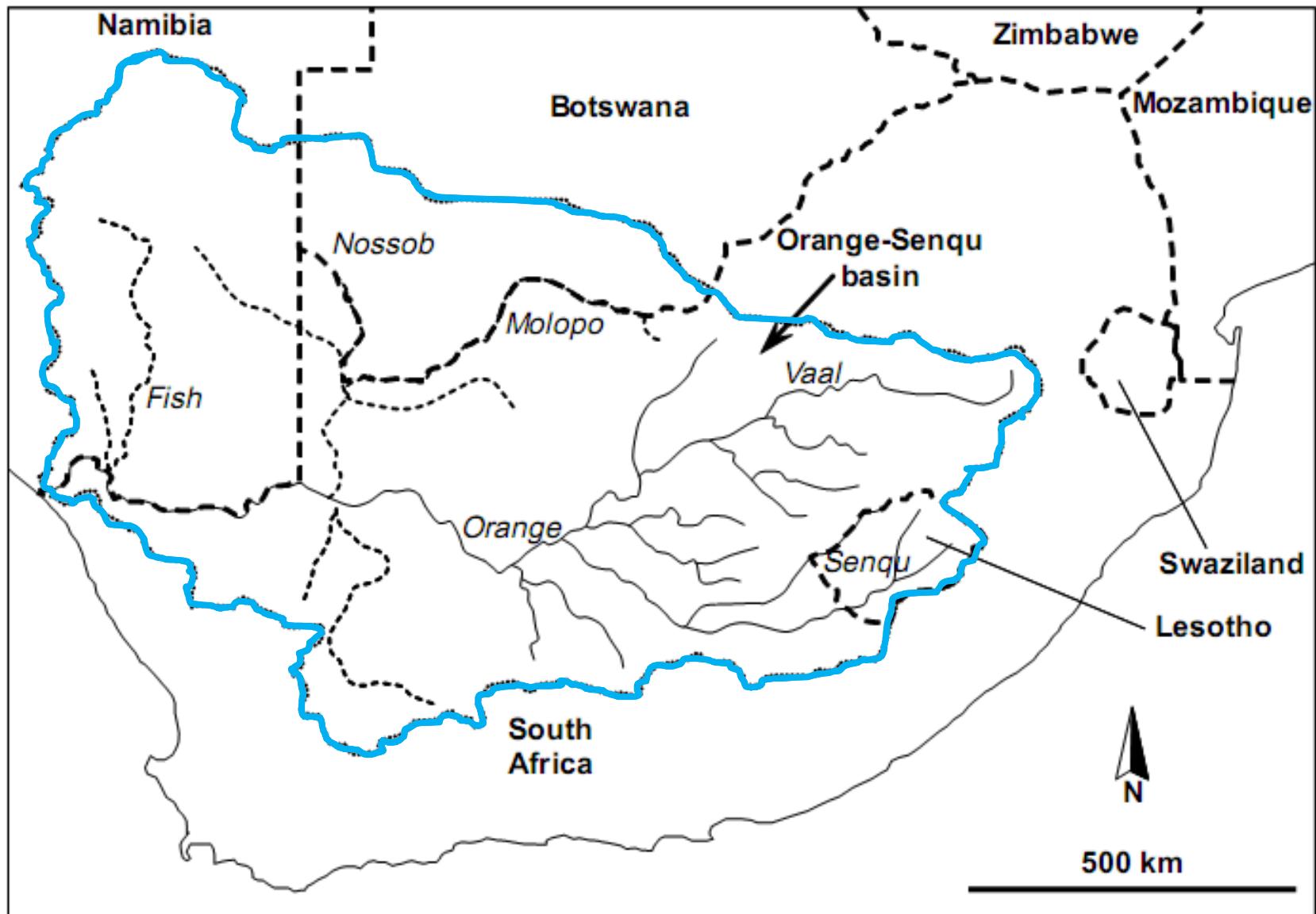
- Key Components of Adaptive Capacity
- Experience in the Orange-Senqu River Basin
- Opportunities for Strengthening Institutional Resilience

# Adaptive Capacity

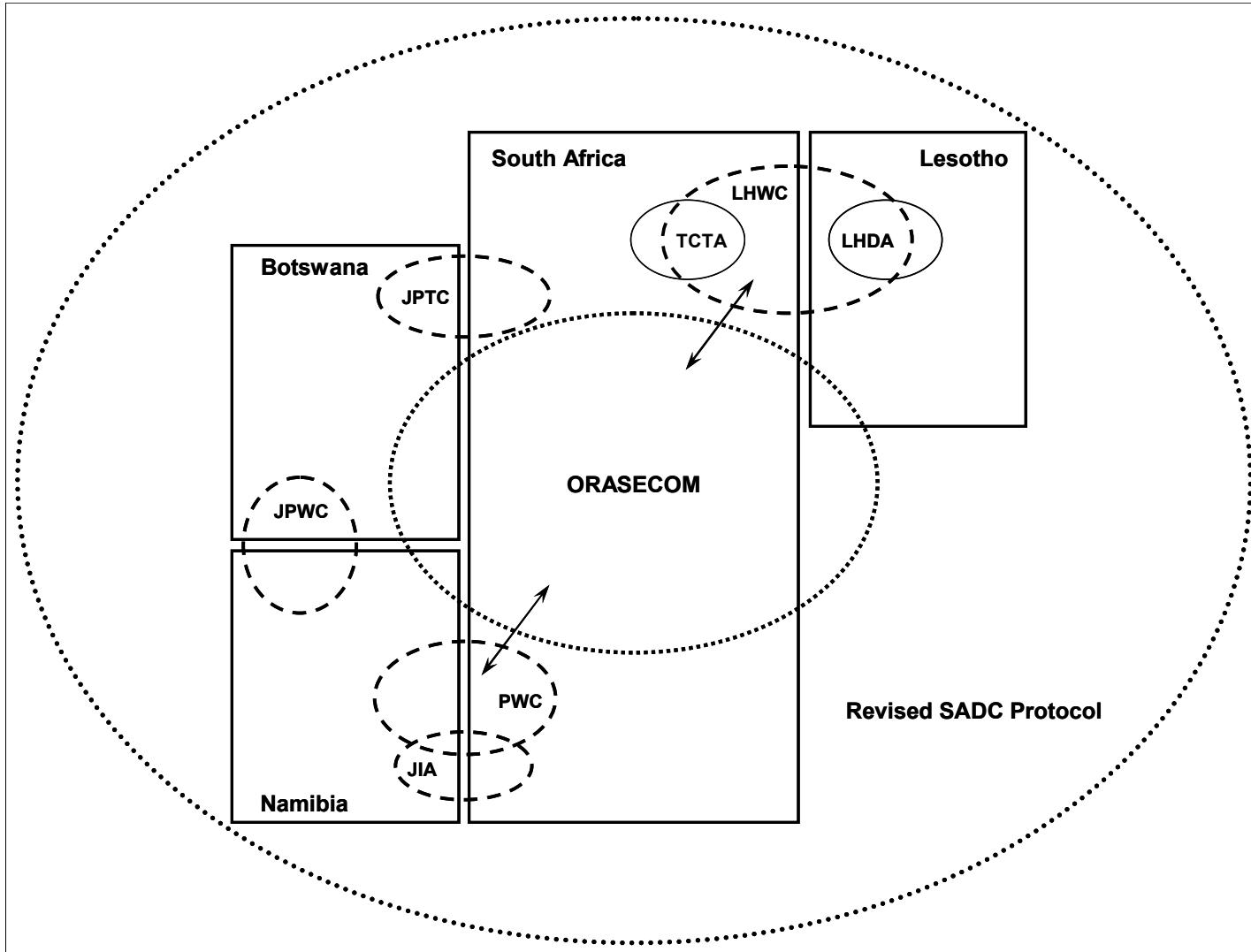
Component	Sub-Components
Information Management	Collection, exchange, credibility, and compatibility
Institutional Flexibility	Allocation mechanisms, drought provisions, amendment and review process, revoking clauses, managing organizations, willingness to alter strategies
Actor Networks	Activity between basin managers, technical and political representatives, government sectors, basin organizations and stakeholders
Capital	Financial, technical and ecological

Sources: Yohe and Tol 2002; McCaffrey 2003; Smit and Wandel 2006; Raadgever et al 2008.

# Orange-Senqu Basin



# Orange-Senqu Governance Regime



Source: Kistin and Ashton (2008). Note: JIA=Joint Infrastructure Association; JPTC=Joint Permanent Technical Committee; JPWC=Joint Permanent Water Commission; LHDA=Lesotho Highlands Development Authority; LHWC=Lesotho Highlands Water Commission; ORASECOM=Orange-Senqu River Commission; PWC=Permanent Water Commission; TCTA=Trans-Caledon Tunnel Authority.

# Institutional Flexibility

- Formal treaties contain ample flexibility mechanisms.
- However, the ability to invoke and operationalize these flexibility mechanisms is dependent on political negotiations influenced by problem structure and power dynamics.
- Mechanisms for strengthening institutional resilience have to be tailored to shift power, interests, uncertainty and commitment requirements.

# Institutional Flexibility

**Table 6.1** Flexibility mechanisms embedded in the Orange-Senqu basin's water governance agreements.

Flexibility Mechanisms	Relevant annexes, articles, and protocols from Orange-Senqu agreements			
	2000	1992	1992	1986
Allocation				Art. 7 (2) Annex II
Drought Provisions		Art. 3	Art. 3 (5)	Art. 7 (2) Art. 9 (19) Art. 14 (1)
Amendments/Review	Art. 11	Art. 5	Art. 14	Art. 6
Revocation Clause	Art. 9	Art. 5	Art. 14	Art. 9 (7, 8)
Institutional Responsibilities	Art. 1 [ORASECOM]	Art. 1 [PWC]	Art. 5 [JIA]	Art. 9 [JPTC] Protocol 6 [LHWC] Art. 7 [LHDA] Art. 8 [TCTA]

*Source:* Previously published in Kistin and Ashton 2008. *Note:* Section numbers given in parentheses. Water governance organisations created by treaties given in brackets. Art. = Article, JIA = Joint Irrigation Authority, JPTC = Joint Permanent Technical Committee, LHDA = Lesotho Highlands Development Authority, LHWC = Lesotho Highlands Water Commission, ORASECOM = Orange-Senqu River Commission, PWC = Permanent Water Commission, TCTA = Trans-Caledon Tunnel Authority, VNJIS = Vioolsdrift/Noordoeuw Joint Irrigation Scheme.

# Institutional Flexibility

Drivers	Manifestations in the Orange-Senqu
<b>Problem Structure</b> <ul style="list-style-type: none"><li>• Interest</li><li>• Asymmetry</li><li>• Uncertainty</li><li>• Commitment Requirements</li></ul>	<ul style="list-style-type: none"><li>• Namibia, as the downstream riparian, has a strong interest in basin-wide planning and allocation. South Africa has a strong interest in maintaining the status quo and a zero-sum mentality</li><li>• Allocation alternatives are intangible</li><li>• Basin managers feel like they are constantly positioning themselves, their Ministry and their country for negotiations</li></ul>
<b>Power Dynamics</b> <ul style="list-style-type: none"><li>• Geographic</li><li>• Material</li><li>• Bargaining</li><li>• Ideational</li></ul>	<ul style="list-style-type: none"><li>• South African representatives block discussion of allocation or bilateral projects in the basin-wide forum, influencing the scope of analysis conducted</li><li>• Delegations draw on discourses of <i>necessity, possibility, priority, efficiency</i> and <i>contributions to construct facts and limitations</i></li></ul>

# Strengthening Institutional Resilience

- Informal Discussion Space
- Benefit-sharing Frameworks
- Participatory Modeling
- Interdisciplinary Networks & Leaders

# Questions?

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# Back-up Slides

Unclassified

# Information Management

## Impact of the Orange-Senqu water regime on information management

	Observed Changes	Regime Contributions	External Factors	Remaining Barriers
Collection	Increased	Joint Studies	Studies by national govs, parastatal orgs, private companies, and universities	Financial resources, political priorities
Exchange	Increased	Treaty Requirements, Interpersonal relationships, joint studies	Change in regional political context, technological advances, regional monitoring initiatives	Political reluctance, staff capacity, competition within the private sector
Credibility & Compatibility	Moderate Increase	Technology trainings, interpersonal relationships, joint studies	Change in regional political context, regional monitoring initiatives	Lack of data protocol or minimum standards, cost of new equipment and training, political reluctance

Source: Kistin 2010

# Actor Networks

## Impact of the Orange-Senqu Water Regime on Actor Networks

Type of Network	Overall Impact	Regime Contributions	External Factors	Remaining Barriers
Basin Managers	Strong	Regular meetings	Conferences, field visits, prior relationships	Staff turnover
Technical & Political Representatives	Mixed	Meetings	National Department Structures	Communication
Intersectoral	Weak	-	Workshops	Communication Time and resources
Basin Organizations & Stakeholders	Weak	Roadmap (ORASECOM); NGO forum (LHWP)	NGO partnerships, donor funding, political context	Political reluctance Institutional design

Source: Kistin 2010. Note: NGO = Non-governmental Organization; ORASECOM = Orange-Senqu River Commission; LHWP = Lesotho Highlands Water Project