

Foot and Mouth Disease Management and Land-Use Implications in the Zimbabwean Lowveld: the Rationale for Creating a Biosphere Reserve¹

Raoul du Toit, WWF-SARPO, Harare, Zimbabwe

Introduction

The Lowveld region of Zimbabwe is the semi-arid south-eastern sector of the country, in which mean annual rainfall is 300–600mm per year. This region comprises approximately 20% of Zimbabwe. It includes state land (notably the Gonarezhou National Park [NP]), communal lands (subsistence production), and commercial ranching areas which, until recent political unrest in Zimbabwe, were rapidly converting their primary land use from ranching to wildlife production. These commercial ranching areas hold approximately 260 black rhinos, which constitute about half of Zimbabwe's total black rhino population. In addition, the Lowveld has significant populations of wild dogs, elephants, cheetahs, white rhinos, etc. The initiation of the Great Limpopo Transfrontier Conservation Area (TFCA) can and should lead to the inclusion of wildlife-producing areas of the Lowveld within a massive regional wildlife complex.

Land-use patterns in the Lowveld have recently been disrupted by land invasions and by associated problems during a period of economic and political instability. Nonetheless, the future of the area clearly lies in the comparative ecological and economic advantage that has been demonstrated in wildlife-based land uses, regardless of who owns the land. There is an urgent, immediate need to initiate planning and dialogue between stakeholders to maximise the wildlife potential of the Lowveld as Zimbabwe emerges from its current instability. This can be achieved by initiating a Lowveld Biosphere Programme, for which international funding and technical support must be secured. This programme would have to be strongly linked to the reestablishment of control measures for foot and mouth disease (FMD), which must become a priority for future development assistance to Zimbabwe owing to the impact of this disease not only on Zimbabwe's beef industry but also on the economies of adjacent countries (South Africa and Botswana).

Rationale for creating a biosphere reserve

Better coordination among the stakeholders in the Lowveld wildlife industry is needed. Various initiatives have arisen, notably the Great Limpopo TFCA initiative, the World Bank/Global Environment Facility rehabilitation project for Gonarezhou NP and its "support zone," a strategic tourism development initiative, ad hoc liaison between conservancies on land reform, FMD zonation, etc. However, these have tended to be transient coordination arrangements, and a more comprehensive and longer-term framework for stakeholder dialogue and planning is desirable.

The need for such coordination is intensified because of the land reform process. The wildlife industry will include new indigenous participants, either on a community basis or as individual entrepreneurs. It is clearly in the interests of the overall industry to streamline integration of these new participants, minimizing disruption of the region's economic potential for wildlife-based land uses. One problem is unplanned resettlement, which is foreclosing options for wildlife movement corridors between key wildlife areas. Thus better spatial planning of land uses is required at a regional level. Another problem is that arrangements for resource-sharing, "indigenisation", etc., between some stakeholders can set awkward precedents for others. With different management structures in place on different land units, a totally uniform approach towards land reform is impossible; nonetheless, it is in the overall interests of stakeholders to maintain some degree of coordination. The key term in all of the varied land reform arrangements is "partnership"; coordinating a biosphere reserve at a regional level is based on this concept.

Assuming that Zimbabwe's international relations will normalise in due course, major international support (grant and loan funding) can be envisaged for the mainstays of the Lowveld economy, i.e., irrigation development and wildlife operations. The latter will be stimulated by the Great Limpopo TFCA initiative. Coordination of the various stakeholders in the wildlife industry will ensure that they have a driving role in this process, rather than having development agendas imposed upon them by national and international agencies.

¹See abstract on p.xxvi.

Given that the Lowveld has mixed land use, with islands of irrigation, and state, private, and communal sectors, the most appropriate framework for integrated land-use planning and resource conservation appears to be the “biosphere reserve” concept. This involves a process of registration through the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The biosphere reserve concept would provide positive publicity for Zimbabwe after recent international concern over the loss of wildlife due to land invasions, and would provide a politically neutral concept for integrating stakeholders within the various sectors.

Apart from being directed towards the development of new wildlife-based models for land reform in this region, international funding would have to focus on the issue of FMD control. Although FMD does not directly affect flagship species such as the black rhino, it has a massive indirect effect because of the control fencing that is required to keep wildlife (especially buffalo, which are natural carriers of FMD) separated from cattle, and because of the strict land-use pattern that is imposed. Therefore, planning for the development of a Lowveld biosphere reserve would have to devote considerable attention to FMD issues.

Foot and mouth disease

Some salient points regarding FMD in the Lowveld are as follows:

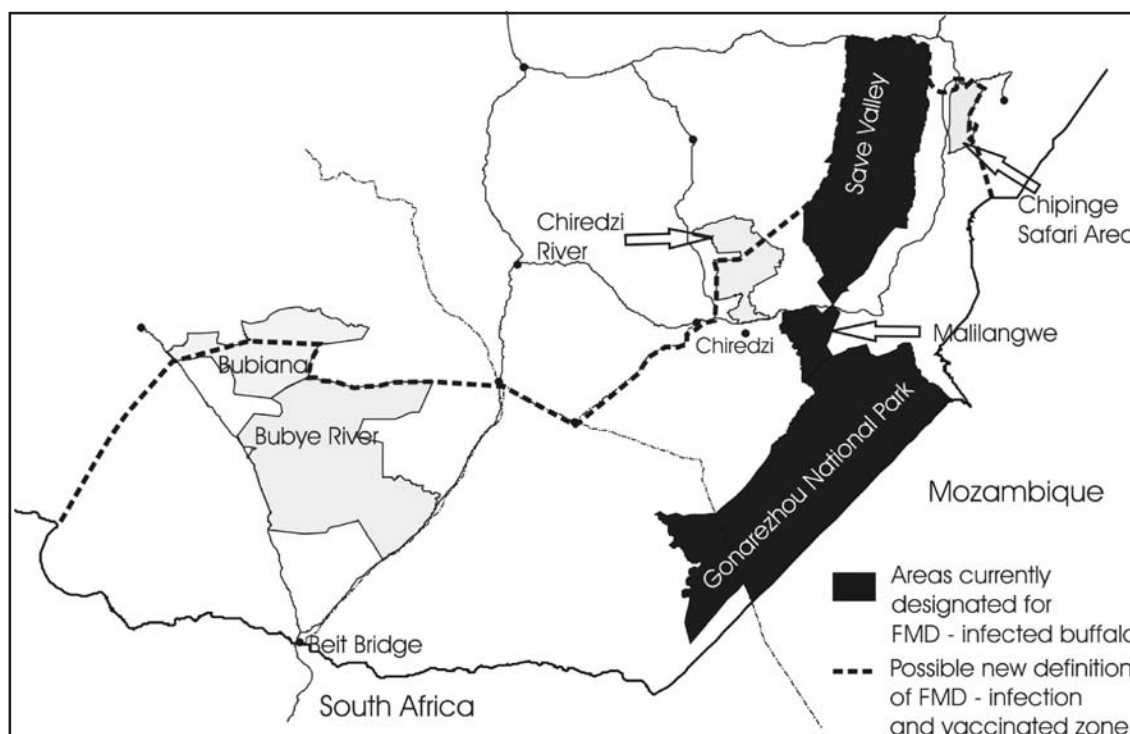
The existing veterinary fencing for FMD control in south-eastern Zimbabwe has been extensively damaged, and totally

removed along some sections, during the current peasant occupations of commercial farming areas. These occupations have extended into the northern section of Gonarezhou NP.

The fencing was originally intended to confine FMD-infected buffalo within Gonarezhou NP together with a relatively small area between Chiredzi and the Mozambique border (Fig. 1). Infected buffalo were subsequently permitted within double-fenced enclaves in certain commercial ranching areas of the southeastern Lowveld, notably Save Valley Conservancy, where a land-use review (Price Waterhouse 1994) of this semi-arid zone showed that full-scale wildlife production had become more profitable than cattle ranching. Within the “buffer zone” and the “clear zone,” FMD-free buffalo have been permitted on a few properties under stringent controls.

The attempt to use the fence to confine FMD-infected buffalo within Gonarezhou NP was continually undermined by the presence of small herds of these buffalo remaining within the Beitbridge-Mwenezi-Chiredzi ranches and communal lands. Additionally, large numbers of wild ungulates (notably kudu and impala) outside the Park have spread FMD during major outbreaks despite the fence, which is only 1.2m high and therefore unable to stop the movement of antelope. Also, unique to the southeastern Lowveld, the spread of FMD virus appears to be enhanced by the cool, damp spells that arise during winter when southeasterly winds bring moist air (“guti”) to the region. Thus, there are environmental conditions that militate against the concept of using the park boundary as a defence line for FMD control.

Fig. 1. Current and proposed FMD fencing alignments. The proposed expansion of the defined FMD-infection and vaccination zone offers opportunities for an economically attractive Lowveld Biosphere Programme.



Since the major drought in 1992, there has been an increasing emphasis on wildlife production as opposed to cattle ranching in the semi-arid southeastern Lowveld, due to various economic trends combined with the long-term adverse ecological effects of monospecies livestock production. Thus, from an economic land-use perspective, it is no longer in the national interest to preclude buffalo from the significant commercial wildlife operations that have evolved in the southeastern Lowveld. This species is key to safari hunting operations, allowing safari operators to virtually double their daily rates because buffalo-hunting quotas enable more attractive “big game hunts” as opposed to “plains game hunts.” Wildlife tourism operations are also economically boosted by the presence of buffalo as one of the “big five” species. Buffalo in the southeastern Lowveld, outside Gonarezhou NP, are also economically important for safari hunting and live-sale deals within the Communal Areas Management Program For Indigenous Resources (CAMPFIRE) Community-Based Natural Resource Management (CBNRM) programme, especially in Beitbridge District.

The veterinary control fencing will have to be replaced as soon as possible to regain beef export markets (notably in the EU), and cattle movements once again strictly controlled. One consideration in planning for the fencing to be rebuilt is whether it should follow the previous alignment or whether new circumstances suggest the need for a different alignment, expanding the “FMD zone.”

Expanding the defined “FMD zone” need not significantly disrupt the present patterns of cattle production within the southeastern Lowveld. Beef and cattle from the existing “vaccination zone” and “buffer zone” cannot be freely marketed outside these zones; therefore, the legal cattle economy is internalised within these zones and could continue as such provided the cattle within the expanded “FMD zone” are vaccinated against FMD. There may well be economic justification for establishing a new abattoir within the expanded “FMD zone,” possibly at Chiredzi, to support not only the ongoing beef production but also the marketing of venison from wildlife operations.

The current FMD control fence terminates on the Mozambique border east of Chiredzi. In terms of disease

control, this is an arbitrary point to end the fence, as it relates merely to a national boundary and is not connected to any physical barrier that can stop cattle or wildlife movement to the north of this point, between Ndowoyo Communal Land and Mozambique. The risk of FMD transmission from Mozambique to the southeastern Lowveld of Zimbabwe via this unfenced section would not matter if the fence were to be aligned further to the north, terminating in the highlands of Chipinge District. Through this realignment, a more effective barrier would exist between Zimbabwe’s beef export zone and the lower-lying region of the southeastern Lowveld and Mozambique.

Because of the very high costs of properly maintaining FMD control fences, it is essential that the alignment of the fence is made as cost effective as possible by following appropriate terrain and by taking advantage of existing major roads and bridges, both for ease of access and to maintain a cleared line along the fence. The current alignment of the fence is not optimised in this regard. For instance, a section of FMD control fencing runs along the eastern boundary of Save Valley Conservancy, along the Save River, where it is prone to flood damage and to the pressure of elephants and other large ungulates that tend to push through the fence to get to the water and riverine food resources.

Any realignment of the fence should consider land reform arrangements, and must ensure that options for inclusion of areas within the Great Limpopo TFCA are not foreclosed. Within conservancies, there is likely to be some peripheral habitation that will have to be separated from the core conservancy areas by game fencing, not only for disease control but also to prevent wild animals from causing crop damage and other problems in the settled areas.

Conclusion

The development of a Lowveld Biosphere Programme, with international technical and funding support, would help to rehabilitate the economy of this region and to provide a conducive environment for the long-term conservation of black rhinos and other flagship species.

Reference

Price Waterhouse. *The Lowveld Conservancies: New Opportunities for Productive and Sustainable Land Use*. Savé Valley, Bubiana and Chiredzi River Conservancies, Zimbabwe. 1994; 136pp.

