

Ecosystems and institutional fit: a transaction approach to local level governance of ecosystem service provision and climate adaptation in Lesotho

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Global Climate Forum (GCF)

19.03.2013

European Climate Change Adaptation Conference,
Hamburg, Germany



Outline

- Case: wetlands conservation in Lesotho
- State of the art in institutional approaches to natural resources and social-ecological systems
- Approach taken here: transaction cost approach to local level governance
- Cases – Governing wetlands in Lesotho
- Conclusion

Lesotho:

- Wetlands smooth flow in Orange-Senqu river basin releasing water in dry season
- 85% of Lesotho's annual precipitation falls between April and October (LMS 2008)
- 30% to 50% annually of Lesotho's GDP comes from payments for water transfer to South Africa
- Provide services to communities through water for livestock and medicinal herbs
- Located mainly in commonly held pasture and subject to degradation through livestock grazing
- Climate change projected lead to increase temperatures and droughts, and more severe storms, including hail, impacting soil and wetland degradation
- → adaptation involves solving social dilemmas for the sustainable management of wetlands

What approaches are available for local level governance of climate adaptation in natural resource management?

Institutional fit prescriptions:

- international regime theory (Young 2002, Ekstrom and Young 2009)
 - Socio-ecological interconnections should be matched in the institutional/legal system
 - adaptation governance (Folke et al. 1997, 2007)
 - Governance system should match important spatial and temporal scales in ecosystems
- micro-foundations are lacking, a model of the actor
- need to theorise the emergence *and* impact of governance arrangements and institutions

Transactions as a unit of analysis:

- Transaction costs economics analyses transactions to explain governance solutions (Williamson 1985)
- Based on bounded rationality and transaction costs economising.
 - Transaction cost economising theorises/explains 'discriminating alignment', the emergence of governance structures 'fit' to the properties of transactions
- Can be widened to environmental governance by defining nature-related transaction as “actions taken by one actor which has a physical (nature-related) impact on another”.
- Interdependence between actors which can be order by governance arrangements (institutions and governance structures)
- Institutions are 'rules in use', governance structures are the organisational solutions

Properties of transactions

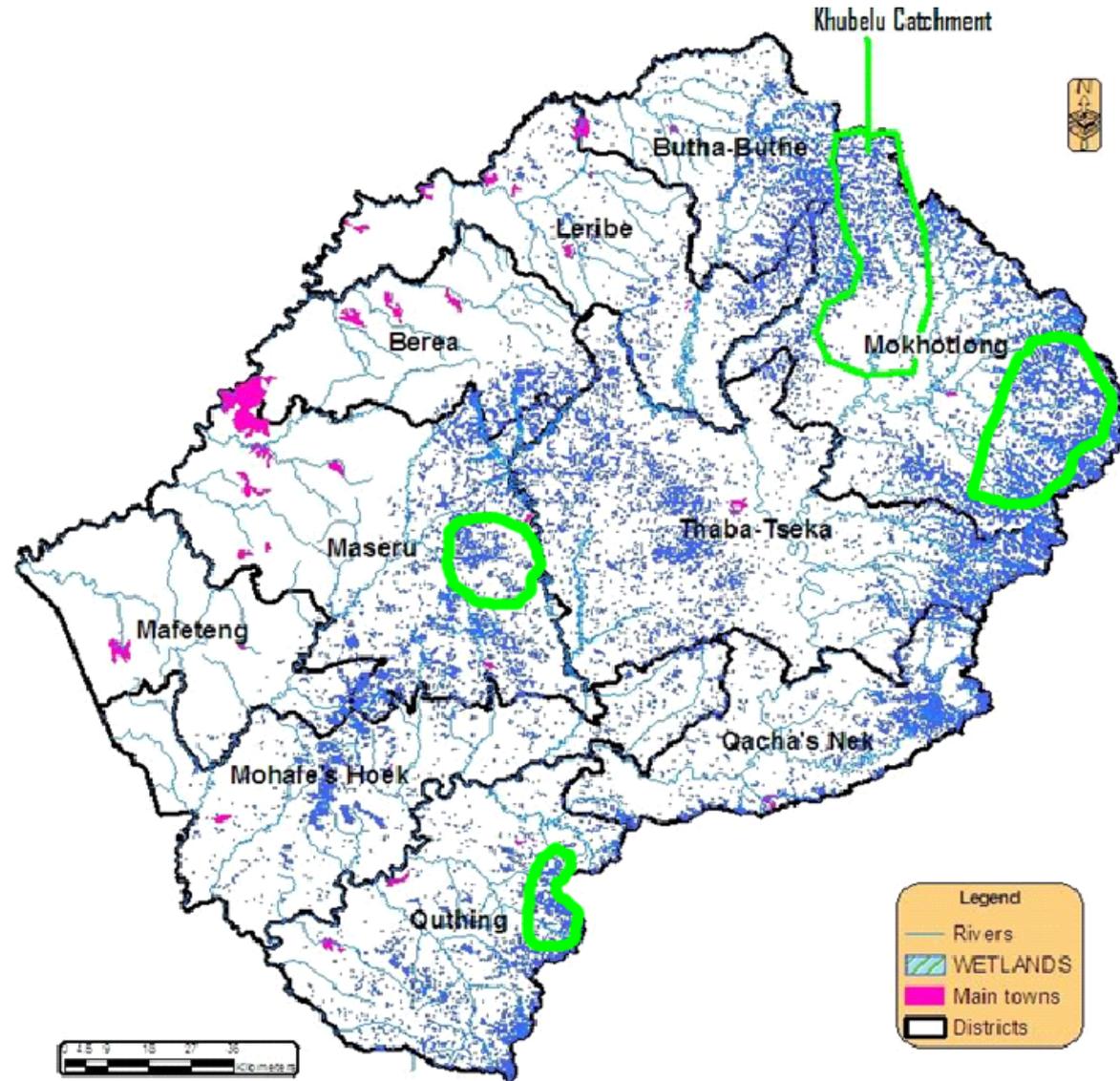
(Hagedorn et al. 2002)

| Property | Description | Indication on transaction costs |
|--------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------|
| Excludability | Difficulty of preventing actors from access to benefits of a transaction. | + |
| Rivalry | Degree to which goods or services consumed in a transaction reduce the resource available for others. | + |
| Asset specificity | Degree to which investments can be redeployed | + |
| Frequency | How often transactions occur | - |
| Uncertainty | Certainty in action-outcome linkages | + |
| Complexity | Degree of interconnectedness in factors leading to outcomes | + |
| Heterogeneity | variation in spatial characteristics or other physical stochastic phenomena. | + |
| Jointness | Ability to separate one transaction from another. | + |
| Legitimacy | Whether actors affected view transactions as legitimate | - |

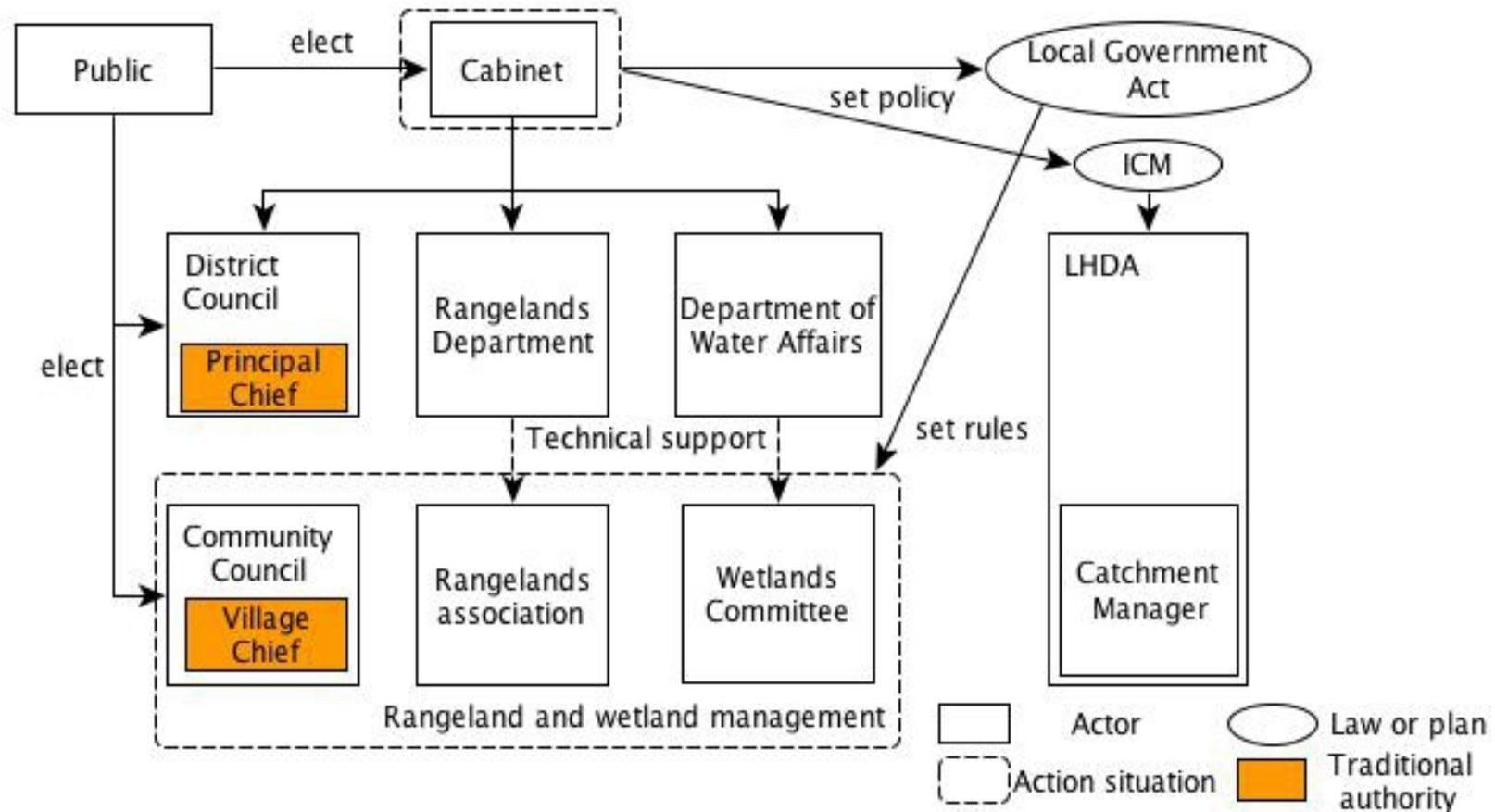
Methods

- applies qualitative methods of data collection and analysis.
- Document analysis and interviews with resource users and monitors, extension officers, government officials, traditional authorities, police, development aid and non-governmental organisations in Maseru, and with the district administrations.
- Case studies for in-depth study in 3 different catchments containing summer pastures
- 67 semi-structured interviews were carried out.
- The cases were selected to include catchments where grazing associations were established: Tlokoeng, Quthing, and Senqu Sources

Lesotho's wetlands and case study areas:



Wetlands and pasture governance



Three relevant properties

- Excludability:
 - the degree to which borders of a pasture were well-defined; high cliffs in Senqu Sources and Quthing reduced monitoring costs
- Uncertainty:
 - Stock theft (Tlokoeng, Quthing) increases monitoring costs as farmers do not want to register cattle or bring them out of the summer grazing posts
 - Conflict with principle chief increases monitoring costs (Tlokoeng)
- Legitimacy:
 - Absence of past negative experiences and support by the principle chief reduces transaction costs (Quthing, Senqu Sources)

| Catchment | Excludability | Uncertainty | | Legitimacy | Governance structure |
|---------------|---------------|-------------|----------|------------|----------------------------|
| | | Stock theft | Conflict | | |
| Tlokoeng | + | + | + | + | Traditional hybrid |
| Senqu Sources | - | - | - | - | Grazing association hybrid |
| Quthing | - | + | - | - | Hierarchy |

Conclusions

- Micro-analytical, based on micro-analysis approaches are necessary for the design of governance solutions
- Adaptation governance can benefit from natural resource governance and commons studies approaches grounded in microfoundations
- Frameworks of institutional analysis, e.g. transaction costs, SES framework (Ostrom 2009) should be made use of and can provide a basis for building theory in adaptation research

Thanks for your attention!

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