

Cost-benefit analysis of land use policy options for southern Africa: Livestock, wildlife and disease in Caprivi, Namibia

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Outline

Approach
Methods
Early results
Way forward



Approach

- Cost-benefit analysis of KAZA land use policies
- Focus on livestock-wildlife interface and disease
- Caprivi – central, FMD infected, good data
- Analyse costs and benefits of policy options
- Develop model for use in KAZA planning



Methods 1

- Budget/cost benefit enterprise models
- Private returns – livelihoods
- Economic returns – growth and employment
- Initial capital, recurrent costs and income
- 10 to 30 year cost and income flows, stock projections
- Income assessments at full production – **net income**
- **Financial internal rate of return** & net present value



Methods 2

- Incremental shadow-priced contribution
 - Annual contribution to **net national income**
 - **Economic rate of return** & net present value
- **Small, medium scale livestock production**
- **Tourism (hunting and wildlife viewing)**
- **Abattoir**



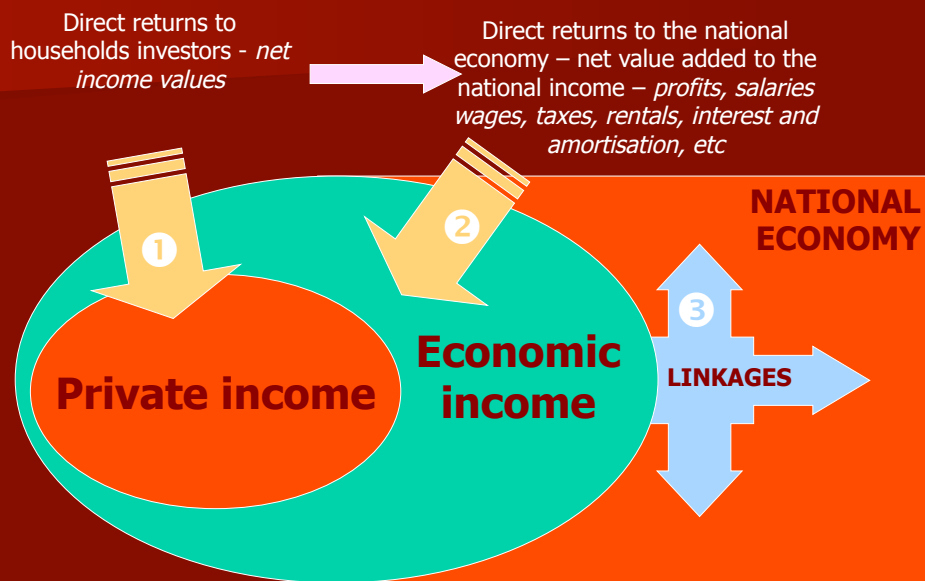
Livestock



Tourism



Economic values – Impact on NNI



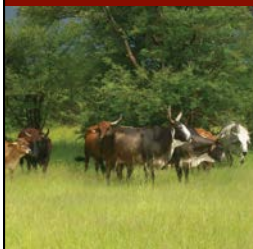
Option 1: Status Quo

- Current policies ongoing growth trajectories
- FMD outbreak management extended closures
- Low slaughter throughput, SA beef market
- CBNRM development and tourism expansion
- Vaccination and surveillance, quarantine
- Livestock-wildlife contact minimised



Option 2: CBT/8.5.25 Base

- Improved animal disease investment
- Application CBT/HACCP OIE Article 8.2.25
- Transport to abattoir enhanced surveillance and traceability, quarantine reduced
- Abattoir upgraded
- Less restrictions on wildlife movement, corridors



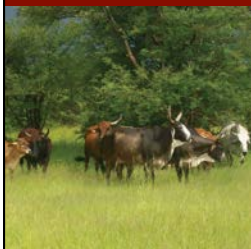
Option 3: CBT/8.5.25 Processing

- Variant on Option 2 with processing
- Abattoir extended with processing plant
- Along lines of what has been done in Kenya
- SADC markets, ongoing feasibility study
- Quarantine costs reduced
- Less restrictions on wildlife movement, corridors



Option 4: Disease free zones

- Fenced FMD free zone in east Caprivi
- Separation of wildlife from livestock
- Community-based compartment development
- Enhanced surveillance and traceability, no quarantine, abattoir upgraded
- Wildlife-based developments restricted



Preliminary results – ERR

Economic rate of return (%)	10 years	20 years	30 years
Option 1: Status Quo	7%	13%	14%
Option 2: CBT Base	61%	63%	63%
Option 3: CBT Processing	61%	64%	64%
Option 4: Disease free zone	Negative	Negative	-9%

Preliminary results – NPV

Net Present Value @ 8% (N\$ million)	10 years	20 years	30 years
Option 1: Status quo	-2.8	24	36
Option 2: CBT Base	105	242	290
Option 3: CBT Processing	104	226	286
Option 4: Disease free zone	-113	-96	-82

1. Fencing economically inefficient



2. CBT approach has strong economic merit



Way forward



- **Fill data gaps**
- **Refine models**
- **Sensitivity analyses**
- **Complete report**
- **Extend coverage**
 - **Wider KAZA context**
 - **Other values**
- **Further study**

THANK YOU!

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