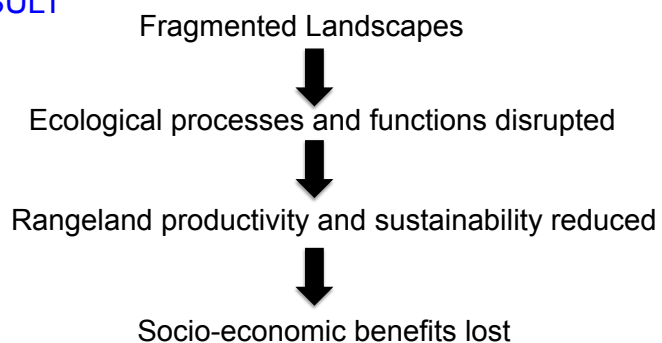


The Current Paradigm - Enclosed Landscapes

Spatial separation of livestock and wildlife

- Competition between livestock and wildlife
- Disease issues and markets
- Human-Wildlife Conflict

RESULT



TFCAs in Southern Africa : 14+

Scale and Complexity of TFCAs

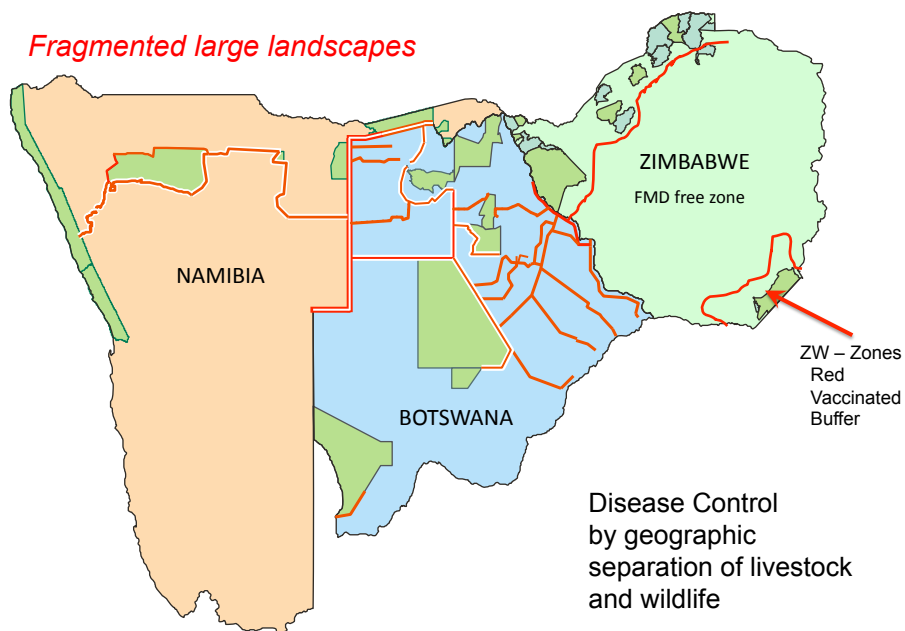
TFCA	Area (km ²)	No. PAs	% State Land	No. Countries	Important Diseases
KAZA	520,000	67	22	5	15
Great Limpopo	100,000	15	45	3	14
Kgalagadi	37,000	3	95	2	7
Chimanimani	2,000	2	60	2	6

*TFCAs moving to large, open landscapes to
Restore*

Social-ecological system integrity, resilience, & sustainability

Cattle, FMD and Wildlife - Botswana, Namibia & Zw

Fragmented large landscapes

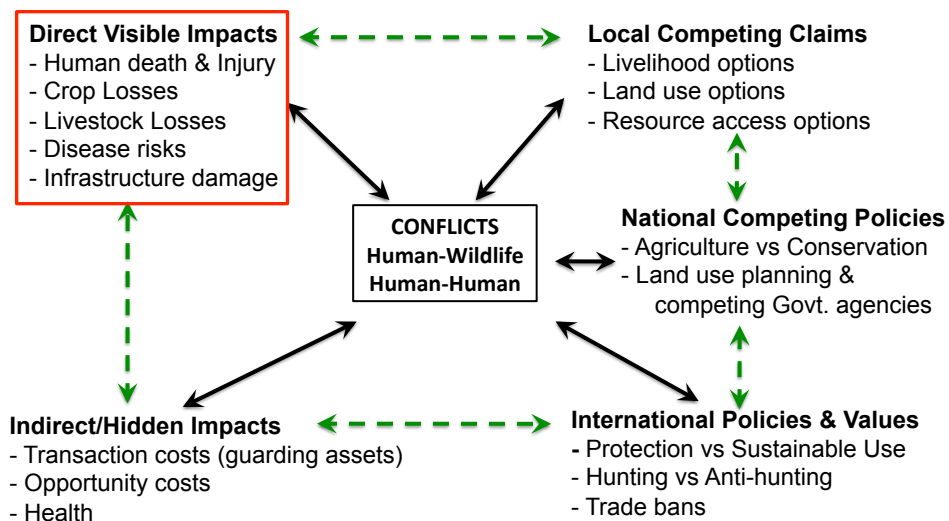


The Human-Wildlife- Conflict Problem?



"An individual farmer can experience damage of well over \$10,000 when elephants pull down and destroy a windmill, pull up pipes and damage a water tank" (Brown 2011)

Human-Wildlife Conflict - Alternative Perspectives



Shift focus from direct visible impacts to competing claims, policies and values

Development Options?

(i) Fences and fragmented landscapes

consolidation of securely fenced protected areas, within a matrix of agro-pastoral communal farming areas, where disease-control strategies and human-wildlife conflict issues drive land-use policy,

OR

(ii) Beyond fences and open landscapes

development of multi-species systems across large TFCA landscapes where there is a reduced need for fences and where human settlements and cultivation form islands within a larger multi-species pastoral landscape.

Integration of Wildlife and Agriculture?

KAZA – 520,000 km², PAs, + GMAs, WMAs, Community Conservancies, etc.



Protected Area
Clusters &
Corridors?

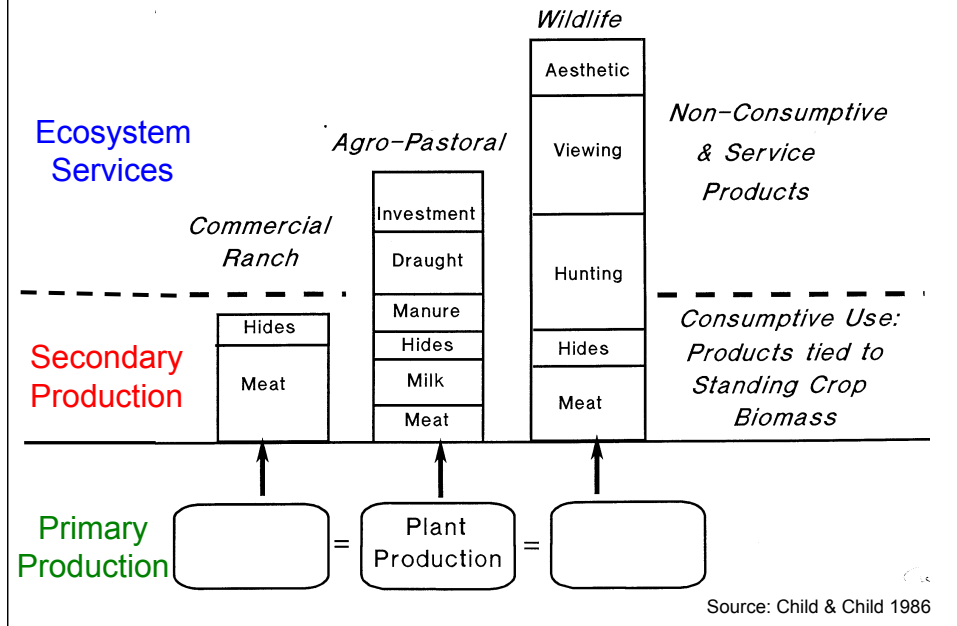
↓
Commodity
Based Trade?

↓
Multispecies
Systems?

↓
Integration
of Wildlife &
Agriculture

Landscape connectivity affected by fences and settlement

Consumptive and non-consumptive use of rangelands



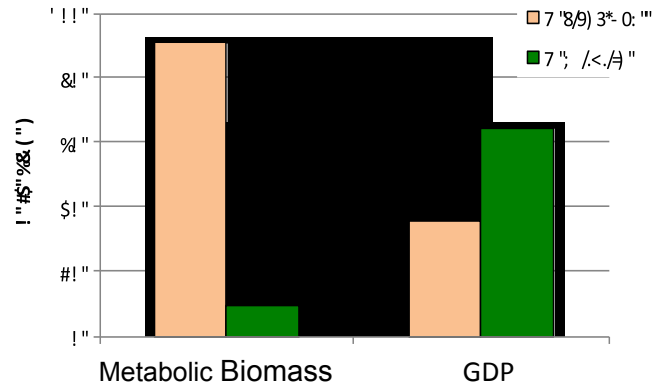
Ecological Aspects

1. Large wild ungulates function as ecological engineers
2. Grazing successions and facilitation between species
3. A range of species is able to exploit differing resources at differing spatial scales (horizontal and vertical) and at different temporal scales
4. Reducing species diversity alters ecosystem processes, function and productivity in African savannas
5. Wild large ungulates and cattle both facilitate and compete depending on season (Du Toit 2011, Odadi et al 2011)



Economics/Ecology - Regional Scale

Relative % contribution of wild & domestic large mammal biomass to GDP



Rates of growth:

Livestock 2 – 3% pa

Nature based tourism 5 – 15% pa

Support to Livestock (Govt. etc) > wildlife sector

Economics - Local Scales

Benefits and Costs of HWC in 27 Na Community Conservancies

No of Conservancies	Benefit / Cost Ratio
10	>10:1
8	5-10:1
3	1-5:1
6	<1:1

The best Benefit / Cost ratio realised was 50:1, the worst was - 4:1

(Summarised from Brown 2011)

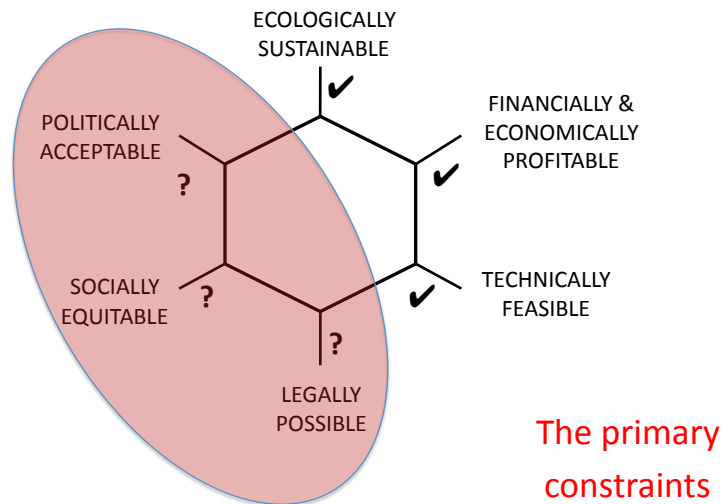
Climate Change Adaptation
Decouple **Secondary Production**
and the generation of **wealth**
from **Primary Production**

Strategic Approaches

1. Put a premium on, and invest in, higher valued land uses, diversification and intensification
 - Irrigation + markets at scales from HH gardens to major schemes
 - Nature based tourism & service industries
2. Decouple wealth creation from Primary Production
3. Match land use and ecological process scales
4. Develop policy and supporting legal frameworks that enable, rather than stifle, innovation and adaptability in resource access rights and resource management
5. Facilitate adaptation/transformation to climate change
 - **Scale sensitive environmental governance**

Integrating Agriculture & Nature Based Tourism?

Components necessary for viable rangeland Mgmt systems



Thank You