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Public Private Dialogue on Beef Value Chain Development
From Assets to Investments

Impact of certain diseases on beef value chains in SADC

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Background

- Income generators for Botswana and the SADC region: Mineral resources, agriculture and nature-based tourism
- Agriculture:
  - Important for livelihoods, employs the greatest number of people
  - Livestock production is the major sector in the drier western SADC countries
  - Cattle farming is the main livestock activity in most SADC countries; beef exports generate foreign exchange
- Nature-based tourism:
  - Important generator of foreign exchange (income higher than beef revenues)
  - Potential to increase employment
- Conflict between livestock production and wildlife conservation/tourism
  - Land use
  - Animal diseases with wildlife reservoirs

DISEASES OF IMPORTANCE AT THE WILDLIFE-LIVESTOCK INTERFACE

DISEASE	WILDLIFE INVOLVEMENT
Foot and mouth disease	African buffaloes (*Syncerus caffer*) – reservoir of SAT viruses; can be transmitted by other species e.g. impalas
Bovine theileriosis (Corridor disease)	African buffaloes are asymptomatic reservoirs of the blood parasite, which is transmitted to cattle by ticks
Rift Valley fever	Various species of wildlife can be asymptomatic reservoirs of the virus, which is transmitted to cattle by mosquitoes
Malignant catarrhal fever	Wildebeest (gnu) (*Connochaetes* spp.) are asymptomatic reservoirs of the virus (alcelaphine herpesvirus 1)
Anthrax	Massive outbreaks often occur in wildlife with spread to cattle
Bovine tuberculosis	Spill over from cattle to wildlife, which may become a reservoir
Bovine brucellosis	Spill over from cattle to wildlife, which may become a reservoir
Rabies	Spill over from domestic dogs to wild carnivores
African swine fever	Warthogs (*Phacochoerus africanus*) are natural hosts of the virus, which is transmitted to domestic pigs by soft ticks (*Ornithodoros* spp.)

IMPACT OF DISEASES ON VALUE CHAINS

- Foot and mouth disease
  - Main disease of importance in terms of value chain disruption and exclusion of potential players from value chains
  - Export of beef depends on maintaining zones that are officially recognised as free of FMD by the World Organisation for Animal Health (OIE) and trading partners e.g. EU
  - An outbreak of FMD in a free zone results in trade bans that can last 2 years or longer; 2011-2013 FMD outbreak in SA reportedly cost the beef industry ZAR 4 billion annually in lost exports
- Other diseases
  - Some, e.g. Rift Valley fever, can result in bans on live cattle and even beef (African swine fever results in bans pigs and pork)
  - Most of the diseases can reduce the supply chain due to low productivity and/or mortality
  - Some of the diseases are zoonotic (RVF, anthrax, bovine tuberculosis, bovine brucellosis, rabies); 26 people died in 2010 SA RVF outbreak

FMD IN THE SADC REGION

- Countries recognised as free of FMD without vaccination
  - Lesotho, Madagascar, Mauritius, Swaziland (Seychelles is also free but has not made formal application to OIE for free status)
- Countries with zones recognised as free of FMD without vaccination (geographical separation between zones with and without African buffaloes)
  - Botswana, Namibia, South Africa
- Countries considered to be infected with FMD
  - Angola, DRC, Malawi, Mozambique, Tanzania, Zambia, Zimbabwe

MAINTAINING ZONE FREEDOM WITHOUT VACCINATION

- High maintenance costs (figures difficult to obtain but keeping fences intact requires money, men and machines)
- Status suspended immediately if an outbreak occurs; high cost of eradicating outbreak and providing evidence of freedom
- Permanent exclusion from high value markets of cattle producers in areas that cannot be free without vaccination due to presence of African buffaloes e.g Ngamiland in Botswana, Zambezi in Namibia, area surrounding KNP in South Africa
  - Unfair to disadvantaged farmers and increasingly difficult to defend politically
  - Low cattle numbers contribute to lack of competitive edge – could increase supply to strengthen the beef value chain
- Negative effects of fencing on biodiversity conservation and potentially on income from nature-based tourism

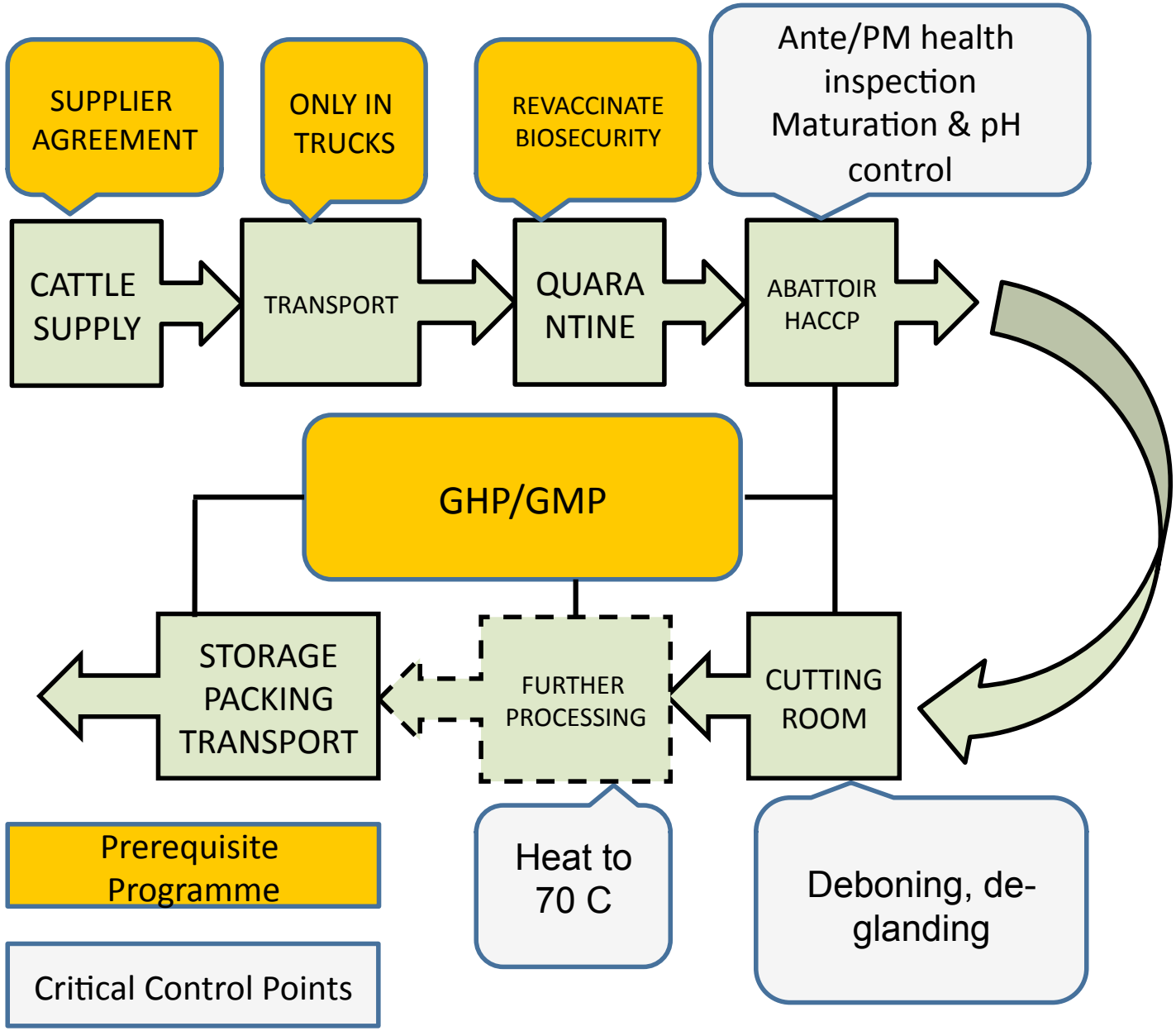
ARE THERE ALTERNATIVES?

- Zones free from FMD with vaccination
  - Several countries in South America; Turkey
  - Not as feasible for SADC due to SAT viruses (more variation)
- Compartments free of FMD
  - Based on biosecurity systems that can be monitored/audited/certified
  - Guidelines provided by OIE Terrestrial Animal Health Code
  - No official recognition by OIE but can be negotiated with trading partners
  - Works best in intensive farming systems (pigs, poultry)
  - No vaccinated animals allowed – problem for SADC
- Value chain approach – risk mitigation along the value chain
  - Guidelines for risk mitigation for animal diseases provided by FAO (2011)
  - Commodity-based/HACCP approach applicable (as for food safety)
  - Article 8.7.25 of Terrestrial Animal Health Code (wildlife remains a problem)
  - Pilot project for production of safe (FMD-free) beef in Zambezi Region, Namibia

PILOT PROJECT IN ZAMBEZI REGION

- African buffaloes present and fencing is not feasible (rivers)
- Matured de-boned beef from which all visible lymph nodes have been removed (i.e. de-glanded) cannot harbour FMD virus (confirmed by experimental studies, OIE risk analysis, quantitative risk analysis for project)
- Process of risk mitigation from farm to final product (de-boned de-glanded beef or further processed products derived from it) incorporates Prerequisite Programme and HACCP
- Requires participation and commitment from all the value chain actors especially the farmers
- Can be implemented in any of the FMD-infected areas and countries
- Work to develop more detailed guidelines as well as standards that can be used for trade is ongoing

VALUE CHAIN RISK MITIGATION FOR FMD



Thank You