

# Wildlife-based land uses in Namibia: linkages with food security

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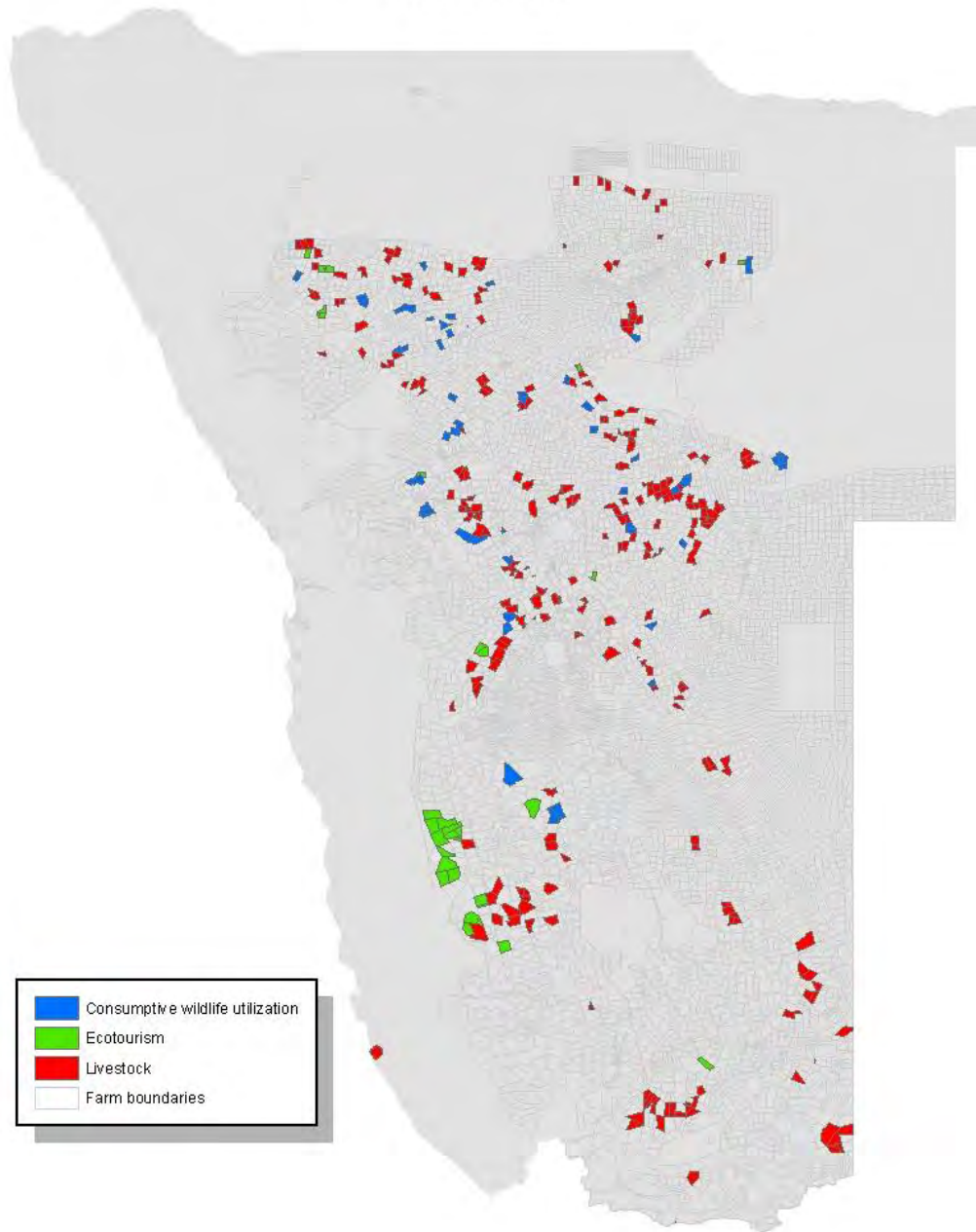
(Mammal Research Institute Univ. Pretoria) in conjunction with TRAFFIC southern/East Africa



**TRAFFIC**  
the wildlife trade monitoring network

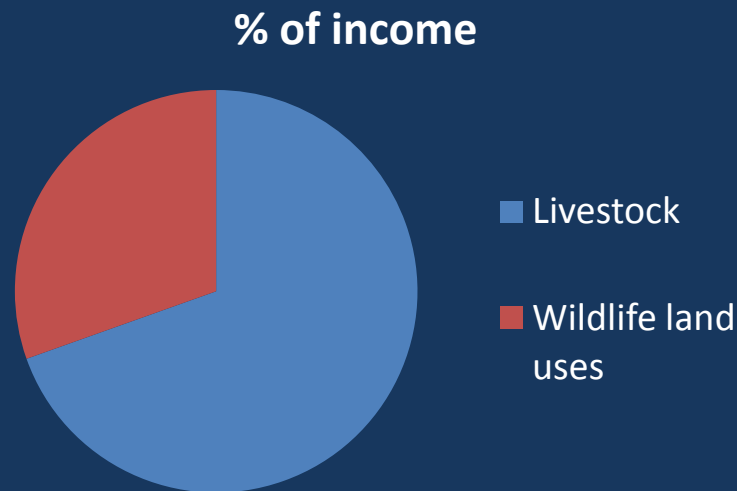


# Primary land use on commercial farms in Namibia



# Livestock farming

- Livestock is still the most commonly practised land use (92% of farmers) and generates most of farmers' income:



- % of income derived from livestock was greater among older farmers (F Ratio=3.69, *d.f.*=8,  $p<0.001$ ).
- % of farmers' income from livestock farming was negatively correlated with employment levels (F Ratio 18.1, *d.f.*=7,  $p=<0.001$ ).

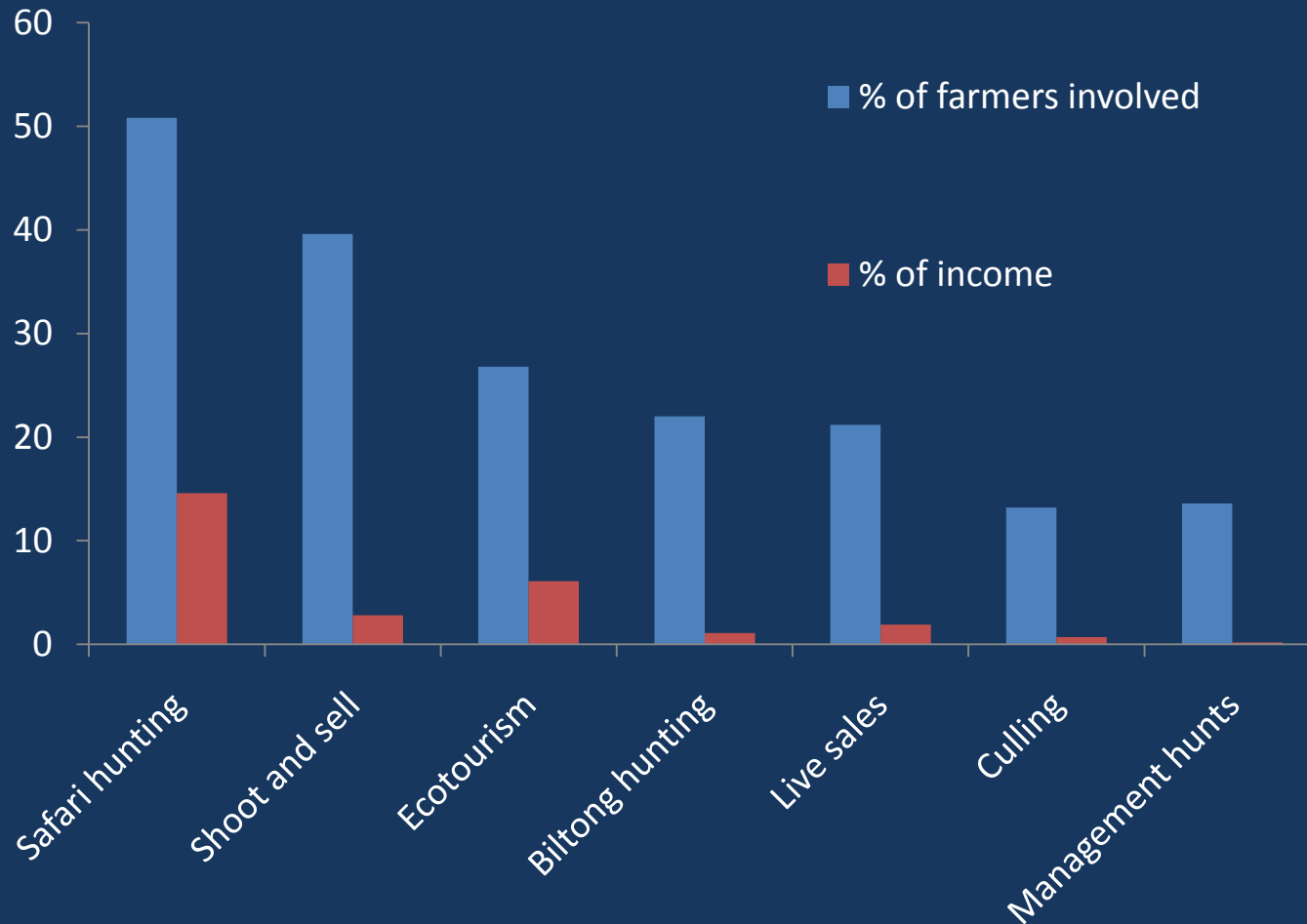
# Wildlife-based land uses (WBLUs)

- Increasing in prevalence (288,000 km<sup>2</sup> used for WBLU, 32,000 km<sup>2</sup> used exclusively for WBLU)
- 80% of farmers derive some income from WBLUs



- % income from WBLU was higher among younger farmers (F Ratio=14.4, *d.f.*=2, *p*<0.001).
- There was a positive relationship between the % income from WBLU and employment (F Ratio 18.1, *d.f.*=7, *p*=<0.001)
- There was a positive relationship between the biomass of wildlife and employment (F Ratio 18.1, *d.f.*=7, *p*=<0.001).

# Safari hunting the most important form of WBLU:



## Several factors suggest that WBLU may continue to increase in prevalence:

- WBLU more popular among younger farmers
- Livestock farming is predicted to be affected 60% more by climate change than WBLU (Barnes et al. 2010)
- Projected increases in tourist and hunter arrivals (notwithstanding recent dips due to the global recession)



However, future trends in land use depend to a large degree on land reform:

- WBLUs not commonly practised by emerging farmers (they derive a mean of 1.6% of income from WBLUs, c.f. 30% for white farmers)





Patterns in wildlife abundance, diversity and population trends on Namibian farmlands

# Factors related to wildlife diversity

Wildlife diversity was:

Higher in conservancies

Negatively related to income from livestock

Positively related to income from safari hunting

Negatively related to farmer age

Negatively related to a farm's distance from the nearest town

(F Ratio—11.7, d.f.=14,  $p < 0.001$ ).

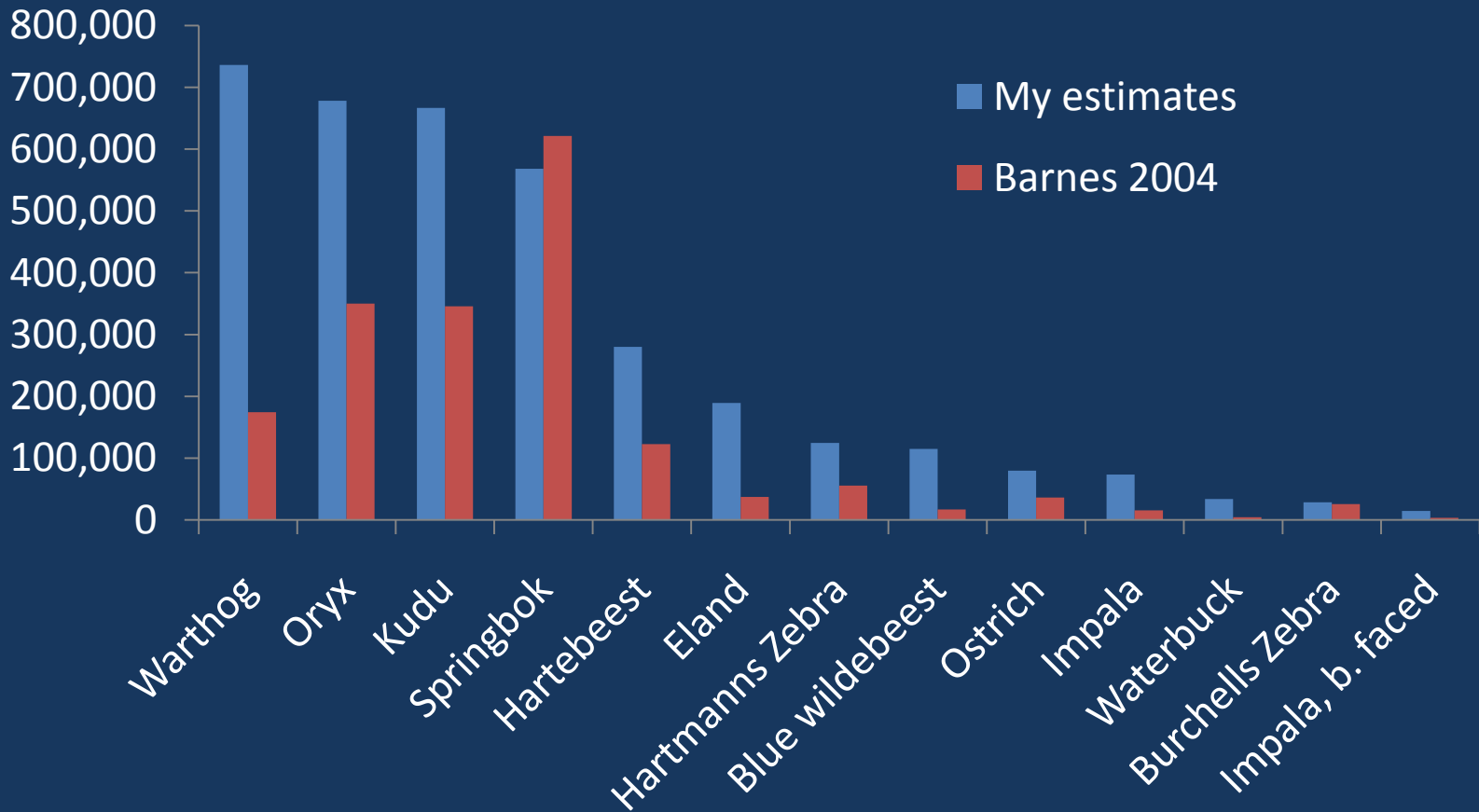
# Trends in wildlife..

- There have been general increases in:
- 1. Wildlife biomass
  - 1972 – 8%
  - 1992 – 18%
  - 2009 – 33%
- 2. Diversity
- 3. Wildlife populations

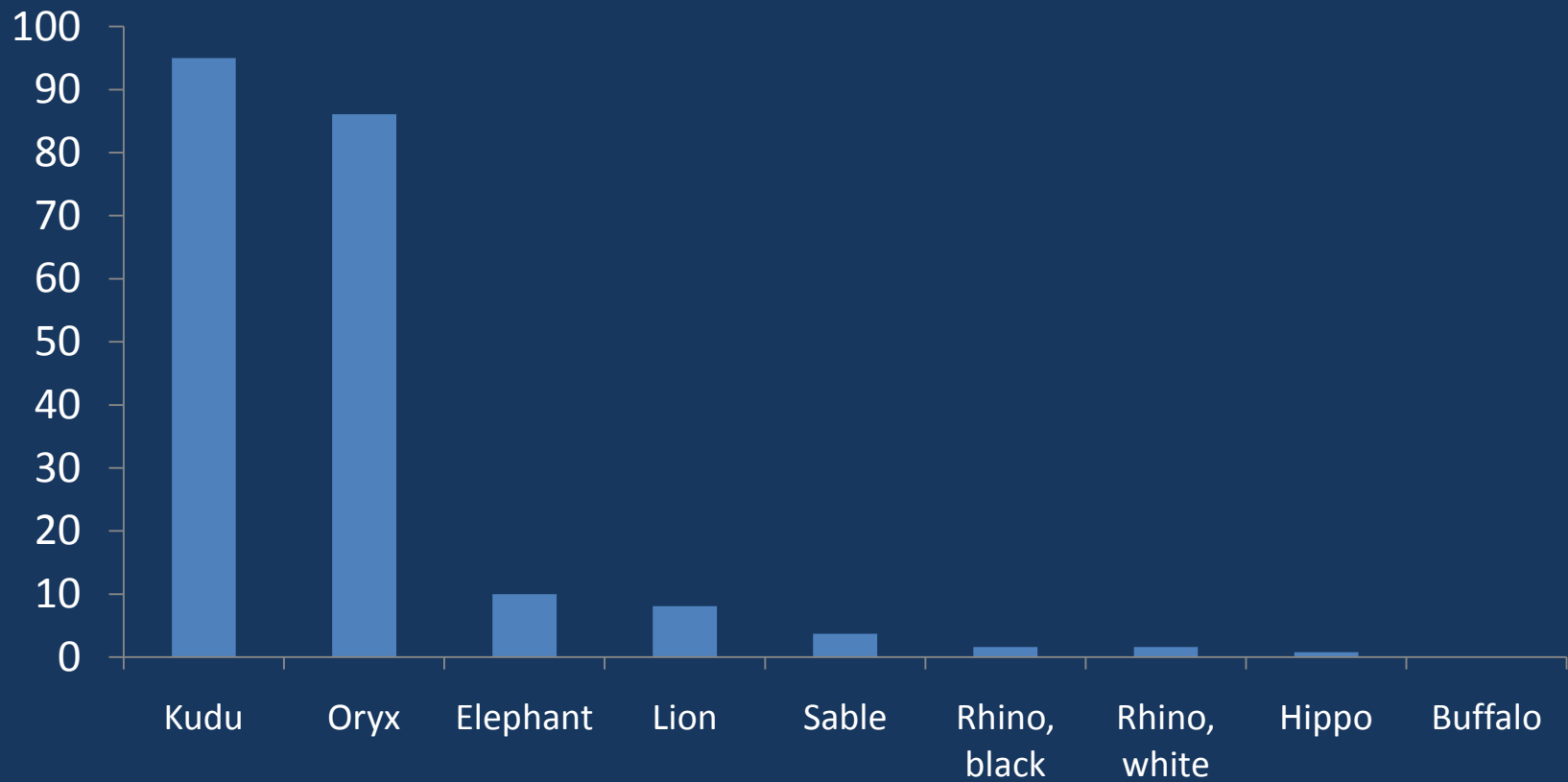


(wildlife populations more commonly increasing inside conservancies)

# Wildlife populations may be higher than previously thought

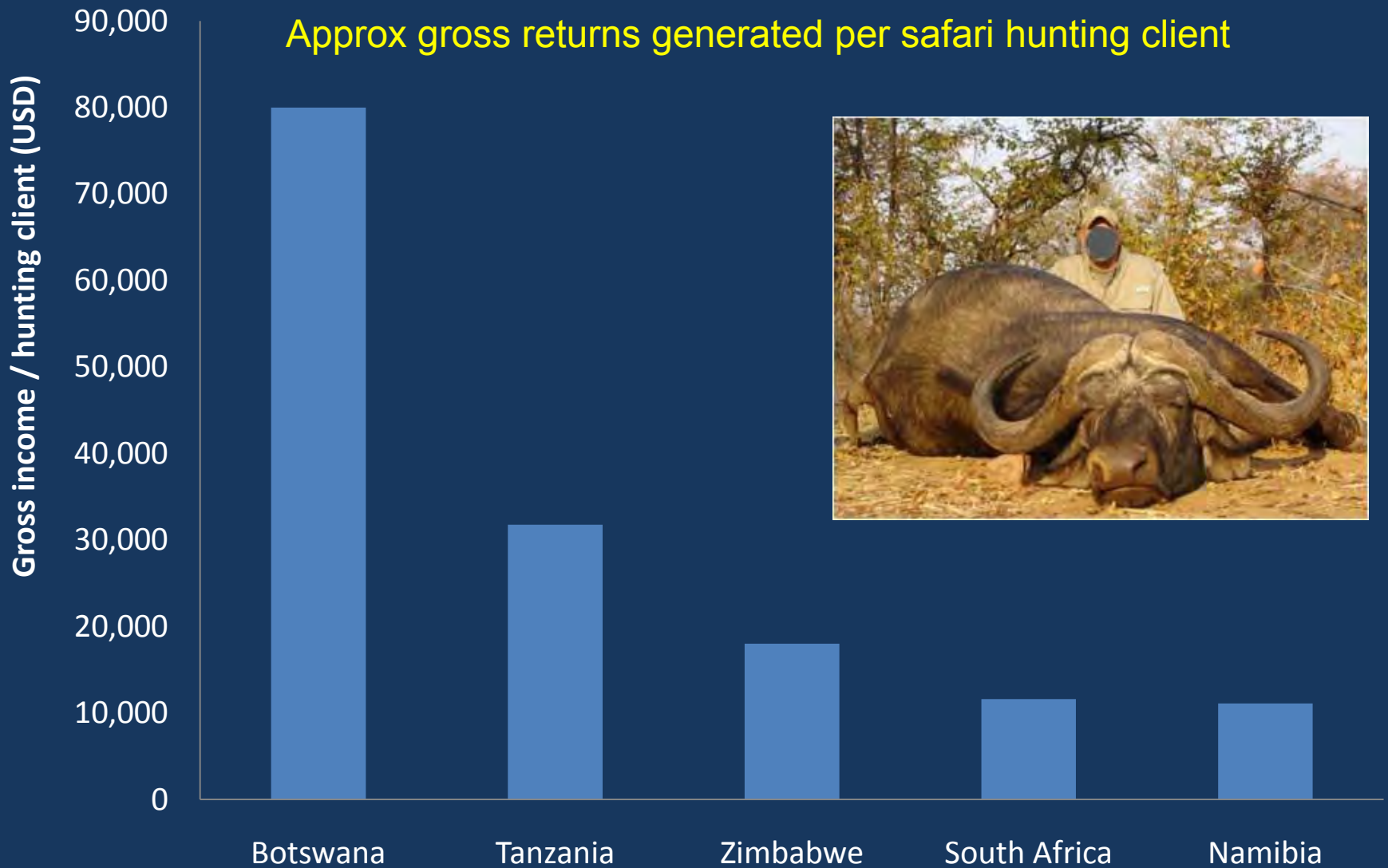


However, large and valuable wildlife is still rare on farm lands..



% occurrence of key wildlife species relative to the two most widespread species

## Approx gross returns generated per safari hunting client



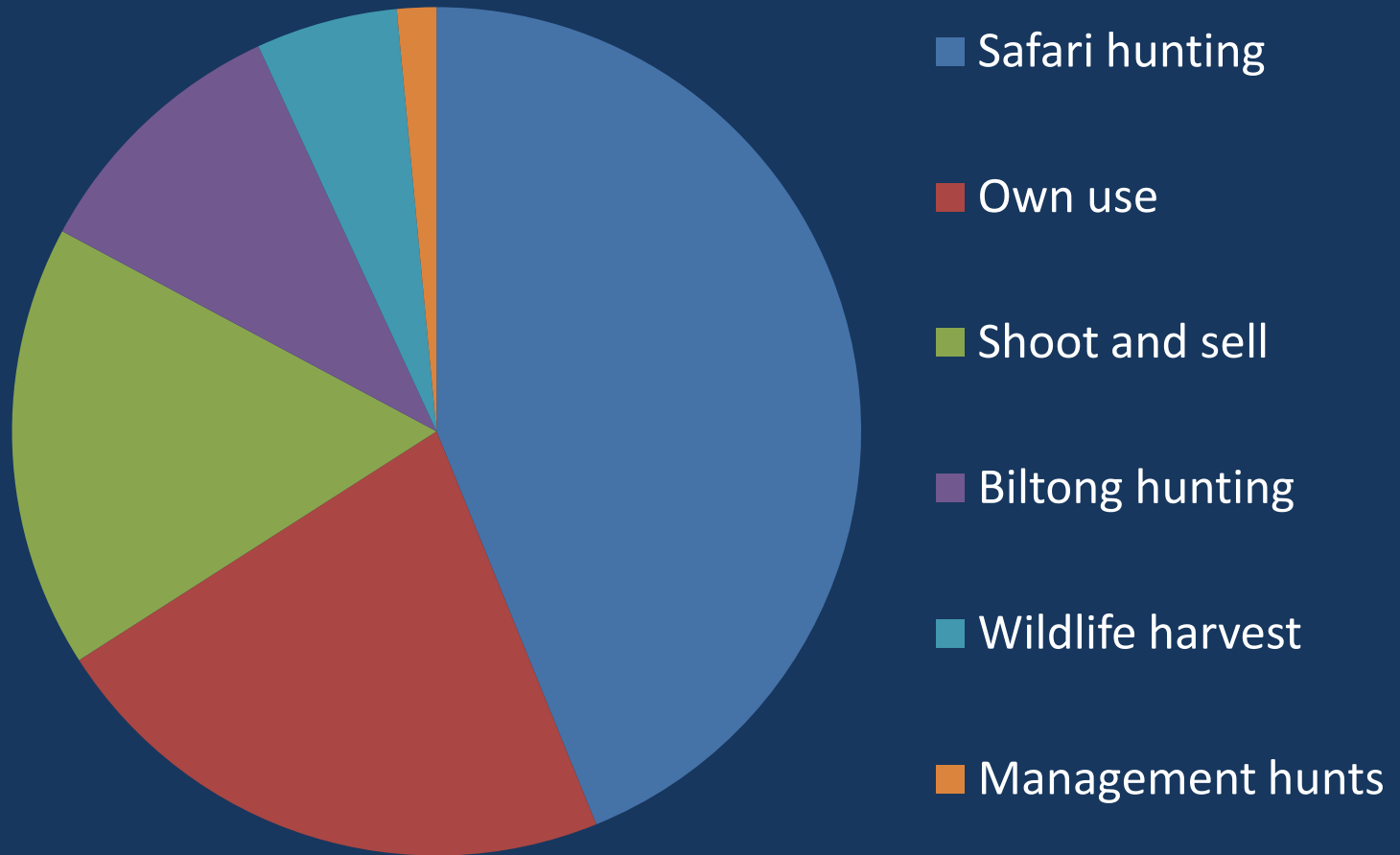
Namibia has the lowest returns per safari hunting client in the SADC region due to the lack of 'big game' and most significantly buffalo on freehold land



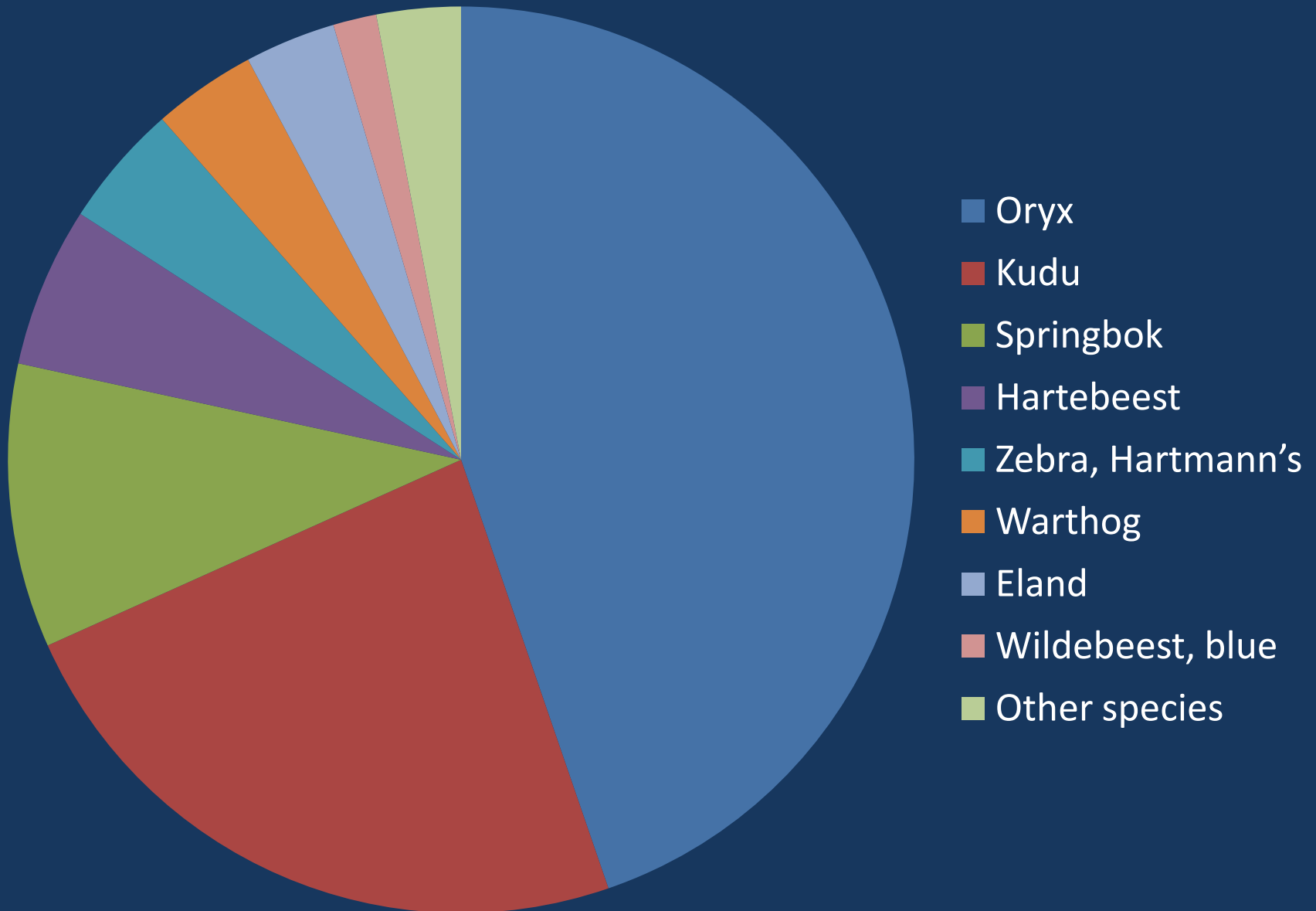
# Land uses, summary

- 1. WBLUs increasing in prevalence
- 2. However, game ranching has only partially developed in Namibia
  - - Livestock still present nearly everywhere
  - - Stock fences ubiquitous
  - Conservancies are fractured and ineffective
  - High-value wildlife species are rare, so most farmers offer similar, low value tourism and hunting experiences...

# Game meat production on freehold farms



# Source of game meat produced



# More game meat is produced on freehold land than previously recognized

Approximately 15-22 million kg of game meat is produced annually on freehold land

Unlike meat from domestic stock (most of which is exported), most (~99%) game meat remains within Namibia

More meat from wildlife stays in Namibia than meat from domestic stock: 15-22 c.f. 12 million kg

# Game meat and food security

- Major source of protein for agricultural workers as rations..
- Workers receive an average of 4.4 kg of game meat per week, and 2.2 kg of meat from domestic stock as rations
- Equates to ~5.3 million kg of game meat as rations per year, supporting ~22,800 workers (and potentially >44,000 people assuming family members benefit from meat)
- ~N\$177 million/year, (40x more than previously recognized (Barnes et al. 2009))
- Earnings could be much higher if a greater proportion of game meat was exported

# Current value of wildlife land uses on freehold land

- Wildlife land uses – Barnes (2009) estimated that WBLU on freehold land were worth N\$1 billion in 2004
- Livestock - ~N\$1.49 billion on freehold land (Meat Board, pers. comm)
- Since then (his data were from 2004), safari hunting has expanded by at least 36% and ecotourism by 24% and the value of game meat was underestimated
- So, wildlife may already be worth N\$1.6 billion on freehold land
- **Wildlife could potentially be worth FAR more than livestock on freehold land, but for this to be achieved, there need to be some changes..**

# 1. Clear political support for WBLU

- Understanding the potential importance of WBLU for food security
- Genuine acceptance of WBLU as a potential alternative or complementary land use to livestock production



## 2. Measures to permit reintroduction of the full range of wildlife species

Where the 'big five' are present....

- Ecotourism operations can charge at least 2 times (and often much) more
- Returns from safari hunting are many times higher
- Land values up to six times higher

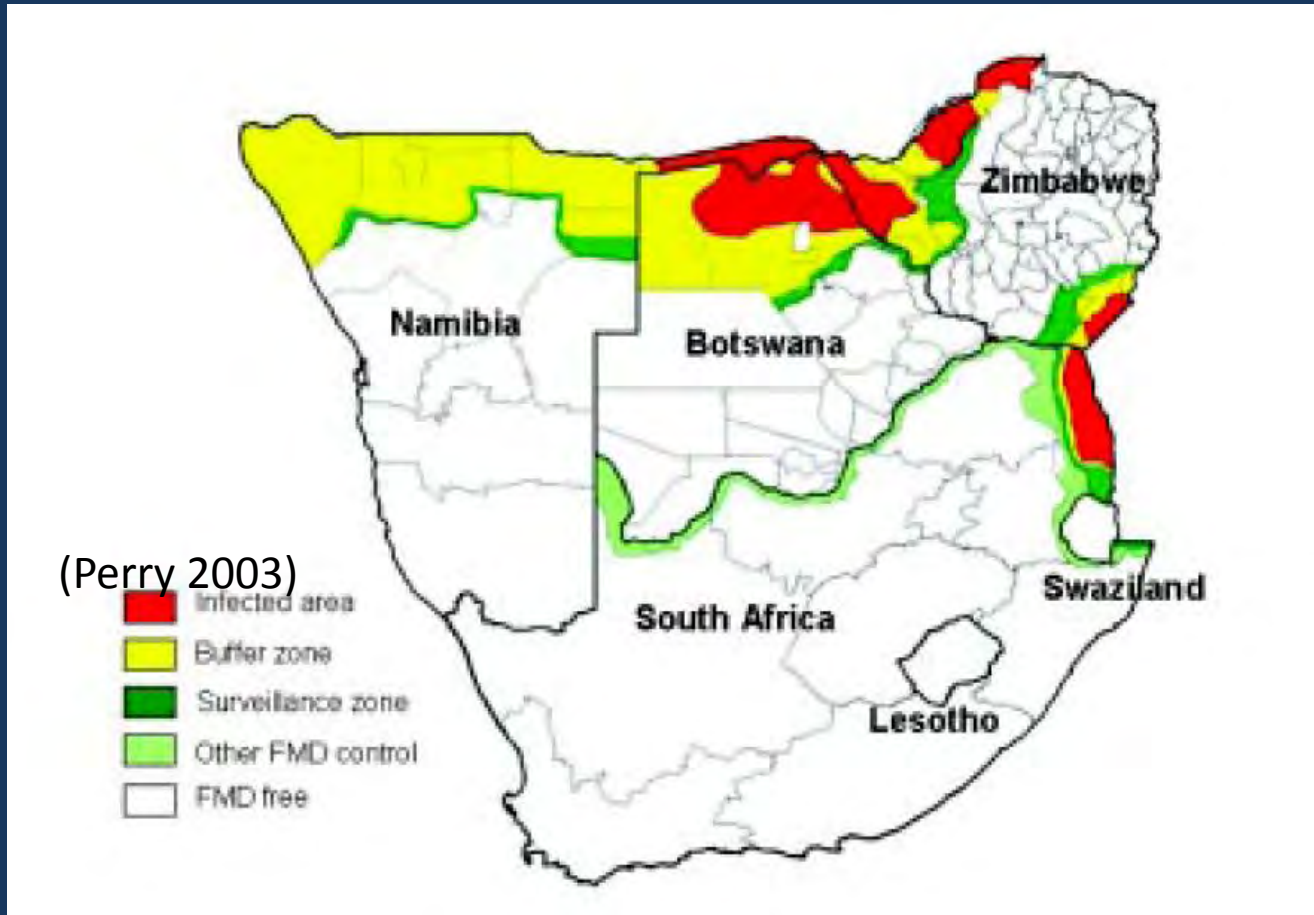




To facilitate big game reintroductions, two key changes are needed:

- i. Alternative veterinary control strategies
- ii. Promoting the practise of WBLU on appropriate scales

## i. A re-think of veterinary control strategies



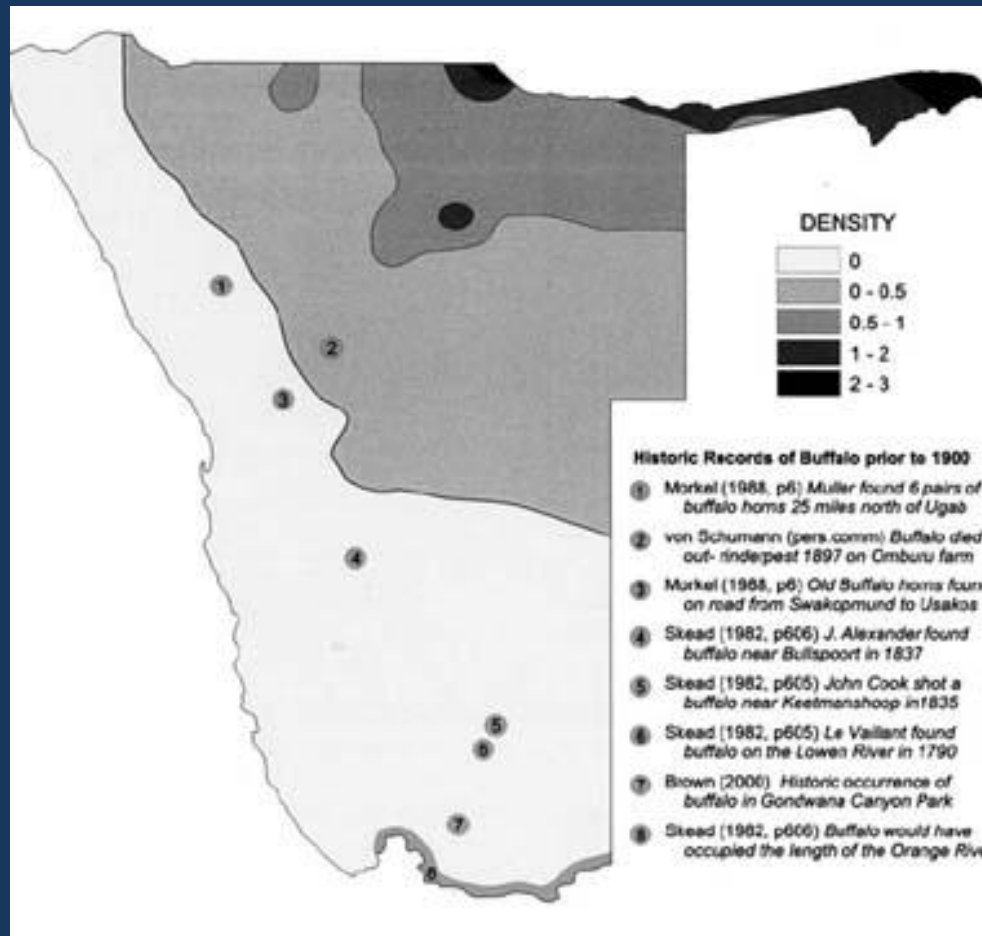
Current veterinary control strategies represent a state subsidy for livestock production, artificially inflating its profitability while markedly reducing potential income from WBLU

Buffalo are the single most important species for  
safari hunting



There is huge scope for buffalo reintroductions  
in Namibia:

# Historically, buffalo occurred widely in Namibia in areas with >250 ml of rainfall



Martin 2005

## Possible alternative veterinary control strategies:

- 1. Shifting of veterinary boundaries
- 2. Compartmentalization to allow creation of wildlife and livestock production zones
- 3. Commodity based trade

However, at the moment all focus appears to be on entrenchment and expansion of current strategies

Given the potential and advantages of WBLU a more even playing field is required which provides scope for the unfettered development of both WBLU and livestock industries in Namibia (presently policies are heavily in favour of the latter only)

## ii. Practising WBLU on appropriate scales: developing fully functional conservancies

- Large fully functional conservancies confer many ecological, social and financial benefits
- Most importantly:
- They permit the reintroduction of large, high value species, permitting high-return ecotourism or trophy hunting
- They provide greater scope for achieving successful wildlife-based land reform

At the moment permitting policies favour fenced, isolated ranches rather than large open systems

### 3. Achieving 'wildlife-based' land reform

- There is an under-representation of black farmers in WBLUs and especially in conservancies
- This undermines political support
- Without active intervention, land reform may result in a shift from WBLUs to livestock
- Active efforts are required to integrate emerging farmers in WBLUs
- Conservancies can play a huge role in this regard....

## 4. Proper representation of the wildlife industry in Namibia

- Similar to..
- Wildlife Ranching South Africa
- (formerly...) The Wildlife Producers Association (in Zimbabwe)
- To give the wildlife industry a voice: at present the interests of the industry are rarely given the consideration they are due during policy discussion



# Conclusions

- WBLU are expanding rapidly
- Food security benefits are conferred through meat provision, forex generation and employment
- However, these benefits would be much greater with a more conducive legislative and veterinary control environment!!

Thanks to:

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