Ensuring the future of rhinos

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Dr Richard Emslie

African Rhino Specialist Group
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

- SA 90.9%
- Nam 3.9%
- Bot 1.1%
- Ken 1.6%
- Zim 1.9%

White rhino ownership

- Pvt 65.2%
- Comm 34.6%
- State 0.3%
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:
- South Africa (SA): 5,250
- Namibia (Nam): 36.4%
- Zimbabwe (Zim): 8.8%
- Kenya (Ken): 12.6%
- Other countries: 631 (2%)

Black rhino ownership:
- Private (Pvt): 27%
- Community (Comm): 6%
- State: 67%

Africa's Big 4 countries:
- South Africa (SA): 20,306 (79%)
- Namibia (Nam): 2,767 (11%)
- Kenya (Ken): 1,122 (4%)
- Zimbabwe (Zim): 1,122 (3%)
- Other countries: 631 (2%)

93% in S'n Africa!
Poaching of Africa’s rhinos

6,083
## Rhino poaching by country

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<td>South Africa</td>
<td>36</td>
<td>13</td>
<td>83</td>
<td>122</td>
<td>333</td>
<td>448</td>
<td>668</td>
<td>1,004</td>
<td>1,215</td>
<td>1,175</td>
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<td>42</td>
<td>31</td>
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<td>20</td>
<td>50</td>
<td>495</td>
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<td>Total</td>
<td>60</td>
<td>62</td>
<td>262</td>
<td>201</td>
<td>426</td>
<td>532</td>
<td>751</td>
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<td>1,324</td>
<td>1,342</td>
<td>6,083</td>
<td>2,172</td>
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<td>Poached/day</td>
<td>0.16</td>
<td>0.17</td>
<td>0.72</td>
<td>0.55</td>
<td>1.17</td>
<td>1.46</td>
<td>2.05</td>
<td>3.08</td>
<td>3.63</td>
<td>3.68</td>
<td>0.16</td>
<td>0.17</td>
<td>0.72</td>
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</table>
Kruger National Park Law Enforcement Trends

Poacher activities increased 33%

People arrested increased 46%

Firearms seized increased 19%

Poached rhinos decreased 16%

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
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<tr>
<td>Poacher activities</td>
<td>1206</td>
<td>1610</td>
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<tr>
<td>People arrested</td>
<td>93</td>
<td>136</td>
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<tr>
<td>Firearms seized</td>
<td>62</td>
<td>74</td>
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<tr>
<td>Poached rhinos</td>
<td>429</td>
<td>359</td>
</tr>
</tbody>
</table>
Rhino poaching - KNP

Incidences per day

Poacher activity per day

Rhinos poached per day

Rudi van Aarde
Rhino translocation & the casualties

Viable new homes
28 orphans @ R300k/orphan
The biologist effect

If rhinos stayed in Kruger

If rhinos added by moving them

Poaching offset

Number of Rhinos


0 500 1000 1500 2000 2500

0% 5% 10% 15% 20% 25% 30%
Costs

Financial costs:

- **Kruger**
  - ~$800/yr/km
  - $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?

What's written
- Number of rhinos
- Number poached
- Price of horn high
- Millions of users
- Rhino going extinct

What's heard?
- There is a product
- Its easy to get horn
- There is money in it
- There is a market
- Price will increase!

What should be written?
- Well managed rhino pops
- Poachers caught, killed, sentenced, assets forfeited
- High risks, technology, dogs, we’re listening
- Do not use illegal medicine
- Rhino will not go extinct

What we want to be heard?
- It’s not easy to get horn
- Not worth the risk
- Stay out
- Life at risk
- Sustainable legal medicine
- Not a good illegal investment

Consumers
Asian horn users

Producers
On the ground poachers

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

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.

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.

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.

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 System.

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.

Eastern Perimeter:
- 29 km Fence Mounted Linear Seismic Intrusion Detection covering Crocodile to Sabie Rivers.
- Controller at Godleni Picket.

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

Be clever

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

Arrests in and outside Kruger NP in 2016
GAME CHANGING INTERVENTIONS
CHANGING INCENTIVES TO POACH

Local

Many Rhino Producers & poachers

Present response options

Future efforts should focus here - need multi-lateral collaboration

Regional

Few criminal horn distributors

International

Many Horn Consumers

Reduce demand Provide supply

Collapse and disrupt crime networks

Give people economic choices

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

Loss of US$ 3.8m from 2007-2012 to KZNWildlife & SANParks alone

Graph showing the decline in white rhino sales from 2004 to 2014, with a significant drop from 2007 to 2012.
What wildlife is left? 1970-now

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

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

proprietorship
price
subsidiarity

collaborative adaptive management

Rangeland Production System

Primary Production
Secondary Production
$ Profit $
Soil, water, sunlight
Rainfall (land productivity)

Profitability of land use
Wildlife more profitable according to ‘natural’ prices
Agriculture more profitable in areas of high rainfall & soil fertility

Policy failures drive down price of wildlife
Subsidies inflate profit of livestock

Agricultural Production System

Soil, water, sunlight

Profit

Subsidies inflate profit of livestock
Wildlife more profitable according to ‘natural’ prices
Agriculture more profitable in areas of high rainfall & soil fertility
Sustainable use – good for economy, good for environment

For Landholder (Financial)

- Tourism
- Hunting
- Meat

Economic output

Meat Viability

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

Food, water, energy, infrastructure
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