Institutional economics of African wildlife: new economic rules for a crowded planet

Brian Child
22 March 2016
WRSA Workshop: A vision for a coherent African wildlife industry
Outline

• Background
• Sustainable use approach – theory and results
• Lessons (rules of the game are critical and shape outcomes)
• Way forward
Collapse of the World’s largest herbivores

Large mammals under serious threat
Global threats to wildlife
The big drivers

Exponential human population growth...

... drives people to live in “marginal” forests and drylands. Most of these people are poor ... so conservation and poverty are linked
So simple commodity production systems replace complex hunter-gathering livelihoods.
Terms of Trade

→ Commodity Agriculture
→ Bio-Experience Sector

... so why is a resource that is becoming more valuable declining?
... and can we use the high value of wildlife to save it??
Species that are **owned** (domestic) replace species that are **not owned** (wild) REGARDLESS of their underlying values.
Species that are **owned** (domestic) replace species that are **not owned** (wild) REGARDLESS of their underlying values.

The incoherent economy of wildlife and the fallacy of “demand reduction”

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<th>Resource</th>
<th>What happens if price goes up?</th>
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<td>Tobacco</td>
<td>Plant more</td>
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<td>Livestock</td>
<td>Grow more</td>
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<td>iPhones</td>
<td>Make more</td>
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<td>Golf courses</td>
<td>More</td>
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<tr>
<td>Wildlife</td>
<td>Less (except, perhaps, in southern Africa)</td>
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Why?

Value of biodiversity increasing

Amount of biodiversity decreasing

Market/policy failure
What wildlife is left? 1970-now

There are only two places in the world where wildlife is increasing ...

Why is southern Africa exceptional?

What lessons and principles emerge?
H1: “The indigenous mammals had evolved in the country and were well-adapted to local conditions. Every available food niche was occupied.... Domestic animals were ruining the country. Why not crop the game?”


Starting Hypothesis (1961)
+ Multispecies must be better
+ Use it or lose it
+ Train Africans (Mweka, Garoua)

H2: Use it or lose it - wildlife replaced by cow and plough post-WWII
A Community of Practice that has been going for more than sixty years

Southern African Regional Commission for the Conservation and Utilization of Soil (SARCCUS)

Standing Committee for Nature Conservation, Wildlife Utilization and Management (MUNC)

African Special Project
1960-70s (FAO)

1960s

1990-2005

IUCN
The World Conservation Union

SASUSG
People Economics Ecology

PARKS IN TRANSITION

COMMUNITY RIGHTS, CONSERVATION & CONTESTED LAND

RESPONSIBLE TOURISM
Diversification of game ranching (with hunting as the foundation)

1960s – Cropping (Scientists; failed)

1970-2000 Safari Hunting
Landholders; succeeded and evolved

+ 1990s – restocking & major land transformation back to bio-experience economy

+ Tourism
The changing political economy of wildlife

**Frontier economy**
Few institutions to control use ➔ wildlife decimated (bison)

**Pre-modern economy**
✓ Challenge - to acquire wildlife
✓ Institutions mainly for sharing
✓ Collective action for ecosystem services (himas)

**Over-exploitation.**
New technology (railways, guns)
✓ lowers cost of acquisition
✓ opens new markets

**Cow & Plough**
replacement by alternative land uses (demographic growth x agriculture)

**London Convention (1900/1933)**
1. Banned commercial uses
2. Nationalized wild resources
3. Established protected areas (useless land)

**Sustainable use approach (1960-)**
1. Make wildlife as valuable as possible
2. Devolve proprietorship
3. Neo-liberal allocation of resources

**National Park (PA)**
Preservation Public access

CCA

NP($ Viable)
NP (non-viable)
A brief history of conservation policy

FRONTIER ECONOMY: White expansion into the interior of Africa:
• 2 million animals slaughtered
• 2 extinctions, several locally

London Conventions Fauna & Flora 1900, 1933

North American Model USA/Theodore Roosevelt
• Established protected areas
• Centralised control of wildlife
• Restricted commercial use

“Conventional Conservation” (in the mould of London Convention)

1960

“Sustainable Use Approach” (radical changes to London Convention)

Frontier Economy

Nationalized (control/benefits centralized; costs localized)

Benefits & cost localized
### Sustainable Use Approach

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<tr>
<td><strong>A. Protected Areas</strong></td>
<td>Conserve Fauna &amp; Flora</td>
<td>Conservation, Commercial funding model Appropriate public goods (jobs, economic growth)</td>
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<td><strong>B. Wildlife Ownership</strong></td>
<td>Centralise in the state</td>
<td>1. PROPRIETORSHIP: Devolve to landholders / communities</td>
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<tr>
<td><strong>C. Commercial Use</strong></td>
<td>Restrict / ban market hunting</td>
<td>2. PRICE: Make valuable as possible (humane)</td>
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<td>3. SUBSIDIARY (Scale down. Then scale up through delegated aggregation)</td>
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<td>4. EVIDENCE-BASED STAKEHOLDER LEARNING (face-to-face + monitoring/data)</td>
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Key to recovery of wildlife in southern Africa
- not technical or ecological,
- but **carefully crafted legal / institutional measures** to address “market failure”
Incoherence ... especially when we try to apply a model from one systems to a radically different context

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<td>Free market, democratic</td>
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<td>• Urbanized</td>
<td>• Rural</td>
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<td>• Highly functional bureaucracy</td>
<td>• Underfunded bureaucracy</td>
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<td>• Strong property rights</td>
<td>• Property rights still evolving</td>
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<td>• Citizens value outdoor recreation, hunting, fishing</td>
<td>• Citizens concerned about food, shelter, security</td>
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<td>When the state/public provides a whole lot of money</td>
<td>When wild resource is valuable (or valued locally)</td>
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Game Ranching in Zimbabwe

- Parks and Wildlife Act, 1975 –
  - landholders become appropriate authorities
  - Maximize value of wildlife (remove restrictions)

- Natural Resources Act (1952) – groups of landholders regulate themselves
Paradigm shift in policy: private and community wildlife management

e.g. Zimbabwe

Strategy: (PROPRIETORSHIP, PRICE)
- Give ownership of wildlife to landholder
- Maximize value to landholder

Results:
- Wildlife diversity and species expanded several fold on private land
- CAMPFIRE (community based wildlife management)
Extending to communities through CAMPFIRE and CBNRM:
Democratic revenue management
CBNRM works ... if done properly

Results
- Increase in wildlife. e.g. Namibia
- Decline in (rhino) poaching e.g. Sabie Game Park (Moz)

Future
- Promote community stewardship
- Do it properly
- Build stronger political foundation for sustainable use approach
Some theory and lessons
Subsidiarity: build from the bottom up

Three Tiers Wildlife and Landholder Policy
Tier 1: Landholder

**Rights**
- To benefit
- To manage
- To allocate/sell
- Law enforcement
- Carry weapons in wildlife area

**Responsibilities**

Devolution is a disciplined process contingent upon responsibilities

**Governance**
- Participatory democracy (scale must be face-to-face)
- Individuals (not committees) control revenues
- Village Assembly makes decisions (e.g., budget) and instructs committee which is answerable to it without usurping its mandate

**Regulation**
- Rights contingent upon being part of a landholder conservancy/forum with regulatory powers
Tier 2: Group

Devolution is a disciplined process contingent upon responsibilities

**Rights**
- To benefit
- To manage
- To allocate/sell
- Law enforcement
- Carry weapons in wildlife area

**Responsibilities**
1. Regulate abuse of wildlife
2. Regulate governance
3. Monitoring
4. Authority for collective zoning, quotas, etc.

**Governance**
- Insist on:
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**Regulation**
- Rights contingent upon being part of a landholder conservancy/forum with regulatory powers

Intensive Conservation Area/Conservancy
1. Regulate abuse of wildlife
2. Regulate governance
3. Monitoring
4. Authority for collective zoning, quotas, etc.
Tier 3: National

Devolution is a disciplined process contingent upon responsibilities.

- To benefit
- To manage
- To allocate/sell

**Rights**

- Law enforcement
- Carry weapons in wildlife area

**Responsibilities**

Wildlife Landholder Forum/Conservancy
1. Regulate abuse of wildlife
2. Regulate governance
3. Monitoring
4. Authority for collective zoning

**Governance**

Insist on:
- Participatory democracy (scale must be face-to-face)
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- Village Assembly makes decisions (eg budget) and instructs committee which is answerable to it without usurping its mandate

**Regulation**

Rights contingent upon being part of a landholder conservancy/forum with regulatory powers

**National**

1. Guardians of public interest (ultimate inspectorate)
2. Mechanism of appeal (time bound) NR court
3. Liability for costs of arbitrary bureaucratic delays / restrictions
Different laws, different outcomes: game ranching in Zimbabwe

<table>
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<th>Outcomes</th>
<th>Zimbabwe 1980-2000</th>
<th>South Africa</th>
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| Legal basis | • Ownership (P&WL Act)  
  • Local control of each other (NR Act)  
  • Spirit of the law:  
    • proprietorship x  
    • price x  
    • local empowerment  
    • Legally empowered producer organizations | Theft of animals  
Adequate enclosure  
TOPS |
| Wildlife | Rapid increase | Rapid increase |
| Landscape | Large, no internal fencing  
10,000 – 350,000 hectares | Fragmentation, lots of fenced properties |
| Governance | Private ownership as a foundation for bottom-up democratic control  
• Natural Resource Board  
• Wildlife Producers Association | Fragmented, conflicts |
Shifting from a Commodity Economy to a Bio-Experience Economy

Beef – commodity production
Wildlife – bio-experience economy
Comparative advantage

Conservation / Green Economy
= *more from less*
= economic efficiency
= $\sum$Private + Public Goods
Ecological Footprint

- dematerialization
- resource decoupling
Shifting from a Commodity to a Bio-Experience Economy

- Beef – commodity production
- Wildlife – bio-experience economy

For Landholder (Financial)

Economic output

Meat Viability

Ecological inputs

Tourism

Hunting

Meat

Economic Multipliers

Vertical Integration in Sector

Profit to Land

Economic output
Model behind Sustainable Use Approach
(developed by Greg Stuart-Hill and Chris Brown)

Rangeland Production System

- Primary Production
- Secondary Production
- Profit

- Soil, water, sunlight

Agricultural Production System

- Primary Production
- Profit

- Soil, water, sunlight

Rainfall (land productivity)

- Policy failures drive down price of wildlife
- Agriculture more profitable in areas of high rainfall & soil fertility
- Wildlife more profitable according to ‘natural’ prices
- Subsidies inflate profit of livestock

Profitability of land use

Rainfall (land productivity)
London Convention (1900, 1933), Theodore Roosevelt (c1900)

Threat: market hunting at the frontier of European expansion
Response:
1. Protected Areas
2. Ban commercial uses of wildlife (CITES)
3. Centralize control of wildlife in the state

Differential regulation / taxation
No rights
Bans on Use

Policy failures drive down price of wildlife
Proprietorship-Price Model

No Hope Economy
Wild resources replaced resources that are:
- more valuable
- privately owned

Frontier Economy
Wild resources decimated
- poaching
- unsustainable harvesting (tragedy of the commons)

Subsidised PA Economy (subsidized)
Wildlife resources conserved (often for non-financial reasons):
- Clear boundaries (parks)
- Subsidised protection.

Sustainable Use Approach
Wild resources conserved:
- they are valuable
- value is captured by landholders and communities.

P+P CHALLENGES
1. Creating proprietorship is politically challenging
2. But it works

0+0 FLAWS
1. Lowers incentives for conservation (habitat loss is the greatest threat)
2. How do you stop demand?
3. Shifting market into criminal hands
4. No information, no adaptive management
But our world is threatened

• Bans on use driven by Western special interest
• Our own poor governance
Hunting is sustainable, highly profitable and ecologically robust ... but threatened by Cecil and Twitter
Thinking fast

Thinking fast

- Anti-hunting vs SU
- Unfair world
- Crowded planet
- Disney versus man-eaters
- Wildlife versus poverty
Policy by Twitter, media hype and celebrities – thinking far too fast and shallow

- Cecil was killed on/about 1 July 2015
- Tweets started in USA and Zimbabwe 2 weeks later
- Five day frenzy from 29 July
- The story never set Africa alight, and was confined to urban areas
- [http://wcmc.io/cecil](http://wcmc.io/cecil)

United Nations Environment Programme
World Conservation Monitoring Centre
Thinking slooow ...
Lions and land use history in Zimbabwe

Cattle ranchers outside Hwange NP switched to wildlife in the late 1990s:

- Got wildlife ownership rights
- Wildlife (hunting) more profitable than livestock.

- Lions
  - 25,000-30,000 lions in Africa.
  - Zimbabwe sells 42-49 license annually.
Sustainability: the mathematical robustness of trophy hunting

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Input: 20%
Offtake: 2%
Net: 18%

Hunting:
landholders
cash flow in
transition from
cattle to wildlife
Global markets create value /wealth (trophy)
sustainable but not socially acceptable (in the West)

$0 $2,000 $4,000 $6,000 $8,000 $10,000 $12,000 $14,000 $16,000

Trophy Hunting

Bush meat

...high value global uses make wildlife competitive
...low offtake

...locked in low value subsistence uses ... high offtake

Daily rate (Outfitter)
Trophy Fee (Landholder)

20X
Locked in low value, local (bushmeat) markets:
not sustainable but socially acceptable

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Hunting
→ takes people of Sankuyo out of poverty
→ ban turns them back into destitute

Household Income
• 56% from wildlife (mainly hunting)
• <1%) from agriculture
• 40% from town
... but we have to get GOVERNANCE right ...
Effectiveness of hunting depends on governance

Elephant Population in Southern/East Africa
1960 - 2000

- 1960
- 2000

Hunting income
- partly/not
- returned to landholder

- 1960
- 2000

No hunting
The outcome for Cecil and other wildlife depends on governance (fiscal devolution/ownership)

- How do we know if hunting is sustainable and driving land use changes?
  - Was Cecil hunted legally?
  - Was the hunter ethical?
  - Did the $50,000 paid for Cecil get to the landholder?

- Sustainability is about governance (ownership and benefit sharing)
- In weak states, ‘bad’ hunting outfitters outcompete ‘ethical’ outfitters because communities have weak rights

Sustainable use – ecologically, socially, economically
The way forward

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<td>• Measure such as:</td>
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<td>– Blanket bans of hunting</td>
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<td>– Stop carrying trophies on planes</td>
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<td>– Give money to single species/cause special interest</td>
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<td>• Punish the good (more than) the bad</td>
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<td>• Reduce value of wildlife</td>
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<td>• Remove its ability to compete for land</td>
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<td>• Shift power to the central/global (political) marketplace</td>
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<td>– Buy hunting only where ALL benefits go back to the landholder / community that produces wildlife</td>
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<td>– In the case of communities, check that finances are used equitably (another whole story)</td>
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• Are we going to self-regulate, or are we going to sit back while others regulate us?