





Introduction 




- 70% of the region's population depends on agriculture for food, income & employment
- Livestock plays an important role in the livelihoods of the farmers of the region as it contributes to more than **30% of the agricultural GDP**
 - Of all the livestock species, beef contributes the largest GDP
 - Smallholder farmers obtain more income from cattle than other species
 - Has **unique** uses than other species

Introduction 

- Cattle population in SADC
 - 64 million
 - 75% are raised on communal rangelands
- Indigenous cattle dominant
 - *B. taurus africanus* & *B indicus*
 - ± 40 breeds/ ecotypes





Major uses of cattle 

Economic	<ul style="list-style-type: none"> • Food & nutrition • Power (draft & energy) • Income • Employment • Genetic diversity 	
Ecological	<ul style="list-style-type: none"> • Manure • Biodiversity conservation • Utilize agrarian waste 	
Social	<ul style="list-style-type: none"> • Culture & heritage • Sentimental value • Aesthetic value 	

Unique features of indigenous cattle


- Quality animal products
 - Meat - healthy fatty acid profile
 - Skins and hides – Beautiful colours
- Horns – unique shape & size
- Disease & parasite resistance
- Tolerance to heat, nutritional & **water** stress






Challenge I: Indigenous breeds under threat of extinction 

- In Africa:
 - 20% extinct
 - 32% danger of extinction
 - In South Africa
 - <1000 of Nkone, Pedi and Shangaan ecotypes
 - Nguni population decline rapidly - 1.8 m to 0.1 m (1992 to 2000)
 - Globally we lose one breed every month




Major factors threatening breed extinction 

- Replacement with imported breeds
- Crossbreeding with imported breeds


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B. taurus africanus *B. taurus* *Non-descript crossbreeds*
 ~66% of breeds in SA communal areas

Other factors threatening breed extinction 

<ul style="list-style-type: none"> Agricultural industrialization Mechanization Shift of production systems Shrinkage of grazing lands 	<ul style="list-style-type: none"> Profit-oriented farming Policy developments Climate change Diversifying market demands
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Challenge 2: Indigenous breed underutilization & neglected



- Underutilised -
 - Strong focus on:
 - High-yielding breeds
 - Breeds that mainly offer provisioning ecosystem services
- Neglected -
 - Cultural benefits and genetic diversity

Way forward




- Owners have not been deriving optimum benefits & livelihoods from the indigenous cattle genetic resources
- Genetic erosion and underutilization can be minimised :
 - Through their **sustainable use**
 - Allows the genetic resources to continuously evolve & produce while adapting to the changing environments


Strategies for sustainable use of cattle genetic resources




- The **unique features** of indigenous cattle should be considered to:
 - Ensure equitable & sustainable sharing of benefits deriving from them
 - Develop climate change response strategies
 - Formulate future policy and regulatory measures

Strategies for sustainable use of cattle genetic resources 


- Commercialization of indigenous breeds
- Promoting novel uses of indigenous cattle
 - e.g. Eco-tourism
- Production of high quality products (meat & hides)
- Improving product valuation systems
 - e.g., carcass classification system

Strategies for sustainable use of cattle genetic resources 


- Product processing
 - e.g biltong, sausage, burger
- Developing markets and improving access (eg. Nguni & NAMC custom feeding projects)
- Establishment of niche markets (skins & hides - upholstery)
- Increasing the profitability by enhancing market & nonmarket values

Strategies for sustainable use of cattle genetic resources 


- Supporting the rearing of indigenous cattle breeds through:
 - **Alternative & novel feeds** (e.g., use of IAPs, fruit by-products)
 - Alternate **water sources and water saving strategies**
 - Novel healthcare solutions (e.g., one health concept)
 - Innovative breeding practices and programs (e.g., CBBPs)
 - Appropriate bio-technology
 - Use of novel extension methods (e.g., use of ICT)
 - **Innovative infrastructural and institutional services**

Strategies for sustainable use of cattle genetic resources 


- Women face cultural & institutional barriers to control AnGR & access benefits from them
- They are, however, likely spend their income to improve family welfare than men
- Youths generally lack interest in cattle farming
- Indicates absence of dedicated & motivated heirs to advance sustainable use of AnGR in the future
- NB: engage & empower women & youth on the sustainable use of AnGR

Strategies for sustainable use of cattle genetic resources 

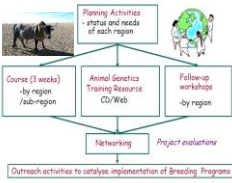
- Raising awareness among farmers & policymakers about:
 - The uniqueness of the breeds
 - Importance of maintaining purity of the breeds
 - Potential roles of the breeds in climate change adaptation
 - Tap farmers' ITK using appropriate methods

Strategies for sustainable use of cattle genetic resources 

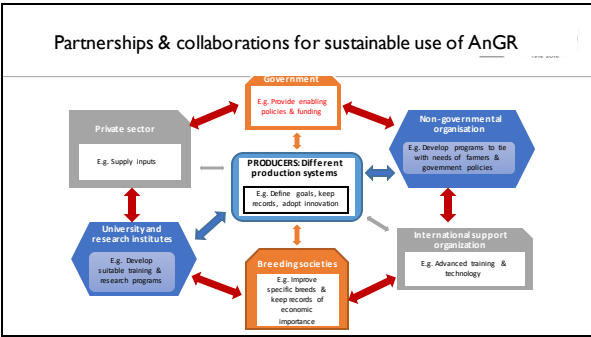
- Policy and legislation to address complex issues:
 - Meat quality and safety standards
 - Response to diseases
 - Animal welfare
 - Biotechnology
 - Exchange of animal genetic resources

Strategies for sustainable use of cattle genetic resources 

- Capacity building
 - ILRI & Swedish University of Agric Sci
 - Trained 100 scientists from 25 countries in SSA
- Genetic improvement
- Breeding programme design
- Sustainable use
- Research & science communication



Osango et al., 2009 Appl. Anim. Husbandry & Rural Dev. 2:23-26.







Thank you
 Enkosi
 Tatenda
 Dankie
