

IS INTENSIVE BREEDING OF COLOR VARIATIONS IN GAME ACHIEVING TRIPLE BOTTOM LINE PROFITS FOR ALL?

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- 1949
- 37 500 members
- 73 branches - Namibia
- Hunting & Conservation
- 200 000 local hunters
- Game farmers
- 2013 - \$ 574 mill
- ± 48% for game – Wildlife Mngt
- Employment: 140 000

CLEAN WATER	FOOD SECURITY	SPIRITUAL	CLEAN AIR CARBON FIXATION
FLOOD MITIGATION	HERITAGE	POLLINATION	RECREATION
NATURAL MEDICINE			LIVELIHOODS

THE NON-NEGOTIABLE...

CONSTITUTION - SECTION 24 - Environment
 Everyone has the right-

- a) to an environment that is not harmful to their health or well-being; and
- b) to have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that-
 - (i) prevent pollution and ecological degradation;
 - (ii) promote conservation; and
 - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.



IUCN

Sustainability speaks directly to societal & financial values i.e. the need to protect the future by providing for the needs of the present while not compromising the ability of future generations to meet their needs

SUSTAINABILITY - A CHANGED WORLD

CHANGING HOW PUBLIC COMPANIES DO BUSINESS

DRIVERS.....

- Global financial crises
- Climate change
- Ecological overshoot
- Improved understanding of dependence on the environment
- Greater stakeholder expectations
- Impact of reputation on business performance
- Population growth
- Have to learn to make more with less

Biodiversity Report (1997)

STAKEHOLDER / PUBLIC EXPECTATIONS

OF BUSINESSES/ACTIVITIES IMPACTING ON OUR HERITAGE.....

- No profits at the expense of the environment, human rights, a lack of integrity or society
- Adequate controls - monitor and manage risks and opportunities
- Benefits are linked to overall performance which includes social, environmental and financial aspects
- Interactive communication with strategic stakeholders
- Business practices are sustainable

ACTIVITIES SUSTAINABLE WHEN...

ONGOING BENEFITS/PROFITS **—** SOCIAL & ENVIRONMENTAL COSTS

- Economic efficiency
- Maintain environmental integrity
- Social equity and responsibility

↳ **BENEFIT TO BROADER PUBLIC**

Triple bottom line profits

BIODIVERSITY ECONOMY



COLOUR MORPHS

Species	Varieties	Names*
Springbok	4	Black, White, Copper, Coffee
Impala	6	Black, Saddled, Black-backed, Grey, Black nosed, White-flanked
Blue wildebeest	2	Golden, King
Blesbok	8	White, Yellow, Copper, Skilder, Woolly, Red, Speckled, Top Deck
Kudu	4	White, Black, Brown, Zebra-striped
Eland	1	Skilder
Red hartebeest	1	King
Gemsbok	4	Skilder, Gold, Cardinal, Scimilar
Plains zebra	1	Golden
Klipspringer	1	Spotted

40% (10/26) commonly traded antelope species have colour morphs

69% (18/26) commonly traded antelope have been genetically manipulated

* Unlike livestock colour variants not accurately described Ian Rushworth ET, KZN Wildlife, 2014

WHAT IS SELECTIVE BREEDING ??????

Definition selective breeding:
 Deliberate selection of and breeding for selected animal traits, usually in controlled conditions.

Coat colour & pattern, horn & body size

- Simple inheritance, recessive genes, more predictable (e.g. coat colour)

Quantitative features, complex inheritance (e.g. horn length, body size)

- E.g. German Shepherd hip dysplasia

IS IT CONSERVATION ??????

CBD: The fundamental **requirement for the conservation** of biological diversity is the **in-situ conservation** of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their **natural surroundings**.

DOMESTICATION: (Latin domesticus: "of the home") the process whereby a population of living organisms is changed at the genetic level, **through generations of selective breeding**, to accentuate traits that ultimately benefit the interests of humans.

Lot Total				
M	F	T	BOMA	Cat

Age: 26/12/2013
 ID: "Sourjir"
 Microchip No: 9450000143224
 Remarks:
 * Hand-reared Black Impole ewe

SELLER / VERKOPER:
 ROBBANDEURS

Horison
 21.3% of 4 years and 10 months
 Sold for R26 million

DRIEHOEK

Superior Genetics unleashed by Superior Nutrition

GAME BREEDING MUESLI
 - The benchmark in Game Feeds

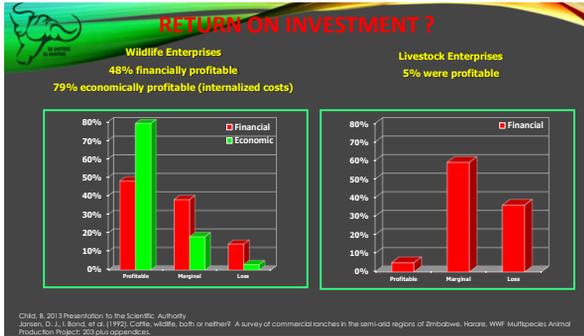
Formulated for fertility and lifelong reproduction ... but you get so much more!

SUMMARY OF BIODIVERSITY RISKS

<p>DIRECT</p> <ul style="list-style-type: none"> • Genetics • Habitat Loss • Habitat fragmentation • Predator persecution • Animal Welfare 	<p>INDIRECT</p> <ul style="list-style-type: none"> • Domestication • Loss of parasite/disease resistance • Disruption of evolutionary processes • Diversion of scarce conservation resources • Veterinary risk
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GENETIC RISKS

- > **Reduced heterozygosity** - Captive stock & Species if conservation only happens inside PA's
 - Selective breeding generated low genetic diversity compared to randomly bred pig breeds. Meeting some productive requirements comes at the cost of diversity. *QU Kai-Xing et al. 2011*
 - Performance improvement of industrial breeds at cost of loss of genetic resources *C R Biol. 2011*
 - The efficiency of modern selection methods successfully increased the production, but with a dramatic loss of genetic variability. Many industrial breeds now suffer from inbreeding, with effective population sizes falling below 50. *Taberlet P. et al. 2008*
- > **Impact on integrity of wild populations**
 - Breeding for traits (size, growth rate), escape or release back into systems
 - current stocking practices have the potential to significantly alter the functional genetic make-up of wild populations
 - stocking with a domestic strain affects the genetic integrity of wild populations (change in diversity, homogenization of population structure, increased individual genetic admixture) not only at neutral markers, but also at local genes. *Fabien C. Lamaze, et al. 2012.*
- > **Founder effects**
- > **Loss of rare alleles/allelic diversity**
- > **Impact related to size of wild population e.g. roan**



2012 GAME AUCTION TRENDS

Dr. M. Saayman NWU – H2 2012

- 18200 animals traded - R960 M
- Animals of outstanding trophy quality and colour variants achieved exceptionally high prices – 80%
- Colour variants and spits = 6% of animals sold, 16% of turnover or R155 million in turnover – this is a 5% growth rate

WILDLIFE INDUSTRY

Game price stampede

SA's wildlife industry is seeing a boom in prices paid for superior breeding animals – but it is a boom subject to deeply divided opinions among game experts

Setting record prices has become the norm for SA's wildlife industry in the quest for the ultimate best of breed and big financial rewards. These high prices account for a large part of the sales at wildlife auctions rising from \$50m in 2005 to \$100m in 2012. For instance, a buffalo bull, sold in 2012 to a syndicate of three buyers, fetched the previous record for a buffalo bull of \$25m, set in 2011. He dwarfed the 2005 record of R155 000. "They should make their money back (on the investment) in a matter of months," says one of the buyers. "It is because our ranches are increasingly limited from the reactive species. But not all experts see a rising price trend in the industry."

To achieve competitive success, a game farmer must possess a competitive advantage in the form of either lower cost or differentiated products that command premium prices (Porter, 1985)

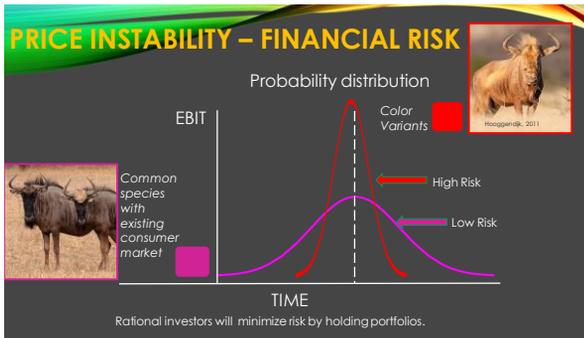
TRENDS – SELECTIVE AND INTENSIVE BREEDING

- Less expensive to keep animals in camps
- Smaller property sizes required lower investment cost
- Significant income potential - ECONOMIC VALUE
- High investment growth – unique and rare product offerings (83% ROI)
- Out compete JSE ASI and DJ (Fin Mail, 2013)
- Branding critical – SA compared to East African (Not proudly South African)
- As colour variations become more common, prices decrease
- Niche market hunting specimens – price instability

Asset	Trend	Growth on investment %
White Blesbok	↑	71
Yellow Blesbok	↑	446
Golden Gemsbok	↑	499
Blackback Impala	↑	130
Black Impala	↑	49
Black Springbok	↑	80
Copper Springbok	↑	48
White Springbok	↑	19
Golden Gnu	↑	11
White Kudu	↓	64

WHO BENEFITS ?





CONSUMERS & BENEFITS ?

- Local hunters – cant afford it, price of common game ↑
- Trophy hunting – insignificant demand
SAHGCA – 37 000 members ↓ CIC, SCI, Roland Ward – ↓ Do not support colour variations and selective breeding for exceptional trophy qualities
- Reputational concerns for Hunting Industry:
 - Put and take – not hunting
 - Trophy integrity
 - Canned shooting – reputational impact on SA
- Eco-Tourism one of three economic pillars - impacts on product offering
- Hunting and economic expert - selective breeding “bubble”

Real risk to hunting and eco-tourism - Hunting 67% contribution

BUBBLE.....PONZI SCHEMES ?

..... pays returns to investors from money paid by subsequent investors, rather than from profit earned by the organization..... new investors are enticed by offering higher returns than other investments that are either abnormally high or unusually consistent..... the perpetuation of the high returns requires an ever increasing flow of money from new investors to sustain the scheme.....

- Breeder pairs of “special breeder stock” sold for \$30,000
- Farmers convinced - ↑ eggs, offspring sold at \$15,000
- Ex-dairymen - ↑ debts in the hope of making money
- CHALLENGE.....someone had to kill the birds and make them into steaks costing \$4,000 a serving
- The last round of buyers (“greatest fools”) gave up trying to break even—and in desperation, decided to eat them or some just opened their gates

Tulip price index 1626-37

Source: Wikipedia

CONSERVATION TARGETS, ECOSYSTEM SERVICES & BIODIVERSITY ECONOMY

EXTENSIVE WILDLIFE AREAS
Ecosystem Services – \$4.8 bil or 3% GDP

<p>PRIVATE LAND (game and cattle)</p> <ul style="list-style-type: none"> Livestock to wildlife ranching – landuse potential Approximately 9600 game farms 1 Contribution to conservation, eco-tourism & hunting (70% of wildlife industry) 3x more land than formal PA (20.5 vs 7.5 Mil ha) WR ↑ Profitable (5% vs 13.5% ROI) WR capital investment \$6: \$1 income Ave low profitability, increase with size of farm Profits from ↑ land value and game 	<p>COMMUNAL AREAS</p> <ul style="list-style-type: none"> Available land ↓ Funding ↑ Capacity ↓ 	<p>PROTECTED AREAS</p> <ul style="list-style-type: none"> Funding ↓ Management ... Gauteng, KZN, NW no natural areas outside PA's by 2050 (NBA)
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↑ SELECTIVE BREEDING ↑ MINING ↑ SETTLEMENTS ↑ FORESTRY




CONCLUSION

Ramaphosa rakes in millions for impala

Impressario Cyril R. Ramaphosa

Linpopo - Deputy President Cyril Ramaphosa has called on white landowners to keep faith in the constitution - and keep on breeding in their farms.

Ramaphosa was speaking at a public meeting on Saturday in a province where the major issue has been the impact of the new constitution on the rights of white farmers to keep their farms. He said the rights had never been taken away and he had an 80 million rand farm.

There, he was criticised for being out-of-touch in a province where many are poor.

Ramaphosa, 49, broke from tradition to be, instead, with the white farmers. In a 2011 interview on the Star Game Business section he said at 1000 Lodge, where he was selling his game products.

The 47-year-old politician admitted it on the country's conservation and biodiversity issues, including the role of white private game breeders in the land, as the first ever and most visible contribution to the game.

South African President Jacob Zuma (right) with Deputy President Cyril Ramaphosa (left) at 1000 Lodge, where he was selling his game products.

- Face of the Wildlife Industry changed
- Wildlife - financial commodity
- Responsibility – constitutional and moral
- Wildlife Industry can play a huge role in conservation and the GREEN ECONOMY
- **Challengeconverting the value of wildlife resources into positive land use outcomes contributing to biodiversity conservation and economic development in a socially responsible manner that will benefit current and future generations**

WHERE TO FROM HERE.....

- Make sure its about triple bottom line profits for all
- Improve profitability models for extensive areas
- Incentives for achieving national conservation targets
- Investigating a premium game meat export system
- Promote as driver in the biodiversity economy
- Highlight risks impacting on extensive wildlife systems
- Green certification for extensive systems and hunters

THANK YOU

South African Hunters and Game Conservation Association

