



Management of Protected Areas and the Political Economy of Conservation in Africa

USFWS International Wildlife Conservation Commission
Washington DC, 16-17 October 2019

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IUCN- Sustainable Use and Livelihoods Initiative

Southern African CBNRM Group

Getting to Half Earth in Southern Africa:

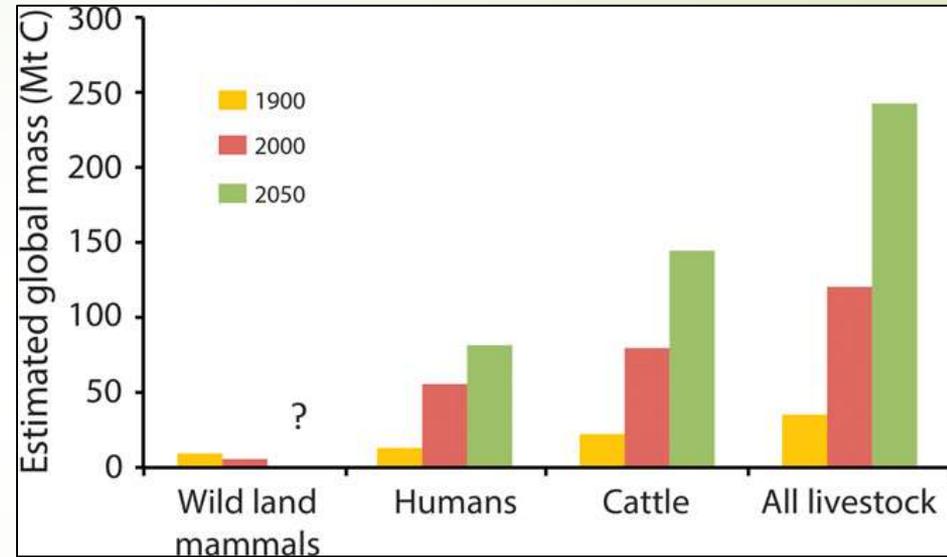
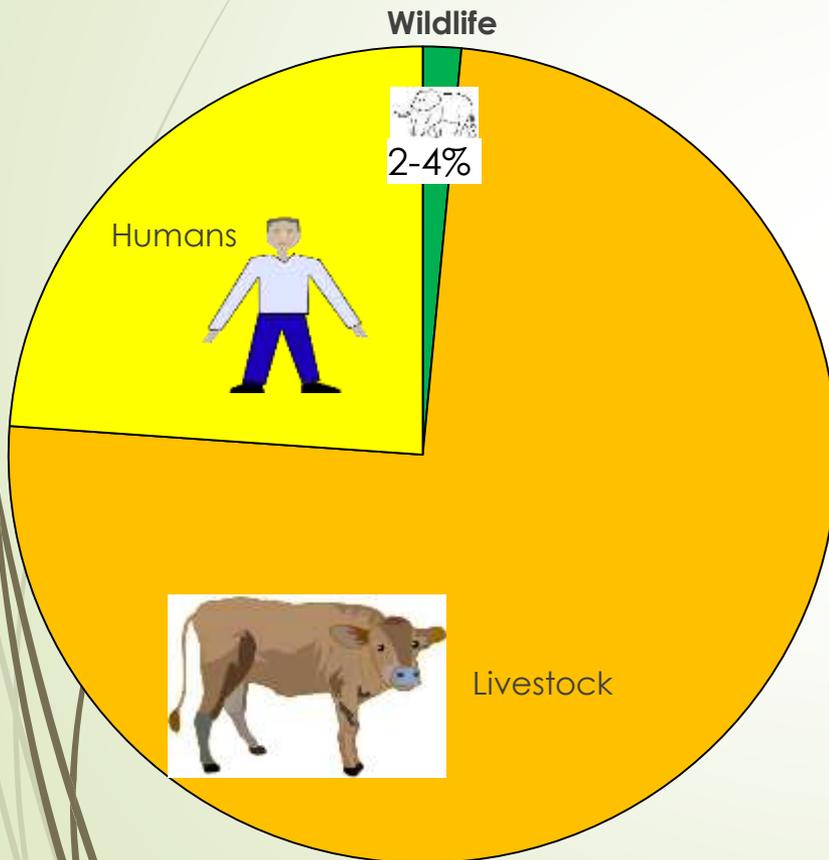
**... a \$30 billion wildlife
economy by 2030 future ...**

10X as much wildlife and wild land



Conservation – how well are we doing?

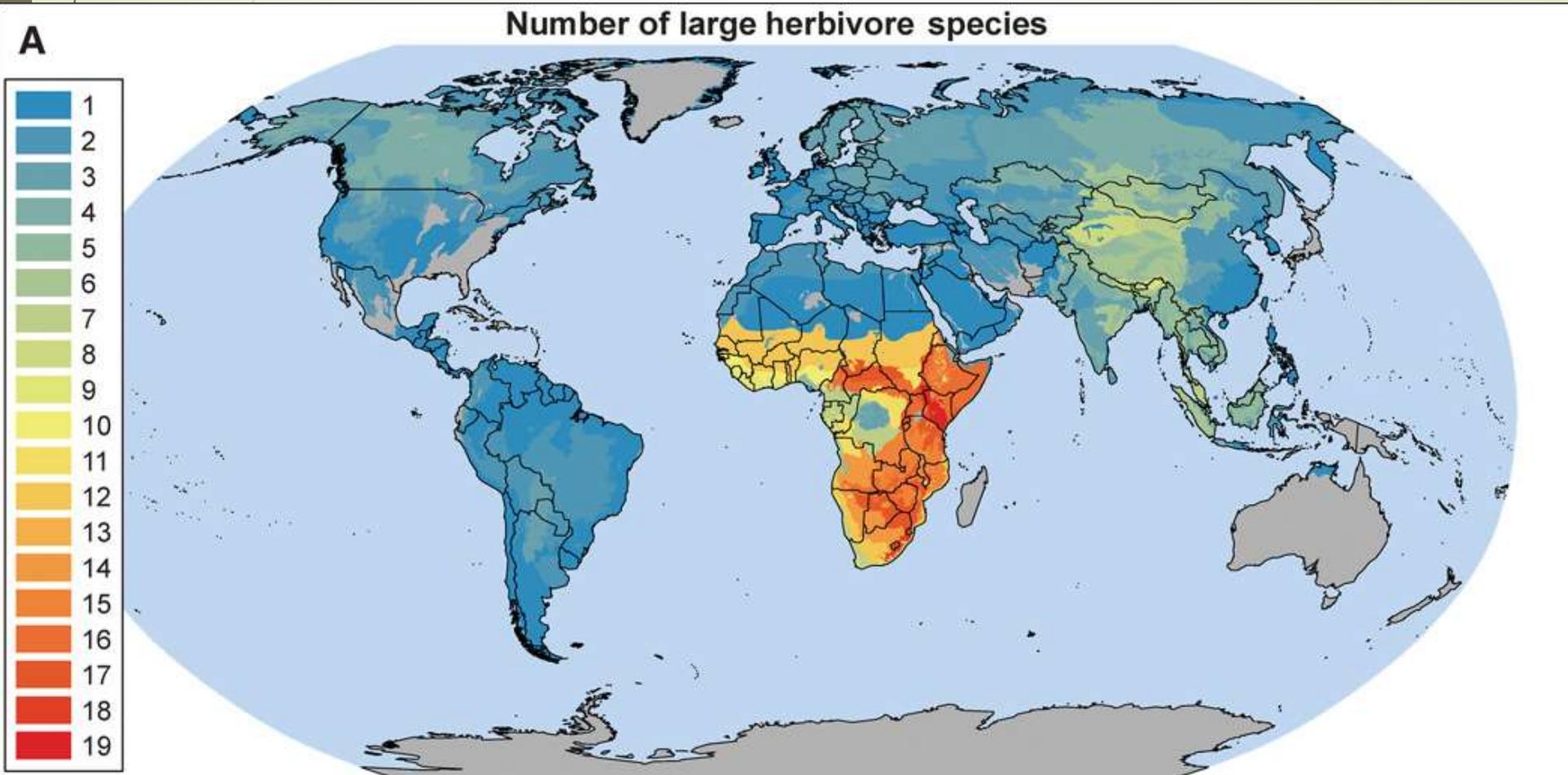
Global trends in wild biomass



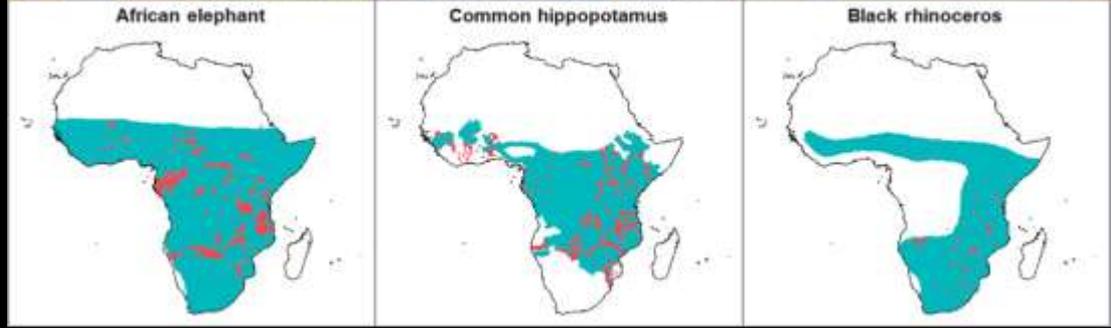
Not to mention...

- Loss of insects
- Loss of birds
- Land degradation
- Climate change
- Chemical and plastic pollution

African is the only place with a full suite of large animals
(Pleistocene megafauna)

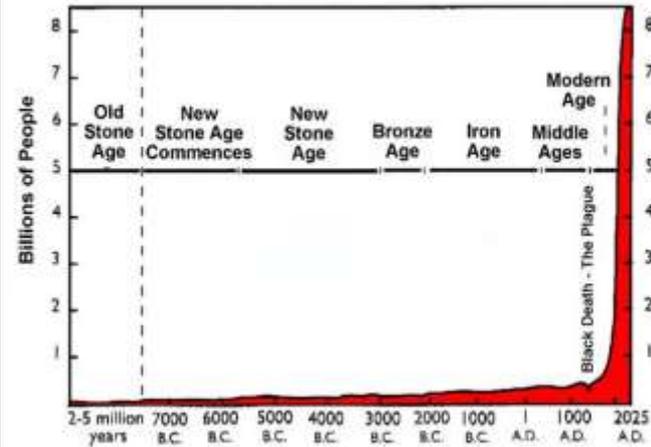


African population and wildlife range retractions



The big drivers

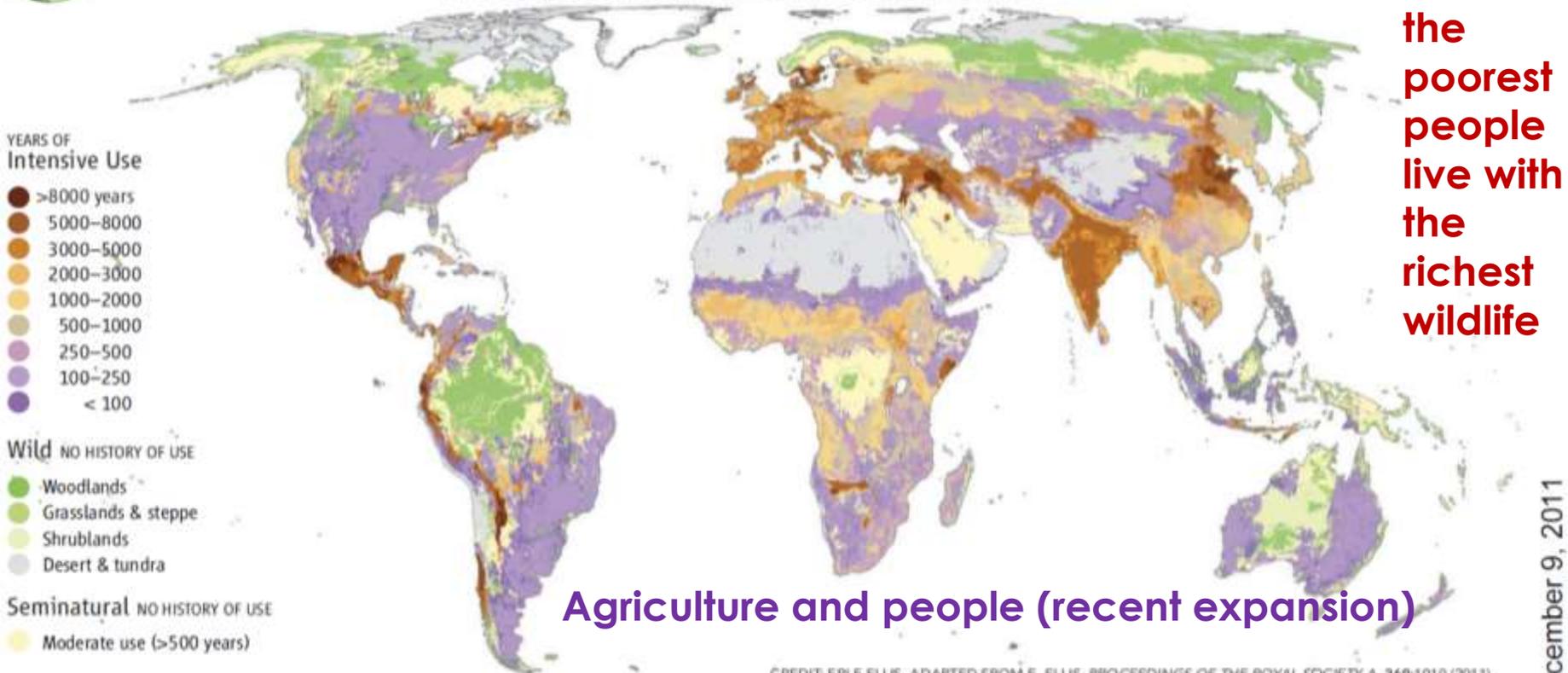
World Population Growth Through History



From "World Population: Toward the Next Century," copyright 1984 by the Population Reference Bureau

LAND

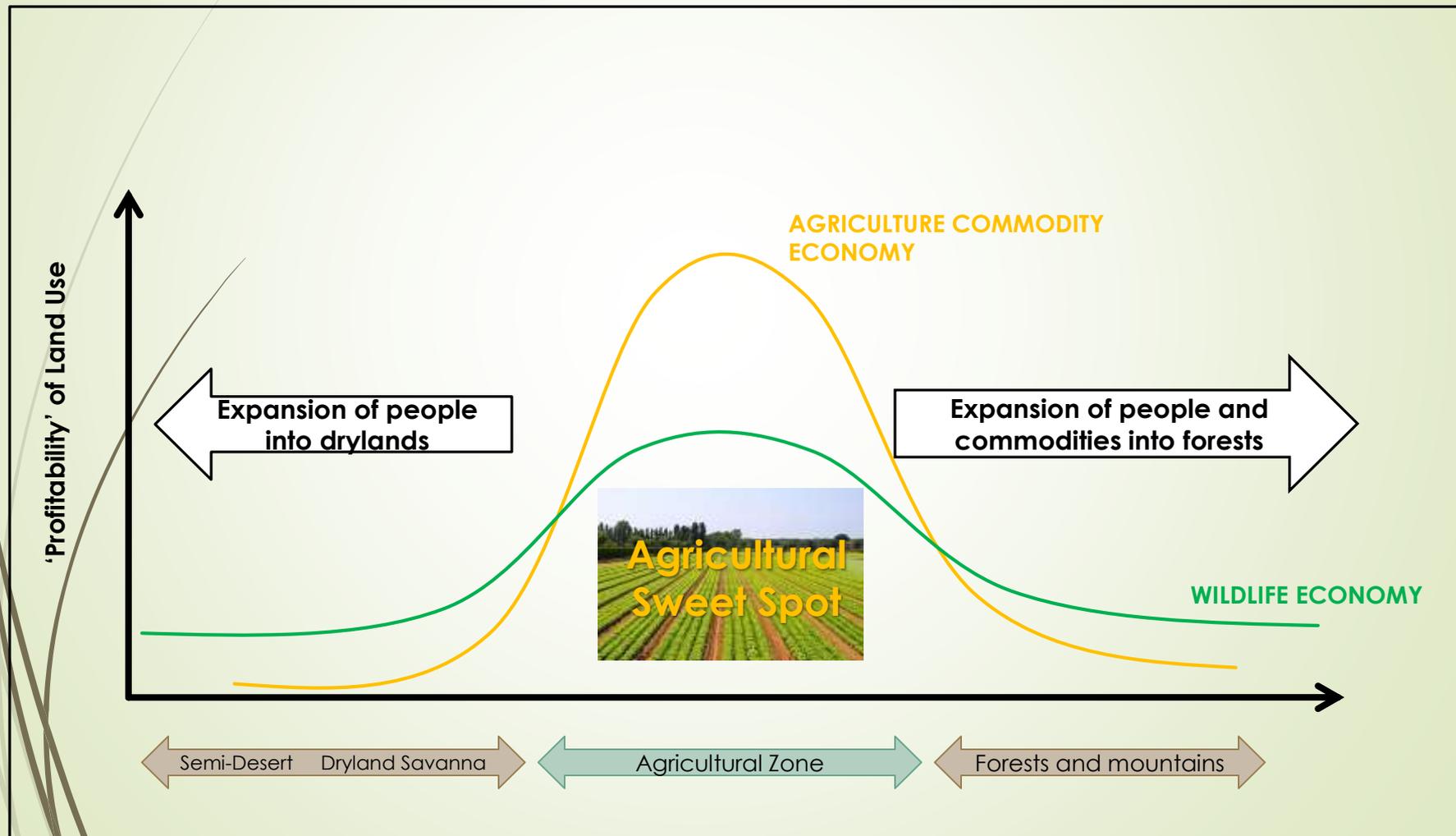
Anthropogenic Transformation of the Terrestrial Biosphere



the poorest people live with the richest wildlife

Agriculture and people (recent expansion)

We are replacing high value and complex multi-species systems with low-value simple commodity production systems...

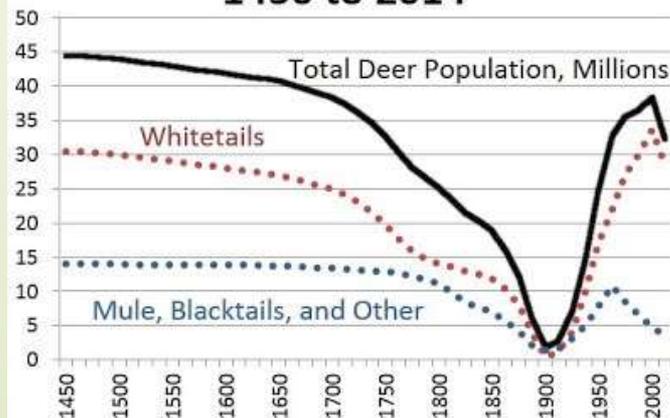


Wildlife is recovering in only two places

North America

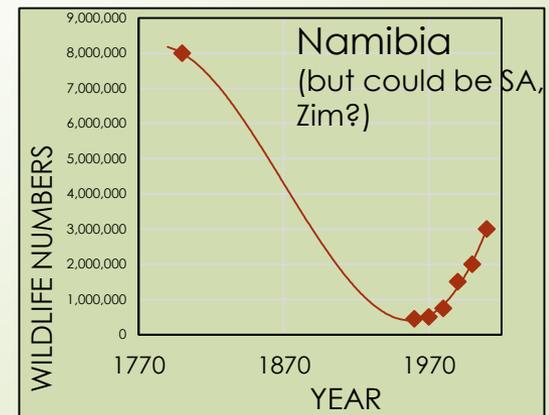
- ▶ Public model
- ▶ About 70% (?) financed by hunting/fishing (Pittman-Robinson, etc.)
 - ▶ 50 Fish & Wildlife Agencies
 - ▶ 500 wildlife schools

U.S. Deer Population 1450 to 2014



Southern Africa

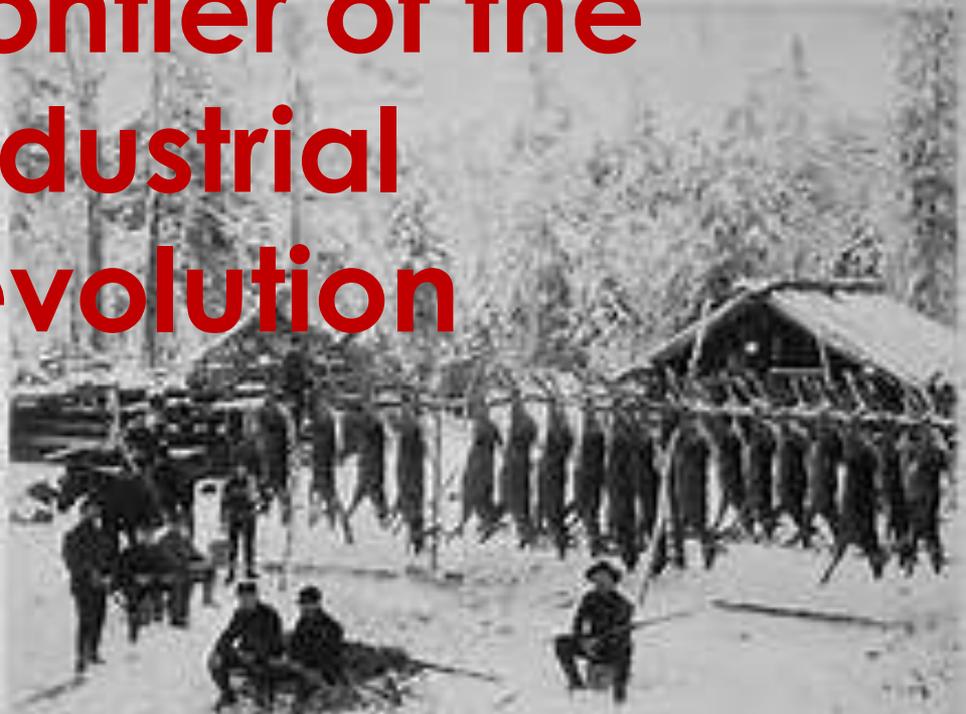
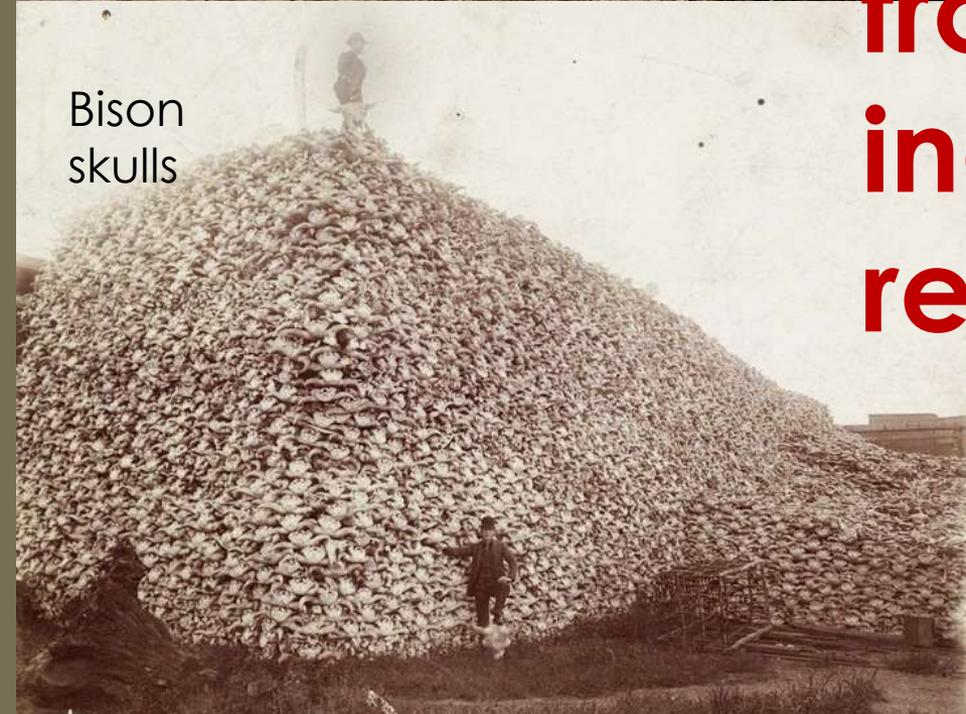
- ▶ Combine public with private/community model
- ▶ Wildlife economy landscapes
 - ▶ Parks
 - ▶ 10,000 private landholders
 - ▶ 180+ community areas





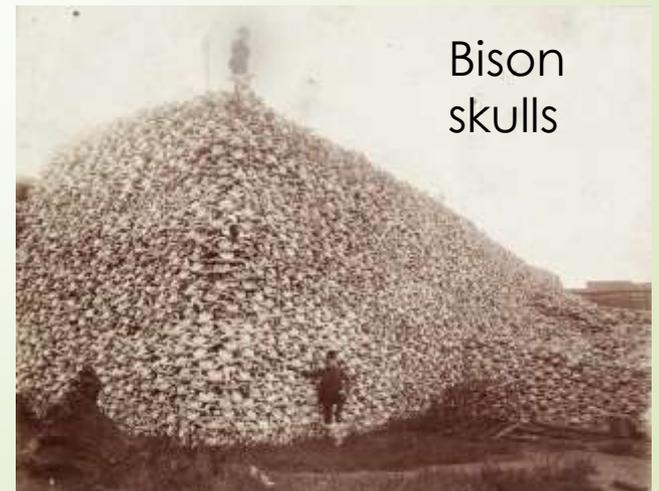
Destruction of wildlife on the frontier of the industrial revolution

Bison skulls



What are the causes of wildlife extirpation?

- Greed?
- Markets?
- Frontier economy?
 - Increasing profitability of using wildlife
 - In the absence of rules to control use
 - i.e. absence of tenure and wildlife ownership



Wild resources become public goods

e.g. wildlife, Theodore Roosevelt, and the Colonial Powers
(London Conventions of 1900 and 1933)



1. National parks
2. Commercial use of wildlife banned
3. Public ownership and management of wildlife

➔ “North American Model” /Public Trust Doctrine

		Excludability (is it easy to exclude other people from using the resources?)	
		Easily	With great difficulty
Rivalrous / Subtractable (do resources get used up?)	Subtractable	Private Goods (cars, houses, phones, etc.)	Common Pool Resources (forest, fish, etc.)
	Non-Subtractable	Club Goods (golf club, private neighbourhood etc.)	Public Goods (legal systems, air, views etc.)

Wild resources

- Wildlife
- Forests
- Fisheries
- Etc.



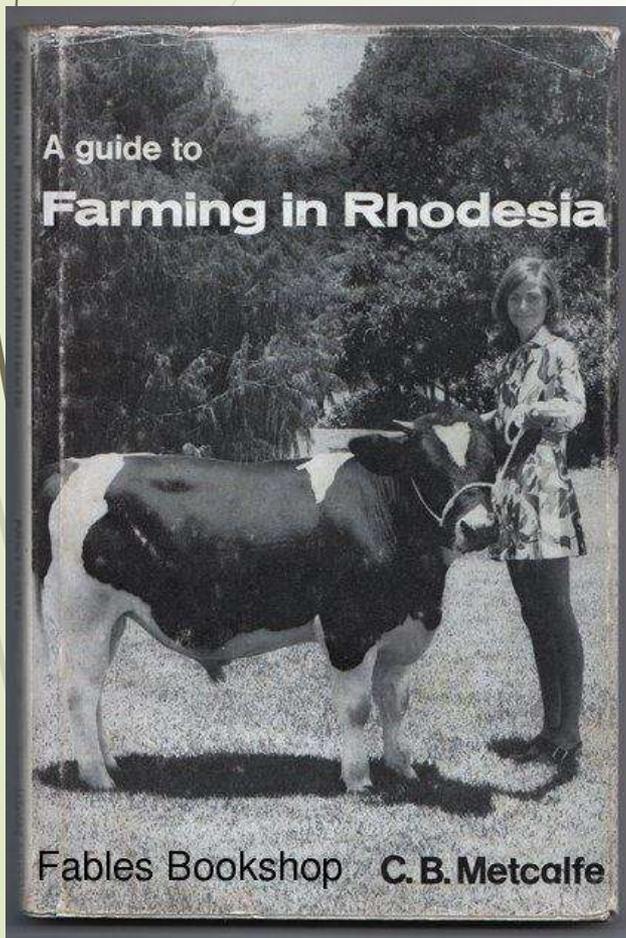
But have we learned the wrong lesson from Theodore?

- Too much focus on taking wildlife out of the marketplace (demand reduction)
- Too little focus on:
 - Ownership of wildlife by people who live with it
 - Decentralised, democratic choices
 - Putting wildlife back into the marketplace



Southern Africa – state, private and community conservation

Land was developed for cattle (at huge expense to wildlife)



“We can't farm in a zoo”

Zimbabwe (1967), XIV, (1).

TSETSE CONTROL HUNTING IN ZIMBABWE, 1919-1958

G. F. T. CHILD

Department of National Parks and Wild Life Management, Zimbabwe
and

T. RINEY

Formerly, Forest and Forest Products Division, FAO, Rome

Tsetse, *Glossina* spp., are blood-sucking flies and the vectors of trypanosomes that cause sleeping sickness in man and nagana in cattle. Zimbabwe is one of several countries in Africa where attempts have been made to control these flies by eliminating the large wild vertebrate hosts on which they depend for food.

Spread of tsetse (mainly *G. morsitans*) in Zimbabwe in the early 1900s led to public concern. In 1903 a tsetse control officer was appointed (Cockbill, 1957) and the first tsetse control scheme was initiated in 1908. The first tsetse control scheme was initiated in 1908. The first tsetse control scheme was initiated in 1908.

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This article

more detailed account from 1953, with a view to determining whether the hunting was effective in eliminating large mammals and highlighting points of zoogeographical interest relating to the species that were hunted. A secondary aim is to make this data, with its biological and management implications, more accessible.

The data were extracted from the records of the Branch of the Tsetse and Trypanosomiasis Control of the Department of Veterinary Services. They are

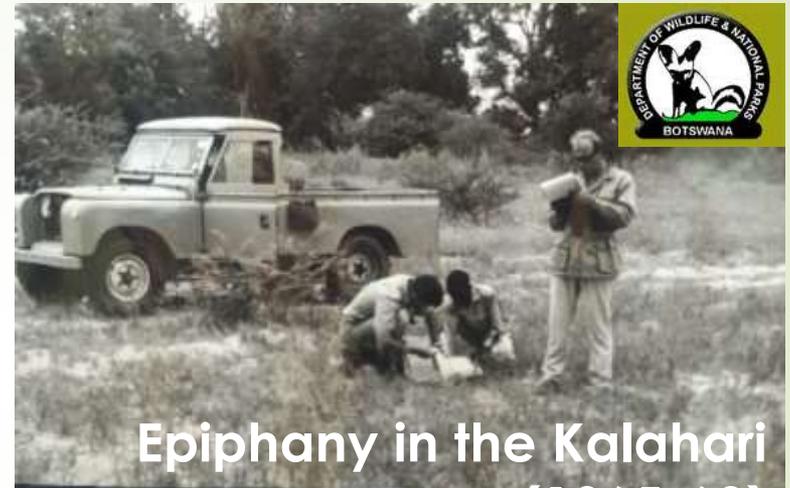
Over 57,000 animals from more than 36 species were shot.

positions, action was initiated in 1896. It is doubtful whether and

accidental

is country, especially the

Change agents of yesteryear – Graham Child (and many colleagues)





**Most land
ranched for
cattle**

**One or two
maverick game
ranchers**

**... surely wildlife
was a better
land use ...**



Zimbabwe Midlands
1984

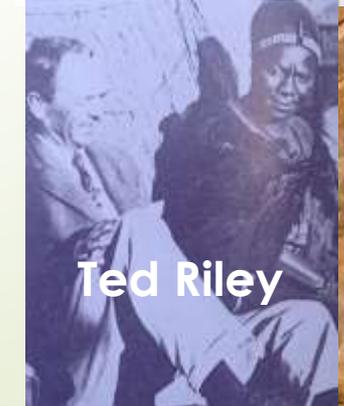
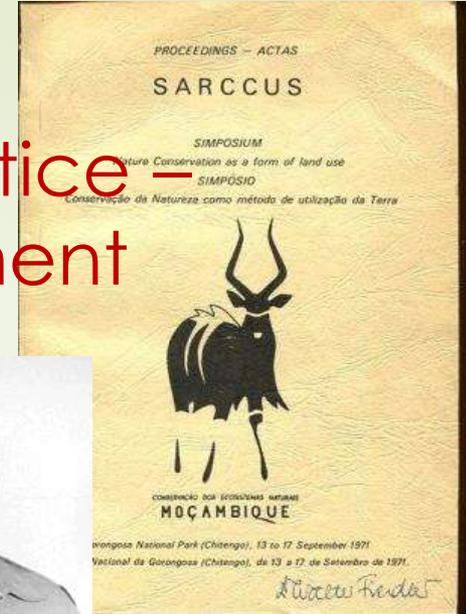
Regional communities of practice — policy as an adaptive experiment

SARCCUS MUNC -Standing Committee for nature conservation (1968-1980)

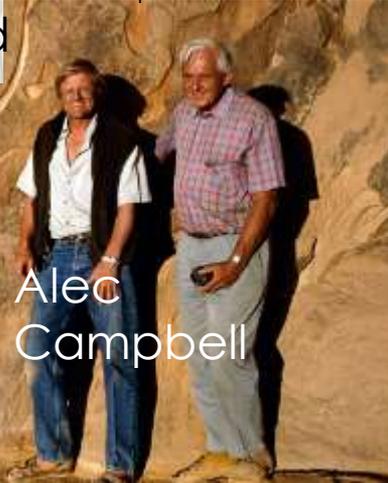
- ▶ Park administrators in southern Africa meet for a week every year for 12 years from 1968
- ▶ Leads to transformation of wildlife legislation in southern Africa based on
 - ▶ Private wildlife ownership
 - ▶ Maximise price
 - ▶ Humane use

Southern African Sustainable Use Specialist Group (1990-

- ▶ CBNRM
- ▶ Sustainable use and trade



- Chair – Roelf Attwell (Zim)
- VC – Graham Child (Zim/Bots)
- Bernabé de la Bat (Namibia)
- Ted Riley- Swaziland
- Col Vincent, Natal Parks Board
- Alec Campbell (Botswana)
- Transvaal
- Mozambique

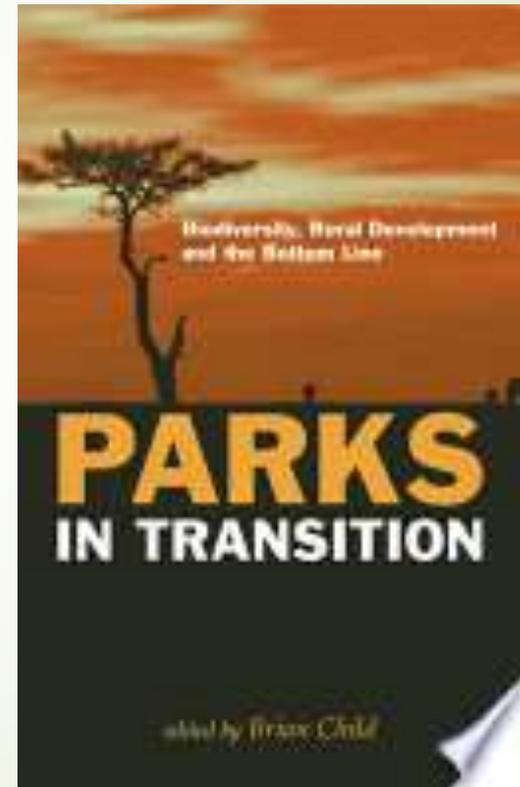


Parks as economic engines

Maximize value to society

Provided biodiversity is intact

- ▶ Align value with society – jobs and economic growth
- ▶ Use parks as beachheads to build wildlife economy landscapes with private and community conservation





South Luangwa

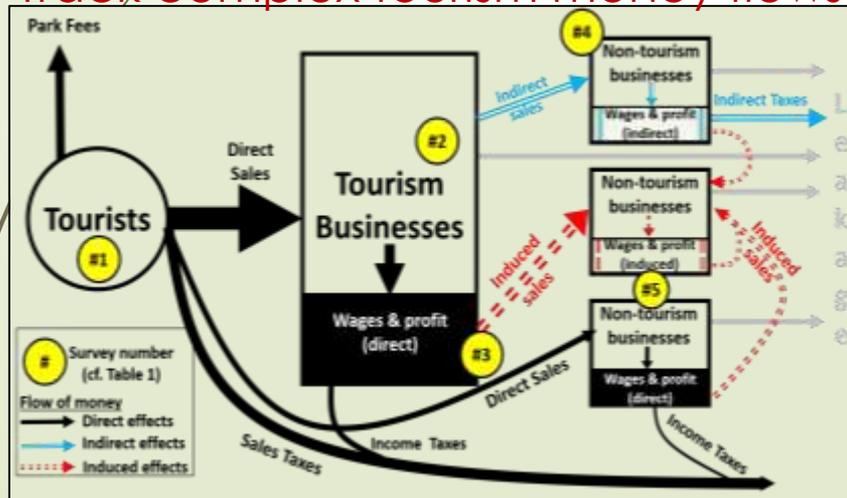


South Luangwa National Park, Zambia

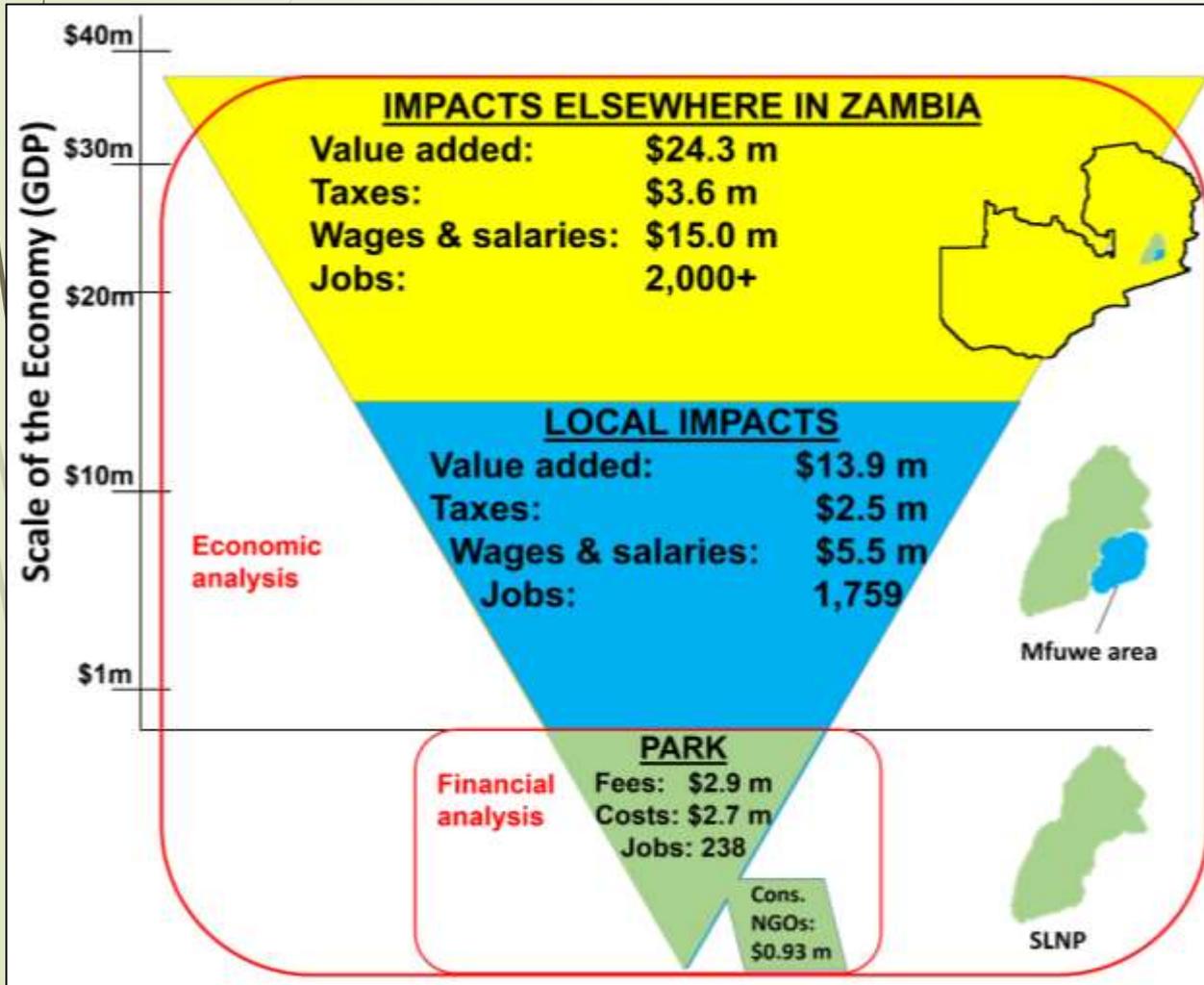


Make political/financial case for investing in parks

Track complex tourism money flows



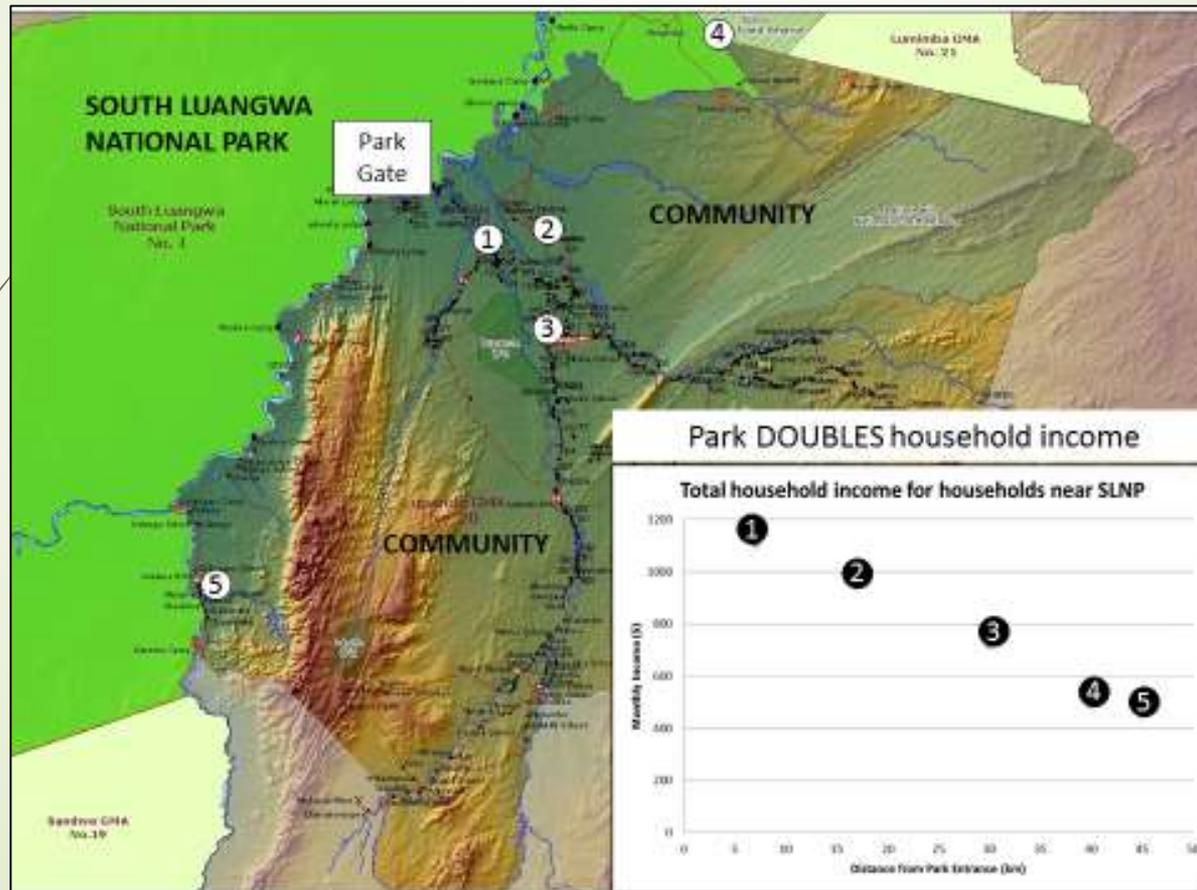
\$38 m Park economy and vulnerability pyramid



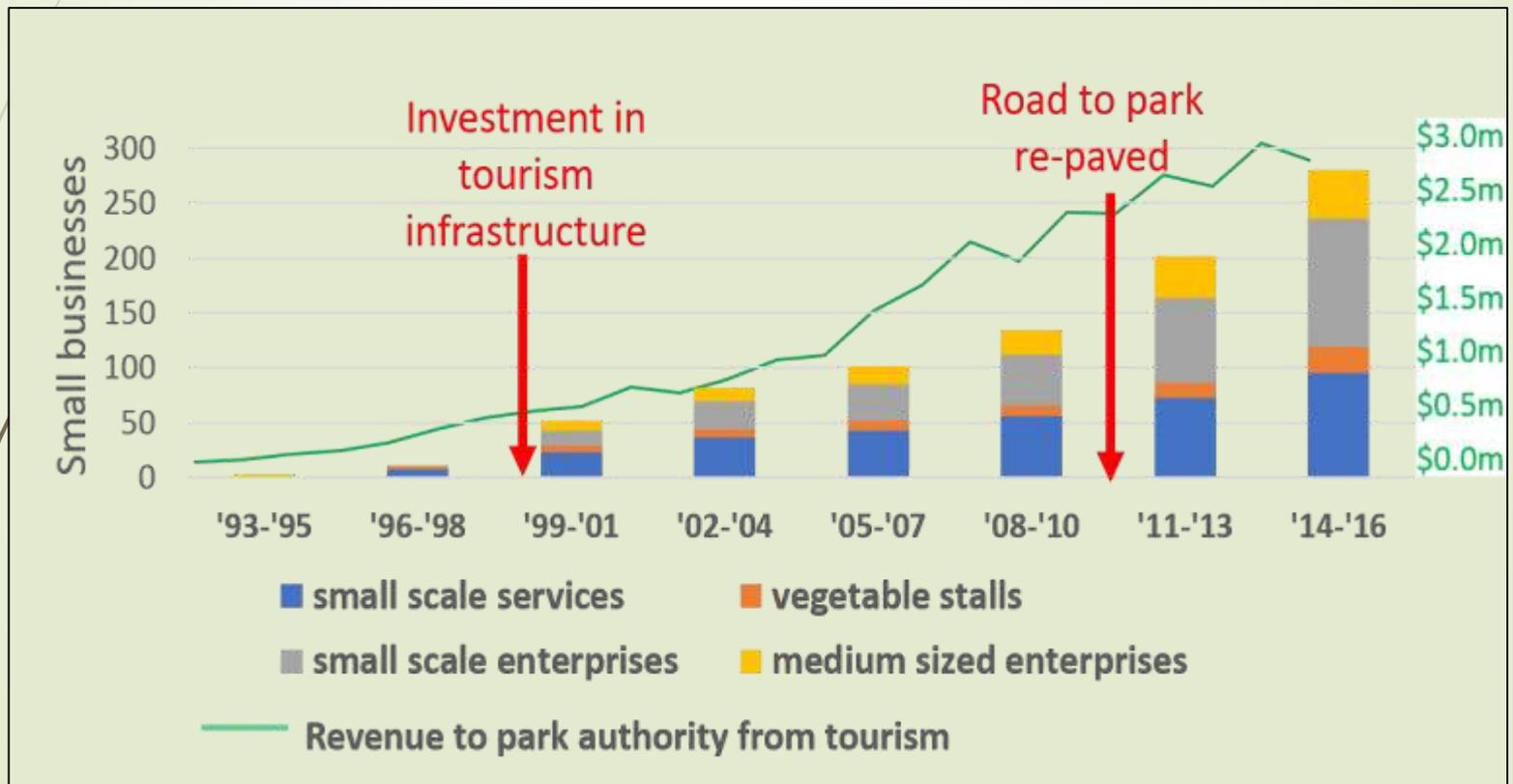
Financial viability:
 Income: \$3m
 Expenditure: \$3m (\$5m)

Economic impact:
 Taxes: \$6.1
 Jobs: 4-6,000
 GDP: \$38 m

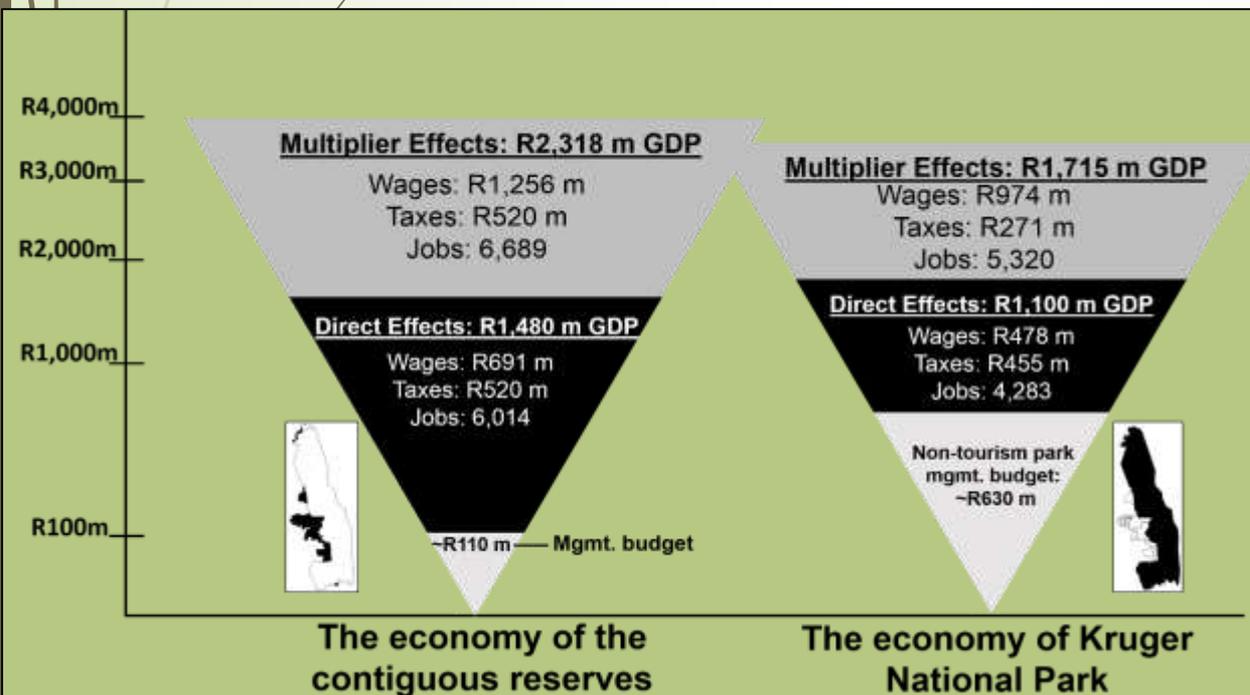
Impact on households near the park is doubled



Tourism growth creates local business growth



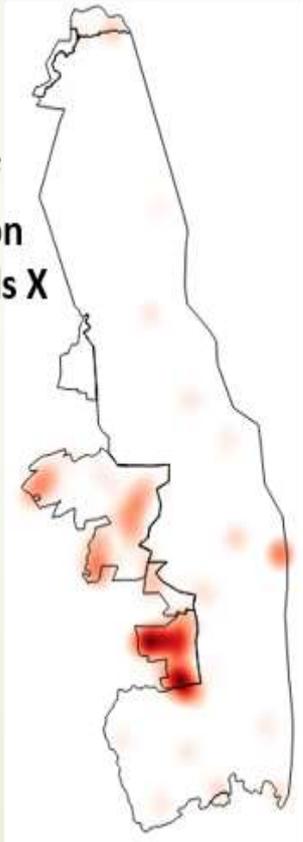
Greater Kruger Economy



- R6.6 billion industry (\$600m)
- 22,000-100,000+ jobs
- Park does most of the conservation
- Private sector generates higher returns/ha

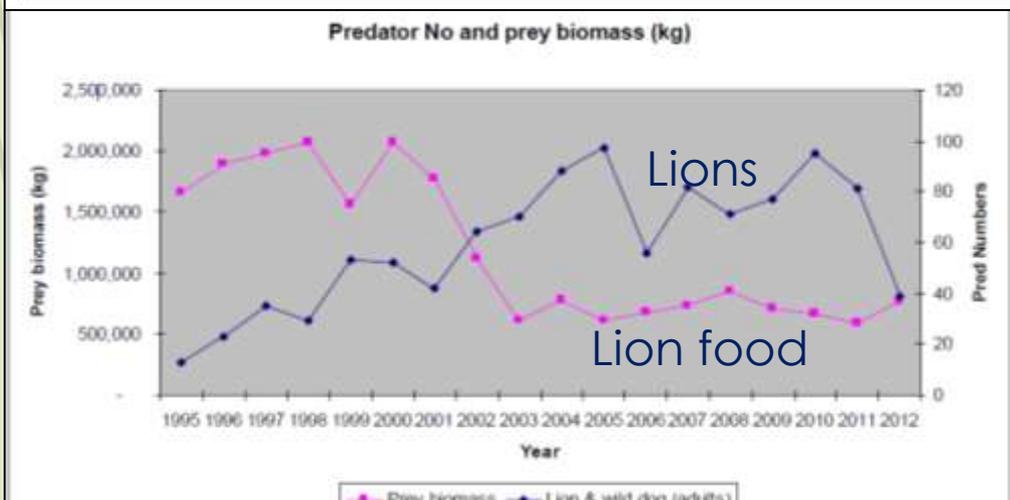
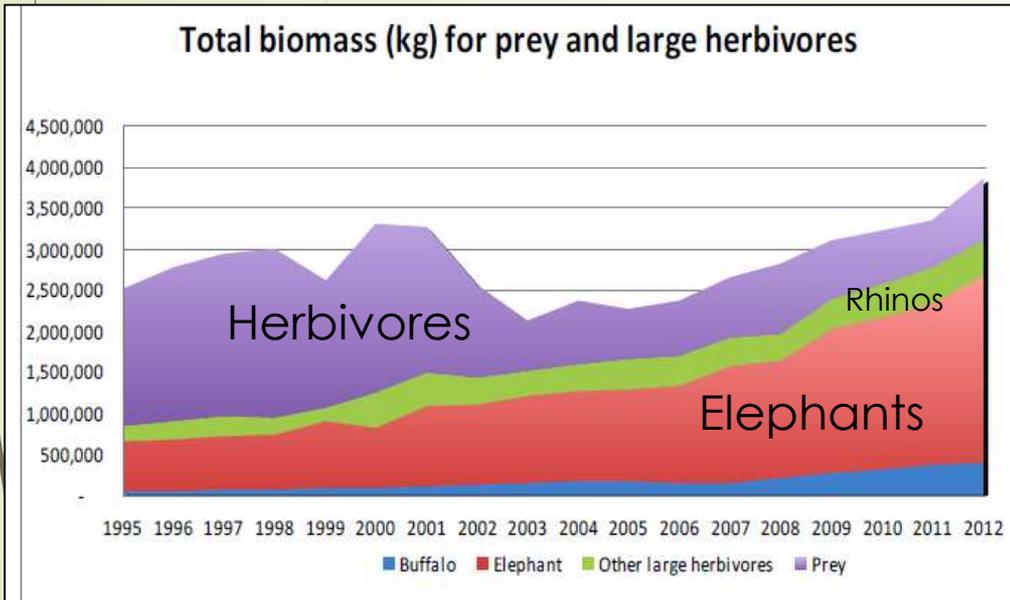
What is ecotourism role in Half-Earth?

Relative degree of revenue generation from tourism (beds X avg. nightly rate)



- ▶ Tourism is a cluster industry – not a landscape industry
- ▶ High returns from small areas
- ▶ Most economy wrapped up in hospitality, not land management (unlike hunting)

Are parks conserving biodiversity or satisfying tourists?



- Political restrictions on management
 - Over-abundance of elephants and predators
 - Squeeze out herbivores
 - Trees replaced by shrubs
 - Loss of biodiversity
 - Restocking herbivores (disease)



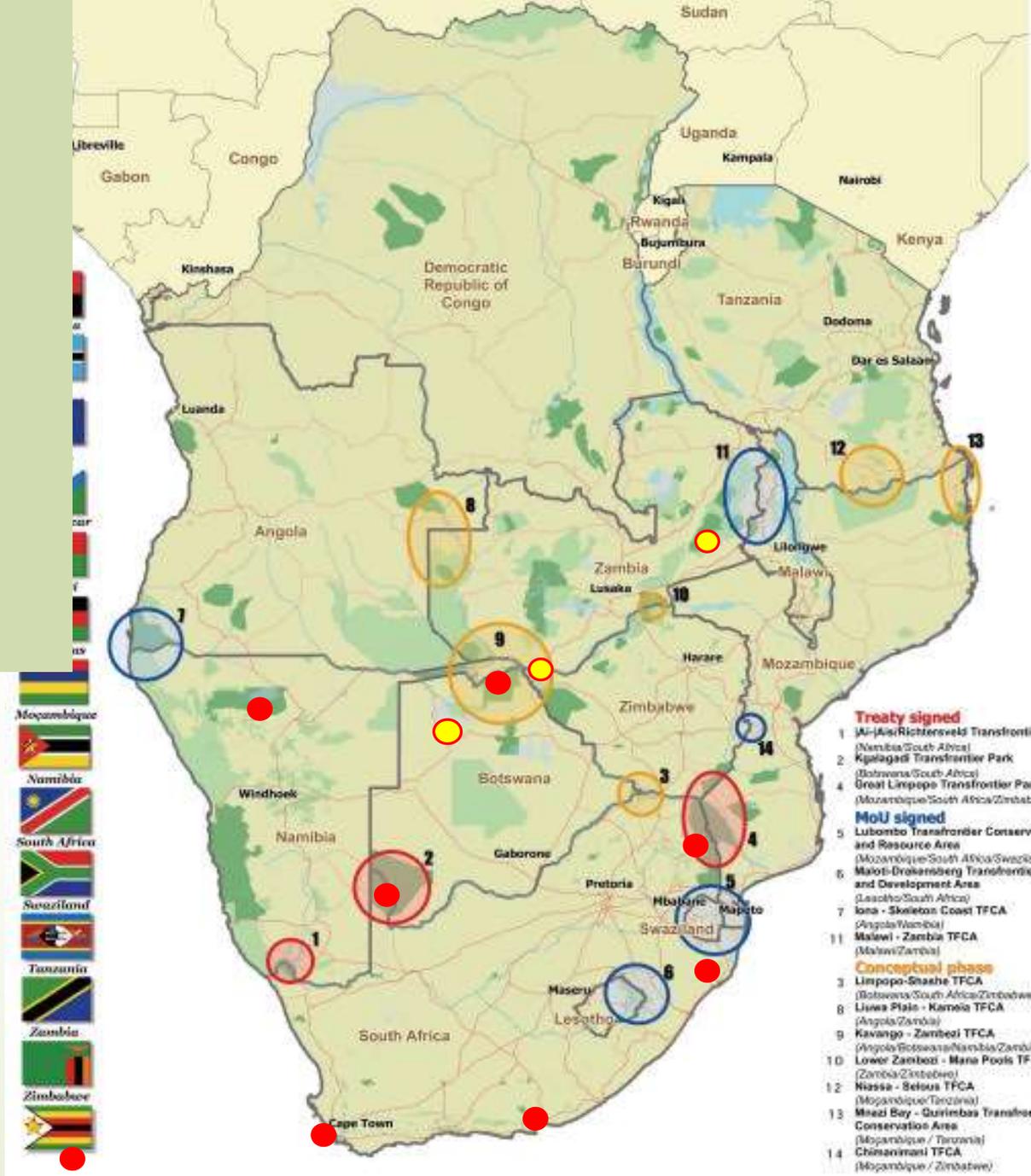
Only shrubs survive in Chobe

Half Earth

Only 10/85 parks in southern Africa are performing

Parks in USA generate \$350 billion.

Southern Africa is +/- \$2 billion



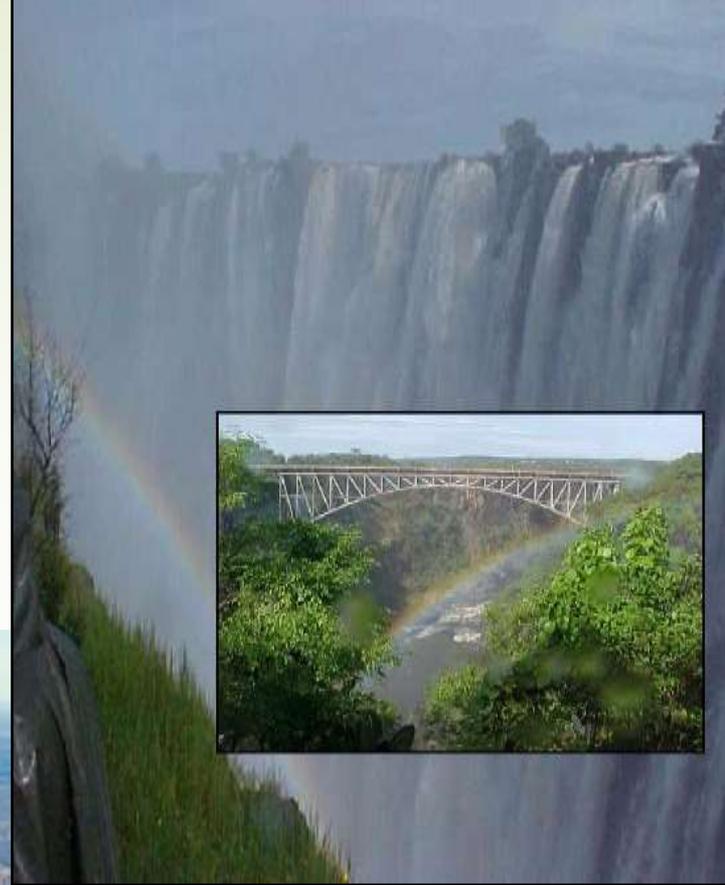
Performing well ●
 Under performing ●
 Neglected ●

Risks and lost opportunities

Victoria Falls – 600,000 visitors

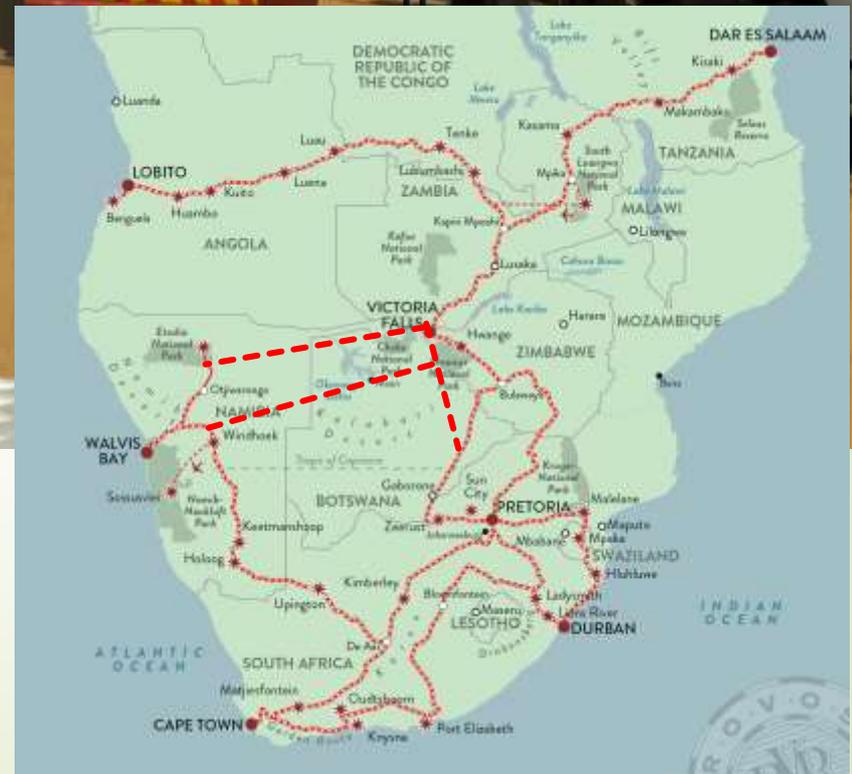
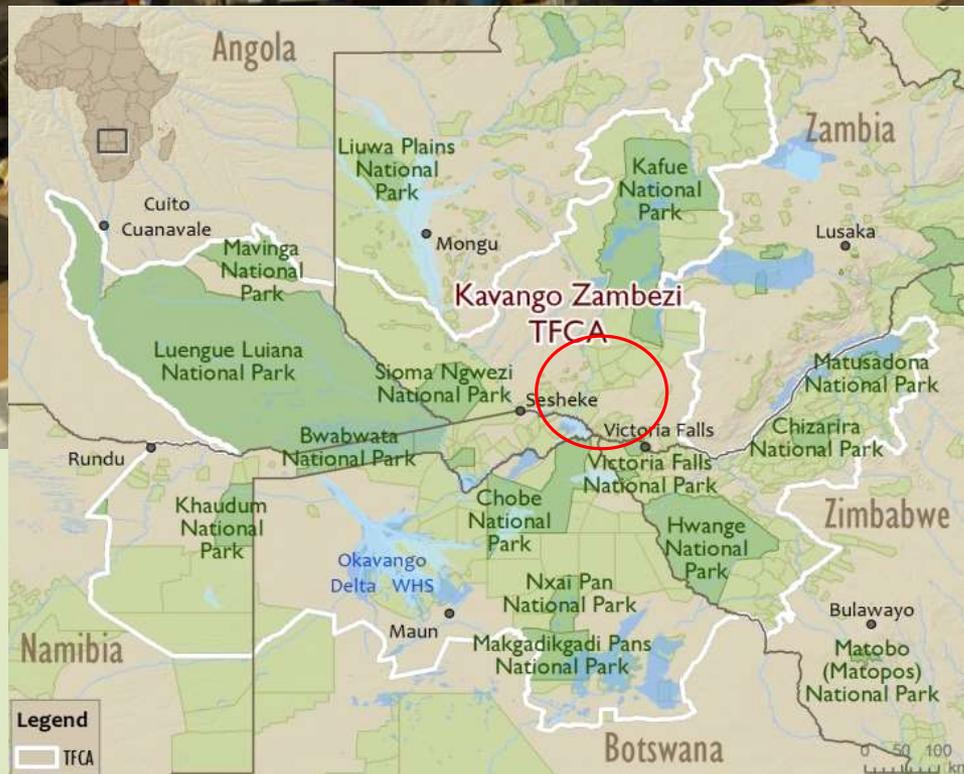
Yellowstone 5m+

Cape Town Waterfront – 1.5m +



Victoria Falls / Chobe – tourism or transport hub

Hundreds of trucks choke Vic Falls Border





The sustainable governance framework

Conservation on the 40% (outside public
lands)



**Most land
ranched for
cattle**

**One or two
maverick game
ranchers**

**... surely wildlife
was a better
land use ...**



Zimbabwe Midlands
1984

Redefine wildlife accurately, and match it to institutions

	Excludable	Non-excludable
Gets use up (rivalrous)	Private goods  	Common goods 
Infinite (non-rivalrous)	Club goods	Public goods

Private good, with common pool properties, that often provides public benefits

Do we have a mismatch?

- Public management
- Of private/common goods
- On private/community land

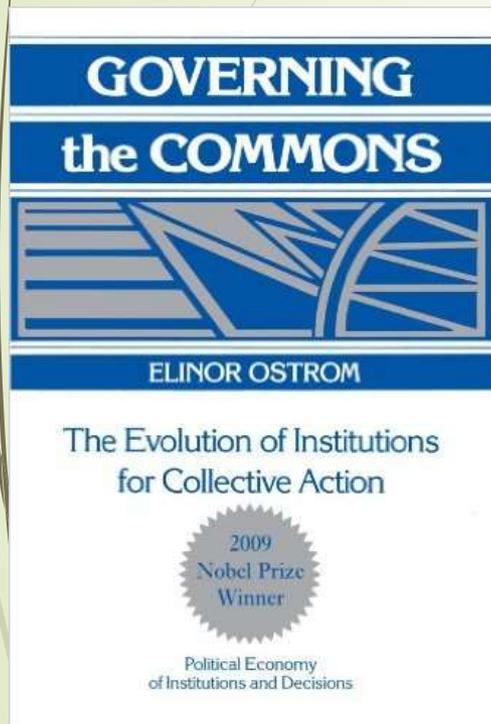


But key to recovery of
wildlife

- not technical or ecological,
- but **carefully crafted legal / institutional** measures that addressed market failure

Conservation Policy	London Convention 1900, 1933	Sustainable Use Approach
1. Protected Areas	Established to conserve Fauna & Flora	Conserve, but provide public goods suited to society (jobs, economic growth)
2. Wildlife Ownership	Centralise in the state	PROPRIETORSHIP: Devolve to landholders / communities
3. Commercial Use of Wildlife	Restrict and/or ban	PRICE: Make as valuable as possible (provided humane)

Beyond states and markets



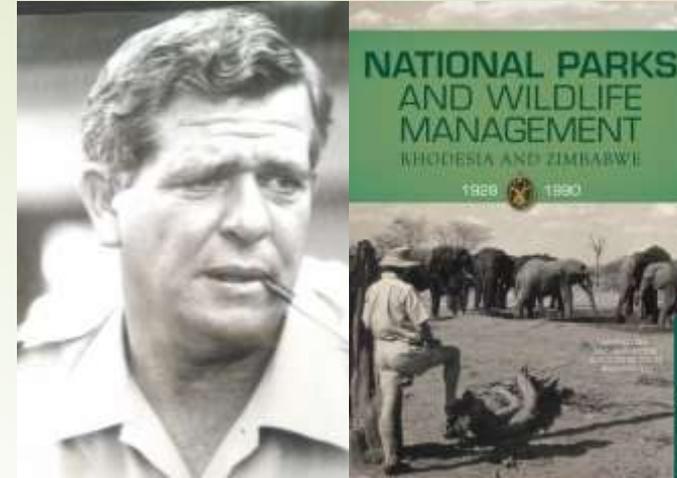
There is no reason to believe that bureaucrats and politicians, no matter how well meaning, are better at solving problems than the people on the spot, who have the strongest incentive to get the solution right.

— Elinor Ostrom —

AZ QUOTES

Zimbabwe

(adopts soil conservation districts from US dustbowl)



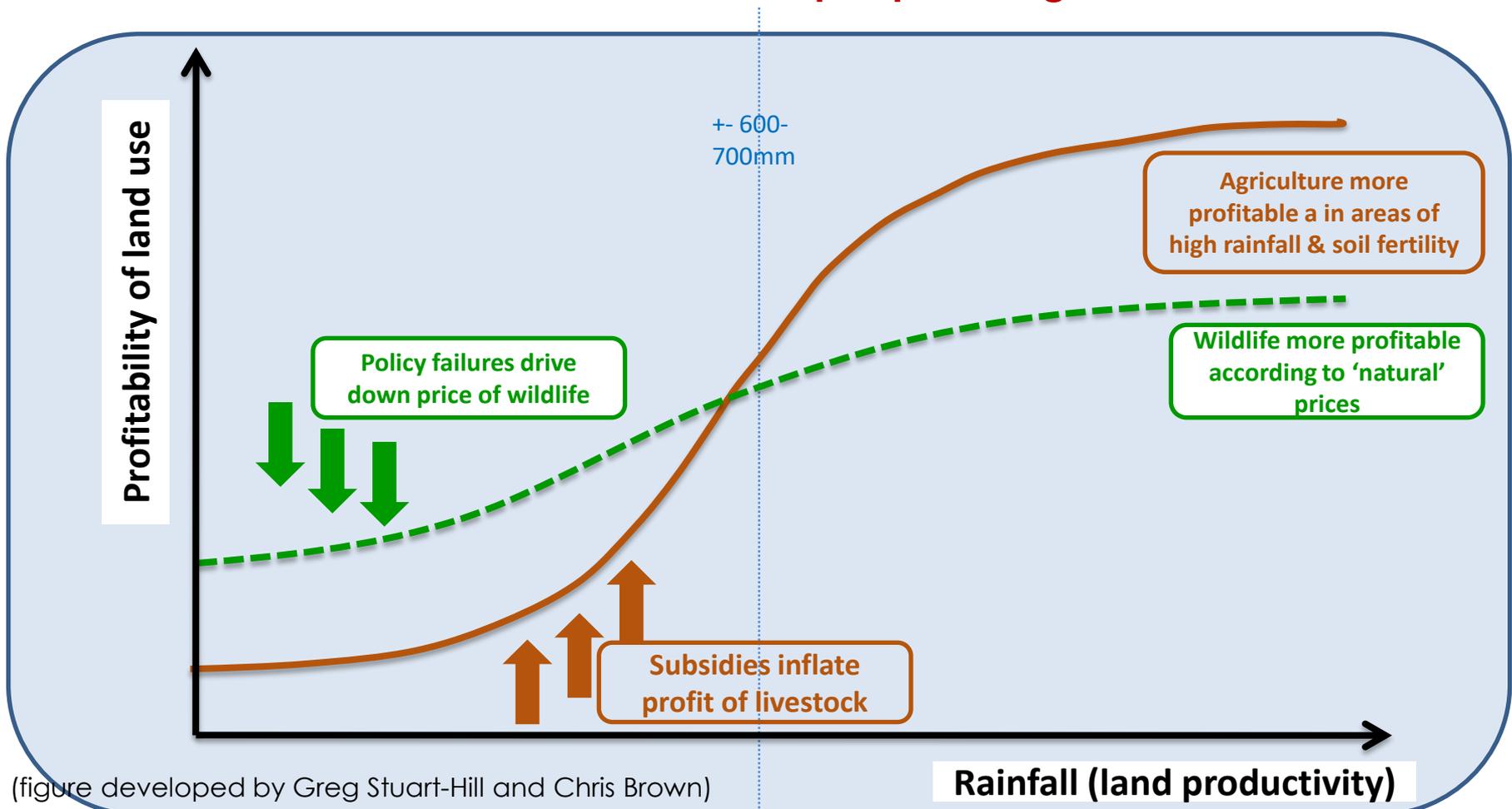
	Excludable	Non-excludable
Gets use up (rivalrous)	Private goods 	Common goods 
Infinite (non-rivalrous)	Club goods 	Public goods 

Markets, communities, and states

- Privatize
 - Devolve ownership to landholders
 - Parks & Wildlife Act, 1975*
- Collective
 - Devolve self-regulation to neighbourhoods and associations
 - Build scale
 - Natural Resources Act, 1941*
- Role of public agency
 - Frame rights
 - Extension / education
 - Last resort custodian

Model behind Sustainable Use Approach

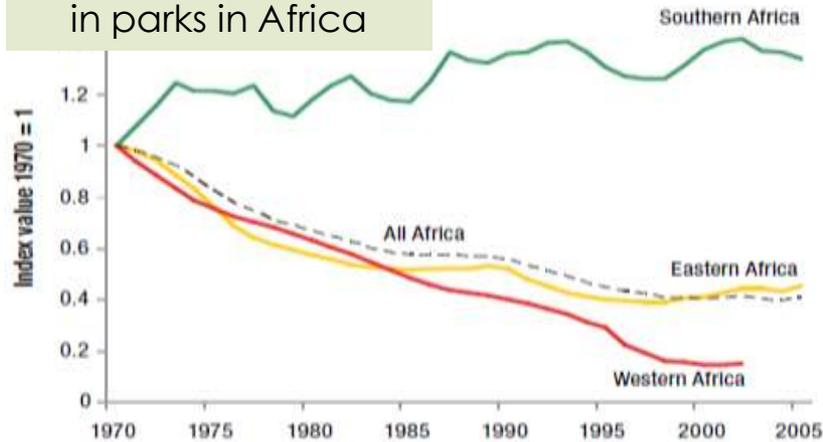
maximize the value of wildlife to people living with it



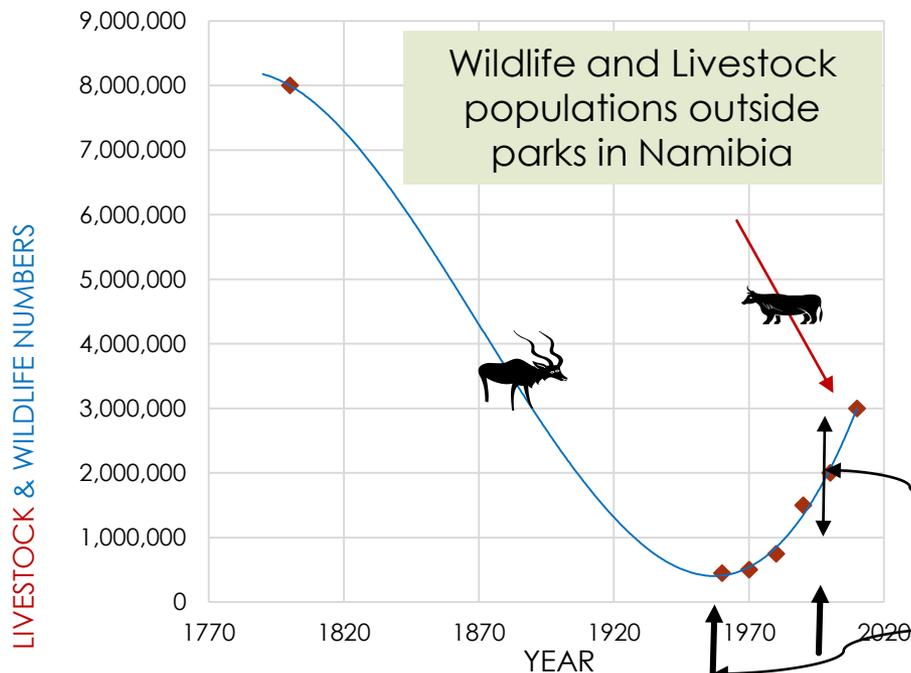
(figure developed by Greg Stuart-Hill and Chris Brown)

Wildlife recovery

Wildlife populations in parks in Africa



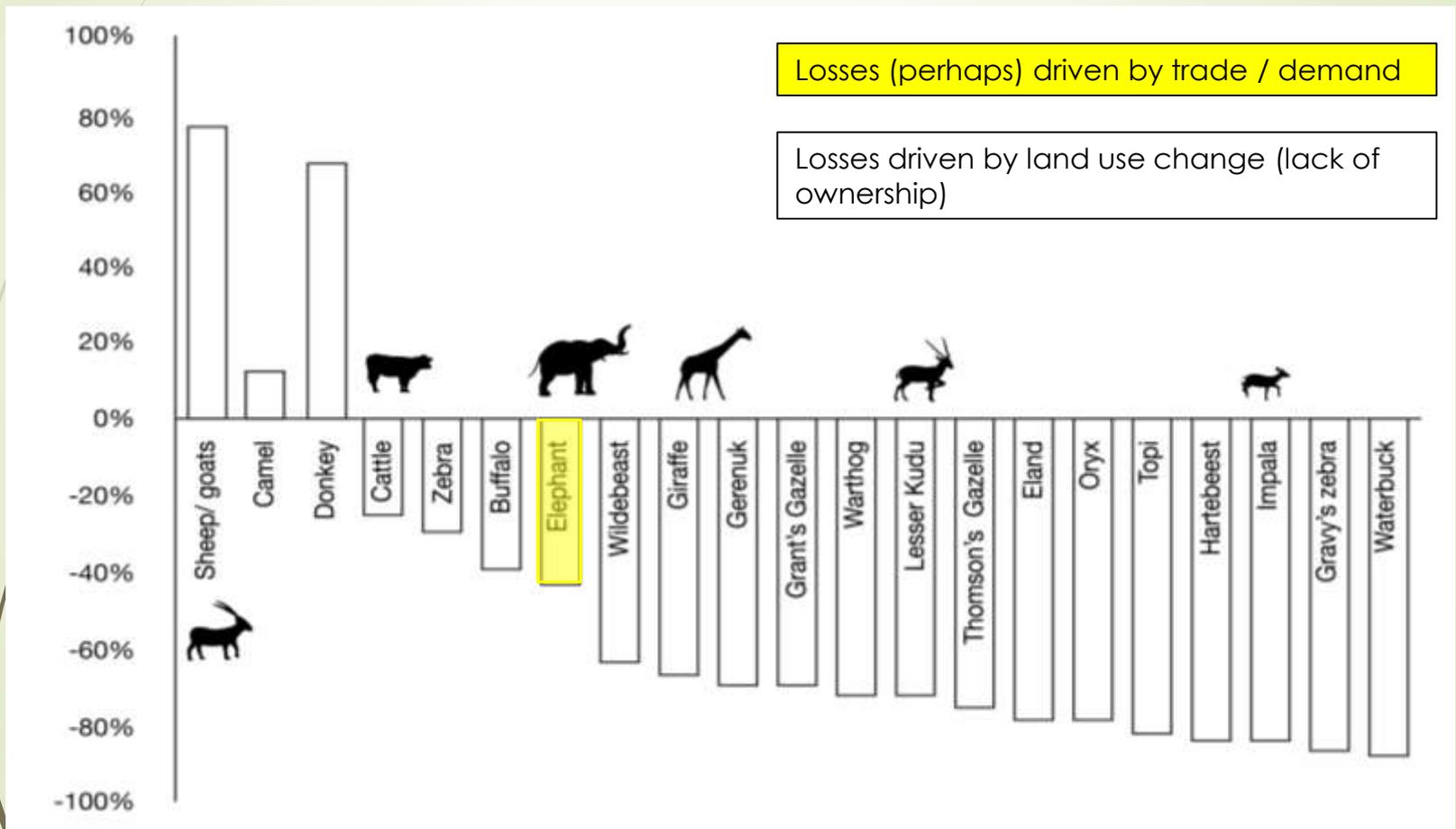
Wildlife and Livestock populations outside parks in Namibia



Variability of economic and ecosystem outcomes (LOTS OF ROOM FOR IMPROVEMENT)

Policy reform (wildlife ownership rights, cbnrm)

Counterfactual - loss of wildlife in Kenya



Politicians and communities who HATED wildlife now support it passionately

Africa Wildlife Economy Summit 2019

Hosted by the African Union and United Nations Environment Programme, June 25, 2019

COMMUNITIES & LANDHOLDERS

COMMUNITY DECLARATION

Voices of the Communities:

A New Deal for rural communities and wildlife and natural resource

Shareholders not stakeholders

- Reduce poverty at household level
- Turn wildlife into a rural economic engine
- Achieve self-determination and security of rights and tenure
- Develop strong community institutions to govern wildlife sustainably

POLITICIANS

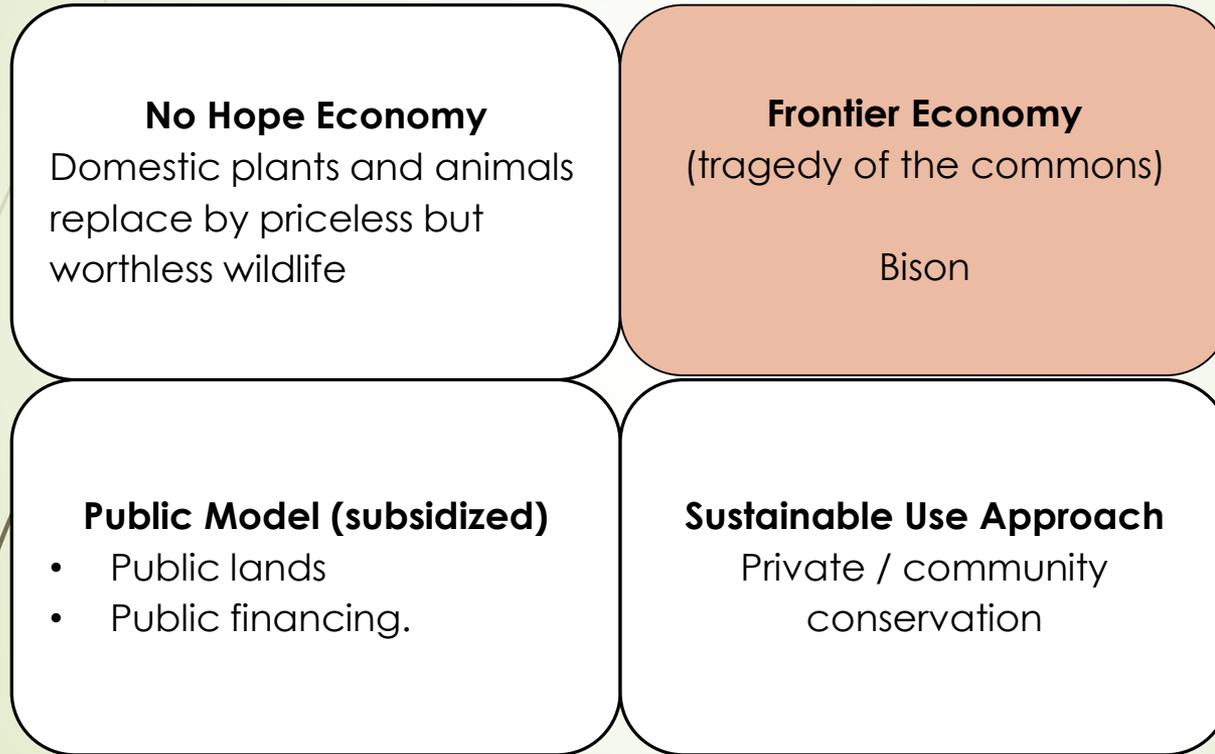


Presidents

- Masisi (Botswana)
- Lungu (Zambia)
- Munangagwa (Zim)
- Geingob (Namibia)
- Acting Pres (Angola)

- Expect 2-300; 1,300 people arrived

Proprietorship-Price Model

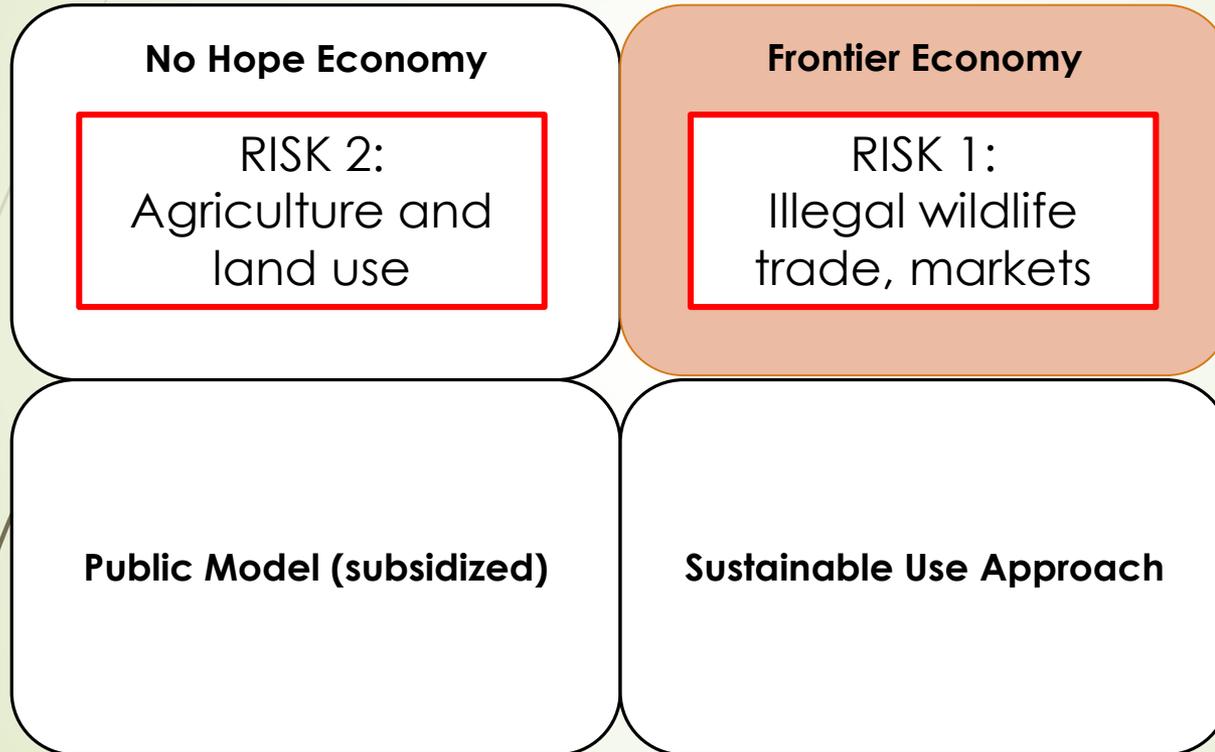


weak

Proprietorship

strong

Proprietorship-Price Model

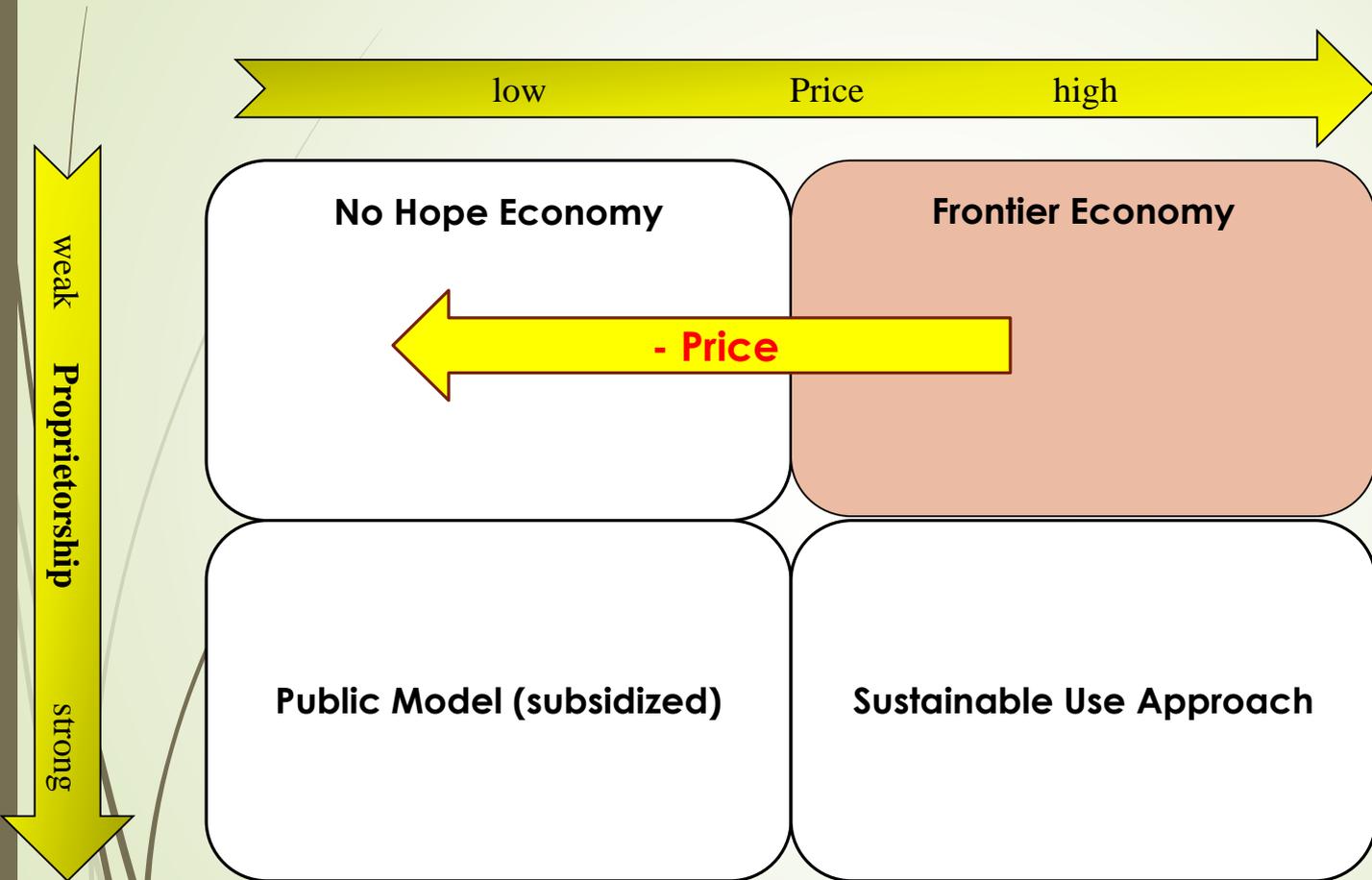


weak

Proprietorship

strong

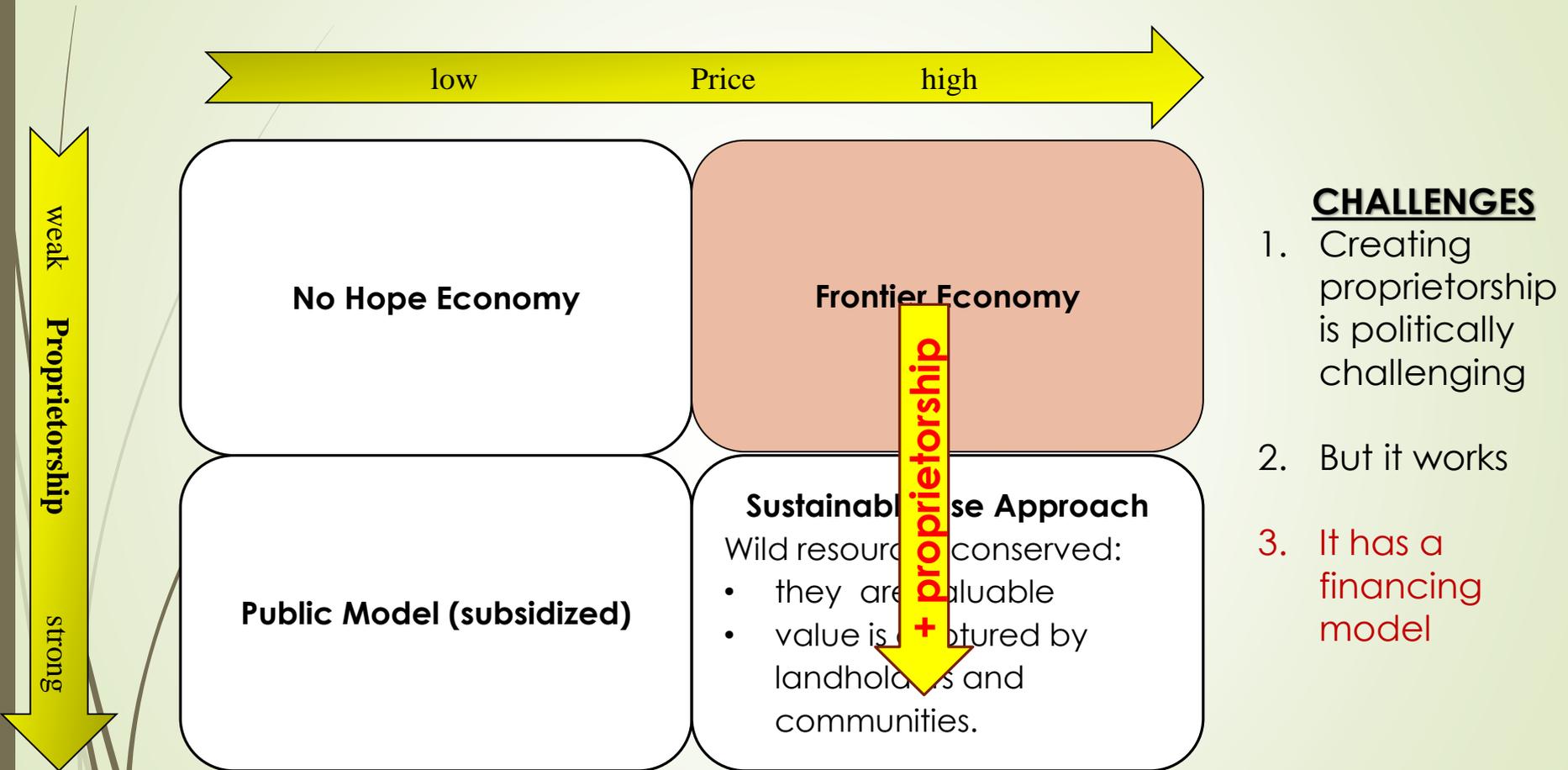
Demand reduction (risk 1)



FLAWS

1. Lowers incentives for conservation (habitat loss is the greatest threat)
2. **What is the funding model?**
3. How do you stop demand?
4. Shifting market into criminal hands
5. No information, no adaptive management

Sustainable Governance Model



Lesson 1: Private / community land

Must treat public lands very differently from private / community land

South Africa

	Private	Parks
Area (hectares)	17-20.5m	3.75m NP 3m Prov Parks
Percent	14-17%	3% National 3%? provincial
Animals	6 million	0.5-1 m
Rhinos	13,510	5,450
Rare species	30,606	268,065

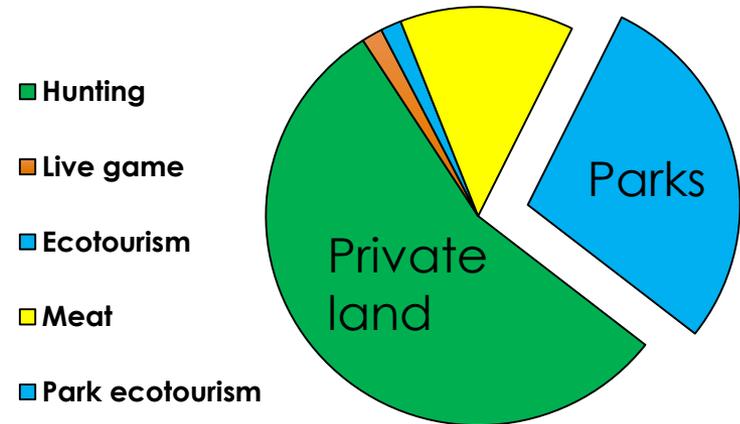
Dry, G. (2010). Why Game Farming should be taken seriously. Farmer's Weekly. **14 May 2010**: 5-6.

Taylor et al (in review) Wildlife ranching is a productive use of marginal lands in South Africa

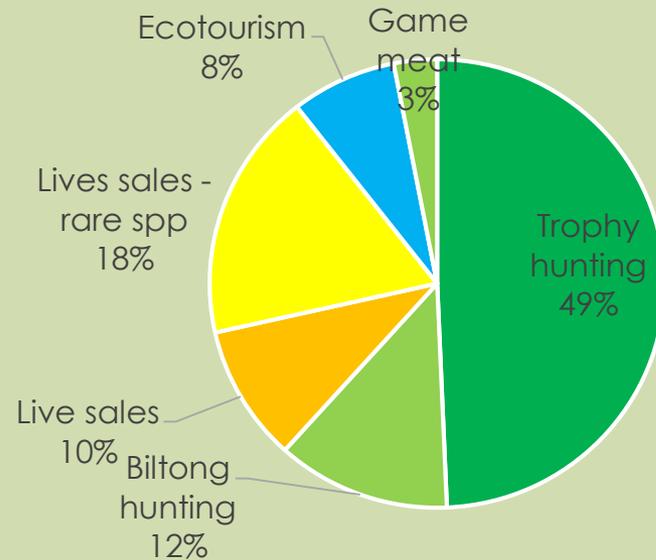
Lessons 2:

Hunting pays for
80% of wild land

Wildlife Economy in South Africa



Income sources for Private Wildlife landholders

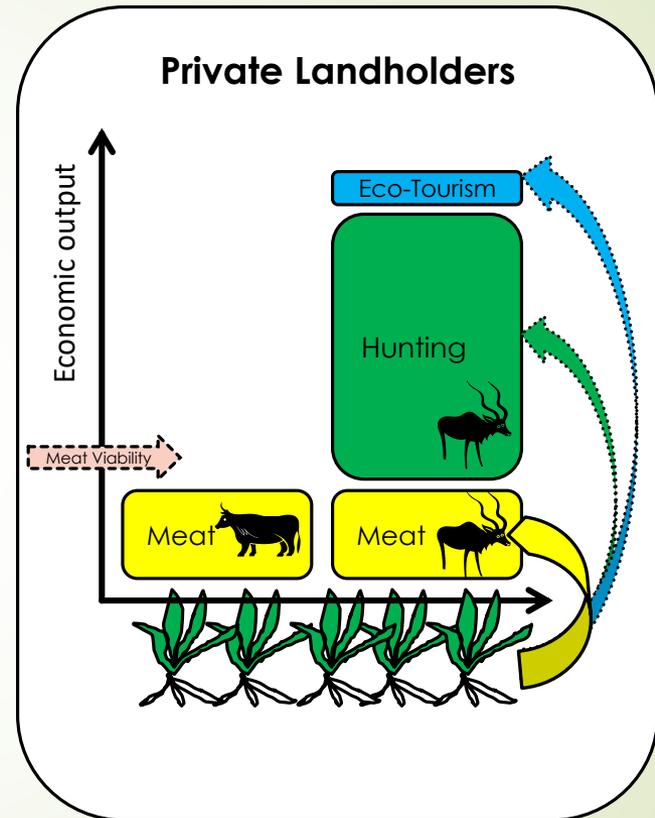


Rubino, E. C. and E. F. Pienaar (in review). "Rhinceros Ownership and Attitudes towards Global Horn Trade Legalisation within South Africa's Private Wildlife Sector." Sample: n=171

DEA (2015). Situation Analysis of Four Selected Sub-Sectors of the Biodiversity and Conservation Sector in South Africa, and Transformation Framework. Pretoria, Department of Environmental Affairs, South Africa.

Lessons 3: Wildlife has a comparative advantage in drylands

- Wildlife replaced livestock on private land because it was more profitable.
- It converts grass into livelihoods
 - More profitably
 - More sustainably
- 80%+ of wildlife land is paid for by hunting

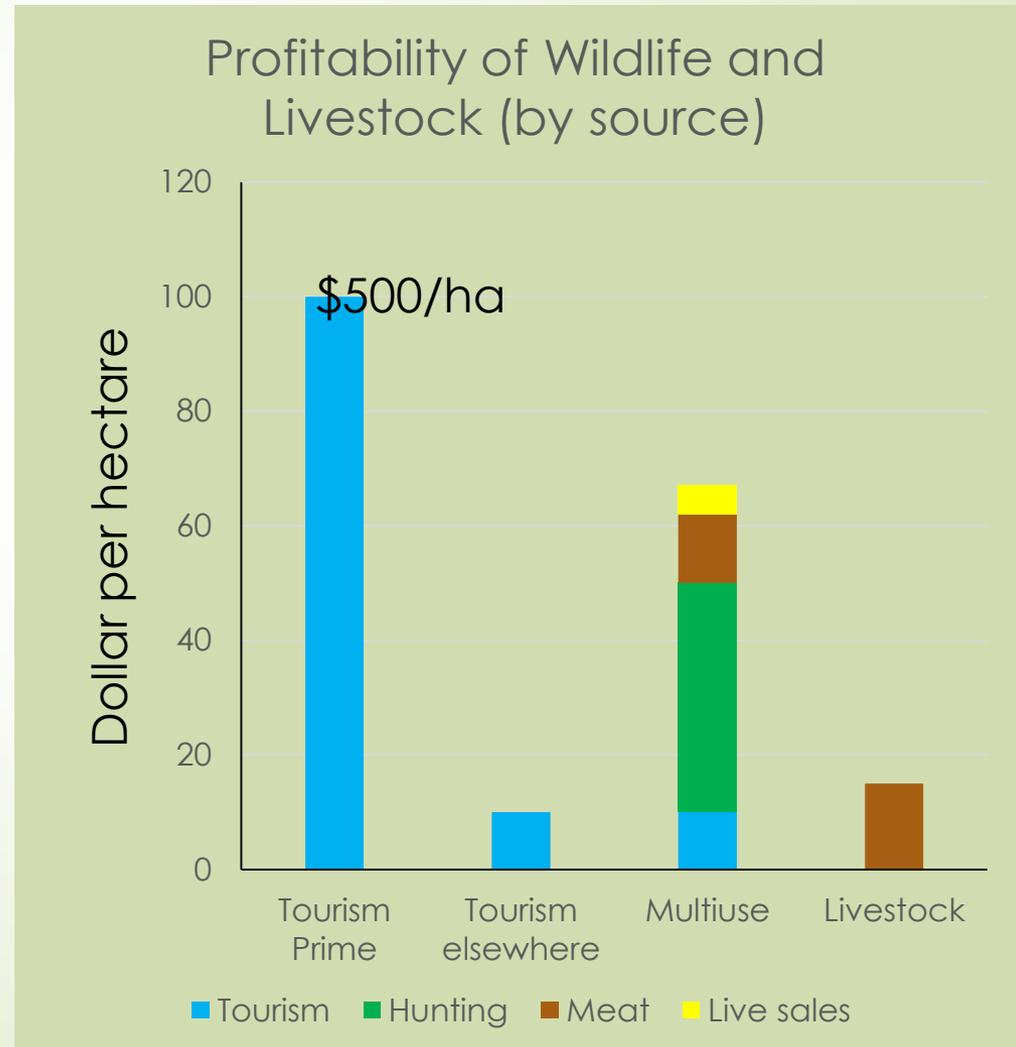


**Bio-experience economy
versus
Agro-extractive monocultures**



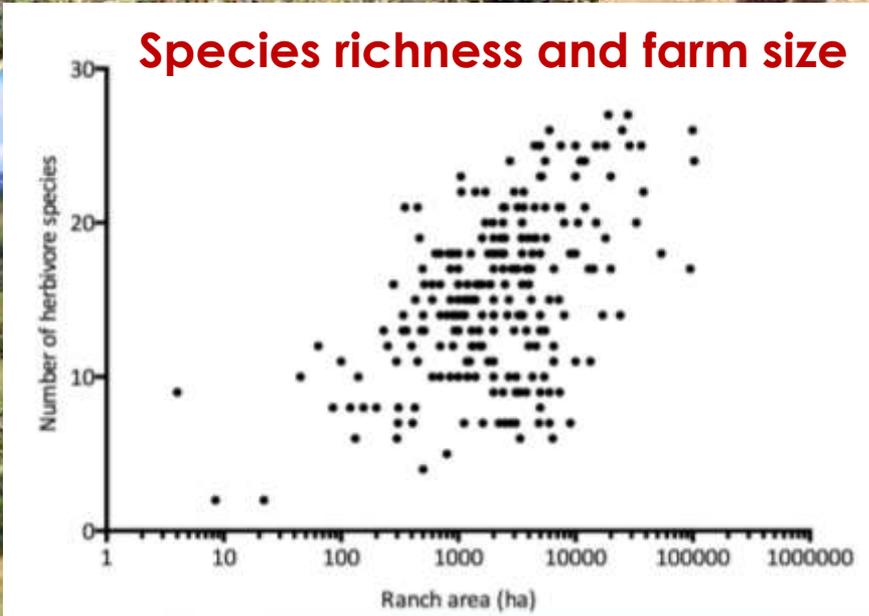
Hunting is critical for +/- 80% of land conservation

- Tourism powerful (only) in prime areas (**<20%**)
- Tourism does not outcompete livestock on most private land
- Multiple use, based around trophy hunting, 3X as profitable as livestock (**80% of land**)





Scale is important for biodiversity





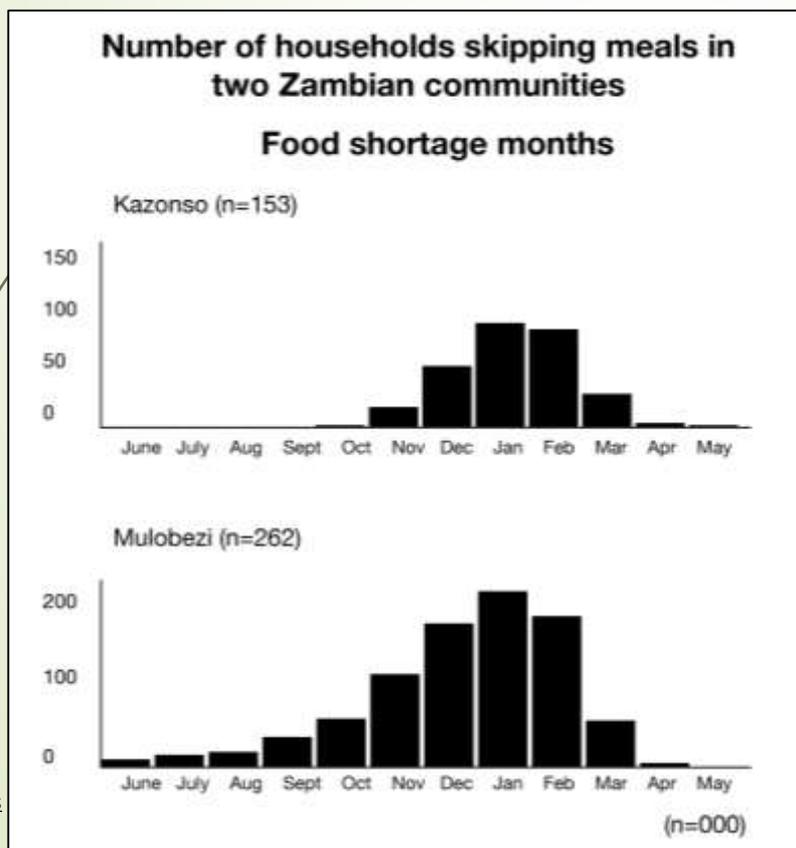
Community based natural resource management:

using wildlife to create democracy and
property rights

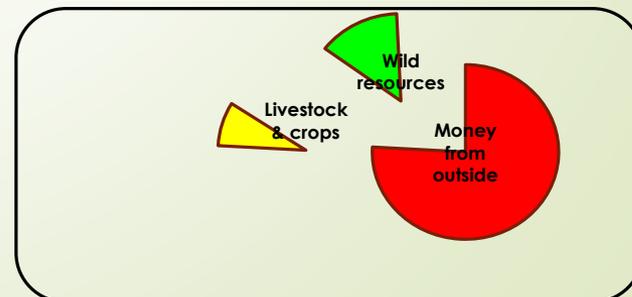
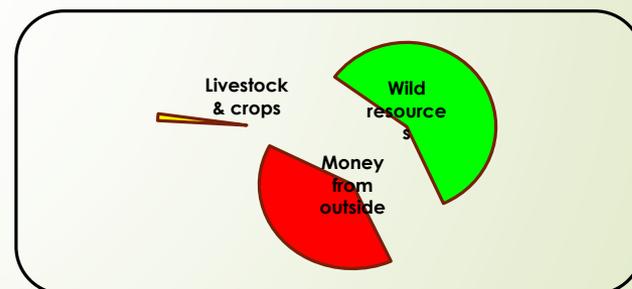
this is the growth area for huge wild
landscapes

Farmers are the hungriest people – agriculture is failing people in drylands

People are hungry – often



- They may look like farmers,
- But most livelihood is from natural resource or off-farm



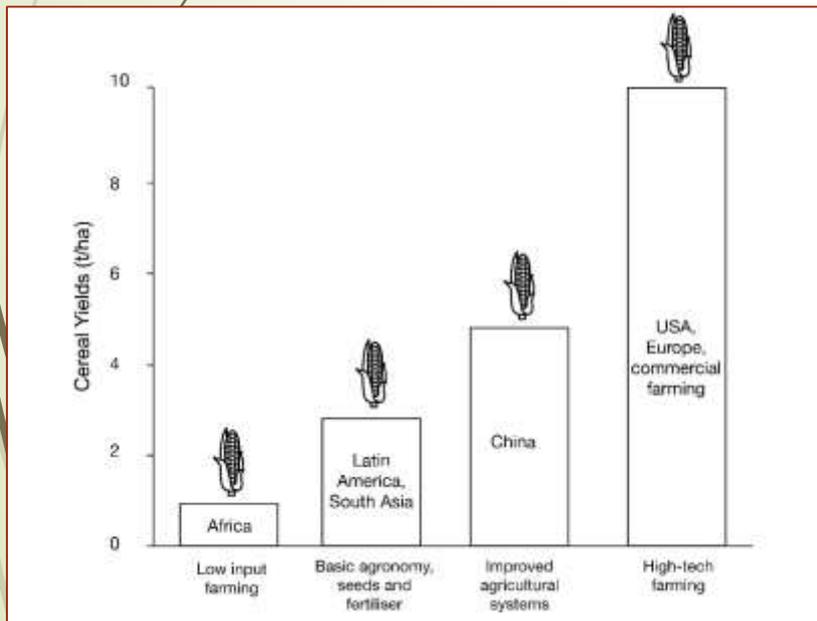
Conservation farming

- Definitely improves yields
- From 1-3 tonnes (on a good day)
- But cost \$2 for every \$1 in output (hardly viable in drylands)

Conservation farming

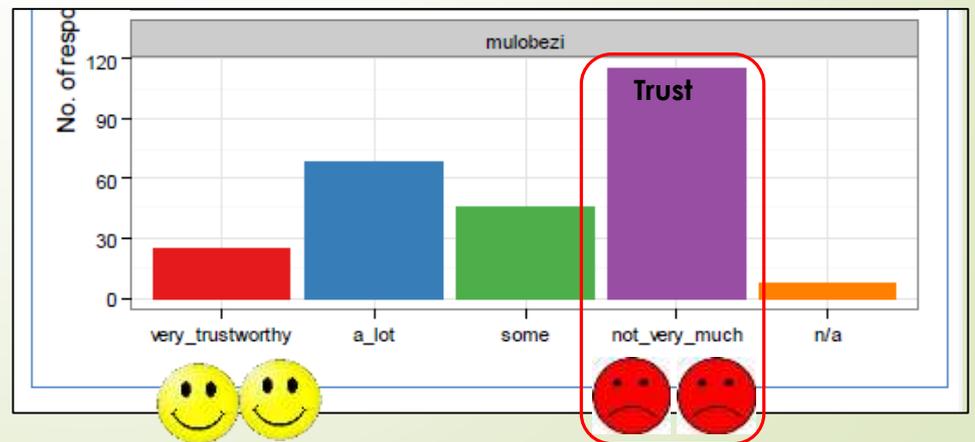


Traditional farming



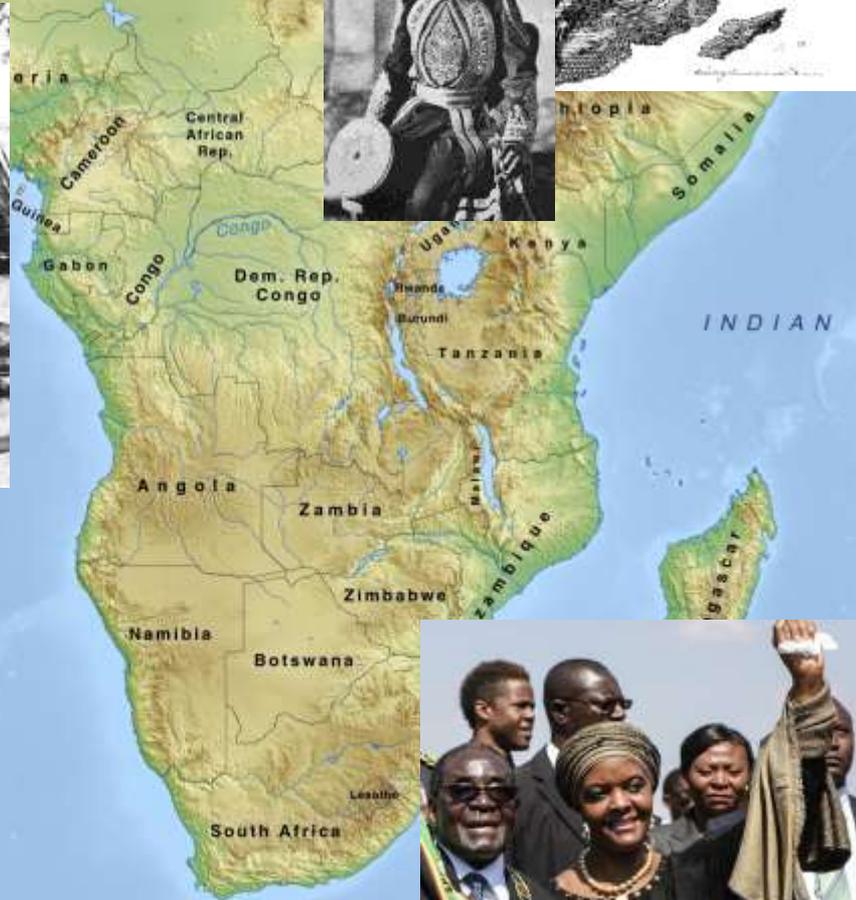
Social capital in rural Africa (drylands)

- Authoritarian
- Low associational activity
- Low levels of trust, especially leaders



Africa's Dark Ages.

- Slavery (1500-1880)
- Colonialism (1880-1960)
- Centralised socialism, one party rule, state capture (1960-now)



CBNRM – addressing ungoverned / de-institutionalised spaces



African communal lands reflect feudal institutions of the Dark Ages

- Weak protection of person and property
 - Weak/no land rights
 - Weak/no resource rights
- Markets for wildlife closed
- Low social capital
- Organization
 - Authoritarian (despite “elections”)
 - Undemocratic – excluded from decisions about resources

Prevents people and communities from fulfilling their potential

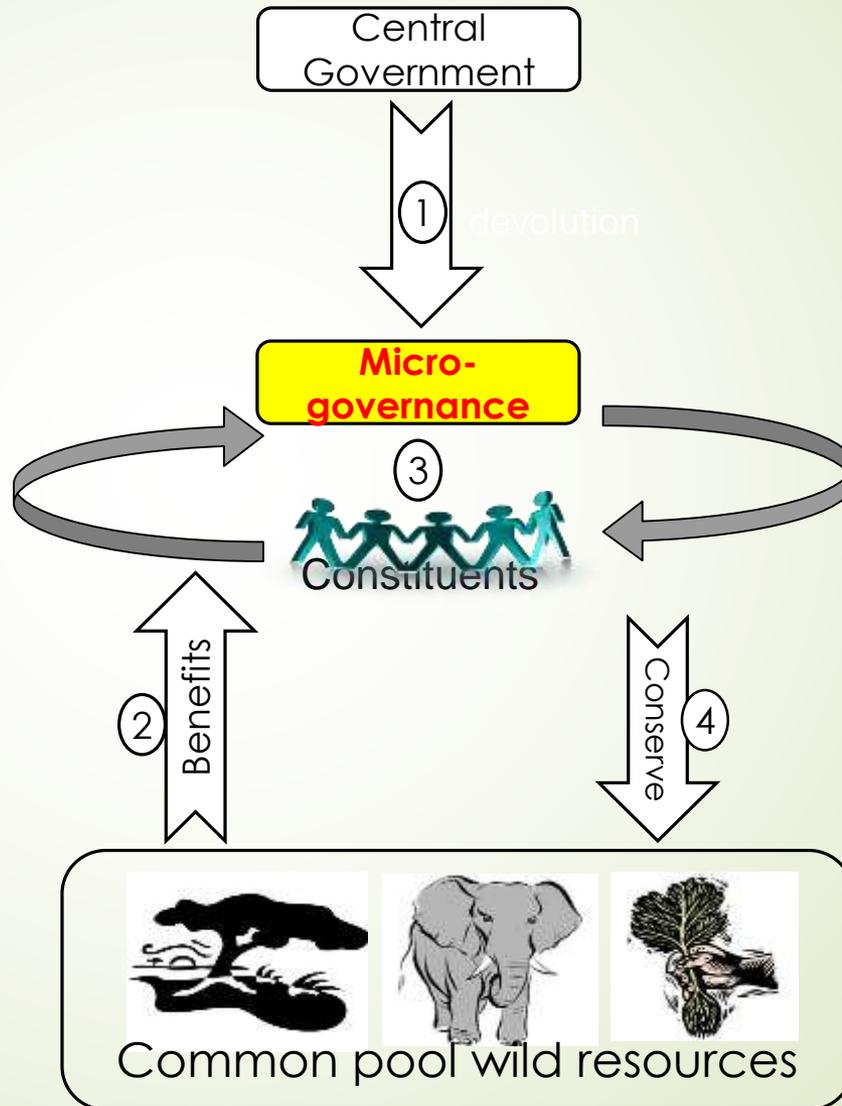
CBNRM is the process of re-institutionalization (democracy and free markets)

- Restore property rights
- Rebuild social and organizational capital
- Re-capitalize depleted environments
- Markets for wildlife



We know how to do CBNRM effectively (failure reflects incompetence or worse)

1. Devolve rights (title) and benefits (100%)
2. Generate biodiversity benefits
3. **Micro-governance and village companies**
4. Natural resource management



Re-building social capital

All people affected by decisions participate in making them
(Ostrom, 1990)



Participatory activity-based budgeting

Get 100% of benefits to communities, and households

Member gets full share of wildlife income in cash

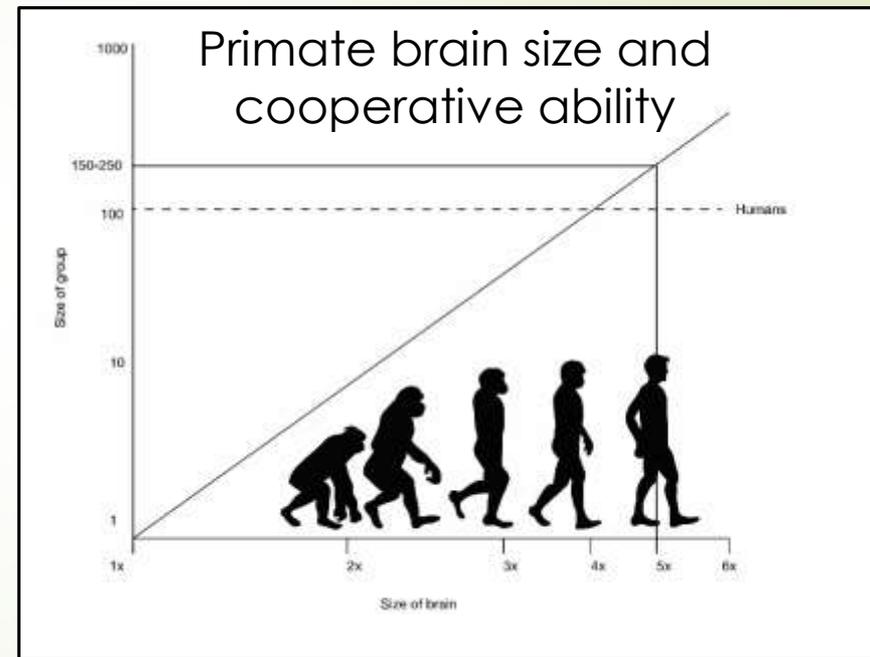


Each person pays “tax” into buckets for projects as agreed

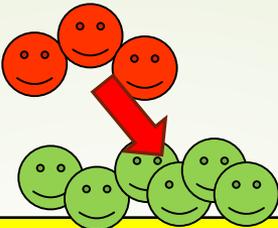
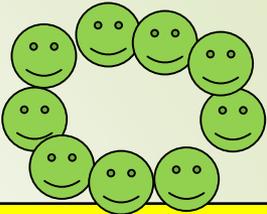


Scale and Dunbar's number

- ▶ Humans cooperate well in groups of 150-220 decision-makers
- ▶ But not as large groups
 - ▶ Haves / Have nots
 - ▶ Elite capture, etc.

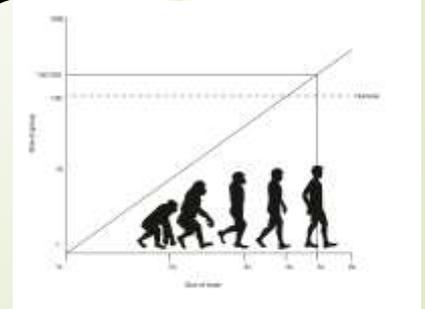


Inclusive governance matters a LOT!

Performance metrics	 Committee-based Representative	 Community-based Inclusive
• Cash	0	21,000 people
• Projects	10	152 schools, clinics, wells etc.
• Corruption	40-80% money missing	<1% missing
• Participation	300 days	75,000 days
• Attitudes		



Perpetuates quasi-feudal authoritarian rule?



Ostrom's radical democracy?

Face-to-face communities demonstrate accountability

Summary of Money unaccounted for from 1999 CBNRM disbursements

Total VAG income (42 VAGs)		400,000,000
Msoro		400,000
Malama		1,000,000
Jumbe		600,000
Mnkhanya		200,000
Nsefu		1,150,000
Kakumbi		-
Total money missing from VAGs	0.8%	3,350,000
Money unaccounted for by ADCs		
Nsefu ADC		10,000,000
Senior Chief Nsefu (recorded loan)		10,500,000
Chief Kakumbi (no records)		24,000,000
Total missing in ADCs/Chiefs	40-80%	44,500,000



Community prove energetic and resourceful (15 X as many projects, **after taking cash!**)

Summary of Projects (1996 to 1999)

Type of Project	Number
Teacher's houses	16
School block renovation or construction	36
Clinic or health projects	14
VAGs doing wells	26 (about 100 wells)
Other projects (maize, electric fence, sport, women's clubs, chief's vehicle, road maintenance, local court, ADC office, bus shelter, toilets).	60
TOTAL PROJECTS	152
Top-down phase, leaders/NGO kept all money for projects, no cash payments	<10



Representational versus participatory Governance

Representational
Top-down

Central
Government

Local
Government

Representational
Democracy

Participatory
Democracy

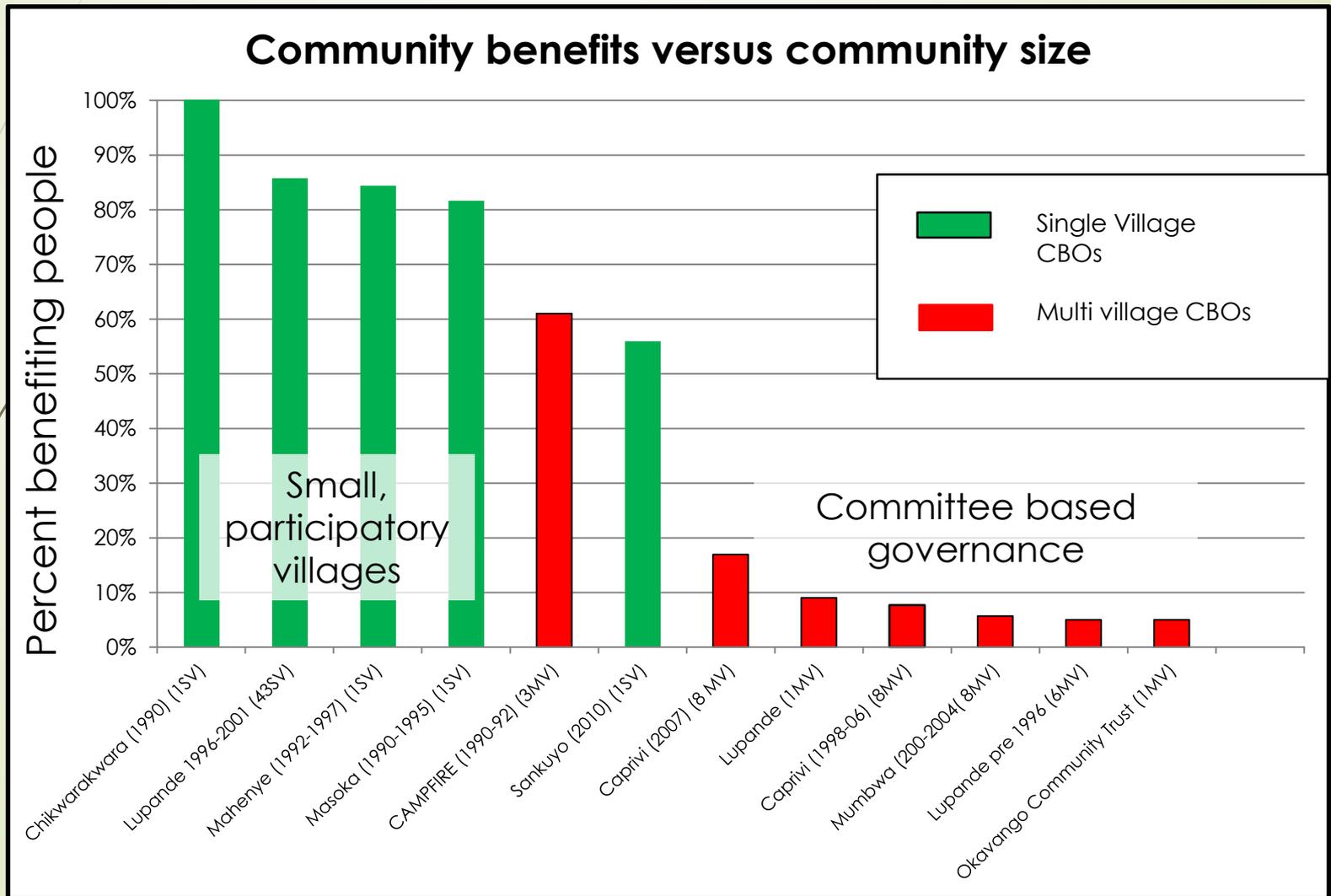


Results from Luangwa Valley, Zambia

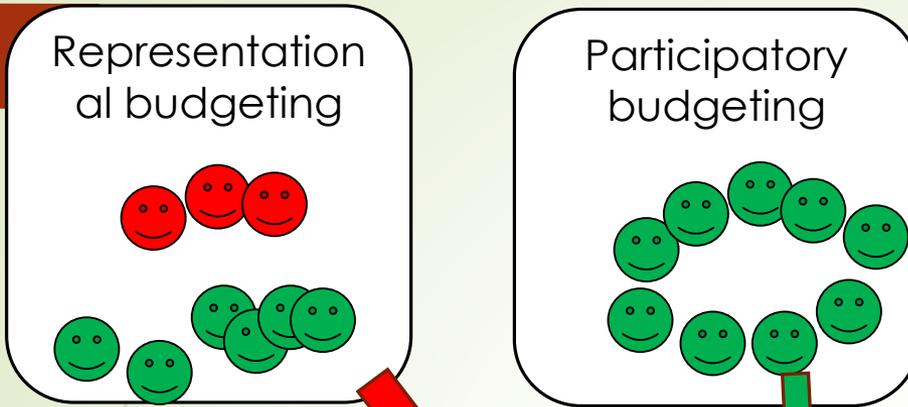
	Representational	Participatory
1. Participation	100's	75-100,000
2. Benefits	Few, public	20,500 people got cash
3. Projects	10?	230+
4. Accountability	40-80% money missing	0.8%
5. Attitudes to wildlife	-86%	+90%
6. Investment in wildlife	0%	18% of income
7. Wildlife trends	down	Stable/up

Participatory
Bottom up

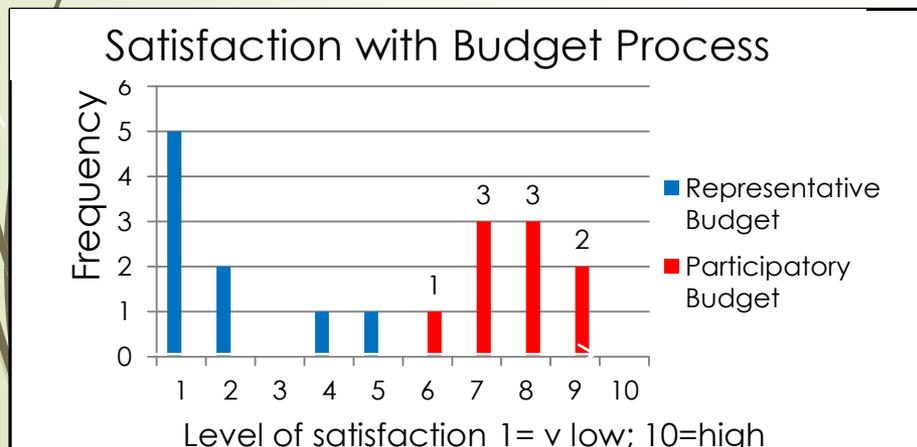
Community size and accountability



Economic/Governance 'Games'



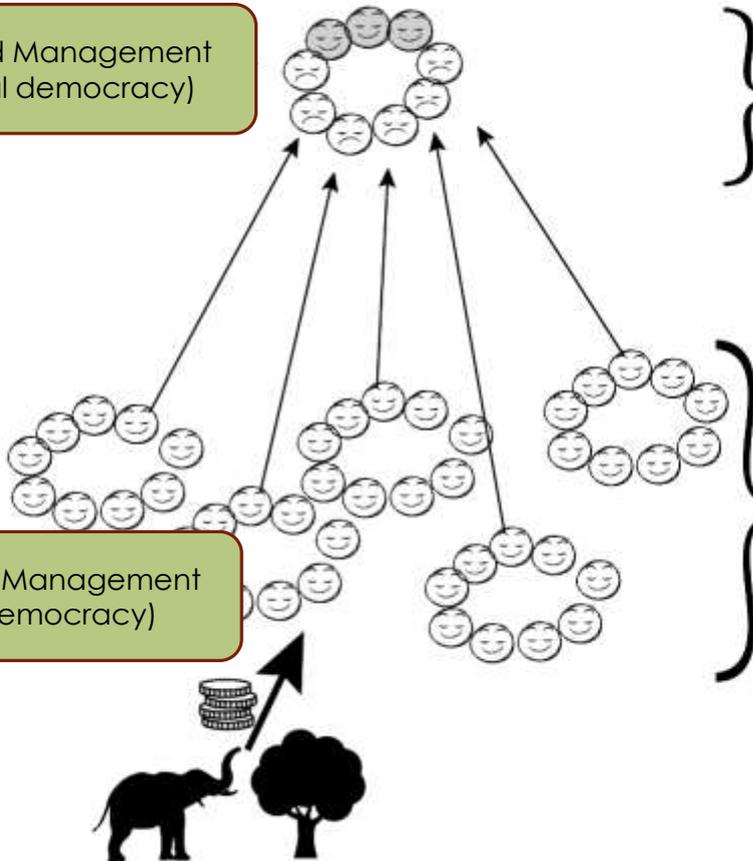
	Equitable	Benefit Sharing
	Representational	Participatory
OWS workshop	20%	80%
Maun, Group 1	44%	67%
Maun, Group 2	43%	69%
% benefits people	36%	72%



Lesson - scale down before scaling up

Committee Based Management
(representational democracy)

Community Based Management
(participatory democracy)



**PUBLIC
GOODS**

ROLES, RIGHTS, RESPONSIBILITIES

**ECONOMIES OF
SCALE**

Representational Governance
(Multi Village coordination level)

Roles:

- Coordination of multi-village activities
- Accountable to constituent villages

**ECOLOGIES OF
SCALE**

Upward Delegation
(if appropriate)

**INFORMED
PARTICIPATION**

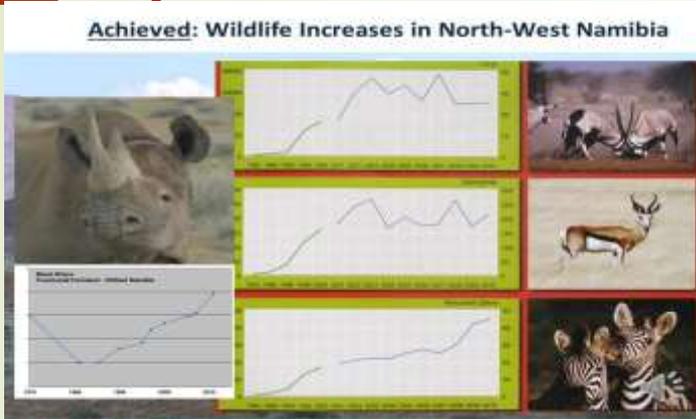
Participatory Governance
Face-to-Face in Single Villages
(Doing level)

Rights:

- All income belongs equally to all members (equivalent to private income from crops and livestock)
- All members make decisions, including over cash
- Members should be given full information to allow informed decision-making.
- All finances and decisions accountable to community as a whole.
- Members elect and instruct leaders
- Role of leaders is to bring people together to get information and make decisions

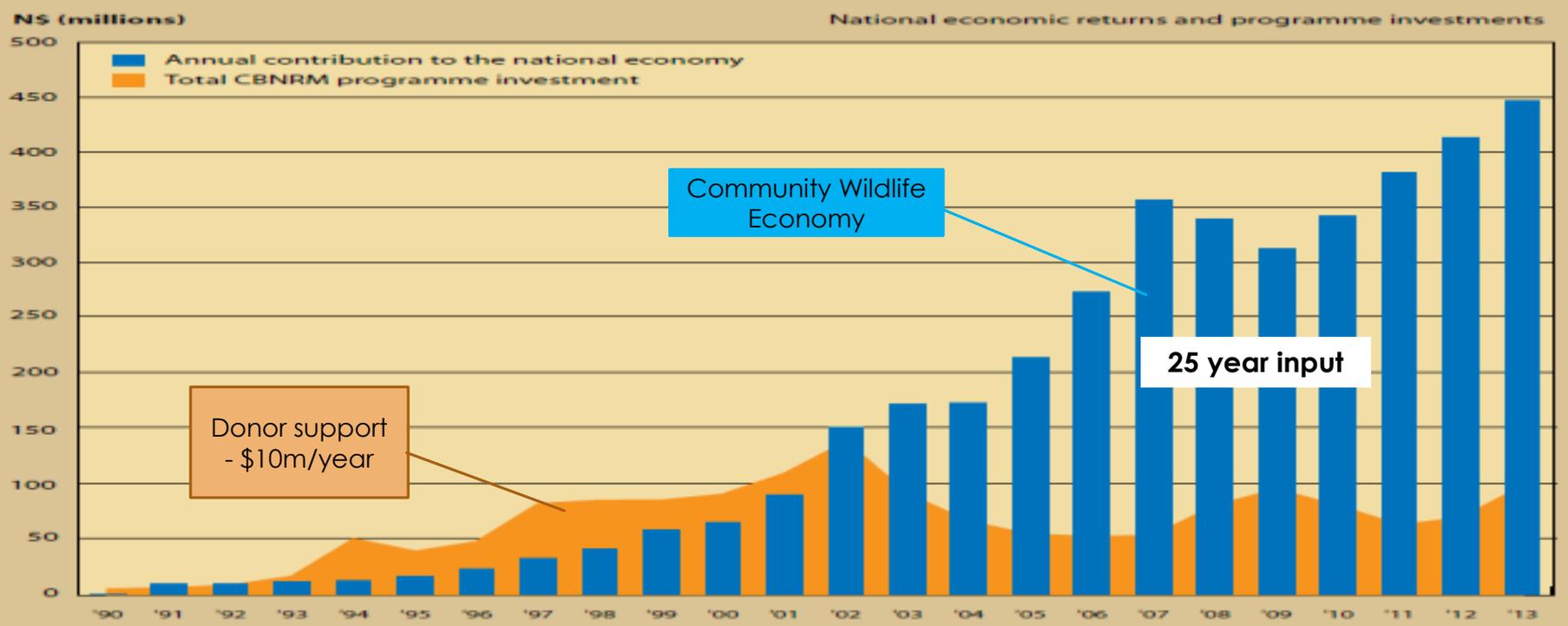
**EQUITABLE
BENEFIT
SHARING**

CBNRM with Devolution (100% to community) Namibia



Growth

- ✓ Business: <10 to over 100
- ✓ N\$72,2m for communities.
- ✓ 6,472 jobs (increasing fast)
- ✓ 500,000 kg of meat for local communities - 2 million high protein meals.
- ✓ Rapidly growing national economic impact



Masoka in Zimbabwe – from inclusive to extractive regime

CAMPFIRE Rule of law

- Inclusive regime in Masoka
 - School
 - Clinic
 - Cash benefits
 - Jobs
 - Land use planning
 - Accounts
 - Meetings
 - Understanding

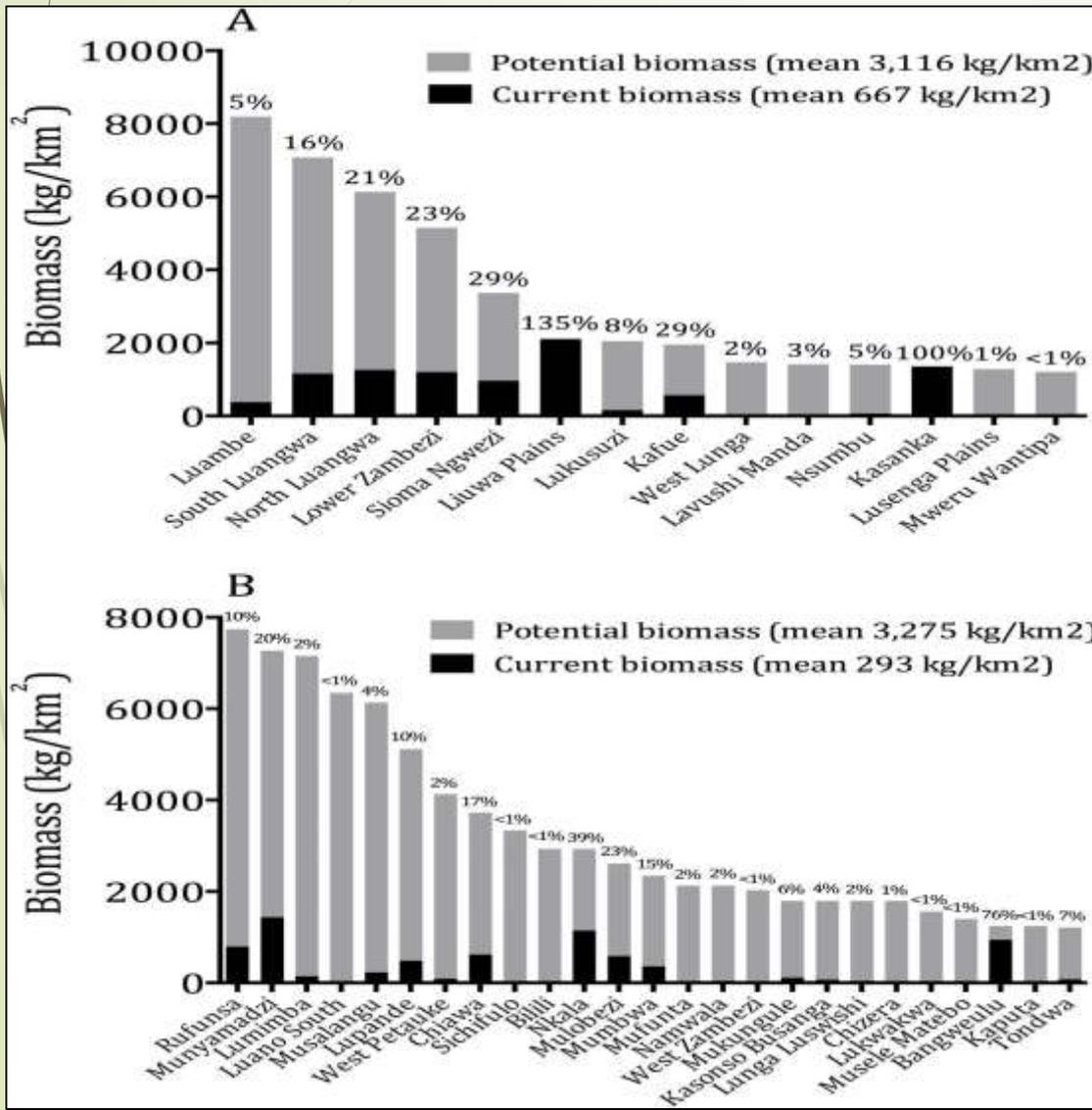
Zimbabwe as an Extractive regime

- Masoka
 - Systems break down
 - Only the elites are eating



CBNRM without devolution:

100% of wildlife revenues not reinvested in parks or communities



Comparison of:

- actual wildlife numbers versus
- carrying capacity

Tourism luxury and community poverty

Luxury and Environment



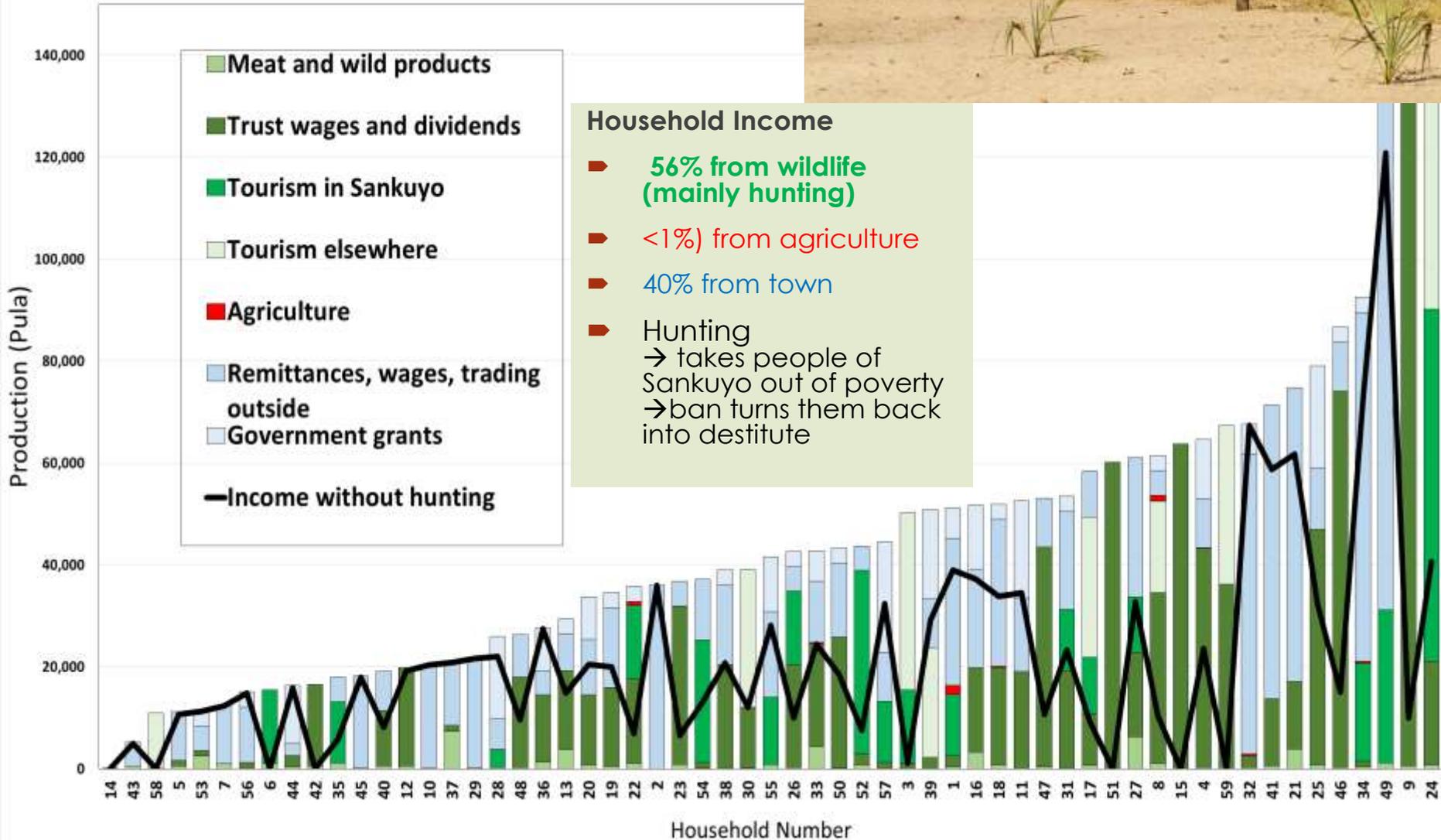
Poverty and livelihoods



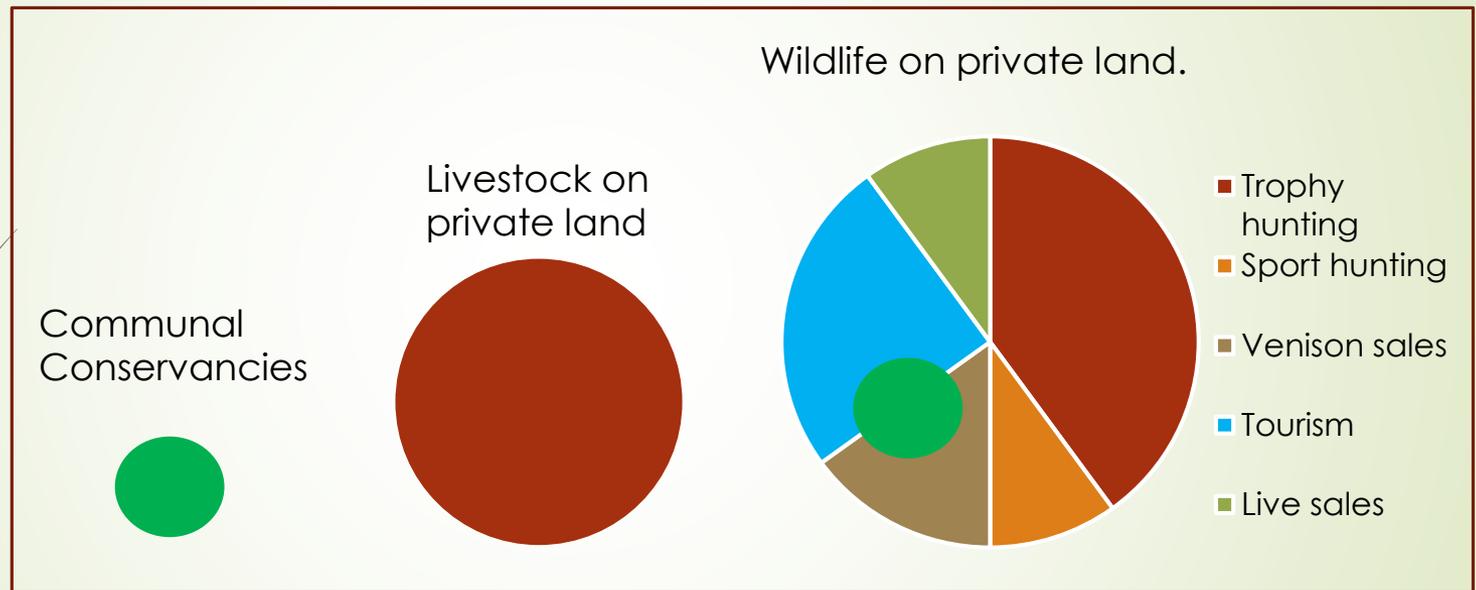
We need to tackle the paradox that frequently Africa's poorest people and most beautiful wildlife share the same land



Hunting Ban, Sankuyo, Botswana



Financial returns from wildlife in communities in Namibia



Progress but still much potential for growth:

- Land use discipline / reorganization in communities
- Impact investors (guided by NGOs)



Conclusions

How do we save wildlife?

Key lessons from a 70 year policy experiment

Lessons about rewilding

- ▶ Demand reduction precludes rewilding
- ▶ Hunting funds 80% of rewilding
- ▶ Ecotourism is important but will not lead to rewilding at scale
- ▶ But trade in products
 - ▶ Rhino \$1b opportunity cost/year
 - ▶ Elephant skin (\$250m+?)

Internal choices

Growth (7% annually) could be much faster

- ▶ Facilitate scale and collective action
- ▶ Biological red tape
- ▶ 100% revenue to landholders

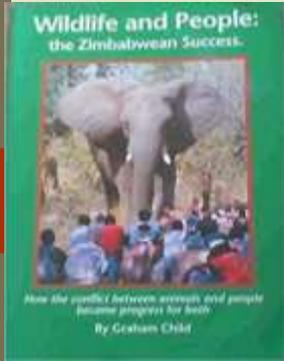
Political and economic choices

- ▶ Can we rely on western markets (CITES?)
- ▶ Should we switch to eastern markets?
- ▶ What is the US/EU policy going forward? How do they keep relevant?

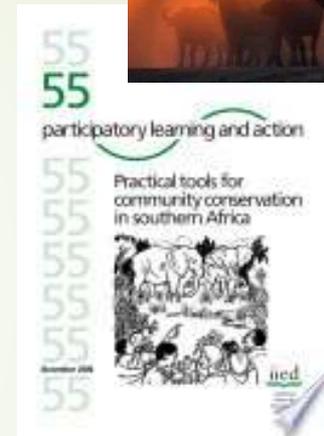
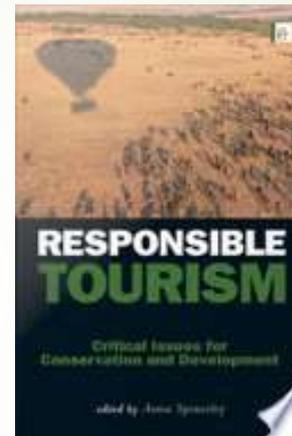
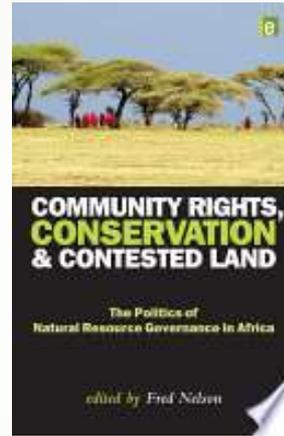
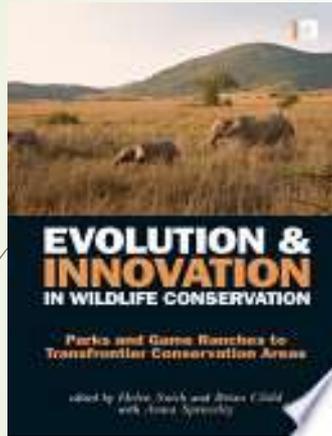
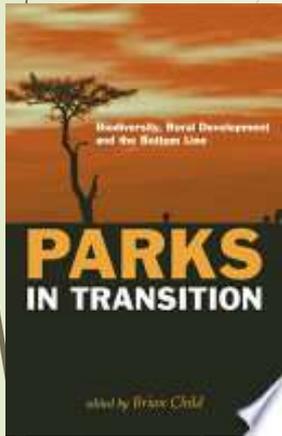


Evidence based management and adaptive policy

IUCN - Southern African Sustainable Use Specialist Group (1990-2005)



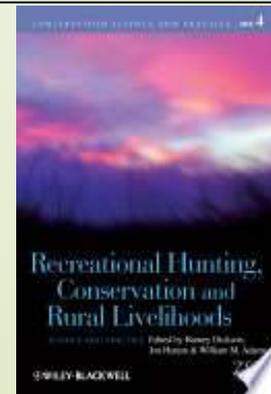
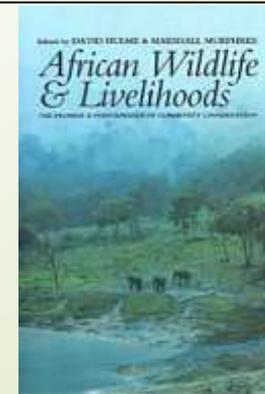
The "Harry Potter" series



Principles also included in:

- National Legislation
- SADC Wildlife Protocol
- CBD Sustainable Use Principles
- IUCN / CITES resolutions

Related books





Conclusions



- ▶ The primary threat to wildlife is lack of value to the people who live with it
 - ▶ Focus first on **property rights** (100% benefit) and democracy
 - ▶ Markets/ IWT are a secondary effect
- ▶ Enormous danger of political / special interest sidelining technical management
- ▶ Centralised and politicized management is a greater threat to wildlife than the illegal wildlife trade

Is Big (Global) Government good at solving complex problems?



- Do we get fair, considered, honest solving of complex local problems?
- Do people listen respectfully to each other?
- Effect of dark money and special interest ...
- A new colonialism? VERY SENSITIVE
- Democratic failure
- Sidelining of technical competence in decision making



Continuing to
Reward Failure and
Punish Success in
African Conservation
Since 1975

What can the USA do?

“Science” needs to emphasize **governance/ democracy** and **economics** much more (than biology) in permitting imports

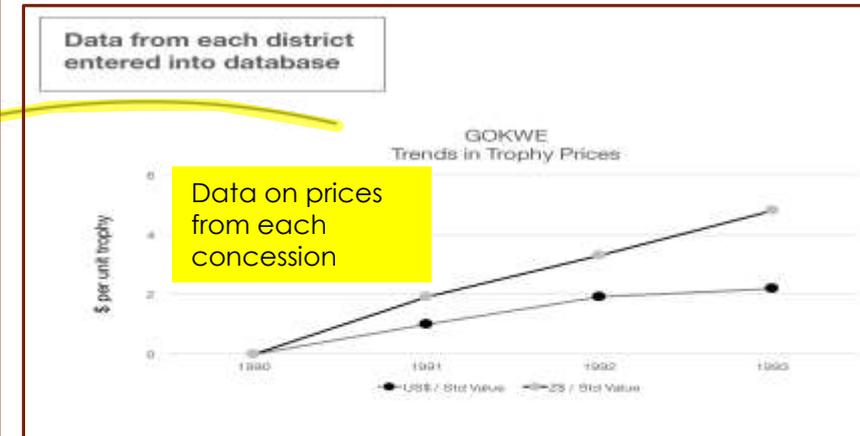
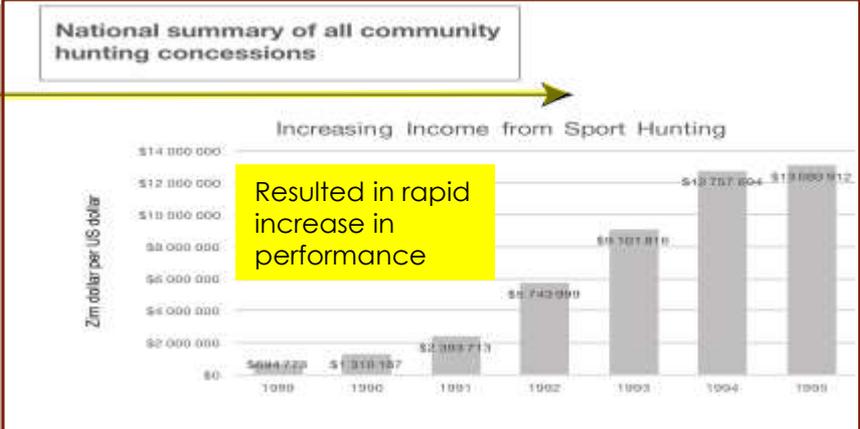
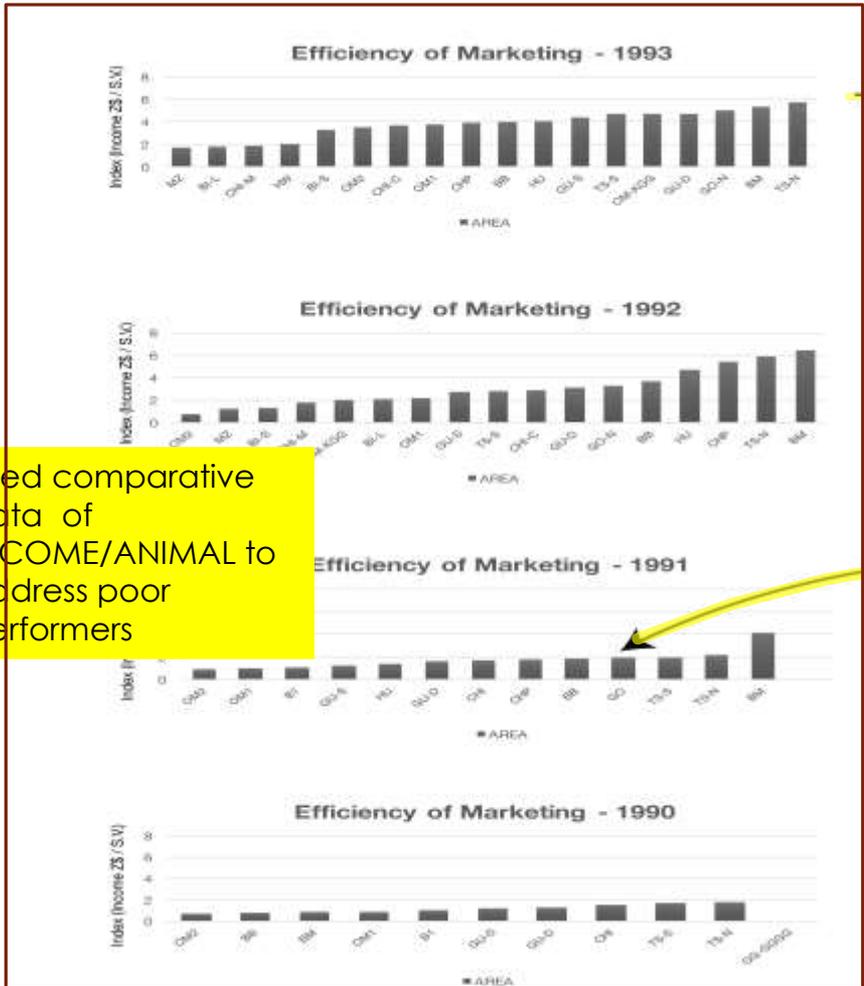
PROPOSED METRICS (also CITES):

Encourage trade if:

1. 100% of free market value gets to landholder / community (easy to measure)
 2. Community compliance with governance principles i.e. human rights / democracy (more difficult to measure)
- Scrutinize sustainability if this is not the case

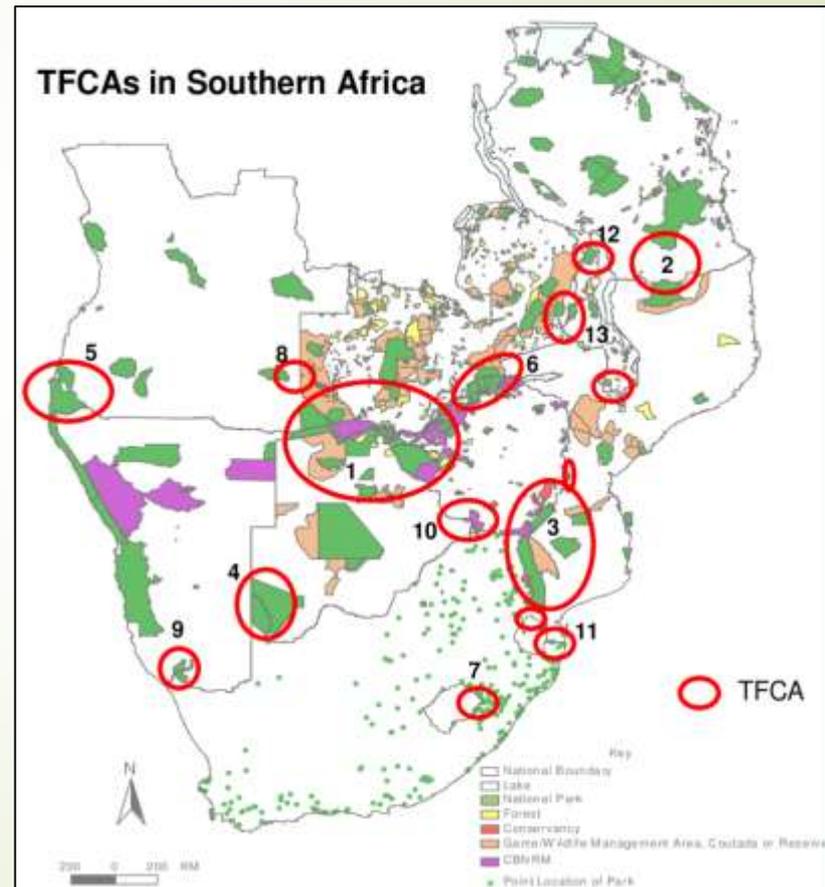
This is how I measured variable 1 in CAMPFIRE

Used comparative data of INCOME/ANIMAL to address poor performers



How can the US help southern Africa of Half Earth / \$ 30 billion economy

- ▶ Support re-creation of local commons (3rd generation CBNRM)
- ▶ Investment
 - ▶ Human leadership / capacity (education)
 - ▶ Business plan for \$30 billion wildlife economy
 - ▶ Aid - e.g. make parks economic engines
 - ▶ Indirectly – set up structures / training to facilitate impact investments



What am I doing?

- ▶ Documenting and conceptualizing 70 years of experience
- ▶ Running policy experiments in the field (democracy, property rights)

Promoting African Education into Impact

- ▶ Sustainable governance approach
 - ▶ Economics
 - ▶ Governance
- ▶ Influence policy through training of young talent in positions of influence
 - ▶ Create property rights (communities)
 - ▶ Unlocking bureaucracy
 - ▶ Facilitate impact investment



Conservation = Development

