

The application of the Capacity Continuum Multiple Drivers (CCMD) model as a tool for assessing factors that influence community-based forest and woodland resource management

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WESTERN CAPE

A place of quality, a place to grow, from hope to action through knowledge

Overview of Presentation

- Why this model?
- Theoretical framework
- Methodology
- Research results
- Key issues and conclusions



Why the CCMD model?

“There is ... a growing realization that the theoretical foundations of CBNRM are on shaky ground: our predictive understanding of the relationship between people and natural resources is weak, as is our understanding of the factors that shape the outcome of this relationship” (Fabricius, 2004: 20) .

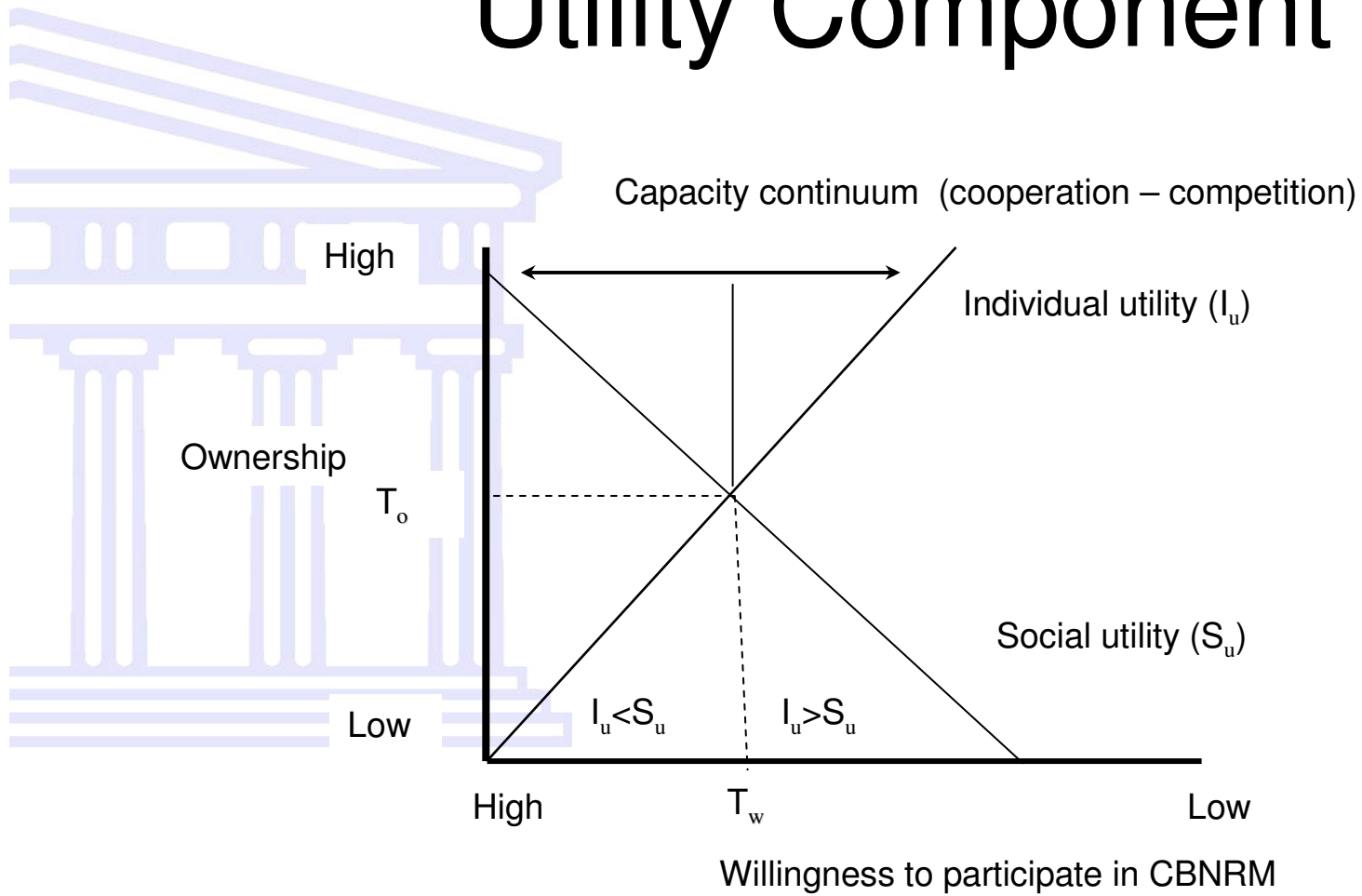


Theoretical background

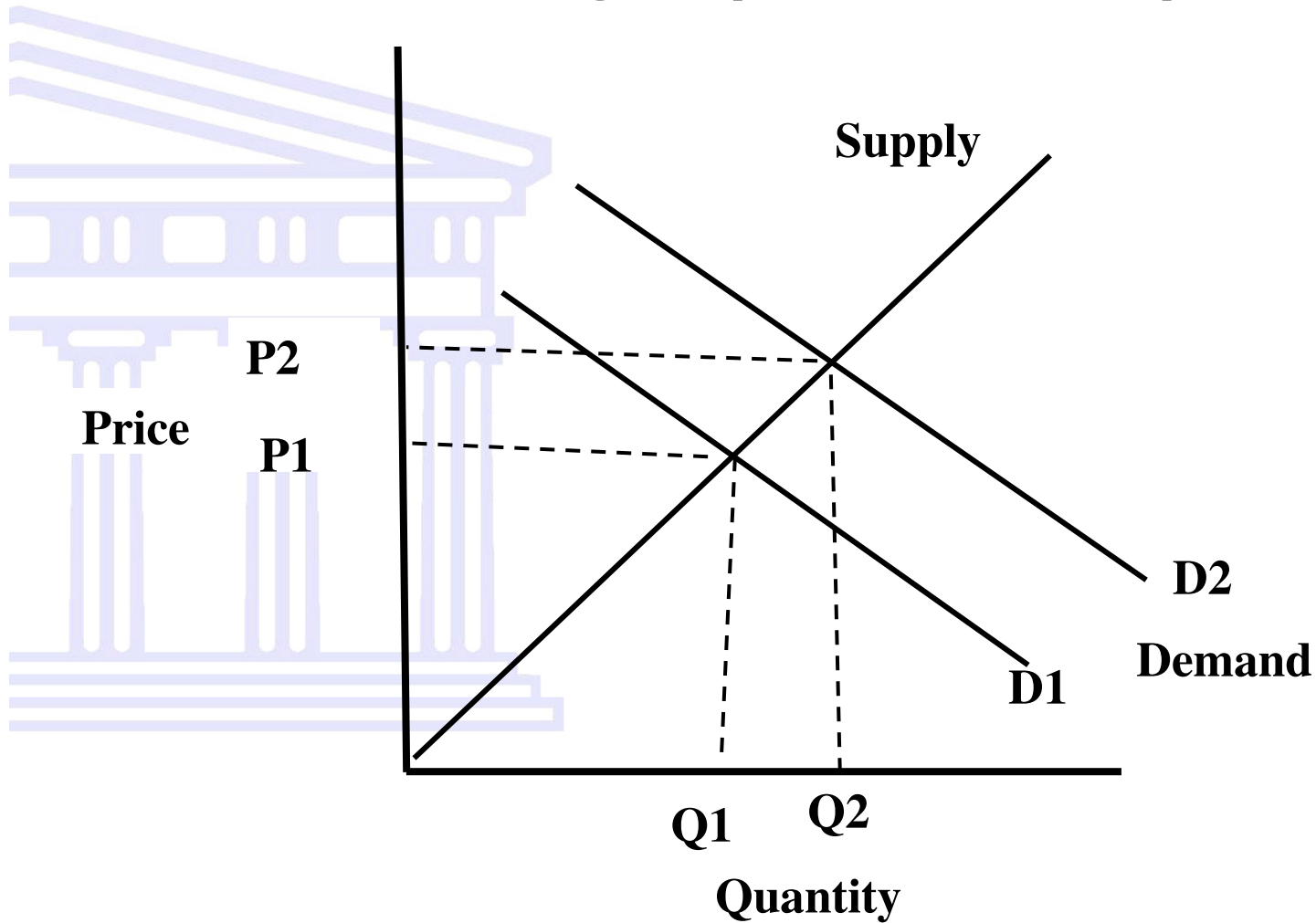
- “Social utility functions specify level of satisfaction as a function of outcome to self and others” (Loewestein, Thompson and Bazerman, 1989: 427).
- People rely on natural capital in order to eke a living and to cope with shocks and stresses (Chambers and Cornwall, 1992).
- Hardin’s (1968) notion of the “Tragedy of the Commons”



Utility Component



Demographic component

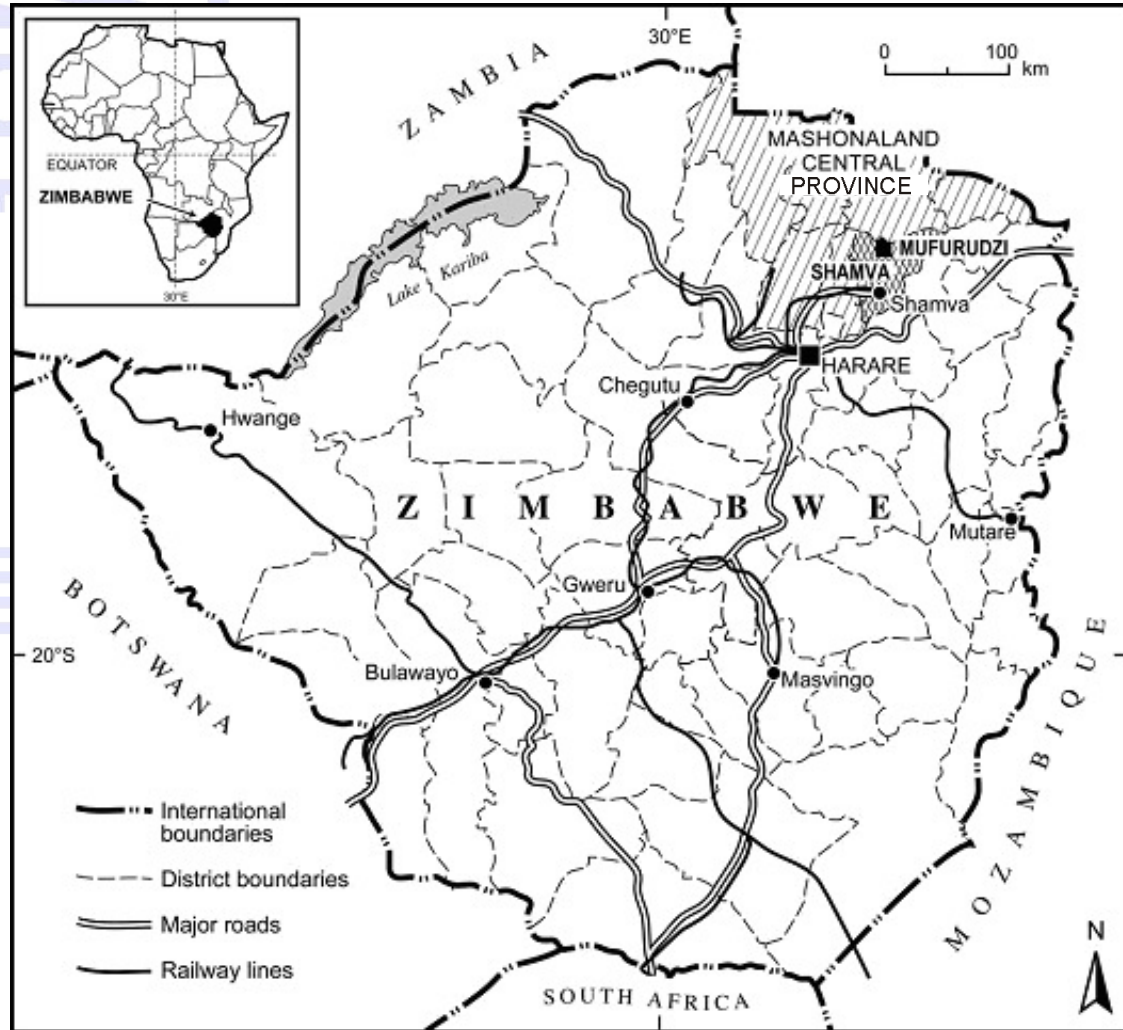


The model

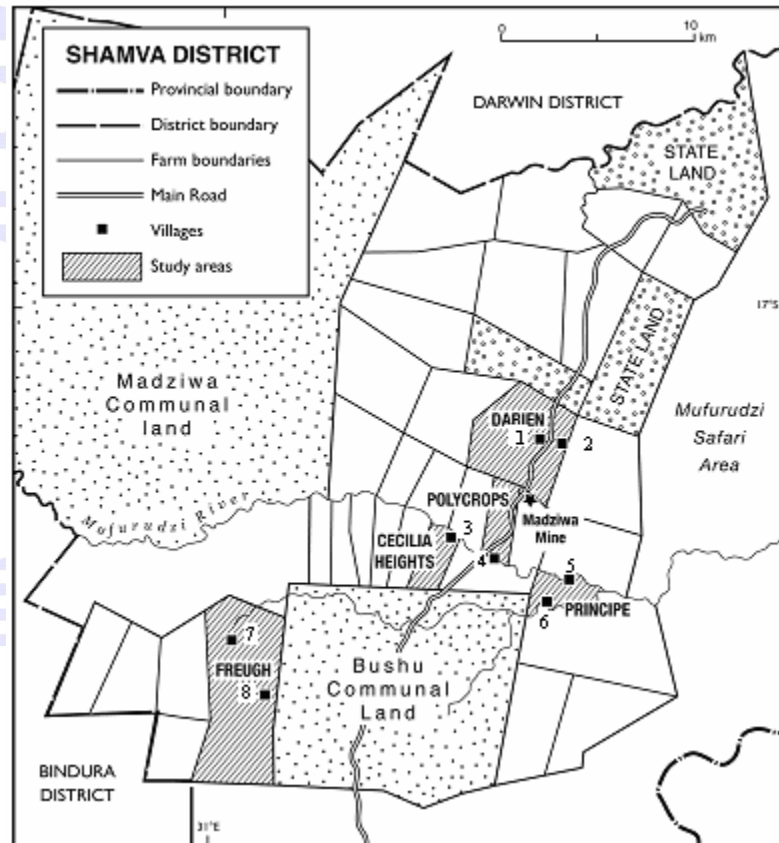
- $C = f (D + E_{dr})$,
- where, C = level of collective capacity to implement CBNRM,
- f – function of,
- D – demand for tree resources, and
- E_{dr} - prevailing environmental conditions (environmental drivers)



The study area where the model was tested



Sampled farms



VILLAGES

- 1 Mudzinge
- 2 Zvataida
- 3 Mufurudzi II
- 4 Mupedzanhamo
- 5 Principe A
- 6 Principe B
- 7 Chidumbwe I
- 8 Chidumbwe II



Methodology

- Vegetation surveying – point centre quarter method
- Questionnaire surveying – eight villages in five randomly selected commercial farms in the resettlement area
- In-depth interviews in the same villages



Results

1. Percentage of villagers who indicated that they were able to access forest products within 1km from their homesteads – DECLINE?

Products	% of villagers who obtained resources within 1km:	
	1986	2003
Construction materials	98.1	15.0
Firewood	99.1	31.5
Raw materials for carving and crafts	97.2	27.2
Bush meat	85.3	12.7
Wild fruit	92.4	53.1
Other NTFPs*	97.6	95.3

*Edible insects, including larvae of **nhowa** (*Anaphe panda*), **harati** (*Cirina forda*), **masinini** (*Lobobunaea* spp.) and **macimbi** (*Gonimbrasia belina*).



Endogenous drivers

$I_u < S_u$ scenario

- Taboos and societal controls
 - Pragmatic
 - Civil contracts
 - Sacred controls
- Community bylaws
- Bring people together voluntarily

$I_u > S_u$ scenario

- Population growth
- Social differentiation (age, education, skills, religion, environmental knowledge, kin, gender, geographic origin)
- Natural hazards (livelihood trajectories off-farm activities)
- Set people apart



Exogenous drivers

$I_u < S_u$ scenario

- Government policy & legislation
- Bring people together through coercion

$I_u > S_u$ scenario

- Tenurial insecurity – problems of ownership, influencing where trees are grown and tree type preferences
- Political pressures
- Macroeconomic conditions
- Set people apart



Examples

$I_u < S_u$ scenario

- Tree species that should not be cut (*Azelia quansensis*)
- Prescribed ways of harvesting resources:
 - ethnomedicines
 - wild fruits
- Areas from which trees should not be cut, including:
 - gravesites, and
 - sites where rainmaking ceremonies are conducted

$I_u > S_u$ scenario

- Breaking of taboos and community bylaws
- Privatization and careful management of trees in fields and gardens by owners
- Planting of trees in home fields while tree resources from the communal woodlands are extracted for sale



Key issues and conclusions

- Resettlement provides opportunities and enhanced access to natural capital, including tree resources
- When faced with crises collective capacity and CBNRM wane as individual utility supersedes social utility leading to resource privatization and overuse
- Socio-economic and political heterogeneity undermines CBNRM and enhances resource privatization



Key issues and conclusions

- Sense of ownership and willingness to pursue CBNRM are not static but dynamic – *they vary spatially and through time in response to type of resource and also in response to prevailing socio-economic and political conditions*
- The CCMD model provides an alternative approach of analyzing and understanding the relationship between people and environmental resources
- Some drivers are beyond the community's control



Thank You

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