

Ensuring the future of rhinos

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Estimated Numbers of African Rhino 1960-2015

(Numbers interpolated for years without estimates)

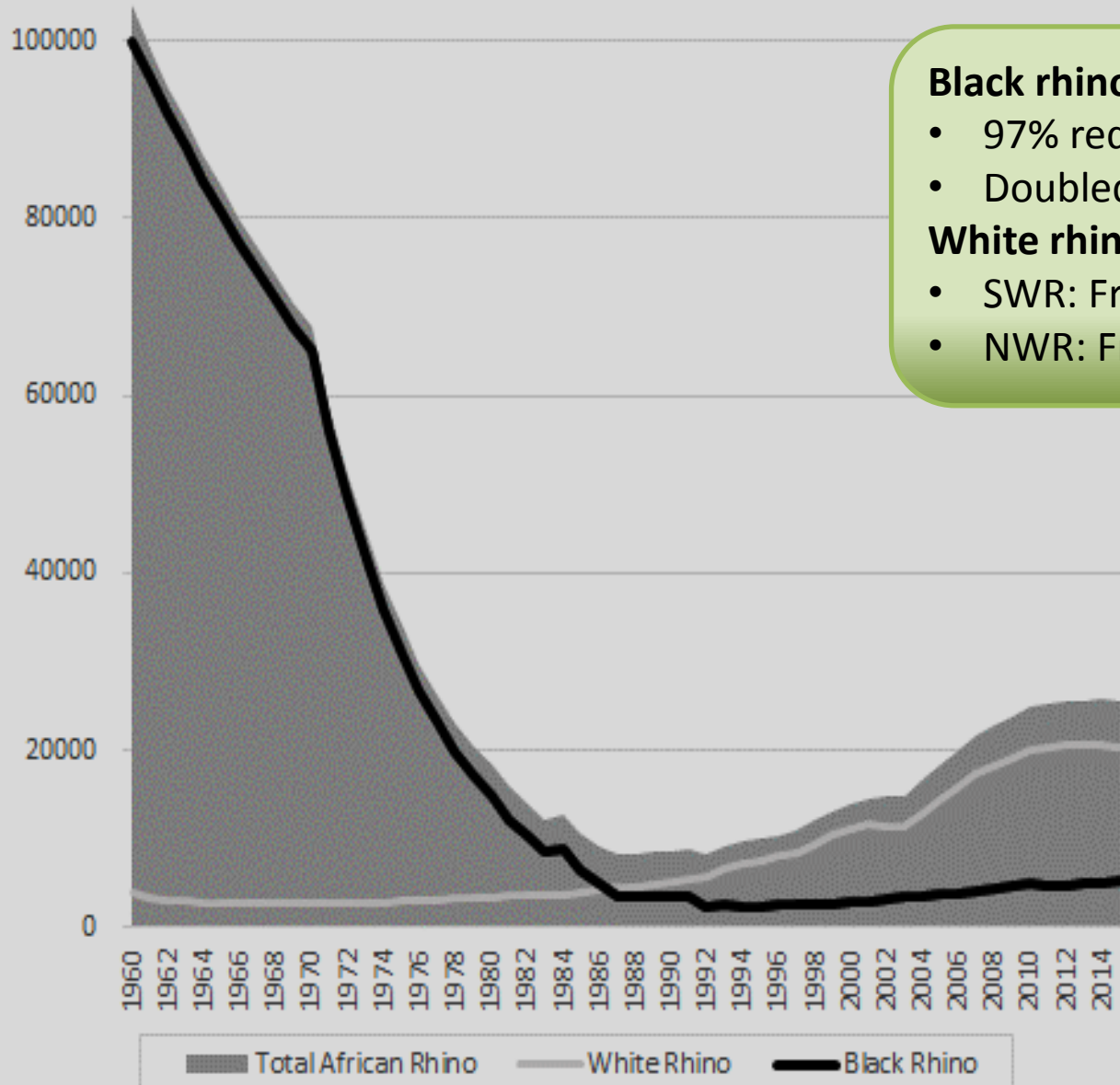
Where have we come from?

Black rhinos:

- 97% reduction from 1960 to mid 1990s
- Doubled last 2 decades.

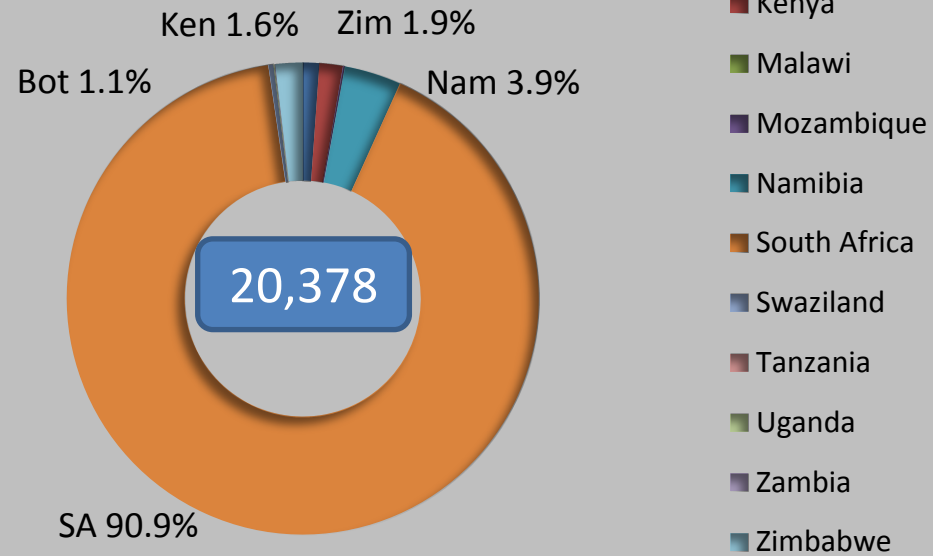
White rhinos:

- SWR: From near extinction to 20,300
- NWR: From 2,200 to 3 since 1960!

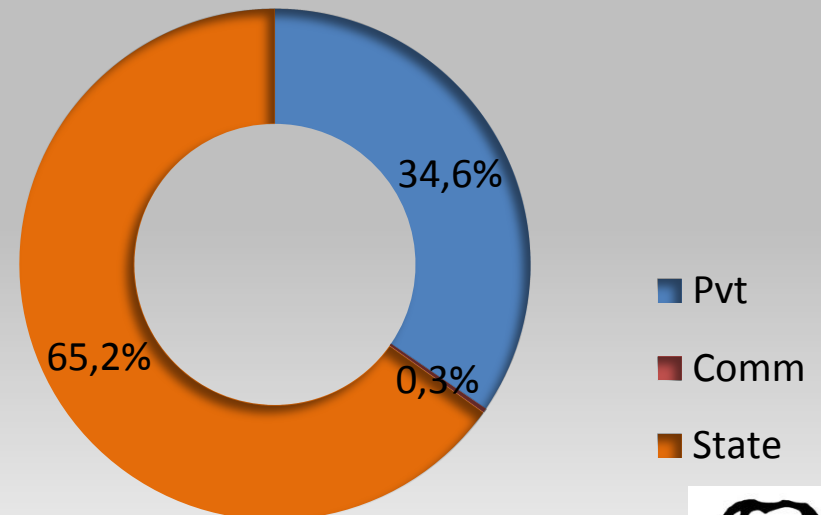


Africa's white rhinos

White rhinos by country in 2015



White rhino ownership



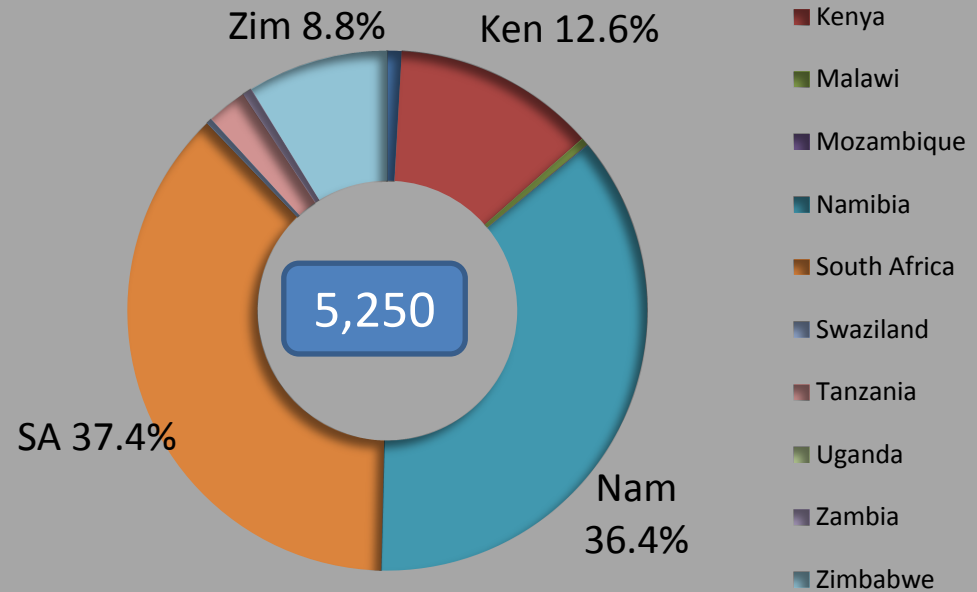
Africa's black rhinos

Africa's Big 4 countries:

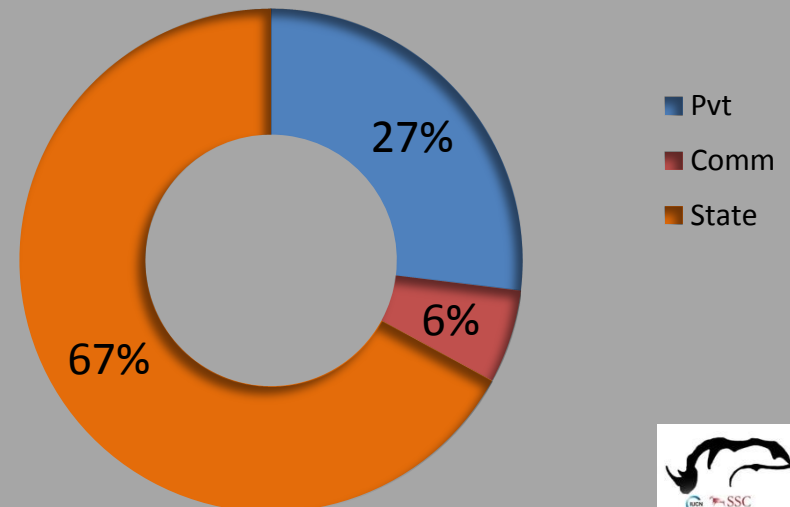
| | |
|-------------------|--------------|
| S Africa | 20,306 (79%) |
| Namibia | 2,767 (11%) |
| Kenya | 1,122 (4%) |
| Zimbabwe | 1,122 (3%) |
| 7 other countries | 631 (2%) |

93% in S'n Africa!

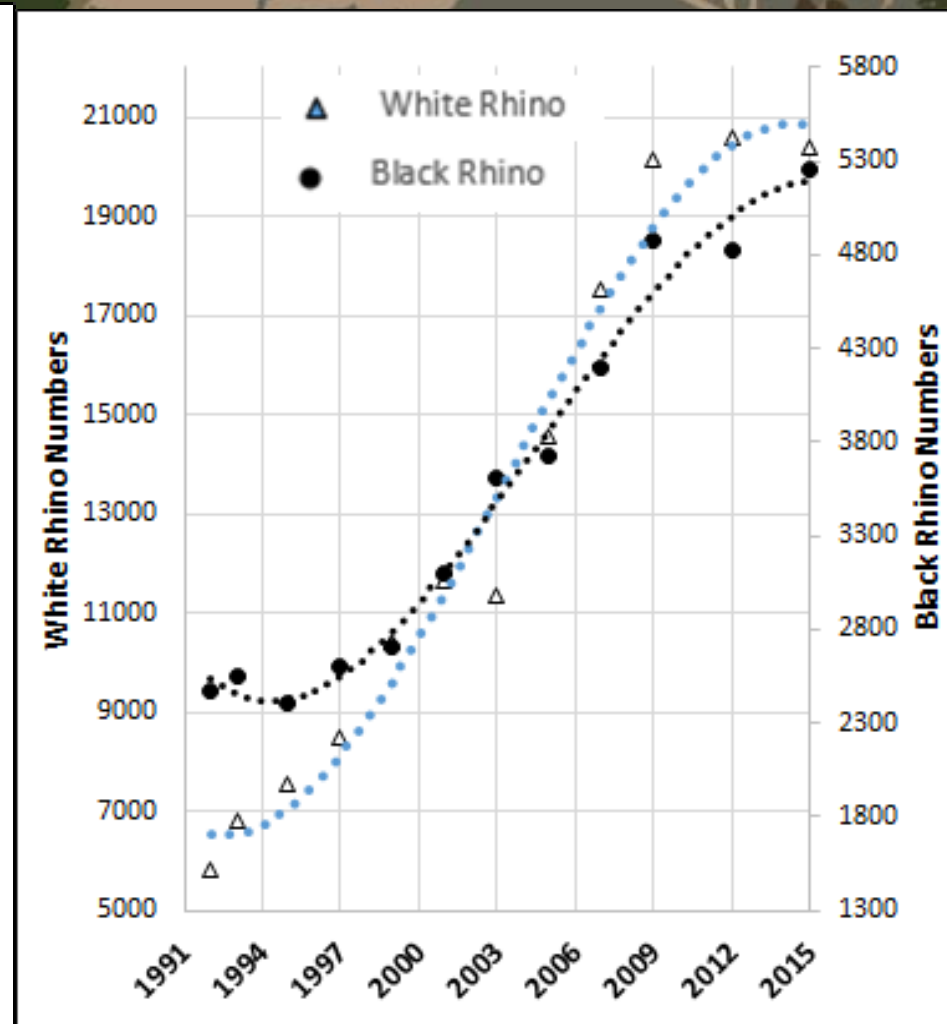
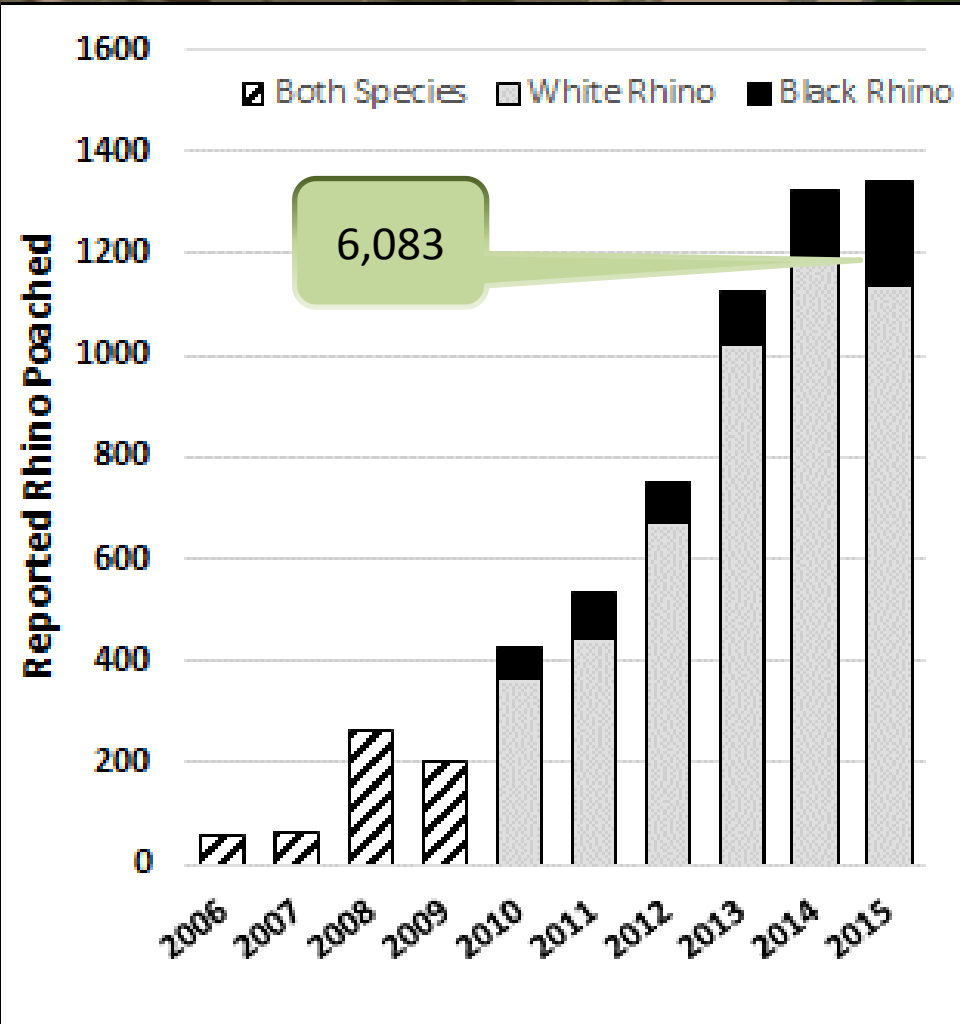
Black rhinos by country in 2015



Black rhino ownership



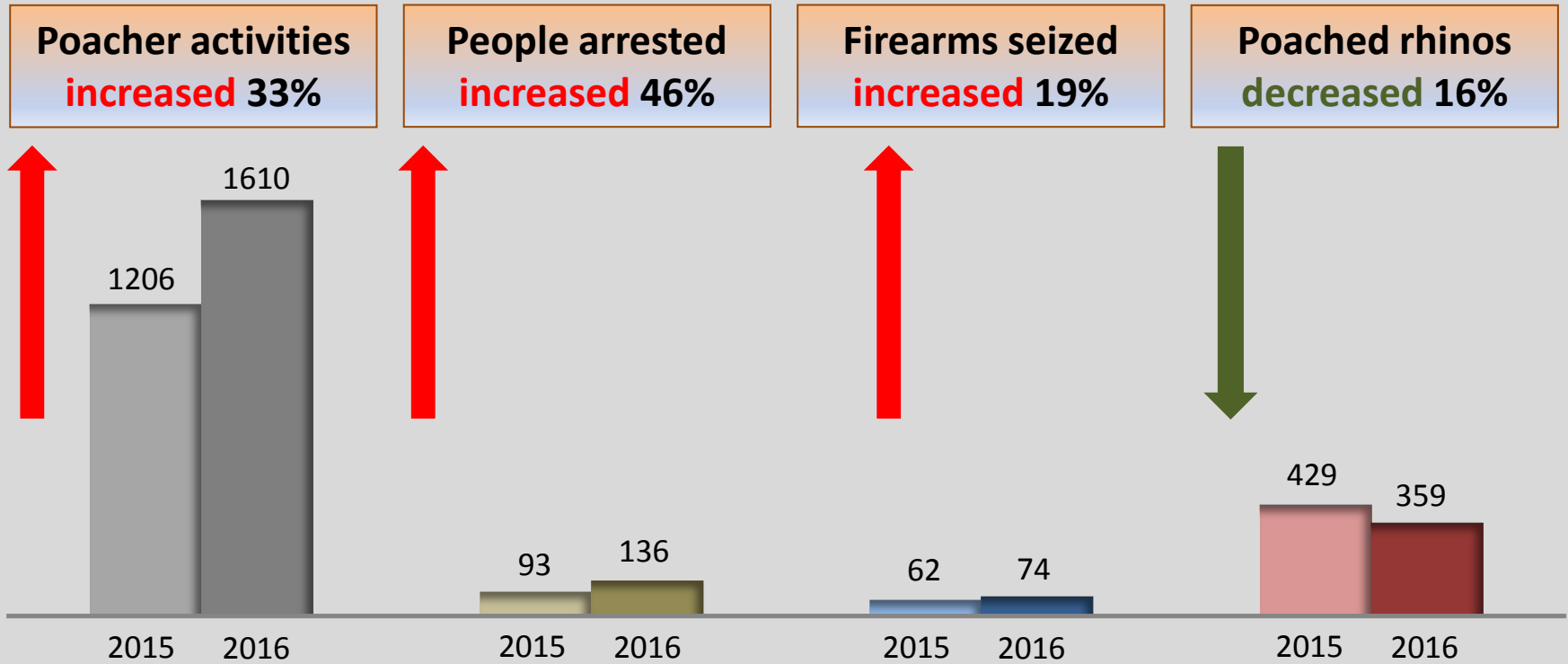
Poaching of Africa's rhinos



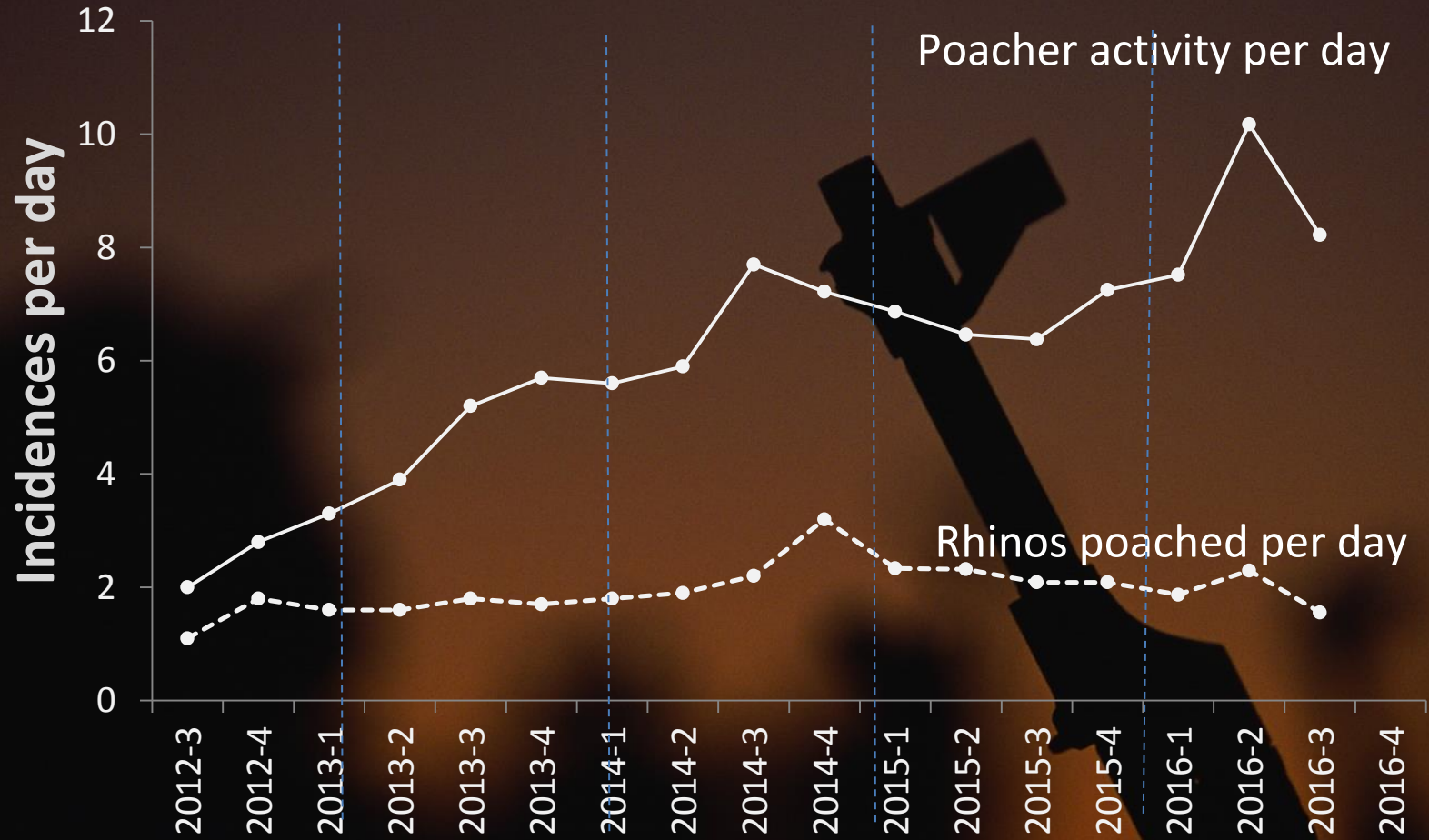
Rhino poaching by country

| Country | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2006-15 Total | 2008-12 | 2013-15 |
|--------------|-----------|-----------|------------|------------|------------|------------|------------|--------------|--------------|--------------|------------------|--------------|--------------|
| Botswana | - | - | - | - | - | - | 2 | 2 | - | - | 4 | 0.1% | 0.1% |
| DR Congo | - | - | 2 | 2 | | | | | | | 4 | 0.2% | 0.0% |
| Kenya | 3 | 1 | 6 | 21 | 22 | 27 | 29 | 59 | 35 | 11 | 214 | 4.8% | 2.8% |
| Malawi | - | - | - | - | - | - | 2 | 1 | 2 | 1 | 6 | 0.1% | 0.1% |
| Mozambique | - | 9 | 5 | 15 | 16 | 10 | 16 | 15 | 19 | 13 | 118 | 2.9% | 1.2% |
| Namibia | - | - | - | 2 | 2 | 1 | 1 | 4 | 30 | 90 | 130 | 0.3% | 3.3% |
| South Africa | 36 | 13 | 83 | 122 | 333 | 448 | 668 | 1,004 | 1,215 | 1,175 | 5,097 | 76.2% | 89.6% |
| Swaziland | - | - | - | - | - | 2 | - | - | 1 | - | 3 | 0.1% | 0.0% |
| Tanzania | - | - | 2 | - | 1 | 2 | 2 | - | 2 | 2 | 11 | 0.3% | 0.1% |
| Uganda | - | - | - | - | - | - | - | - | - | - | - | 0.0% | 0.0% |
| Zambia | - | 1 | - | - | - | - | - | - | - | - | 1 | 0.0% | 0.0% |
| Zimbabwe | 21 | 38 | 164 | 39 | 52 | 42 | 31 | 38 | 20 | 50 | 495 | 15.1% | 2.9% |
| Total | 60 | 62 | 262 | 201 | 426 | 532 | 751 | 1,123 | 1,324 | 1,342 | 6,083 | 2,172 | 3,789 |
| Poached/day | 0.16 | 0.17 | 0.72 | 0.55 | 1.17 | 1.46 | 2.05 | 3.08 | 3.63 | 3.68 | | | |

Kruger National Park Law Enforcement Trends

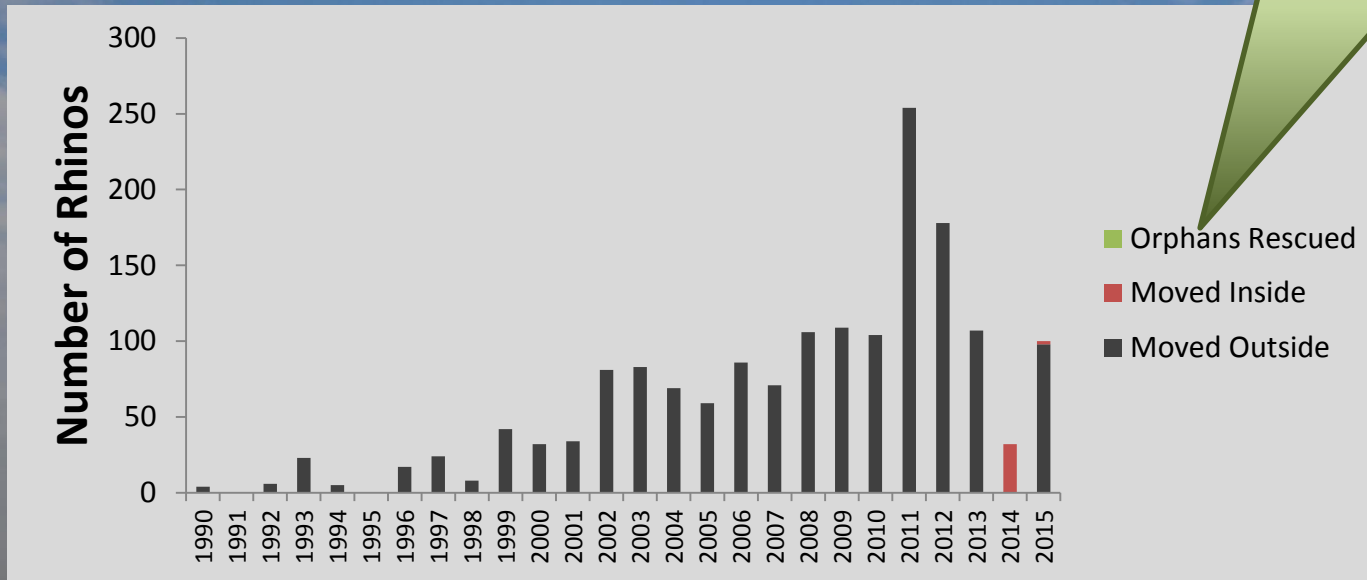


Rhino poaching - KNP

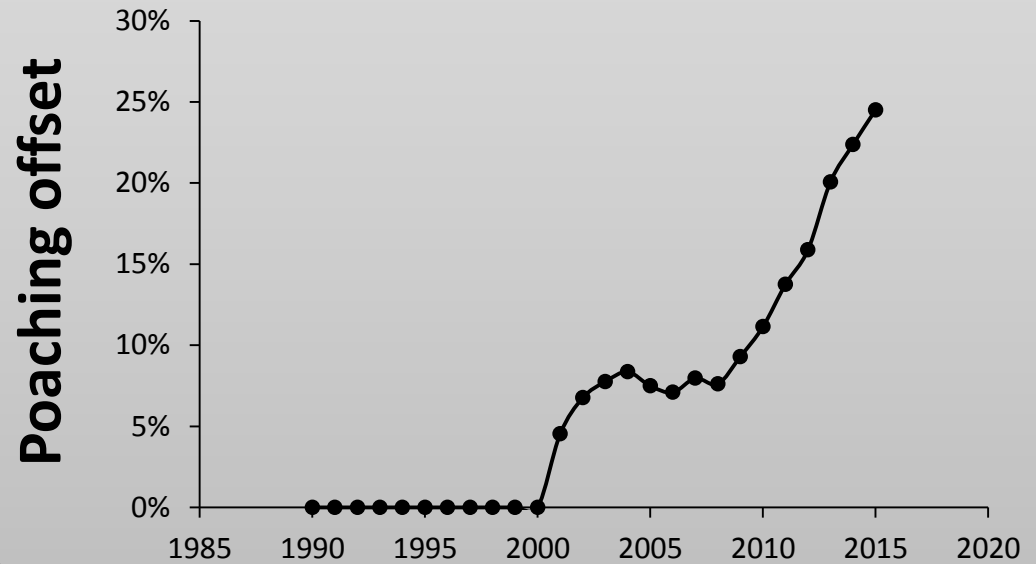
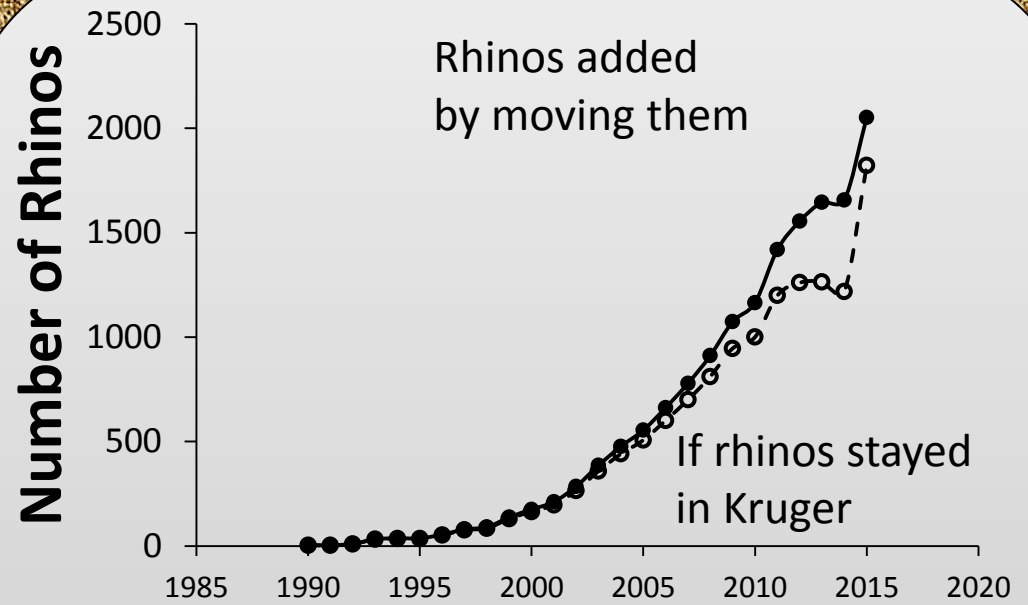


Rhino translocation & the casualty

Viable new homes
28 orphans @ R300k/orphan



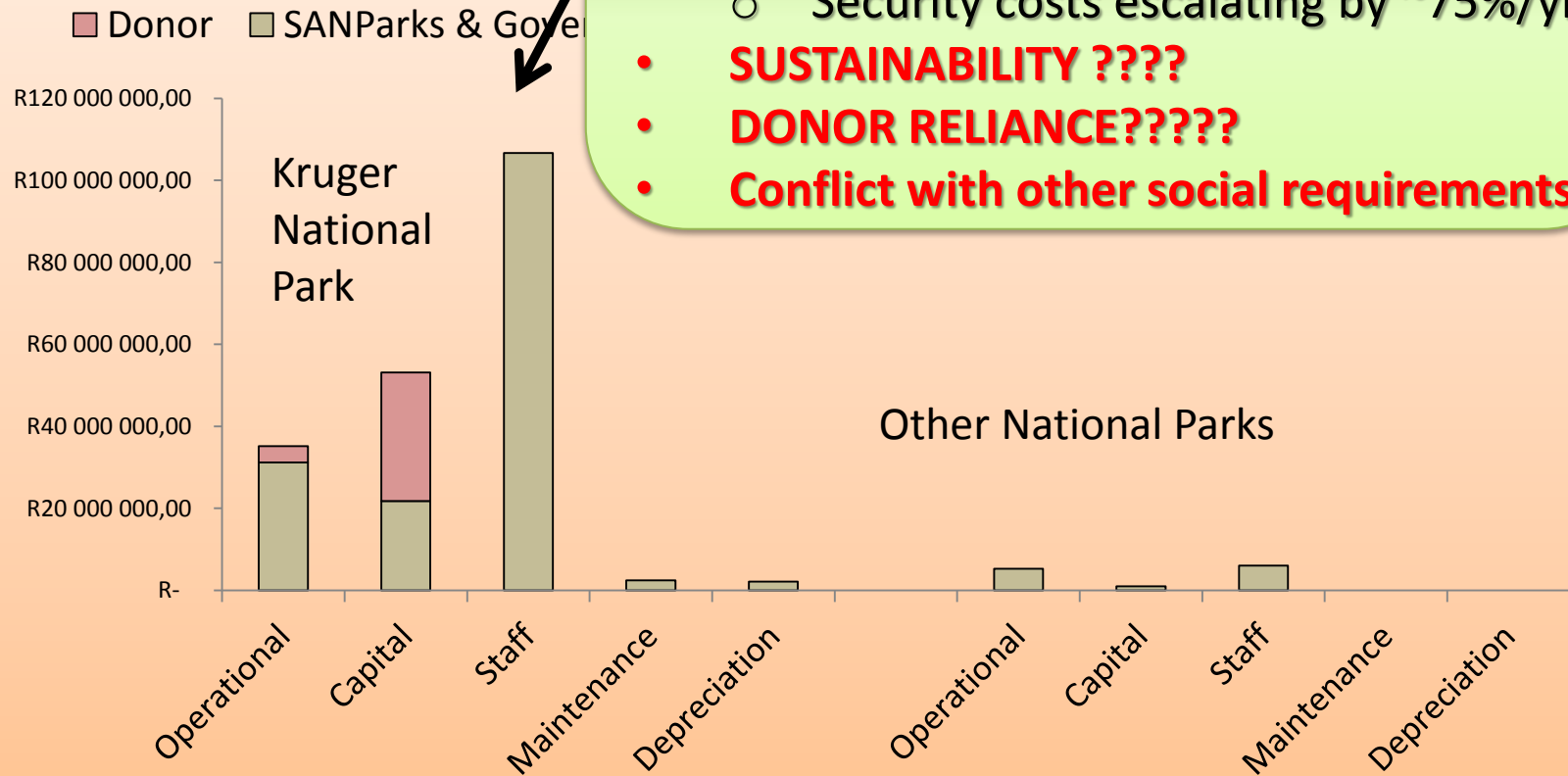
The biologist effect



Costs

Financial costs:

- Kruger
 - ~\$800/yr/km²
\$74m/5 yrs (ie ~\$1,600/rhino/yr)
 - Others (\$1,210-\$10,620/rhino/yr)
 - Security costs escalating by ~75%/yr
- **SUSTAINABILITY ????**
- **DONOR RELIANCE?????**
- **Conflict with other social requirements**

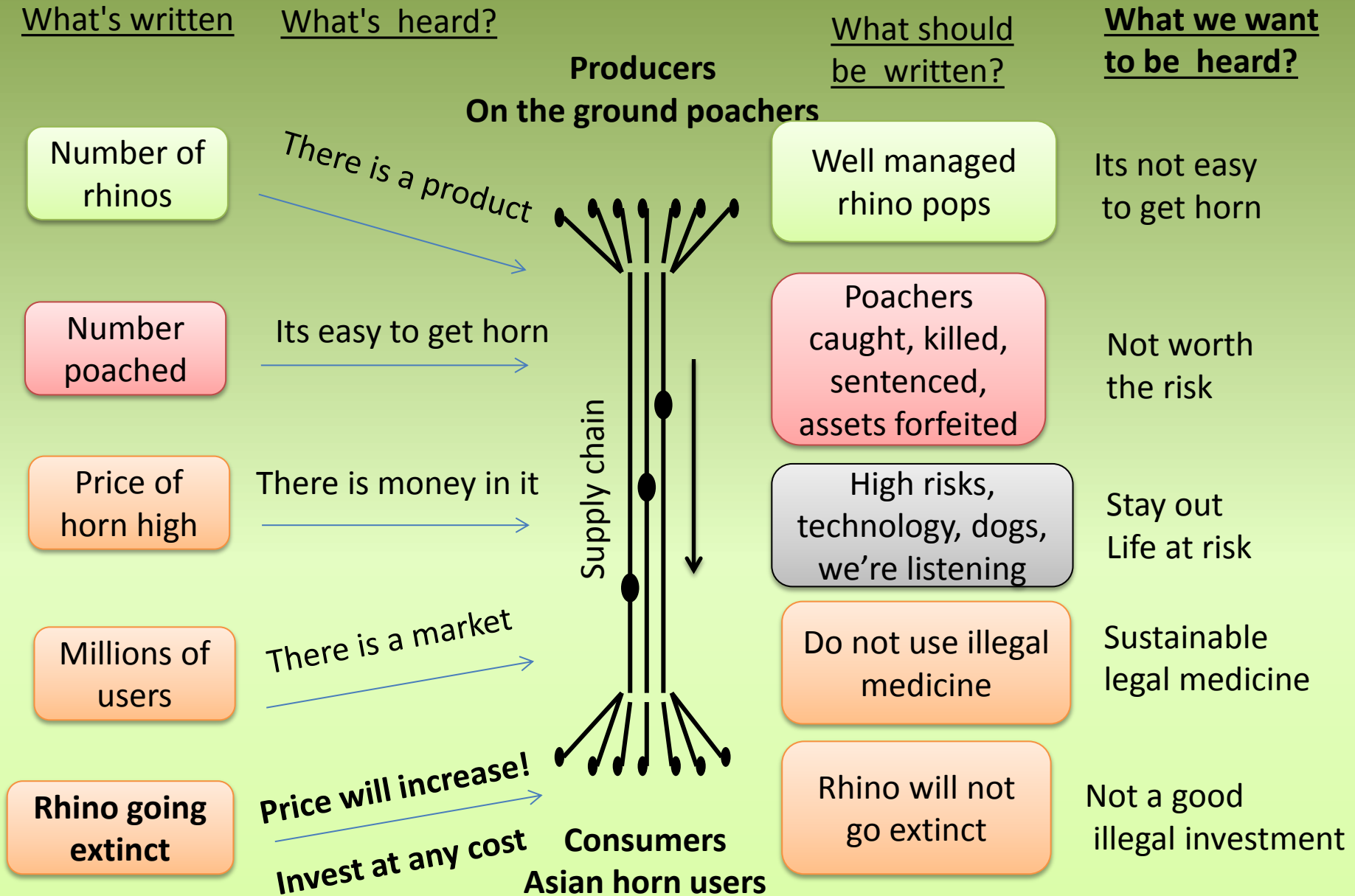


Other costs

- Human lives: Rangers, communities
- Emotional/social: Psychological
- Opportunity:
 - Conservation- <5% conservation
 - Infrastructure degradation
 - Crime
- Relationships: Green militarisation
- Reputation:
 - Militarisation
 - Corruption disease
- Messaging:
 - poacher advertising
 - war of elite on poor

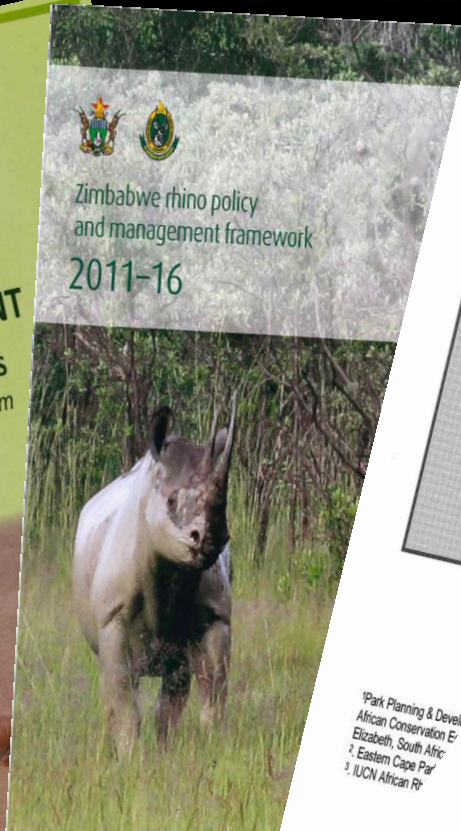
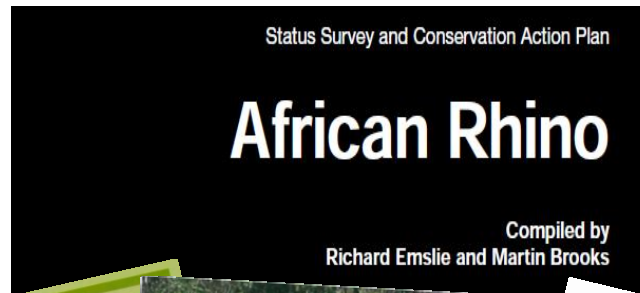


Targeted messages to RHINO poachers?



FINAL DRAFT

AFRICAN RHINO RANGE STATES' AFRICAN RHINO CONSERVATION PLAN 2016



Key Components of plans

How do we respond

How should we respond

| Component | Details |
|-------------------------------------|--|
| Protection | Law enforcement, investigations, prosecutions, intelligence |
| Biological Management | Range/pop expansion, demographics, sharing info |
| Monitoring | Population, financial, social, reputation |
| Capacity | HR, financial, skills, |
| Coordination | Within, intra/inter departmental, international, communities, partners |
| Communication | Within, intra/inter departmental, international, communities, partners |
| Sustainability & support | Economic (sales, hunting trade), partnership, political |
| Cross-cutting | Research, enabling policies & legislation, innovation & adaptive mgmt) |



KRUGER'S IPZ PROJECT OVERVIEW

Western Perimeter:

- 20.4km Soil Mounted Linear Magnetic Intrusion Detection System covering Elephant Point to Phabeni Dog Centre.
- Controller at Phabeni Gate.
- 106km Western access road upgrades.

Operational Control:

- Cmore collaborative platform to link sensor info and provide situation awareness.
- Predictive modelling to support decision making.
- Specialized Risk Management Capability.

Communication Network:

- Communication Integration System to integrate various voice communication sources.
- Microwave based High Speed Data Backbone, including 14 new towers.
- Point-to-point WiFi for "last mile" links.
- Area WiFi at all points of interest.

Gate Canine System:

- Weapons & Ammunition, and Animal Product sniffer dogs at each IPZ Gate.
- Trained canine handlers.
- Handler and Canine Accommodation.
- Handheld scanners for ID Documents and License disks
- Automatic Number Plate recognition.

Air Mobility Capability:

- 2x Eurocopter AS350B3e, fitted for night operations.
- Helis fitted for but not with Night Sun Search Light (One light to use as required).
- Helmets with night vision binoculars and wireless communication for observers.

Reaction Force Facilities:

- 6x Ranger Post upgrades completed and fitted with:
- Accommodation for Reaction force, pilot and Technical Operations Manager
- Canine kennels
- Equipment storage facilities
- Helipad with storage for fuel

Eastern Perimeter:

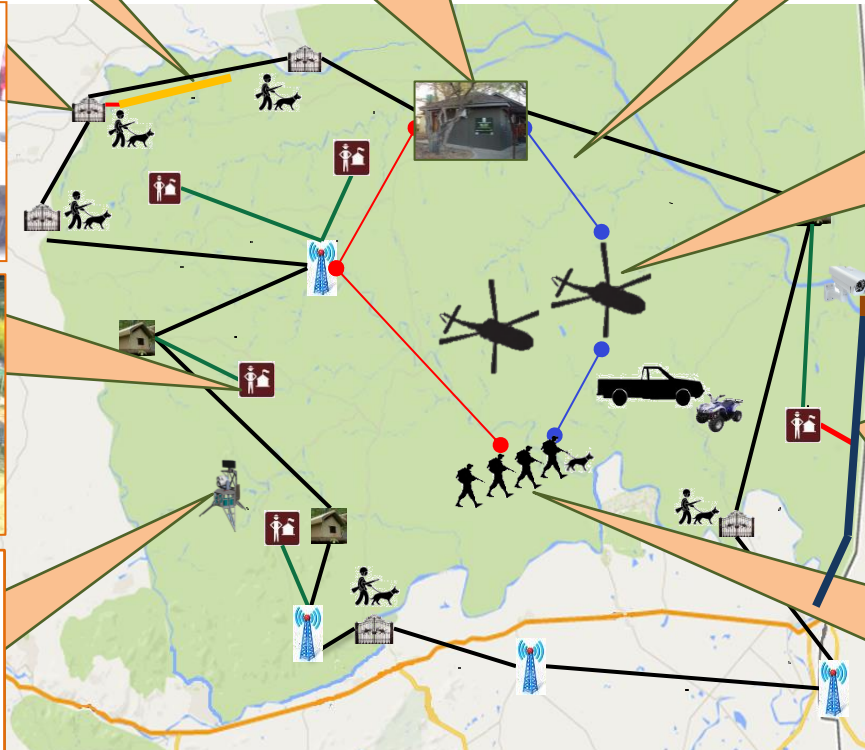
- 29 km Fence Mounted Linear Seismic Intrusion Detection covering Crocodile to Sabie Rivers.
- Controller at Godleni Picket.
- Electro-optic River Gap Intrusion Detection System covering Sabie River Flood Plain

Internal Surveillance:

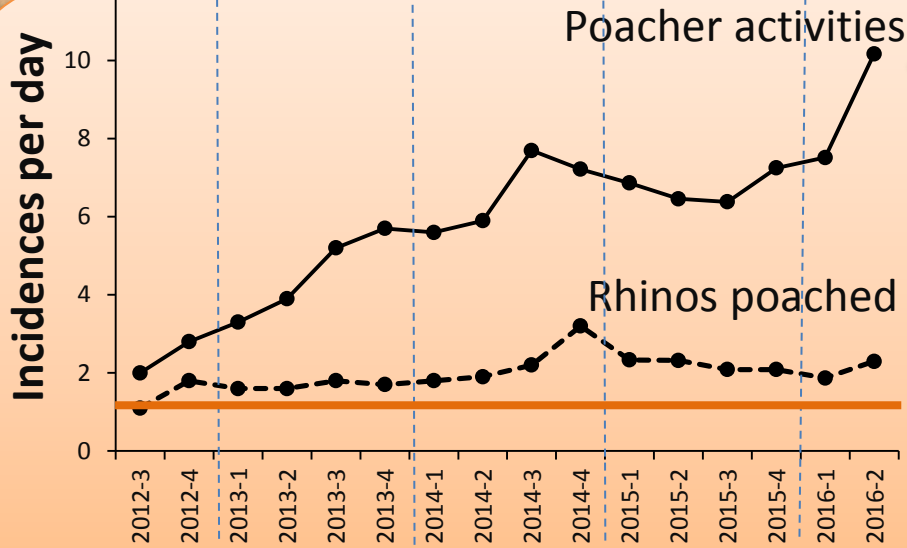
- Wide Area Surveillance System with:
 - Ngada Radar (Detection Range: 8km);
 - Daylight Camera (Range: 8km);
 - Low light camera with laser illumination(Range: 5km);
 - Mounted on a quick deployment frame.
- Stand Alone Intrusion Detection

Reaction Force:

- 37x Ranger trained and equipped.
- 6x Customized Land Cruisers
- 6x Polaris light mobility systems
- 6x Tracker Canines and Handlers trained and commissioned



Be clever



Cleaning the Park from outside
 Regional security – disrupt crime
 Provide for the needs of people

Maintaining the Park from inside
 Compulsory anti-poaching
 Innovative biological management

Rhino poacher jailed for 40 years in South Africa

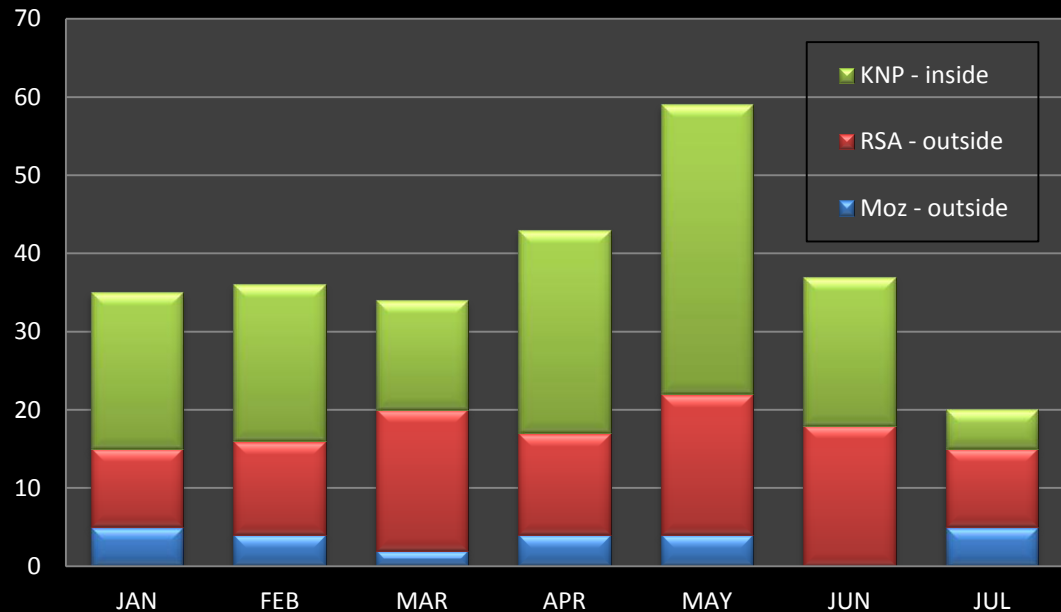
A Thai man who organised illegal rhino poaching trips has been given the country's strongest illegal wildlife sentence to date



Thai national Chumlong Lemtongthai is sentenced at Kempton Park magistrates court, South Africa. Photograph: Siphwe Sibeko/Reuters

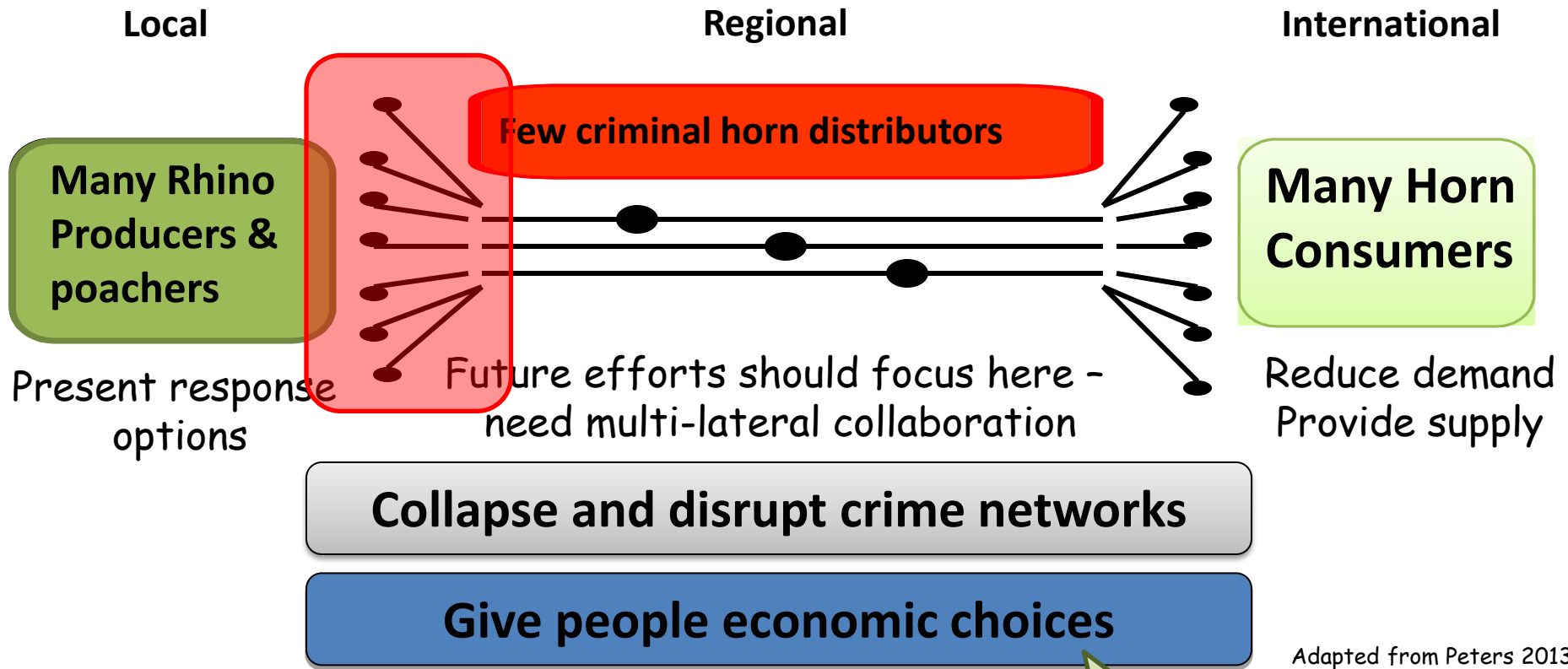
A Thai national has been sentenced to 40 years' imprisonment after pleading

Arrests in and outside Kruger NP in 2016



GAME CHANGING INTERVENTIONS

CHANGING INCENTIVES TO POACH



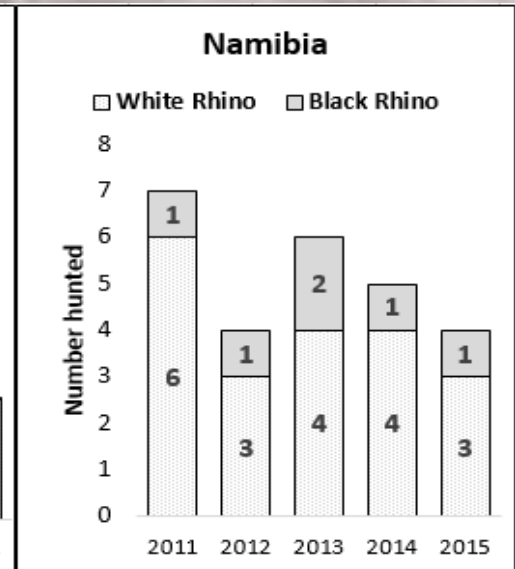
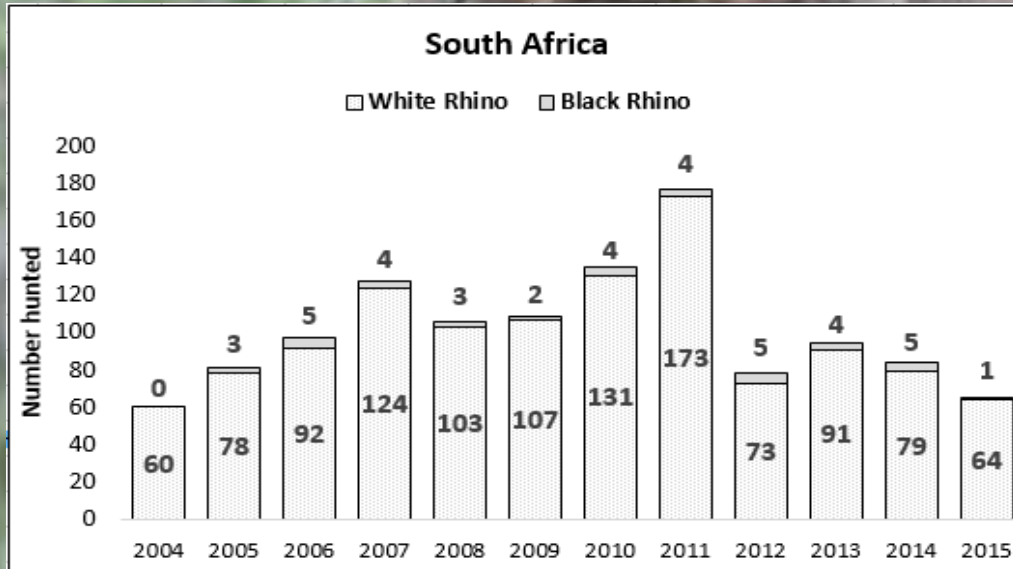
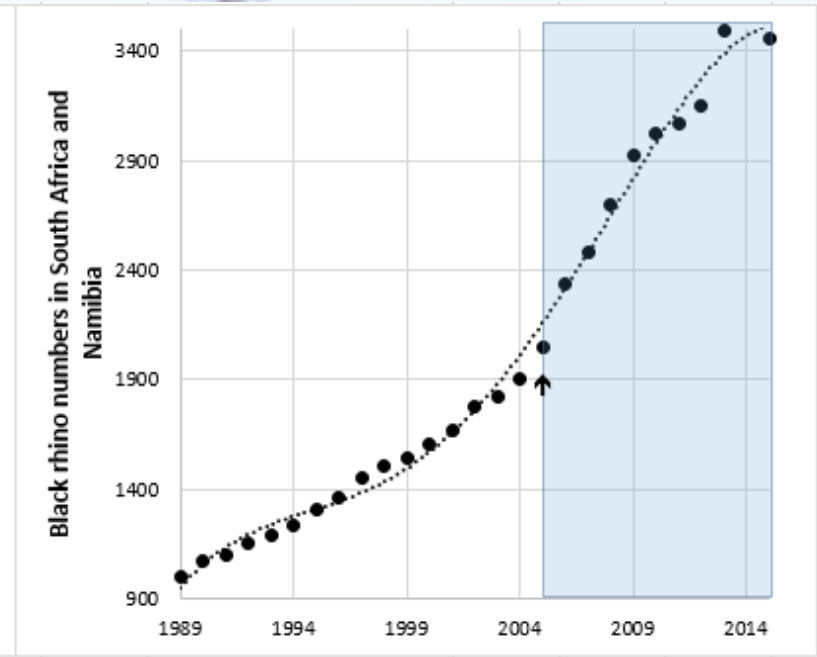
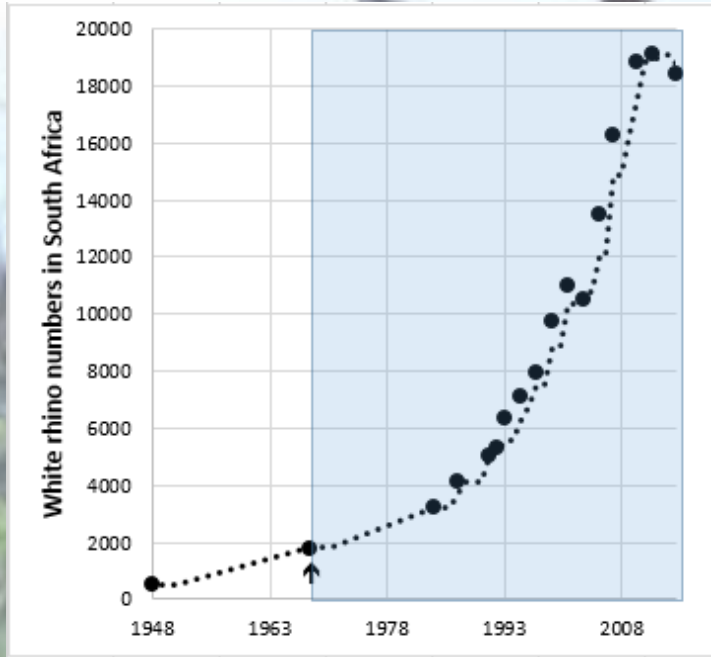
Adapted from Peters 2013



Proactive intelligence
Break govt silos
Incentivise communities

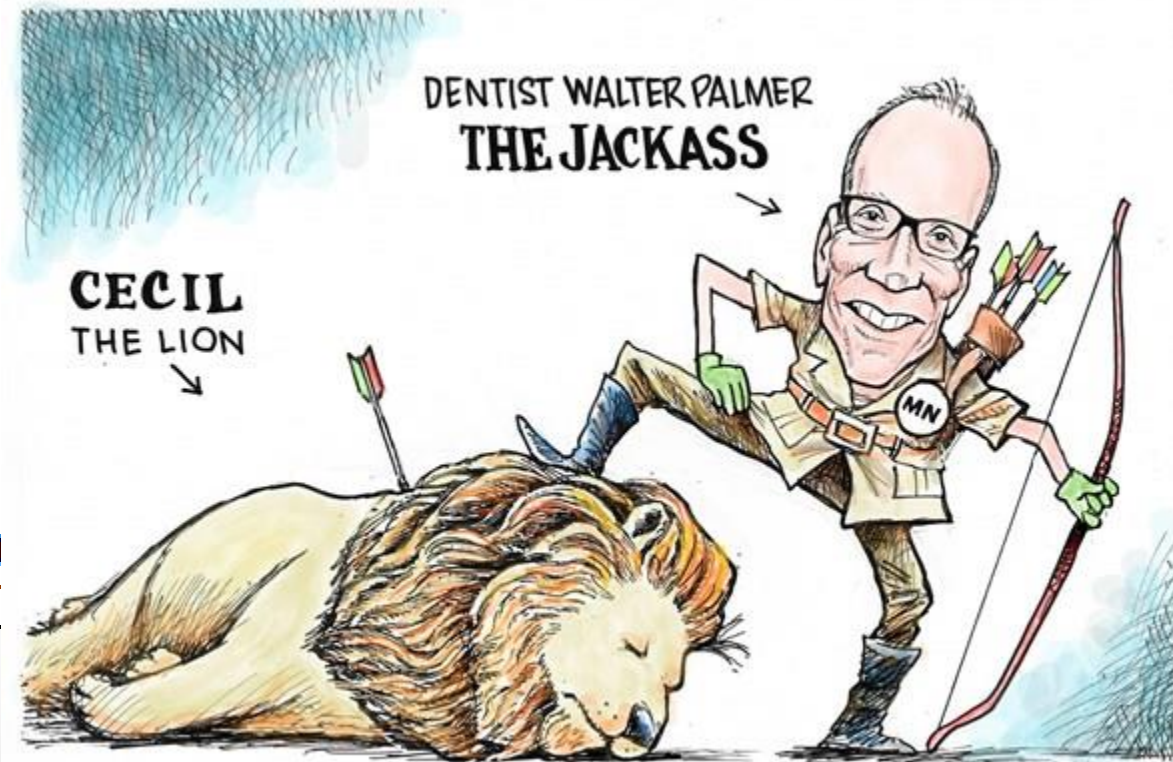
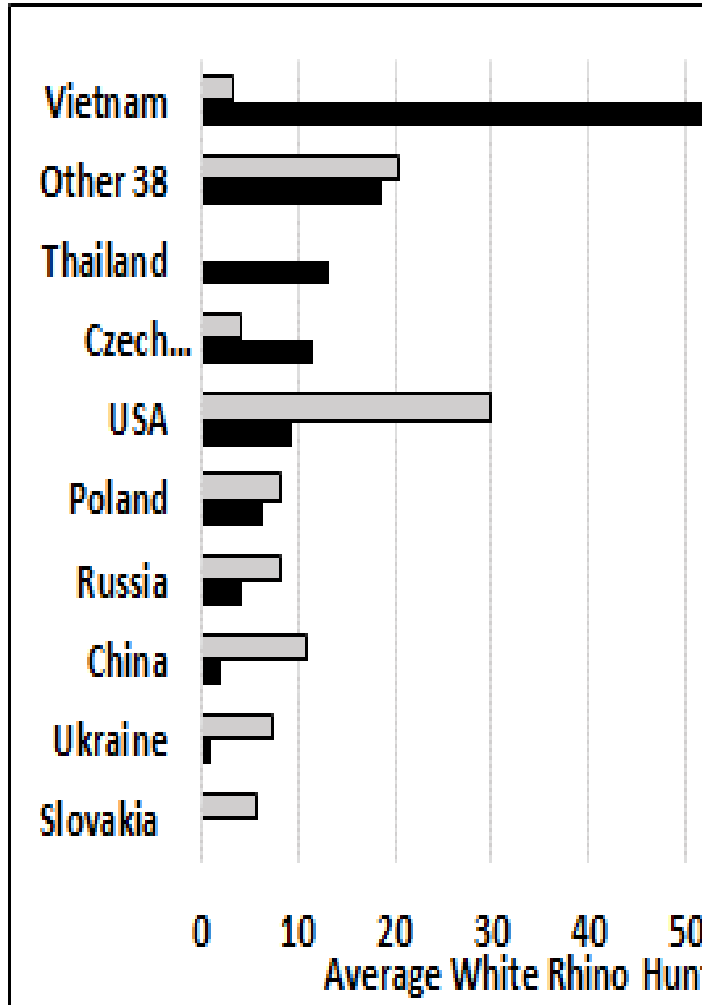
Sustainable use: trophy hunting

Who says its no so?

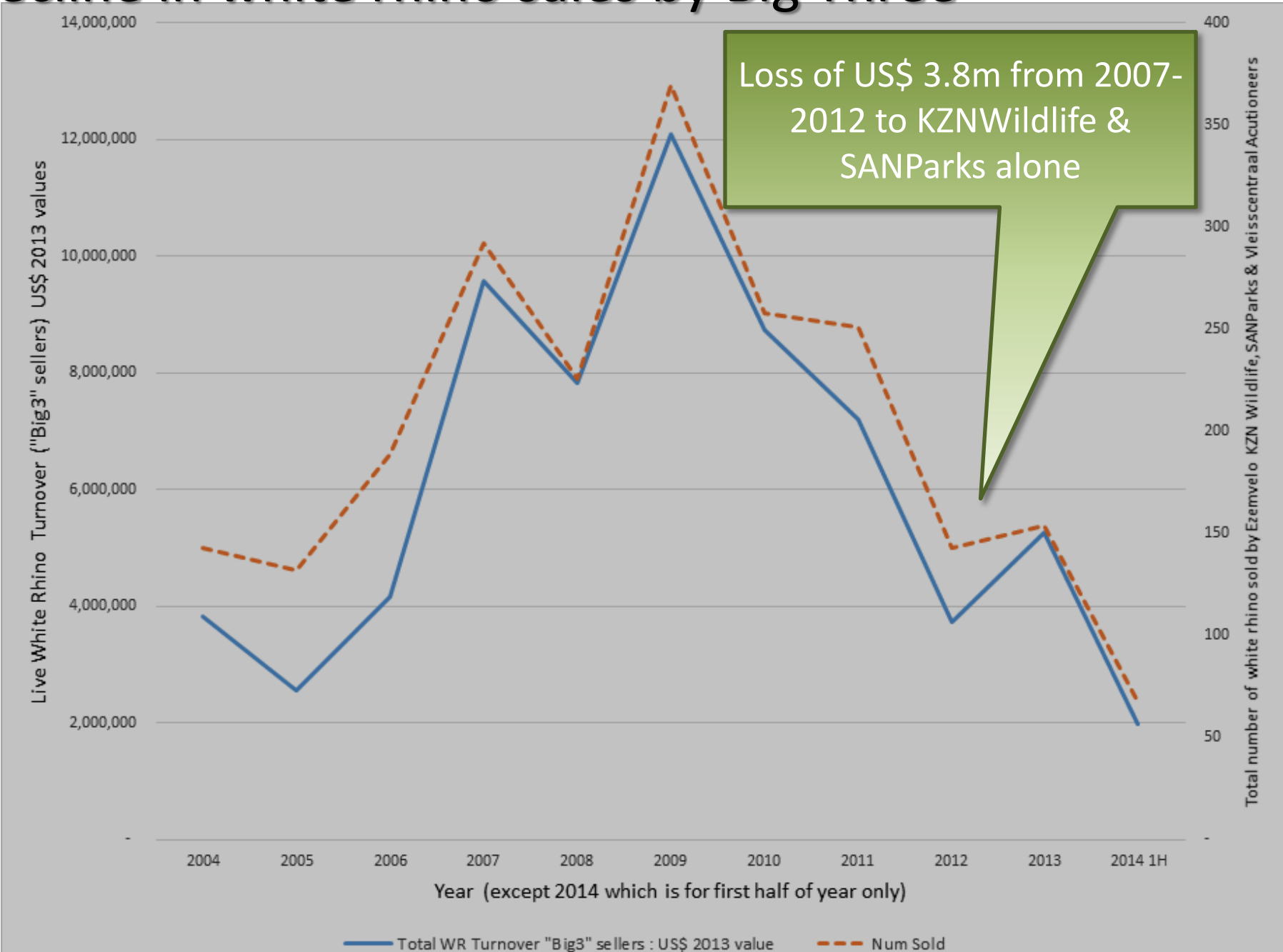


Sustainable use: trophy hunting

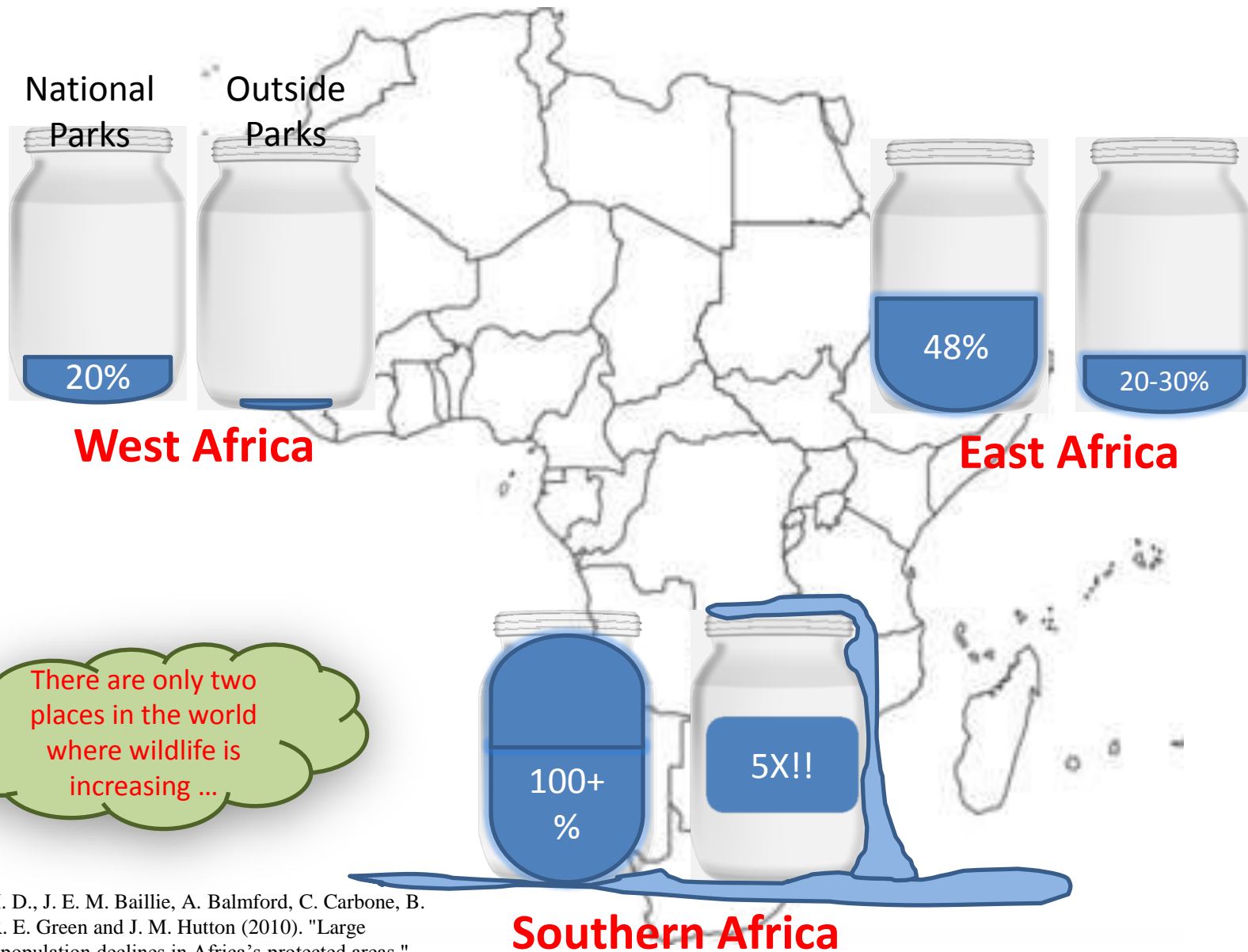
Its really about: Managing, monitoring & messaging



Decline in white rhino sales by Big Three



What wildlife is left? 1970-now

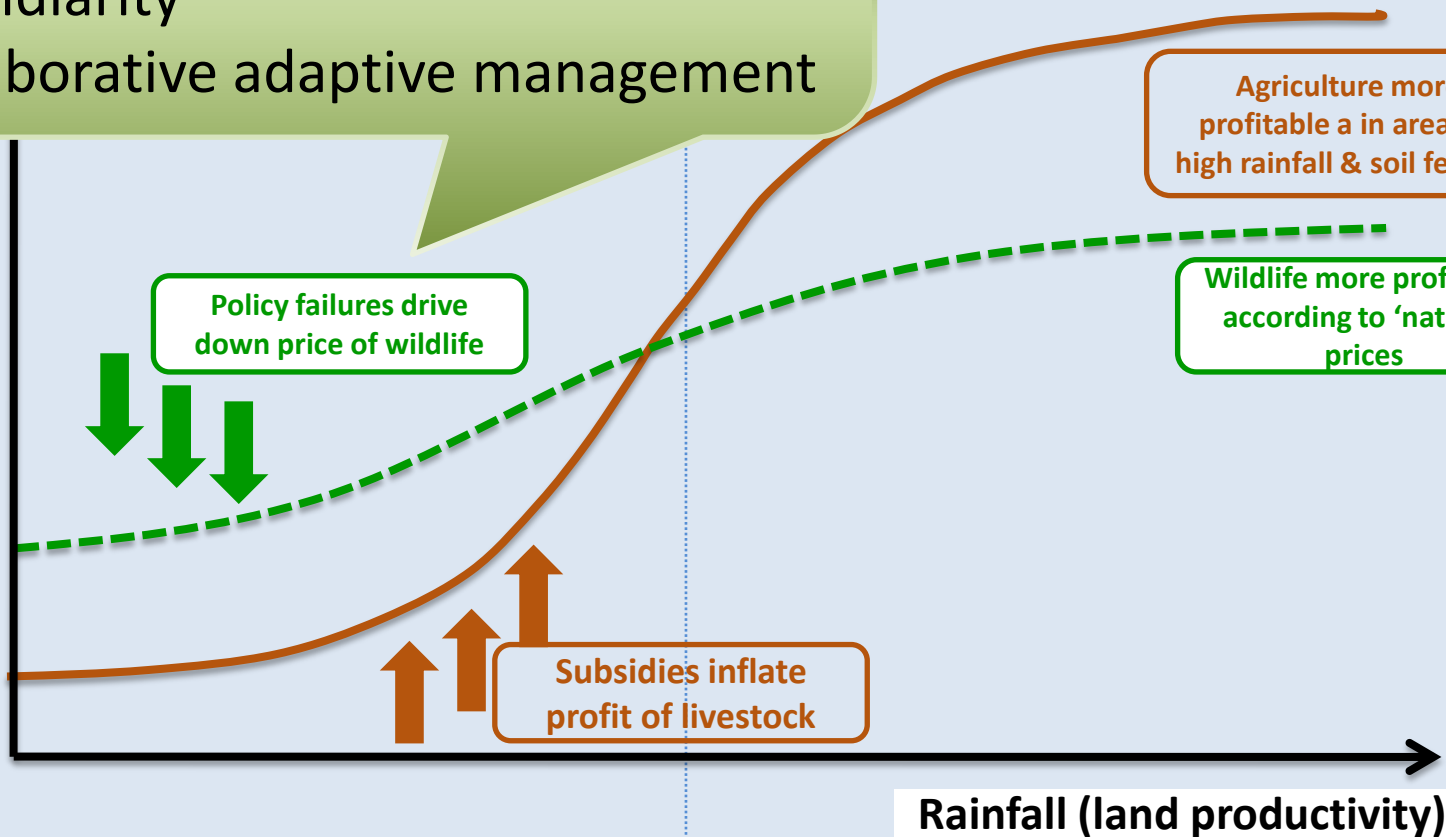


Model behind Sustainable Use Approach

(developed by Greg Stuart-Hill and Chris Brown)

proprietorship
price
subsidiarity
collaborative adaptive management

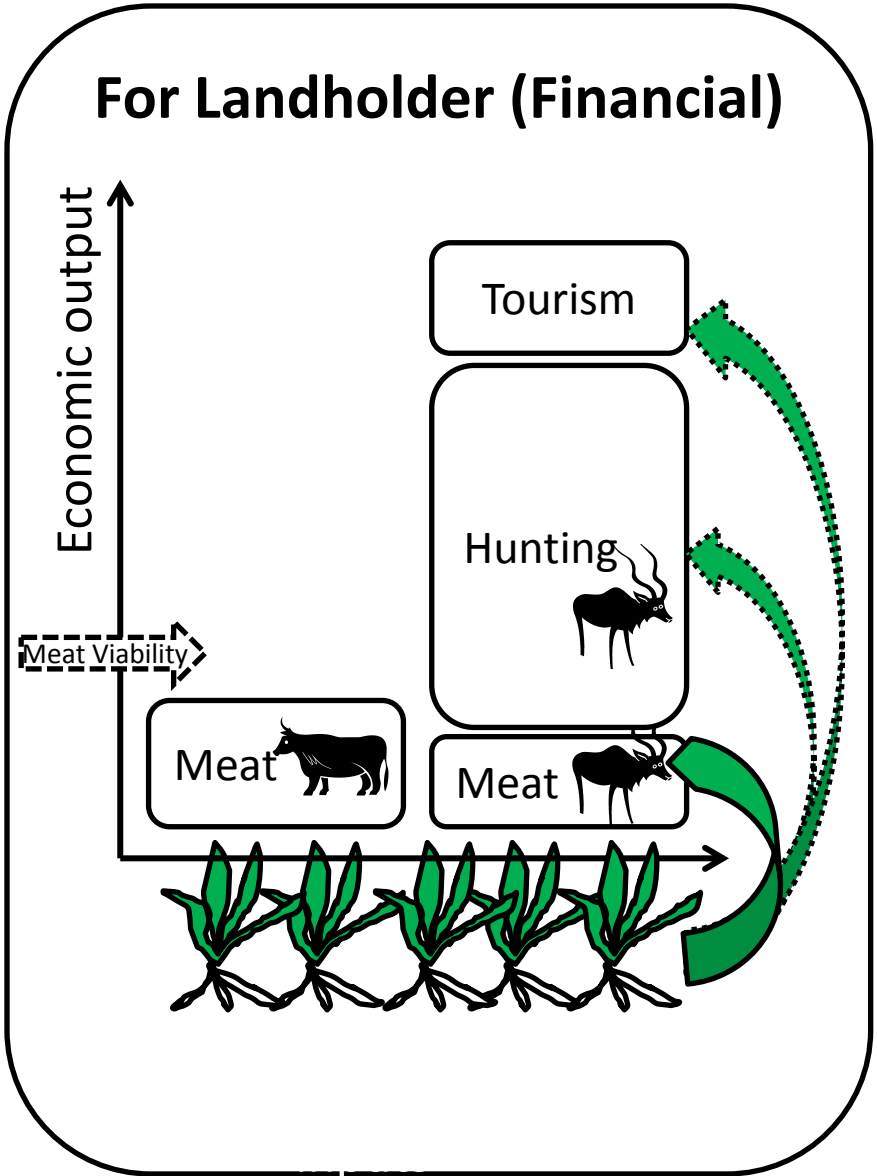
Profitability of land



Rangeland Production System

Agricultural Production System

Sustainable use – good for economy, good for environment



Courtesy: Prof B Child

Innovation

Arguing the case!

Long histories of culture and trade
Inelastic demand

High profit potential – illegal trade in horn

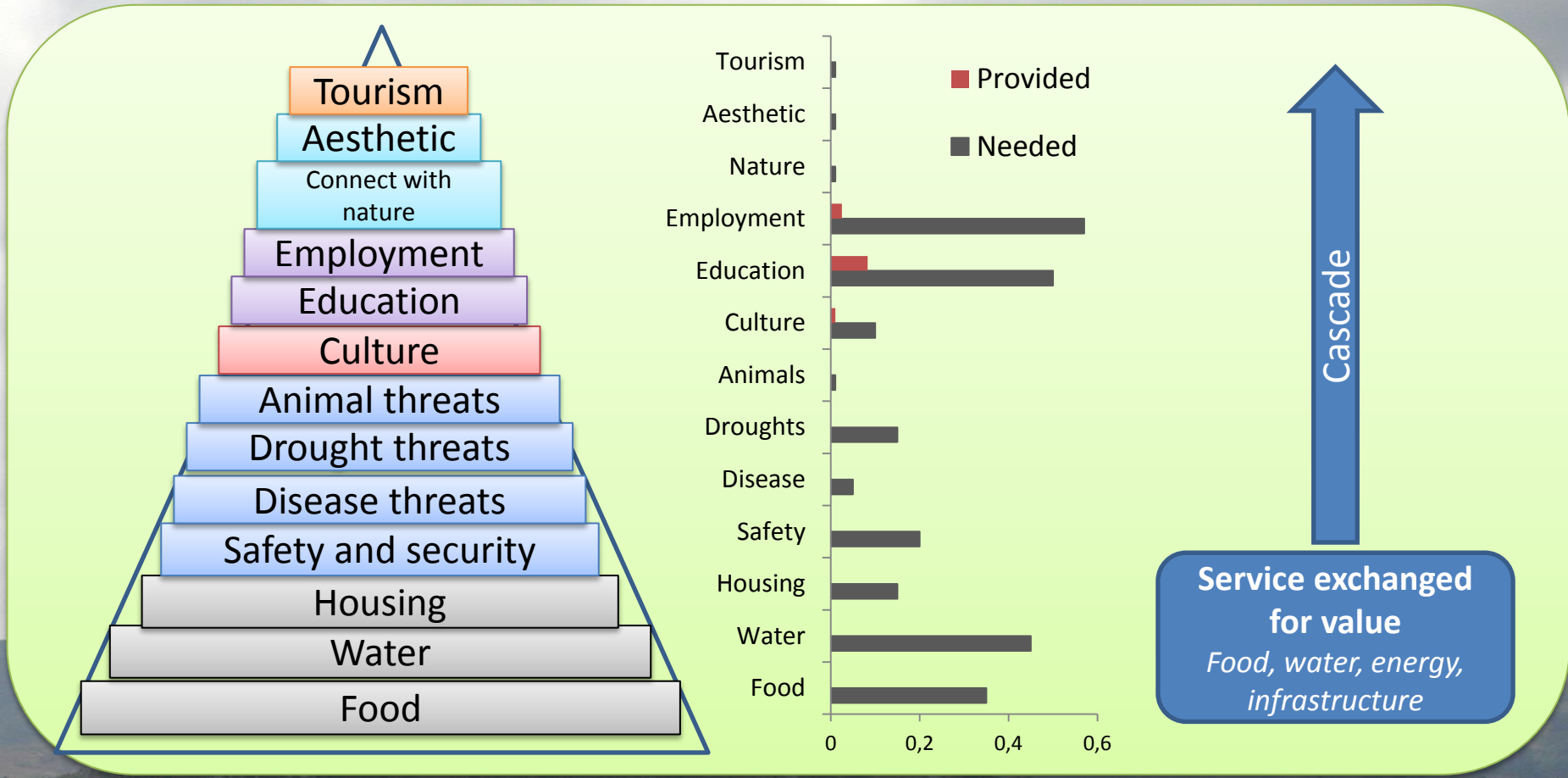
Inadequate enforcement

Unclear property rights

Human-wildlife conflict disincentives

Conrad, K. 2012. Trade bans: a perfect storm for poaching? *Tropical Conservation Science* 5: 245-254.





Semi-intensive ranching of rhinos

Is it conservation?

ISSUES:

Wildness

Security

Fragmentation

Domestication

Selective breeding (mate choice)

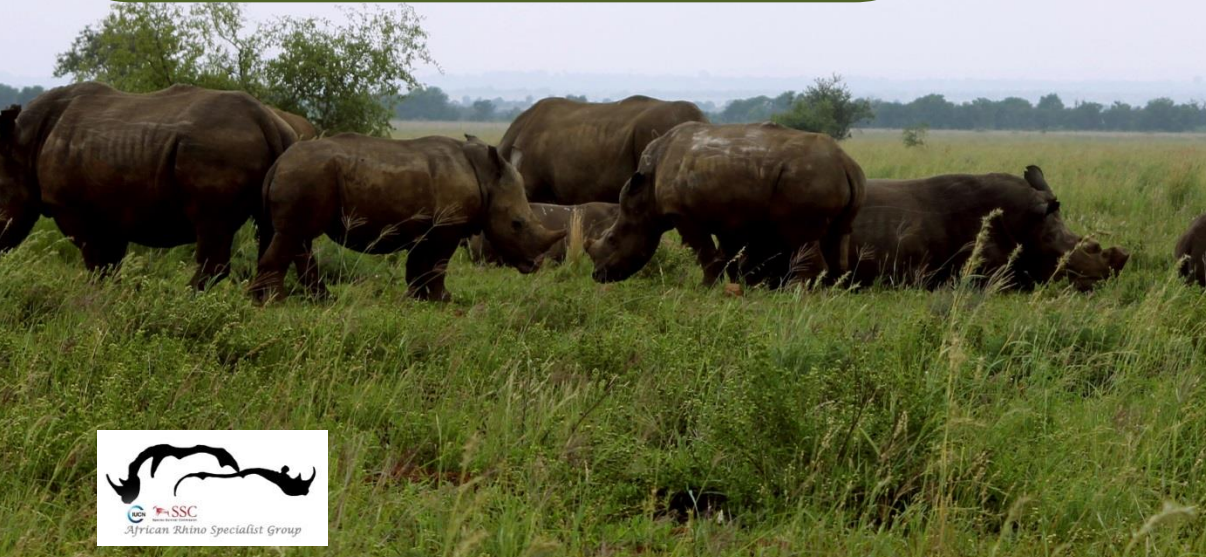
Poor reproductive performance

Supplementary feeding

Increased disease risk at higher density

Veterinary support

Continental rhino plan
Secure, viable, growing & valued rhino populations across the African landscape



Ensuring the future of rhinos?

- Need a WHOLE government response
- Effective law enforcement (break crime networks, prosecutions, proactive intelligence)
- Enabling legislation
- Increase the value of rhinos (ownership, sustainable use)
- Responsible & ethical use = sustainable use
- Conservation objective - viable part of free-ranging systems
- Incentivise greater participation (private, communal sectors)
- Greater social mandate
- Effective communication (focused messaging)
- Constructive cooperation
- Innovate & experiment



