

On Fences, Fauna, and FMD

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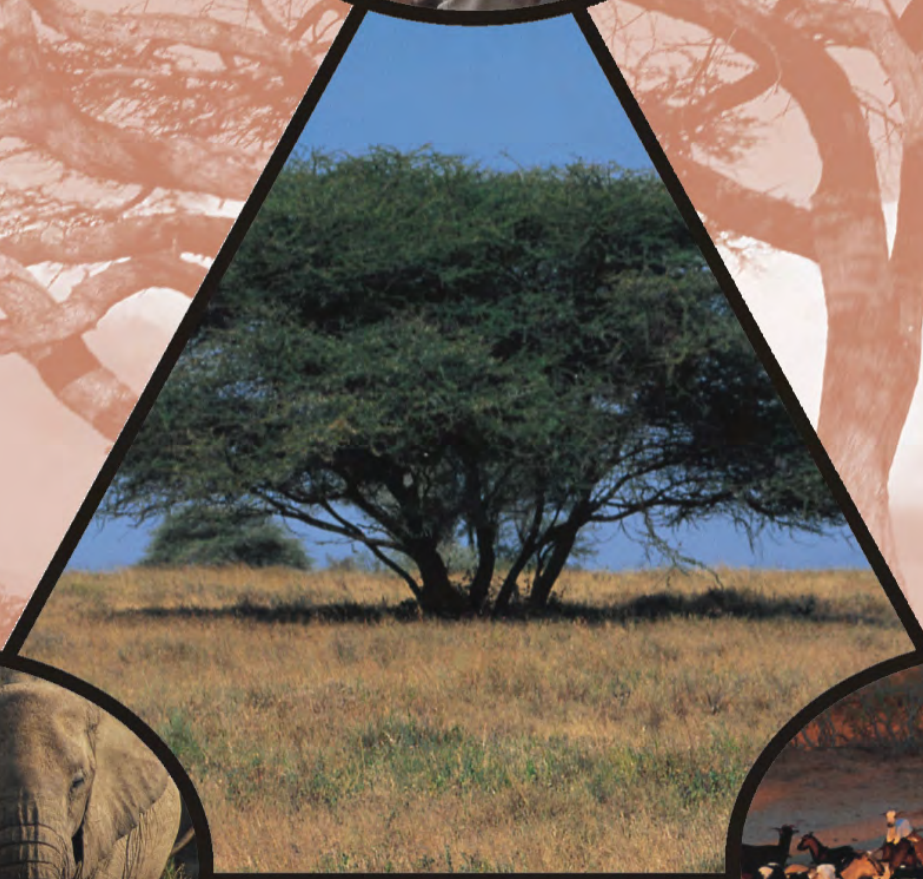
AHEAD

Animal & Human Health for the Environment And Development

“AHEAD is a facilitative, convening mechanism working to create enabling environments that allow different and often competing sectors to find collaborative ways forward to address challenges at the interface of wildlife health, livestock health and human health & livelihoods.”

<http://www.cornell-ahead.org>







Humanity's Ecological Footprint

- We appropriate $\frac{1}{3}$ - $\frac{1}{2}$ of global ecosystem production for human consumption
- We have converted over half the ice-free, desert-free land surface to croplands or pasture
- We use roughly half the planet's accessible fresh water
- Net loss of half the temperate and tropical forests on the planet
- More than three quarters of monitored fisheries are fished at, or beyond, sustainable limits
- 60% of the world's rivers are affected by 45,000 large dams and 800,000 smaller dams
- Species extinctions are at least 1,000 times natural rate

NEWS



Science & Environment

World wildlife 'falls by 58% in 40 years'

By Rebecca Morelle
Science Correspondent, BBC News

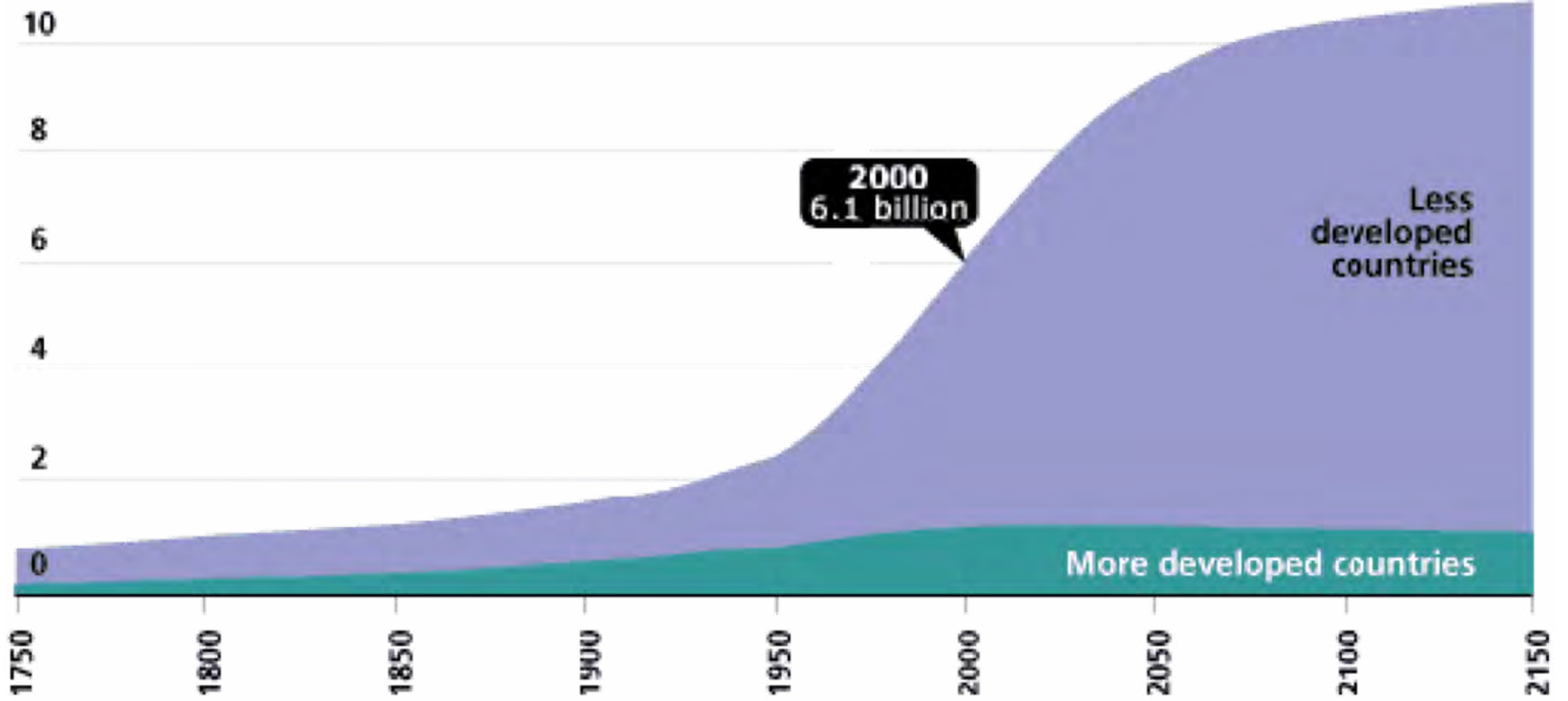
🕒 27 October 2016 | [Science & Environment](#)

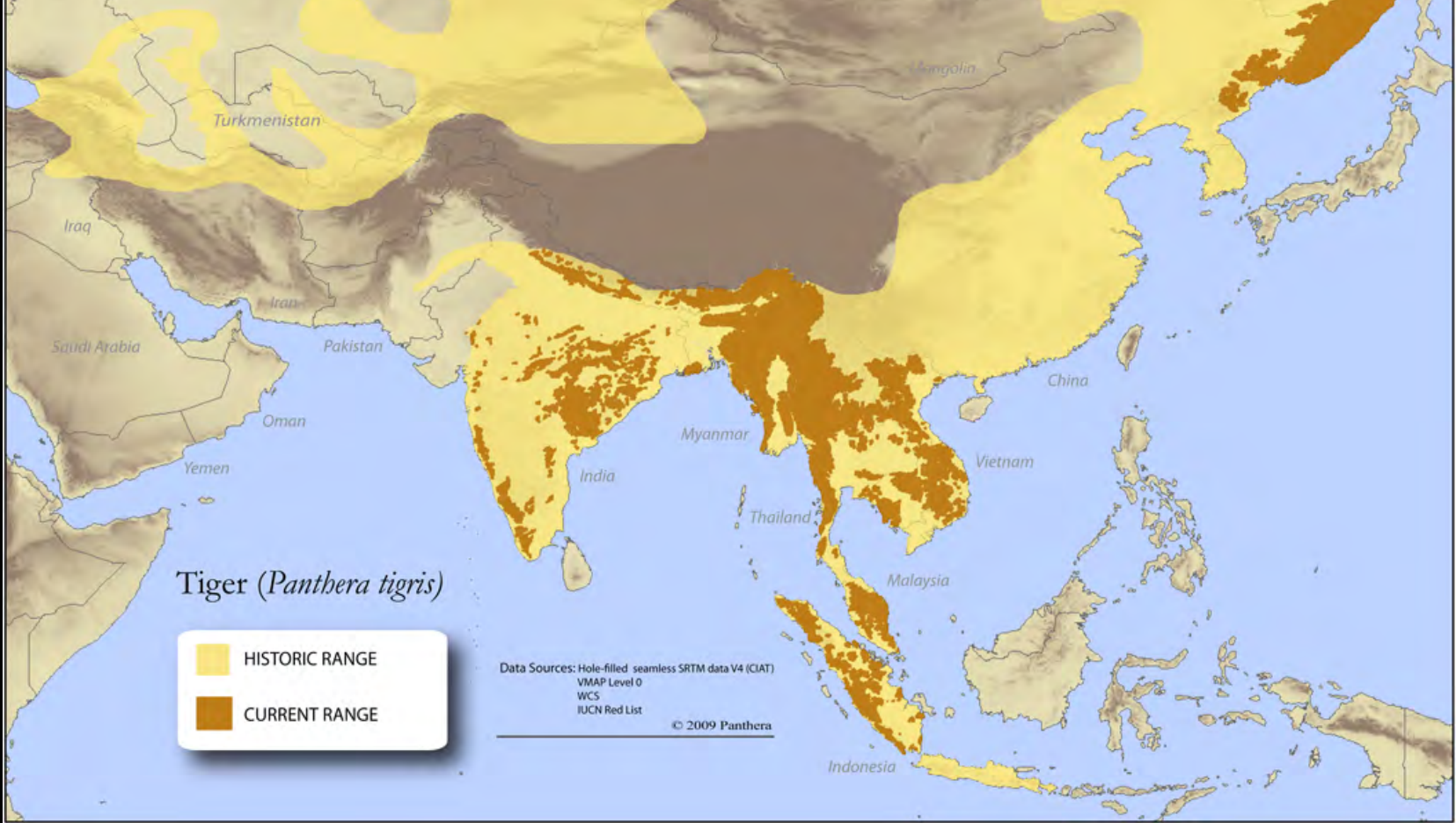
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World Population Growth

Population (in billions)







Declining Lions

Losing Lions

Loss of habitat, prey decline, pesticides, even canine distemper and tuberculosis have caused lion numbers to quickly decline. Scroll the time line below to see the dramatic decrease in lion population and specific moments that were particularly deadly. If this top predator disappears, the entire ecosystem could be in peril.

Time: **1800s**

Lion Count*: **1.2 Million**

1800s 1940s 1980s 1990s 2000s 2020



Countries With Lions Lion Ranges

**Lion counts are estimated*



Help the Lions
Stop the lion population decline.



Declining Lions

Losing Lions

Loss of habitat, prey decline, pesticides, even canine distemper and tuberculosis have caused lion numbers to quickly decline. Scroll the time line below to see the dramatic decrease in lion population and specific moments that were particularly deadly. If this top predator disappears, the entire ecosystem could be in peril.

Time: **2000s**

Lion Count*: **20,000**

1800s 1940s 1980s 1990s **2000s** 2020

■ Countries With Lions ■ Lion Ranges

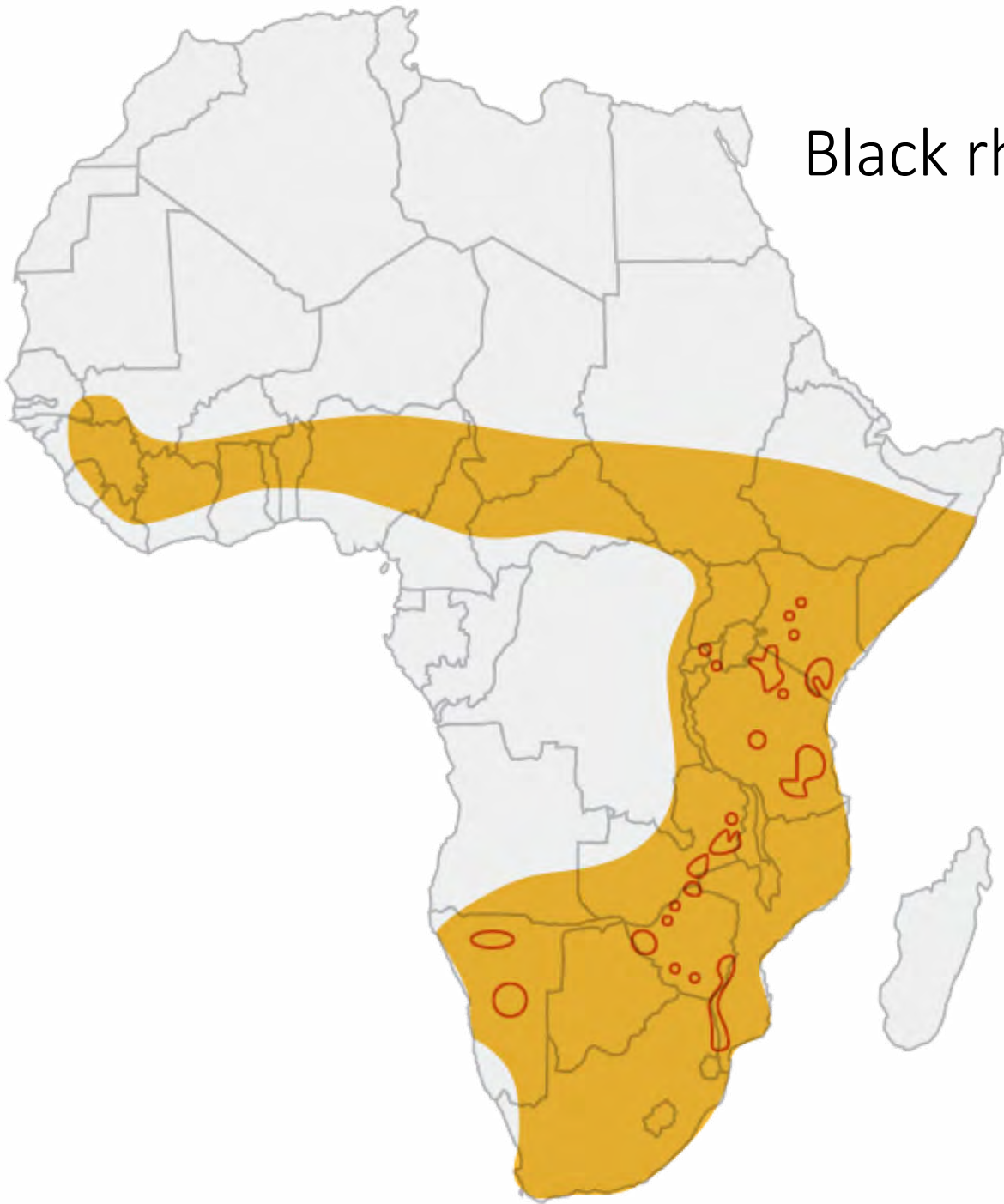


Help the Lions

Stop the lion population decline.

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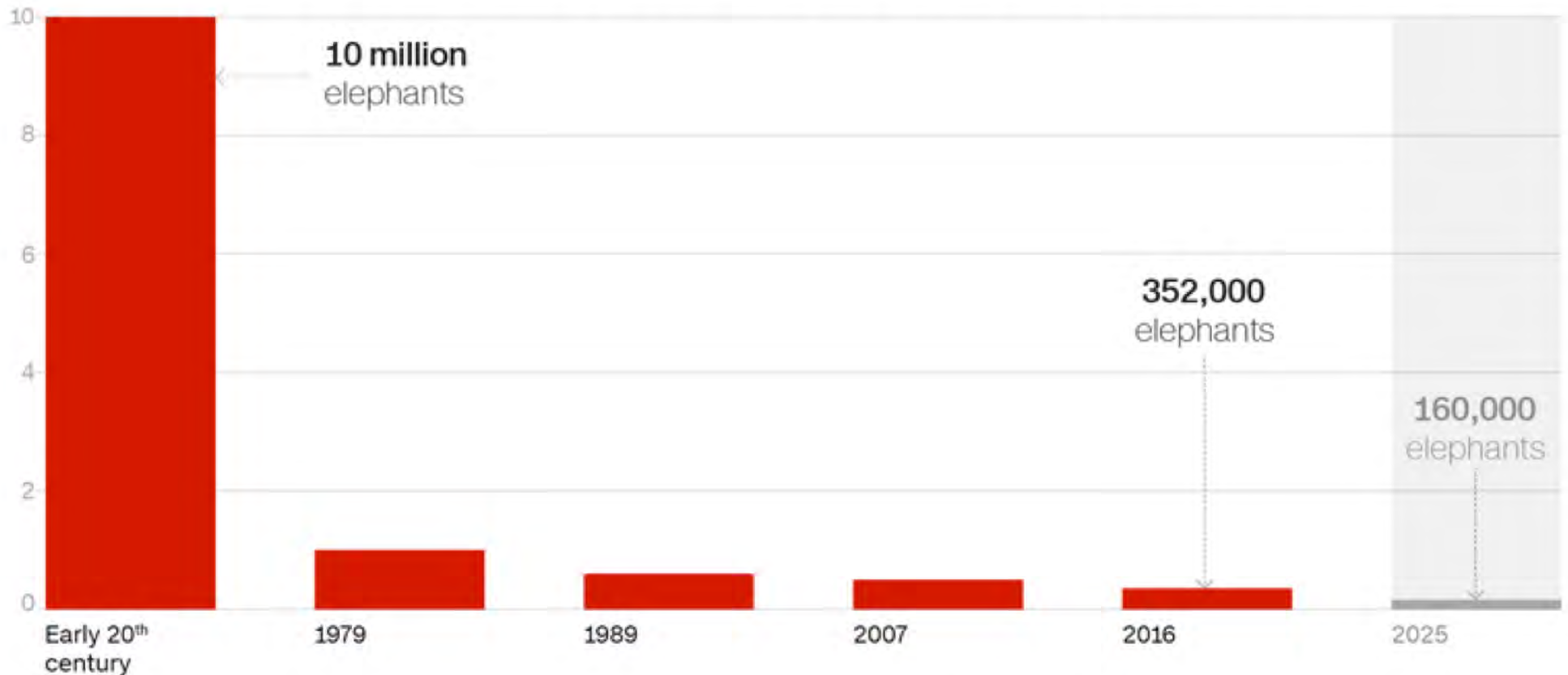
Black rhino decline





A bleak future for Africa's elephants

New research shows the shocking decline of elephants over the past 100 years – and a worrying trend for the future.



Source: IUCN/WWF, Great Elephant Census

*All figures are rough estimates except for 1979 and 2016.

Botswana's Wildlife Tourism

- **GDP: TOTAL CONTRIBUTION**

- The total contribution of Travel **10.9% of GDP in 2016** and was **BWP 17,779,500,000** (USD1,623.8mn), and is forecast to rise by 6.5% in 2017, and to rise by 5.5% pa

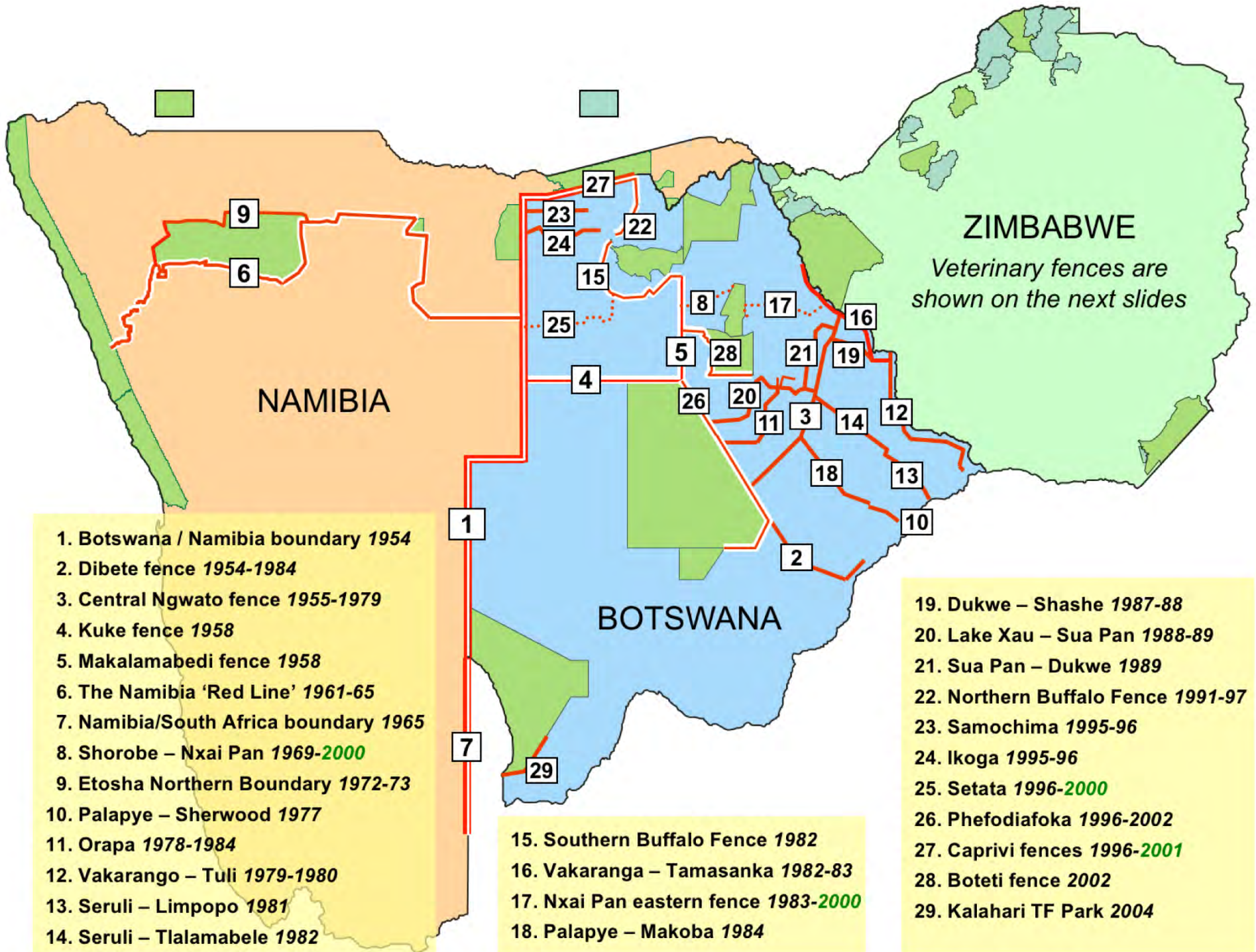
- **EMPLOYMENT: TOTAL CONTRIBUTION**

- In 2016, the total contribution of Travel & Tourism to employment, including jobs indirectly supported by the industry was 7.1% of total employment (68,500 jobs). This is expected to rise by 3.7% in 2017 to 71,000 jobs and rise by 3.5% pa to 100,000 jobs in 2027 (8.9% of total).

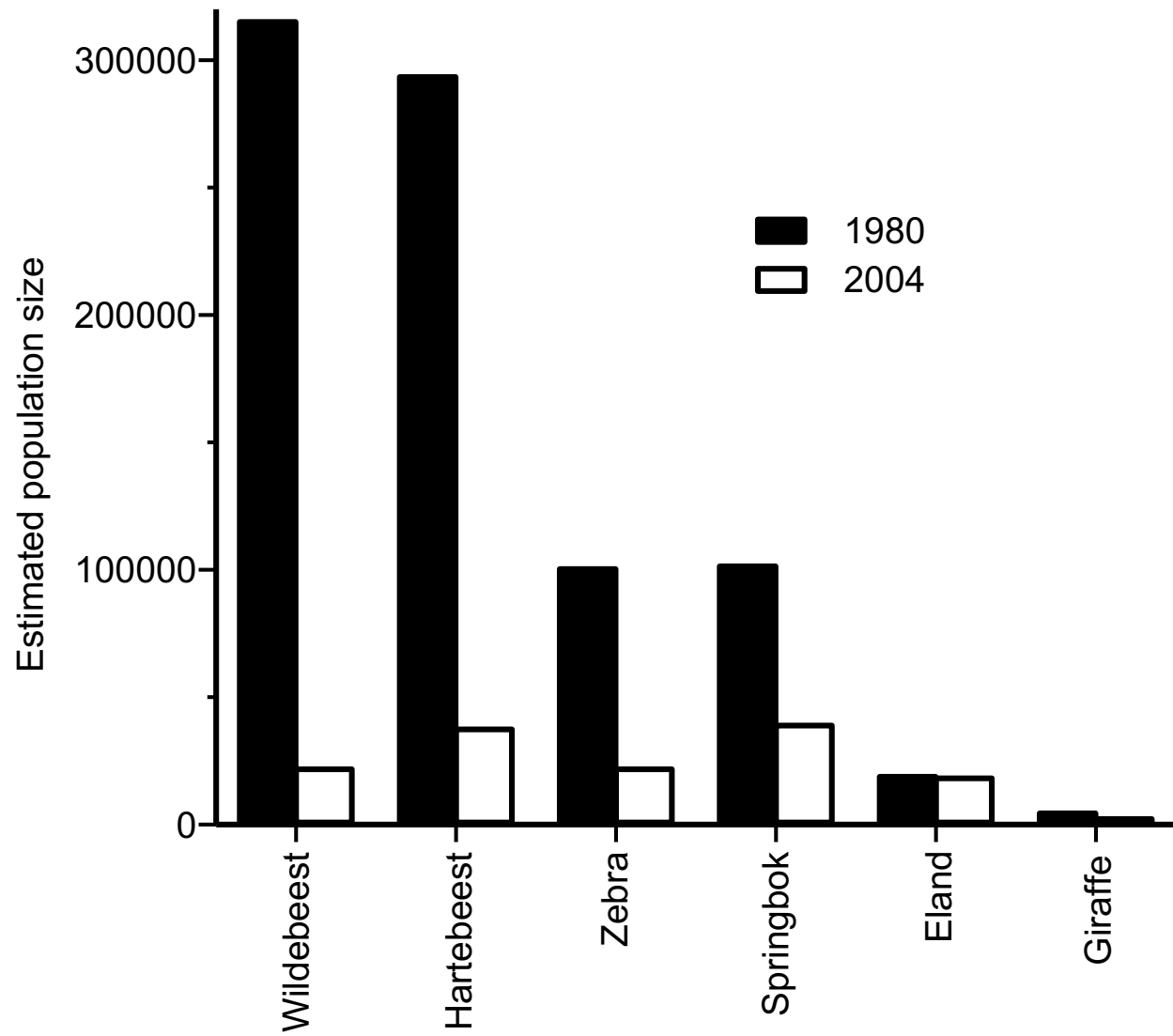
Botswana's Cattle

- < 1% of land is arable
- estimated 50% of Botswana own cattle
- estimated 3.3-4 million cattle
- **3% of GDP**
- 10% of farmers own 60-70% of the national herd





Kgalagadi wildlife trends



14 Southern African TFCAs Covering 750,000 km²

AIS/Richtersveld TFP

Kgalagadi TFP

Greater Mapungubwe TFCA

Greater Limpopo TFCA

Lubombo TFCA

Maloti-Drakensberg TFCA

Iona-Skeleton Coast TFCA

Liuwa Plain-Mussuma TFCA

Lower Zambezi-Mana Pools TFCA

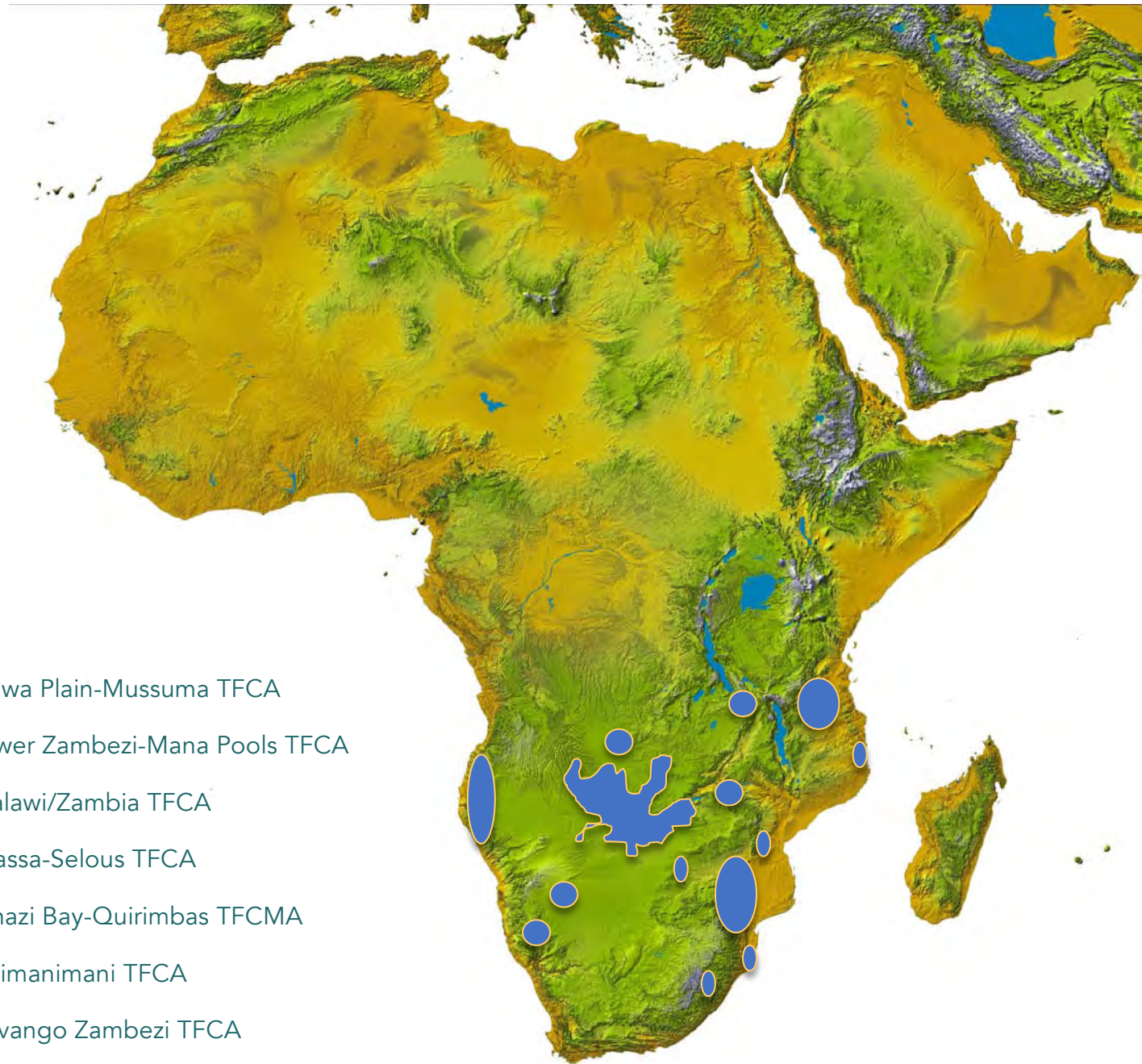
Malawi/Zambia TFCA

Niassa-Selous TFCA

Mnazi Bay-Quirimbas TFCMA

Chimanimani TFCA

Kavango Zambezi TFCA



Wildlife

Southern Africa's Global Competitive Advantage



TFCAs in Southern Africa

Primary aims

- Expand opportunities for socioeconomic development
 - Promote a culture of peace & co-operation
 - Conserve biodiversity



A New Scale of Land-Use Planning



Kavango Zambezi (KAZA) TFCA

Angola • Botswana • Namibia • Zambia • Zimbabwe



- Largest conservation-oriented landscape in Africa (~500,000 km²)
- Home to ~2.5 million people & their livestock
- Home to ~250,000 elephants
- Significant pressures on wildlife related to human settlement, poaching, veterinary fences, drought, fire & other factors
- Rapidly declining populations of other key wildlife species identified
- TFCA lies in geographic zone considered most 'at risk' from climate change
- Diseases (i.e.- FMD) threaten the viability of the entire TFCA enterprise



The Human Dimension



Cattle in Southern Africa

Part of the Landscape



Health Matters

Transboundary Animal Diseases (TADs)

- Epidemic diseases which are highly contagious or transmissible and have the potential for very rapid spread, irrespective of national borders, causing serious socio-economic and possibly public health consequences
- **Foot and mouth disease**, African swine fever, Rift Valley fever, African horse sickness, trypanosomiasis, Newcastle disease, rabies, anthrax, lumpy skin disease, brucellosis, avian influenza, contagious bovine pleuropneumonia, *Theileria* spp. infections, bluetongue, *peste des petits ruminants* etc.



The Land-Use Conundrum

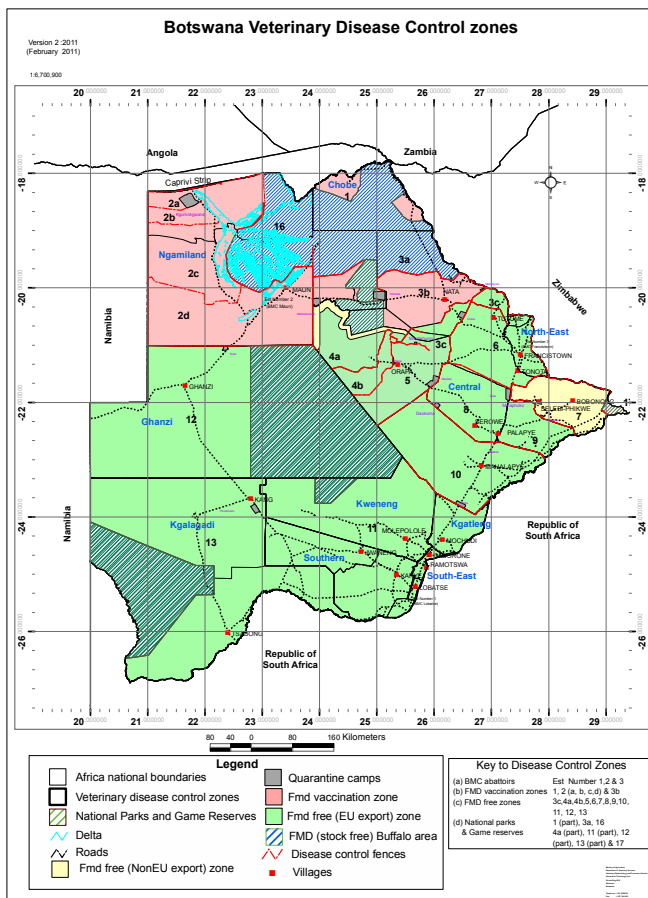
Fundamental Sectoral Differences

- Transfrontier conservation requires **free movement** of wildlife over large geographic areas
- Current internationally accepted approaches to TADs control **prevent movement** of susceptible animals between areas where TADs occur and where they do not
- TFCA vision and geographic approaches to management of TADs are **not compatible**
- Sustainable livelihoods depend on a new approach



FMD Control in Southern Africa

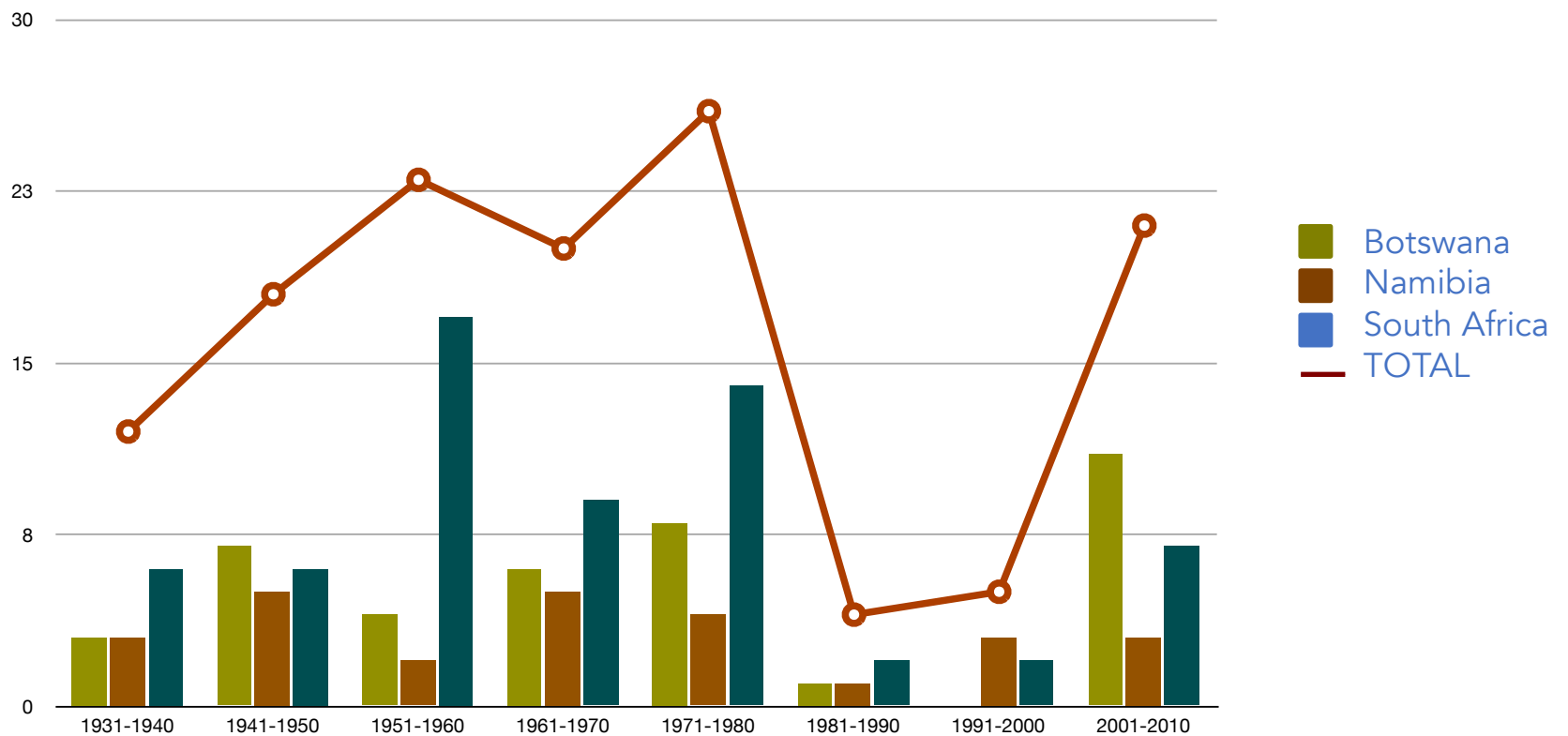
'Geographic' Approach



- International approach is *geographic* or *zonal* in nature
- Market access for animal commodities & products is linked to area-wide disease freedom: the challenge of equity
- Safe trade traditionally requires products to originate from a **Disease Free Zone (DFZ)**

FMD Control

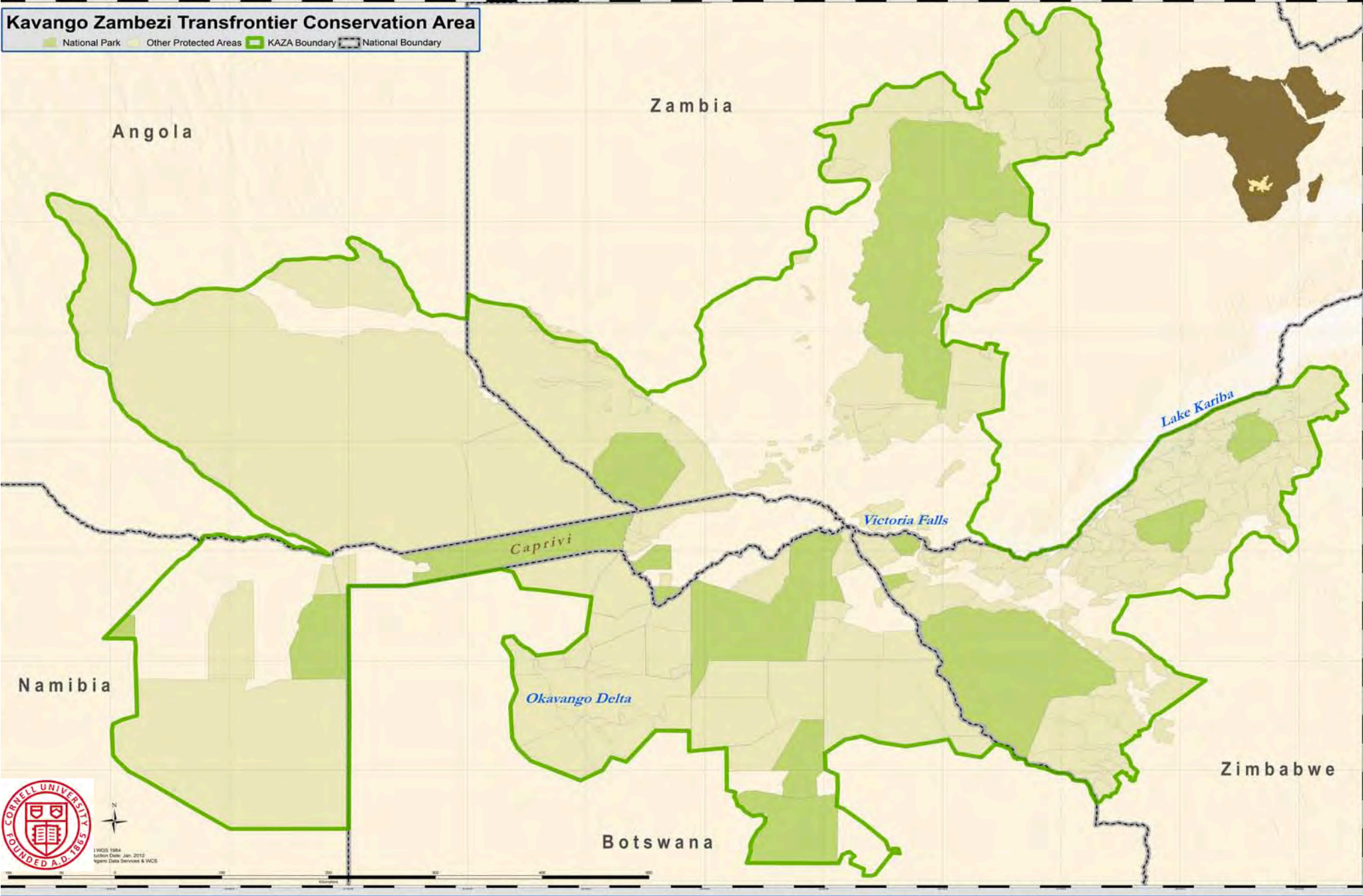
Current Approaches are Failing to Control the Disease



Incidence of FMD outbreaks in three southern African countries in last 8 decades

Kavango Zambezi Transfrontier Conservation Area

■ National Park ■ Other Protected Areas ■ KAZA Boundary ■ National Boundary

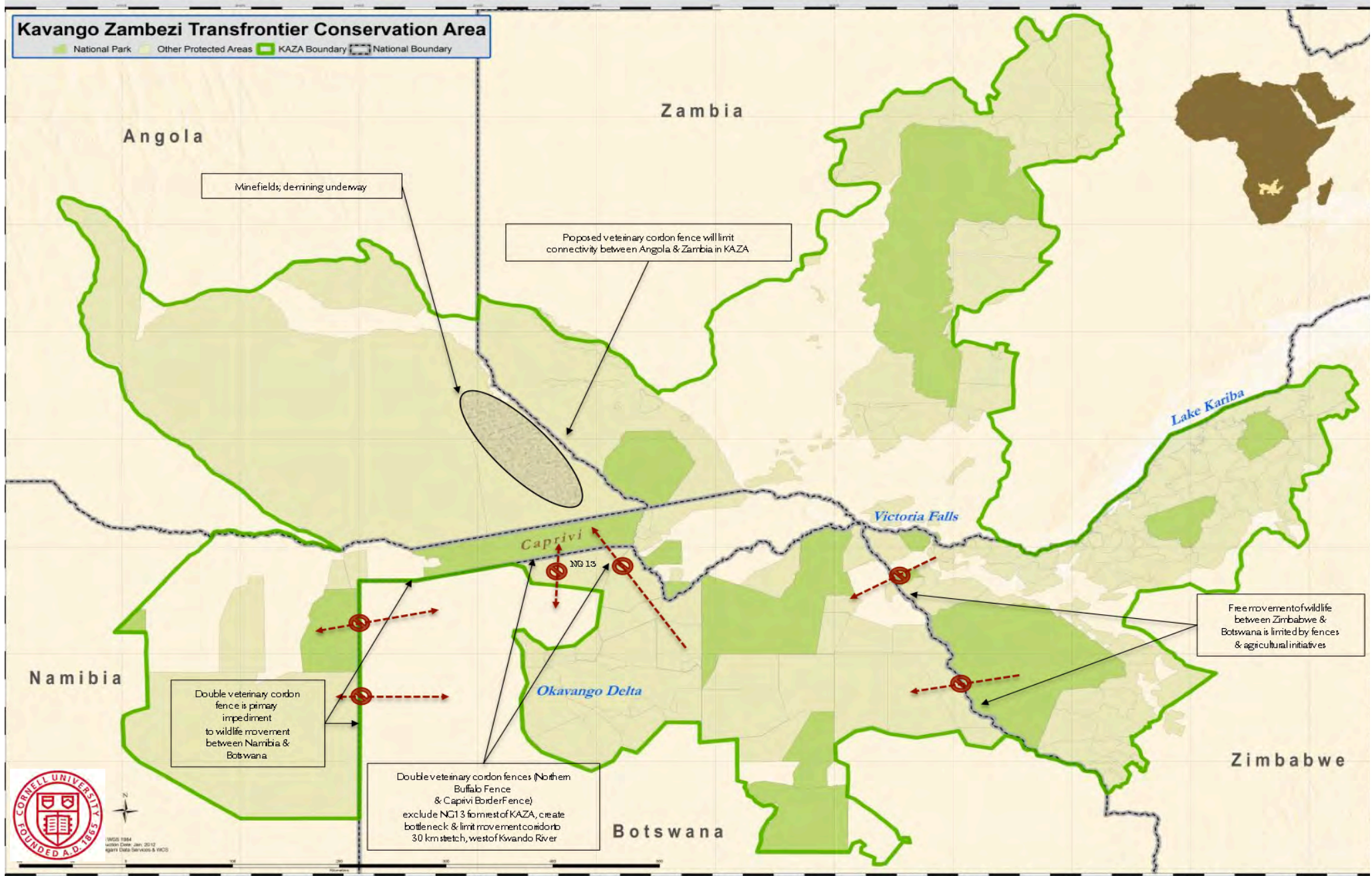


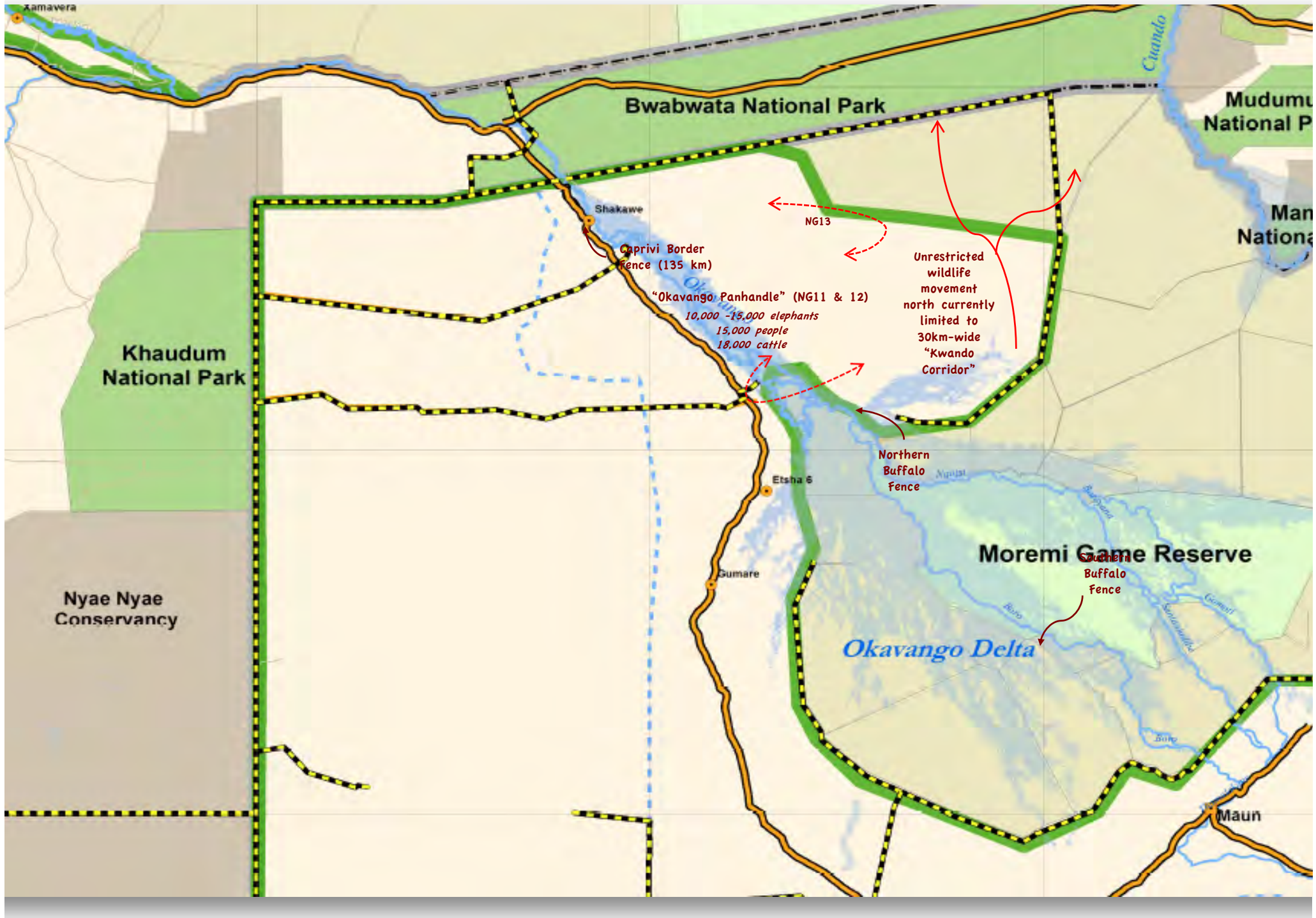
1/2005 1984
Author: Date: Jan. 2012
Map: Data Services & VCS



Kavango Zambezi Transfrontier Conservation Area

■ National Park
 ■ Other Protected Areas
 KAZA Boundary
 National Boundary





TFCAs

Rural Development, Poverty Alleviation, Wildlife Conservation



- Livestock agriculture and biodiversity conservation vital for balanced rural development and socioeconomic equity; nature-based tourism now crucial to regional economic growth
- Attempts to control FMD geographically is limiting livelihood opportunities and compromising system resilience
- Intensifying conflict between livestock interests & wildlife conservation

FMD Control

Rural development, poverty alleviation & wildlife conservation



- Livestock agriculture and biodiversity conservation vital for balanced rural development and socioeconomic equity; nature-based tourism now crucial to regional economic growth
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Conflict

Rural development, poverty alleviation & wildlife conservation



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FMD Control in Southern Africa

Key Challenges for Policy Makers

1. FMD SAT virus serotypes are maintained by free-living wildlife populations, i.e.- African buffalo, and are not eradicable
2. Current internationally accepted approaches to the management of FMD conflict with wildlife conservation initiatives and constrain rural economic development
3. These approaches are failing to adequately control the disease
4. Rural development suffers



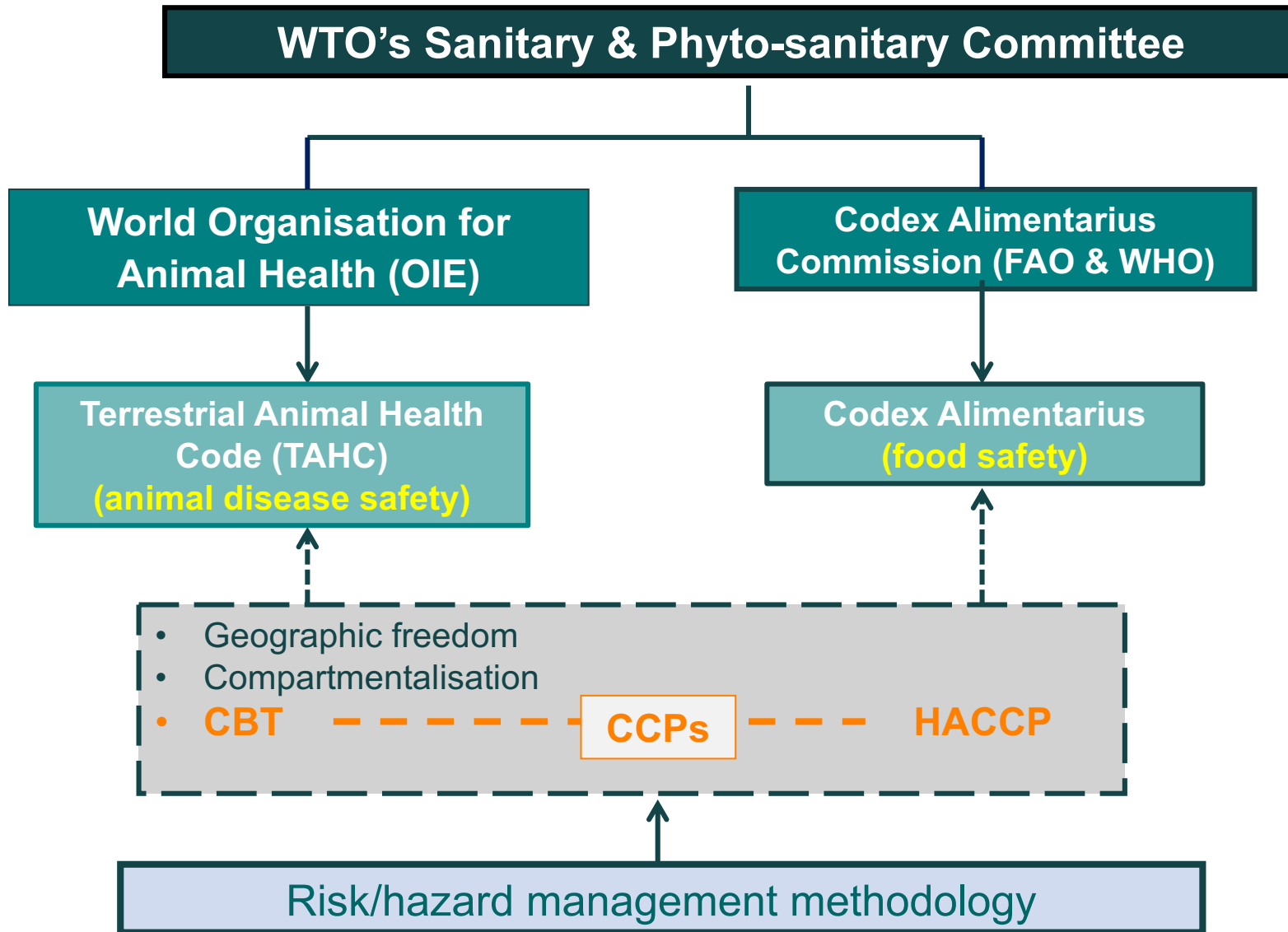
The Expanding Interface

Solutions Needed

Emphasize managing the risks associated with TADs in southern Africa in ways that:

- help southern Africa's pastoralists & farmers
- do not threaten free-ranging wildlife
- provide confidence to beef importing countries that the products from this region pose minimal threats to their own agricultural sector





Institutional arrangements on which international trade standards for food safety & animal disease risk are based

FMD Control

Innovative Solutions for Southern Africa

- Adopt innovative **non-geographic approaches** to disease management such as commodity-based trade (CBT) and value chain risk management
- Why? Commodity-based approaches focus on the *safety of the process* by which products are produced *rather than on their regional origin*
- Engaged FAO and OIE – international standards – **May 2015 – TAHC Revised!!**



CBT: an array of alternatives that can be used to ensure the production and processing of a particular commodity or product are managed so that identified food safety and animal health hazards are reduced to appropriate risk levels

REVIEW ARTICLE

Balancing Livestock Production and Wildlife Conservation in and around Southern Africa's Transfrontier Conservation Areas

G. R. Thomson^{1,2}, M. -L. Penrith^{1,2}, M. W. Atkinson³, S. J. Atkinson⁴, D. Cassidy* and S. A. Osofsky⁴

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³ Wildlife Health & Health Policy Program, Wildlife Conservation Society, Gaborone, Botswana

⁴ Wildlife Health & Health Policy Program, Wildlife Conservation Society, Bronx, NY, USA

ORIGINAL ARTICLE

International Trade Standards for Commodities and Products Derived from Animals: The Need for a System that Integrates Food Safety and Animal Disease Risk Management

G. R. Thomson^{1,2}, M.-L. Penrith^{1,2}, M. W. Atkinson³, S. Thalwitzer⁴, A. Mancuso⁵, S. J. Atkinson⁶ and S. A. Osofsky⁶

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⁶ Wildlife Health & Health Policy Program, Wildlife Conservation Society, New York, NY, USA



CHOBE



Conservation – Community – Wildlife – World Heritage – History – Tourism

CONSERVATION

Tourism, beef or both?

Is it either or both? Rethinking productivity in the Kavango Zambezi Transfrontier Conservation Area

SHIRLEY THOMPSON & STEVE OSOBY
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The Wildlife Conservation Society's AHEAD (Animal & Human Health for the Environment and Development) programme, supported by USAID, USFWS and the Rockefeller Foundation, is working to

develop new approaches to mitigating a myriad of disease-linked conflicts between livestock agriculture and southern Africa's vision for trans-frontier conservation areas (or TFCAs). Within these landscapes, farmers sharing the land with wildlife are faced with a serious dilemma: they cannot sell their healthy, free-range beef to regional or international markets.

Current international trade practices dictate that they cannot protect wildlife and, at the same time, farm cattle in the same general area.



PHOTOGRAPH COURTESY WCS/AMBA



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- Our seasonal visitors operate 7 days a week to ensure you do not miss out
- We offer a range of safaris to suit your needs
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Steaks & their aliases

When it comes to cuts of steak, we're spoiled for choice. Here are some of the most common.

Rump steak

A great all-rounder, rump steaks are good value. They're lean and full-flavoured.

Scotch

AKA brisket, rib eye or tri-tip. This is one of the most popular cuts. They're juicy and full of flavour.

Sirloin steak

AKA porterhouse or New York steak. An all-time favourite, sirloin steaks are the choice of steak lovers. They have a fine, yet firm texture and are rich in flavour.

T-bone steak

The quintessential BBQ steak. They're tender, rich and flavoursome. Did you know it has a fillet on the one side of the bone and sirloin on the other.

Fillet steak

AKA eye fillet or tenderloin. The most tender of all steaks. They're mild and subtle in flavour.

Oyster blade steak

AKA flat iron steak. They're lean with a good beef flavour.

What's with the price difference?

Why do steak prices vary so much between cuts? It simply comes down to availability and popularity. The fillet for example makes up a smaller portion of the animal, so there's less to go around and often cost more. That doesn't mean the cheaper cuts aren't as good. Rump and oyster blade steaks for example, are plentiful, full-flavoured, lean and great value.

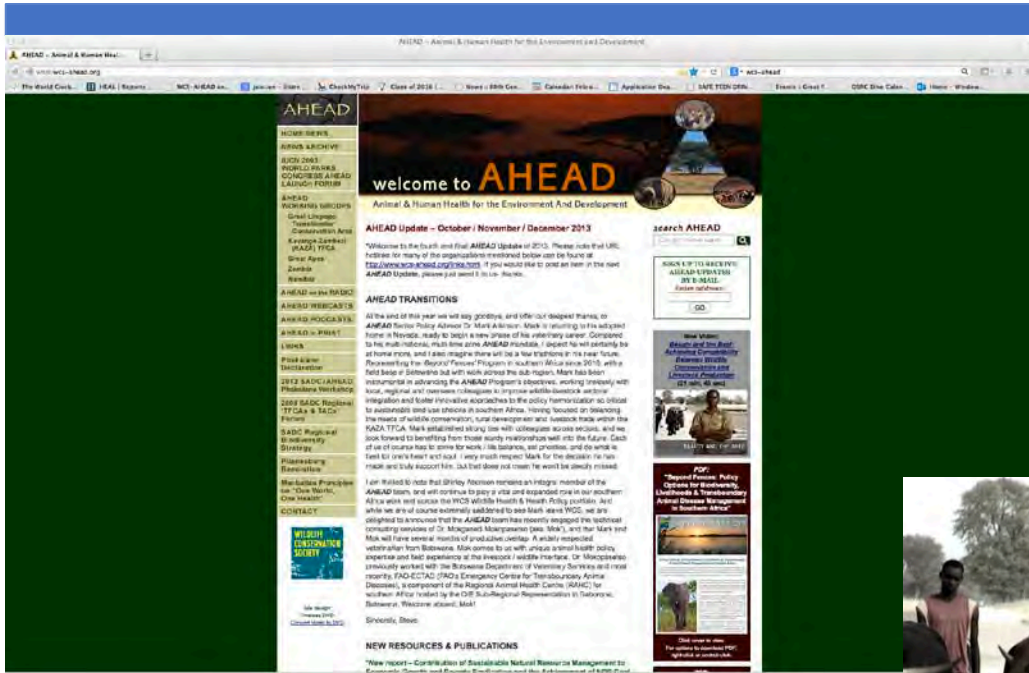
Buying tip

Whatever cut you choose only buy steaks of an even thickness, not wedge shaped – this way they'll cook evenly.

Breakthrough for African Farmers and African Wildlife

because of disease, most of the time they want to support their best to wealthy nations, they will have to get rid of wildlife like buffalo or put up environmentally damaging veterinary control fences. But what should rural farmers choose when trying to lift themselves and their communities out of poverty: protect the wildlife and pursue opportunities related to ecotourism and trophy hunting, or turn their backs on conservation and sell their cattle into the beef export market? The answer is not as simple as it seems. The Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA) is a unique initiative that aims to protect the world's largest population of elephant and other wildlife while also supporting the livelihoods of the people who live in the area. The programme is working with regional and international partners to find new approaches to the safe trade of beef and beef products based on the safety of the most production process itself rather than focusing on where a particular cow has come from. This policy works leading to new, non-fence based ways to manage coexistence between the size of Great Britain. The importance of this is that it allows wildlife to be protected and managed in a way that is sustainable for the future. The programme is working with regional and international partners to find new approaches to the safe trade of beef and beef products based on the safety of the most production process itself rather than focusing on where a particular cow has come from. This policy works leading to new, non-fence based ways to manage coexistence between the size of Great Britain. The importance of this is that it allows wildlife to be protected and managed in a way that is sustainable for the future.

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