

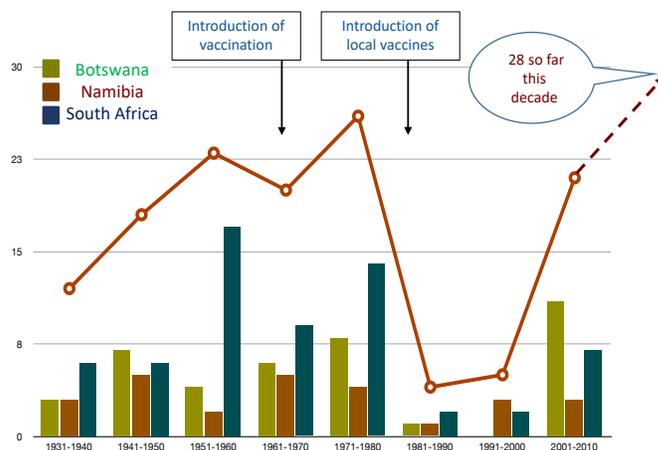
Towards alignment of disease management and livestock trade promotion in Ngamiland

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Commodity-based trade and enhanced market access: The vital role of the Department of Veterinary Services

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Long-term FMD control in Southern Africa: 1931-2017



Incidence of FMD 'events' in cattle over 8 decades in three southern African countries

Pillars of current FMD management in southern Africa:

- Targeted surveillance (physical inspection) in or near locations where African buffalo are present
- Separation of buffalo from livestock populations, primarily through the use of game-proof fencing, to enable the creation of FMD-free zones
- Control of the movement of infectious materials
- Routine prophylactic vaccination of cattle (occasionally goats & sheep) in high risk situations

This has been the basic strategy for many decades

A regional problem – not just for Botswana: Traditional approach is not working!

Possible reasons for declining effectiveness of FMD control

- Increasing livestock numbers ⇒ more intense interaction at livestock/wildlife interface
 - creation of TFCA's could increase incidence of FMD outbreaks but currently not a significant factor because there have been few changes on the ground in TFCA's
- Preventive mass vaccination programmes appear less effective than formerly
 - vaccine quality has been improved but available vaccines still likely do not protect against all circulating FMD viruses (i.e. 'matching' of buffalo viruses & vaccine strains difficult)
 - poorly organised vaccination programmes that do not deliver adequate vaccine coverage
 - inadequate auditing of vaccination programmes & lack of corrective measures when post-vaccination monitoring indicates inadequate herd immunity
 - net result ⇒ poor protection of the susceptible cattle population
- Some claim veterinary services are less effective than formerly but difficult to measure

Some realities

- In situations like Ngamiland, FMD cannot – with existing technology – be eradicated; explanation published (Thomson, Fosgate & Penrith, 2017 – Transboundary & Emerging Diseases)
 - not only because of wildlife involvement, i.e. includes other unique features of SAT serotype FMD
- So, if correct, southern Africa will have to learn to live with FMD, i.e. minimise both its direct & indirect impacts
- CBT is a mechanism designed to address the major indirect impact of contagious animal diseases, i.e. the trade effects of commodities not produced within disease-free areas
- For a number of reasons CBT cannot flourish if background control of FMD is inadequate
 - CBT benefits from improved FMD control generally
- So FMD control & CBT application need to be complementary (or, at least, not incompatible)
- The question is therefore: How can (1) more effective control of FMD & (2) complementarity between CBT & FMD control be achieved?

Suggestions (short term)

- Sticking to the same old strategy against FMD management has little prospect of success
 - Time for re-evaluation is overdue!
- Currently FMD outbreaks are considered an unexpected crisis
 - Not logical
 - Better & more honest awareness creation is needed, especially among cattle owners
- Better understanding of the epidemiology of SAT-type FMD among animal health professionals
 - Need to improve understanding of SAT virus epidemiology and strengths/weaknesses of potential intervention strategies
- The OIE has introduced a new quarantine option in clause 1.c of Article 8.8.22
 - Requested by SADC Secretariat – ready for exploitation (including potentially in Ngamiland)
 - So its implementation needs to be planned & implemented
- Major issue: Management of FMD ‘outbreaks’ unnecessarily disruptive of trade
 - Due to the imposition of extensive quarantine & movement restrictions lasting many months (cover large areas for 3-18+ months)
 - unjustified based on current understanding of the epidemiology of SAT-type FMD
 - More practical & effective strategies could be developed that would benefit cattle owners of the region

Suggestions (longer term)

- Prophylactic vaccination strategies need to be reassessed & more carefully audited
- International standards & recommendations do not cater for the SAT-type/wildlife problem
 - International organisations need to be persuaded that this issue needs to be urgently addressed (they know about it)
 - ‘Progressive Control Pathway for FMD’ does not even mention the SAT/wildlife problem
 - SADC was doing a good job in advancing the regional cause until recently but impetus seems lost; rejuvenation needed

Sanitary risk mitigation (FS & AD) actions applicable along beef value chains

Location	Prerequisites and critical control points (CCP – bold)	Food safety CCP	Animal disease CCP
Field	<ul style="list-style-type: none"> Animal ID, associated data base & cattle traceability system Control of cattle movement Grazing & kraaling strategies that avoid contact with buffalo as far as possible Compliance with vaccination programmes aimed at control of TADs (FMD, anthrax, CBPP) Avoidance of undesirable feeding practices (e.g. use of MBM), observance of treatment recommendations for control of parasites & infectious diseases (including observance of withdrawal periods for medicinal treatments) Monitoring of compliance at farm level (MP) 		
Transportation	<ul style="list-style-type: none"> Motorised transportation to QS & abattoir (i.e. avoidance of trekking) Observance of good practice guidelines provided by Mentorship Programme (avoidance of overcrowding & use of unsuitable vehicles) Decontamination of transport vehicles between batches of animals 		• •
Quarantine station	<ul style="list-style-type: none"> Modification of management practices that do not comply with international norms plus development of corrective strategy Revaccination against FMD on entry to the quarantine facility Health inspection of all animals at start & end of quarantine period 		• •
Abattoir	<ul style="list-style-type: none"> Documented traceability system Washing down of animals on arrival at abattoir Cleanliness of the holding areas Ante- & post-mortem health inspection (including carcass inspection) HACCP & GHP implementation supported by independent certification Temperature control of carcasses and harvested cuts Prescribed carcass maturation over 24 hour period, including pH determination Thorough deboning & removal of lymph nodes Microbiological monitoring Residue monitoring Screening of sera & lymph nodes to certify achievement of standards set for FMD control (experimental) 21 day 'quarantine of meat' (post-slaughter) 	• • •	• • • •
Processing and packaging	<ul style="list-style-type: none"> GHP HACCP certification Refrigeration control Metal detection 	• •	

Abattoir actions & critical control points (CCPs)

Action	Food safety CCP	FMD CCP
Documented traceability system		
Washing down of animals on arrival at abattoir		
Cleanliness of the holding areas		
Ante- & post-mortem health inspection (including carcass inspection)	√	√
HACCP & GHP implementation supported by independent certification		
Temperature control of carcasses and harvested cuts	√	√
Prescribed carcass maturation over 24 hour period, including pH determination		√
Thorough deboning & removal of lymph nodes		√
Microbiological monitoring	√	
Residue monitoring		
Screening of sera & lymph nodes to certify achievement of standards set for FMD control (experimental)		
21 day 'quarantine of meat' (post-slaughter)		√

Conclusion

- The management of FMD in the SADC Region has regressed in the last 15-20 years; that trend therefore needs to be turned around
 - Trying to do more of the same but better is unlikely to be the answer – in fact there are technical reasons why that is a recipe for failure!
- There is an array of potential improvements that could be instituted to improve FMD control & facilitate trade in livestock commodities in FMD-endemic areas like Ngamiland
- However, this is a complex field & selection of the best approach requires informed consideration (no magic bullet)
- Proposed initial steps:
 1. Reassessment of outbreak management strategy
 2. Investigate ways to align routine FMD management & the commodity-based trade approach