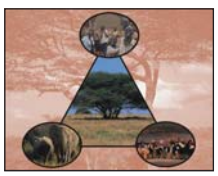
As The Fences Come Down

Emerging Concerns in Transfrontier Conservation Areas



The Great Limpopo Transfrontier Conservation Area and a Proposed Conceptual Framework for Progress

by the Animal Health for the Environment And Development–Great Limpopo Transfrontier Conservation Area (AHEAD-GLTFCA) Working Group

WILDLIFE CONSERVATION SOCIETY

Introduction

Why should governments, the private sector, and civil society organizations involved in agriculture, livestock production, land-use planning, poverty alleviation, public health, and other vital sectors care about the emergence of Transfrontier Conservation Areas, also known as TFCAs?

Because across Africa, wildlife, domestic animals, and people are coming into contact as never before.

While TFCAs represent a major and welcome concept for augmenting economic development and biodiversity conservation, the absence of formal policies on animal disease control in TFCAs could negatively impact public health, agriculture, commerce—even conservation itself. That is why the issue of transmissible diseases must be addressed sooner rather than later.

One need only look at global travails with SARS or avian influenza, foot and mouth disease or "mad cow," to see the tremendous social and economic importance of these issues.

This document is intended as an executive summary for decision-makers working on issues related to transfrontier conservation areas (TFCAs), including transmissible diseases, and the interplay of effects among wildlife, livestock agriculture, public health and related sectors. It also summarizes a new conceptual framework emphasizing a proactive approach to help TFCA stakeholders better understand and mitigate these effects, and assess the sustainability of different land-use options over the long term.

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Emerging Concerns

WITH THE RECENT RAPID GROWTH IN GLOBAL tourism, the transboundary management of natural resources, particularly of water and wildlife, and the associated development of transfrontier parks and conservation areas has become a major focus of attention in southern Africa.

A key economic driver linking these conservation and development initiatives is nature-based tourism that seeks to maximize returns from marginal lands in a sector where southern Africa enjoys a global comparative advantage. Nature-based tourism now contributes about as much to the gross domestic product of southern Africa as agriculture, forestry, and fisheries combined.

■ A key economic driver linking these conservation and development initiatives is nature-based tourism.

However, the management of wildlife and livestock diseases (including zoonoses—diseases like bovine tuberculosis and rabies that are transmissible between animals and people) within larger transboundary landscapes remains unresolved and an emerging issue of major concern for livestock production, associated export markets and other sectors in the region, including public health.

Whatever the potential of wildlife-based tourism to generate wealth in such areas, the current reality is that small-scale agro-pastoralists living in the adjacent communal lands depend greatly on livestock for their livelihoods. The need to balance their livelihoods and environmental security with the development of alternative land uses gives rise to a complex set of development issues.

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Transfrontier Conservation Areas, or TFCAs

At least 13 potential and existing terrestrial transfrontier parks and transfrontier conservation areas—also known as transboundary conservation areas—have been identified in the Southern African Development Community (SADC) region. These areas include many national parks, neighbouring game reserves, hunting areas and conservancies, mostly occurring within a matrix of land under traditional communal tenure.

Altogether, the existing and proposed transfrontier parks and TFCAs cover more than 1,200,000 square kilometers (460,000 square miles). A dominant component of the TFCA vision is the reestablishment of transboundary movement and migrations of wildlife within and between larger landscapes.

■ The management of wildlife and livestock diseases within larger transboundary landscapes remains unresolved and an emerging issue of major concern.

Getting Off the Fence

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AN INTEGRATED, INTERDISCIPLINARY APPROACH offers the most promising way to address these issues —one in which the well-being of wildlife and ecosystems, domestic animals, and Africa's people are assessed holistically, with a "One Health" perspective. This is the basis of the innovative approach to disease and natural resource management we propose in the Conceptual Framework that follows.

One could argue that the extensive fencing that has separated wildlife and livestock going back to the late 1950s, early 1960s and since, has in many ways been the "simplest" approach to minimizing disease problems at this interface.

■ Wildlife corridors designed to connect protected areas can also serve as biological bridges for vectors and the pathogens they carry.

But extensive cordon fencing, essentially a subsidy from governments historically favoring livestock agriculture as a primary land use, is far from ecologically benign. With fencing cutting off key migratory pathways that wildlife had used for eons in times of thirst and hunger, real costs have been imposed upon the natural resources sector in many parts of the Southern African Development Community (SADC) region.

There is probably no region on earth where animal health policies have had as tangible an effect upon the natural landscape as in Africa. Thus conservationists are understandably excited about the possibility of more land under wildlife, and of expanded benefits and economic opportunity sustainably linked to sound stewardship of biodiversity.

This excitement, however, might best be tempered by the recognition that much remains unknown. Proponents of TFCAs should proceed with caution, and perhaps humility, in the face of ecosystems and processes that are not fully understood.

Wildlife corridors, for instance, designed to connect protected areas, can serve not only as biological bridges for wildlife, but also for vectors and the pathogens they carry. Thus, thorough assessments of disease risks should be made before fences come down in areas that may have developed different pathogen or parasite loads over time.

When it comes to animal health programmes and policies in transboundary landscapes—where domestic as well as wild animals have opportunities to cross international borders—making the right decisions becomes even more critical.

With rapidly expanding trade through the Southern African Development Community, the Common Market for Eastern and Southern Africa (COMESA), and ongoing globalization trends, these issues will increasingly affect the development trajectories of many African countries.

Yet there does not appear to be an existing formal policy on animal health and disease control for the transfrontier conservation areas being developed.

By focusing on the Great Limpopo TFCA as a potential model, the following Conceptual Framework is proposed as a tool for facilitating integration of animal health, human health and livelihoods, and land-use policies moving forward.

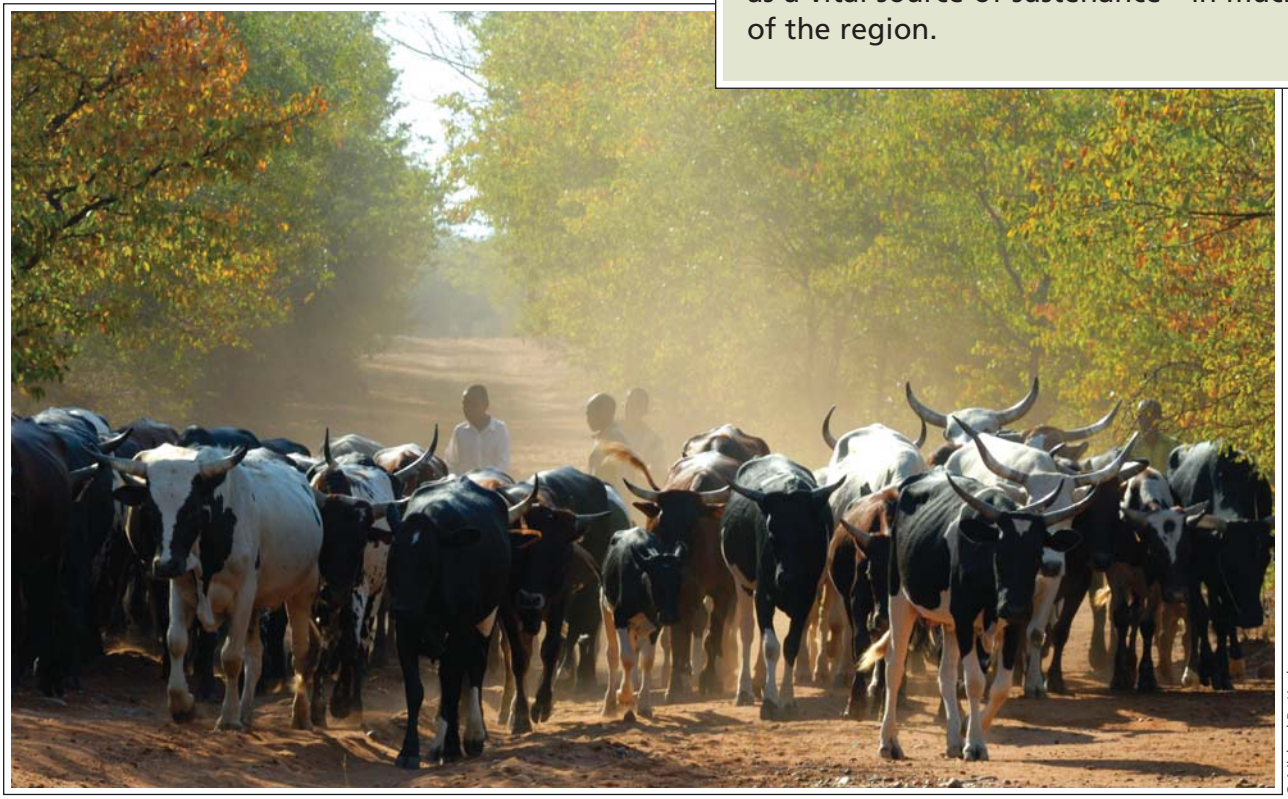
The need for such an approach could not be more urgent. Across southern Africa fences are already coming down, allowing wildlife and livestock access to areas and to each other that has been unprecedented for decades.

While this represents a potential milestone for conservation and the tourism revenues it supports, it also demands a closer look. What effects might these transfrontier areas have on the health and sustainability of wildlife, domestic animals, and human communities?

■ In transboundary landscapes—where domestic as well as wild animals have opportunities to cross international borders—making the right decisions becomes even more critical.

Livestock Remains Critical

Some 65% of southern Africa is semi-arid to arid where extensive livestock and wildlife production systems are the most suitable and potentially sustainable forms of land use. The need to enhance the capacity of these marginal areas to generate wealth and sustain improved human livelihoods is of paramount importance. Livestock will remain critically important culturally and economically—and of course as a vital source of sustenance—in much of the region.



Getting the Information Decision-Makers Need:

The Great Limpopo Transfrontier Conservation Area and a Proposed Framework for Progress

AHEAD (ANIMAL HEALTH FOR THE ENVIRONMENT AND DEVELOPMENT) was launched at the World Parks Congress in Durban, South Africa, in September 2003, when the Wildlife Conservation Society, the World Conservation Union Species Survival Commission (IUCN SSC), and other partners tapped into some of the most innovative conservation and development thinking on the African continent.

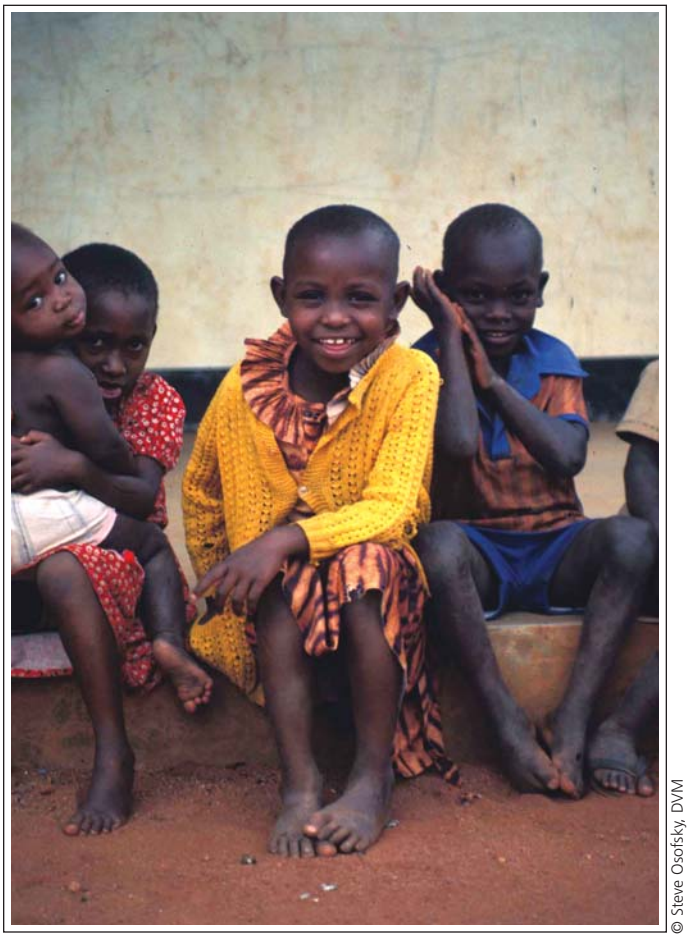
Veterinarians, ecologists, biologists, economists, agriculturalists, and wildlife managers from across East and southern Africa came together to share ideas on how wildlife conservation and development efforts can be mutually reinforcing.

The AHEAD-GLTFCA Working Group, a diverse consortium of regional expertise, also emerged from the Durban launch; its goal is to:

> *Facilitate development and conservation success in the Great Limpopo TFCA through interdisciplinary applied research, monitoring, and surveillance at the interface between wild and domestic animal health, ecosystem goods and services, and human livelihoods and well-being.*

The Working Group went on to develop a conceptual framework to help regional stakeholders address whether (and if so, how) a large transfrontier conservation area such as the Great Limpopo TFCA is a viable and sustainable form of land use for the approximately 100,000 square kilometers and more than 500,000 people living within its tentative boundaries in Mozambique and Zimbabwe alone.

■ Answers to these questions will provide critical information for better understanding the linkages between animal, human and ecosystem health.



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Many people regard transfrontier conservation areas largely as extensions of protected areas that entail the development of vast landscapes in which wildlife-based tourism is the dominant, if not only, form of land use.

The reality, however, is that the Great Limpopo TFCA includes within its tentative boundaries land uses that range from protected national parks to intensive agro-industry based on irrigation, to subsistence agro-pastoralism that may require off-farm income subsidies, or food aid, or both.

The importance of conserving biodiversity as the cornerstone to sustaining ecosystem goods and services, animal health, and ultimately human health and livelihoods in these lands should be clear. Failing to do so would only lead to a future dependent on high, external subsidies.

Thus, our central research question became one of *system* sustainability: how do health and disease impact the overall Great Limpopo social-ecological *system* (that is, livelihoods and the social, biological, and geophysical processes that sustain them), and vice versa?

■ Changes in land-use are being facilitated by the removal of kilometers of fence. The subsequent reunion of long-separated wildlife populations, together with new opportunities for wildlife to come into contact with livestock, make addressing disease issues within the TFCA context an urgent priority.

After careful deliberation, the Working Group determined that the most promising framework for tackling the overall question of system sustainability would be to examine a key group of linked conceptual models for the Great Limpopo TFCA, the core three being:

- Animal health and disease
  - What are the levels and patterns of diseases in wildlife, livestock (and people)?
  - How are these patterns related to land use or land tenure or both, and to human livelihoods?

- Land-use, ecosystem goods and services, and animal health
  - What is the distribution of primary (i.e. plant) production?
  - How does primary production vary seasonally and annually in relation to soils, topography, land use and land tenure?

- Human livelihoods, animal health, and ecosystem health
  - What are the plausible alternative livelihood scenarios and the various components within them?
  - What are the associated social, economic, and environmental costs and benefits of current and alternative scenarios?

While this represents a very abbreviated description of the complexities involved, answers to these questions will provide critical information for better understanding the linkages between animal, human and ecosystem health. They will also feed directly into important issues of social and cultural values and resource management policy.

The Conceptual Framework's other focal themes—policy support, capacity building, communications and outreach—will link and assist the wide range of stakeholders involved at local, national, and regional levels.

Three Countries, Five Parks

The Great Limpopo Transfrontier Conservation Area

The Great Limpopo Transfrontier Conservation Area is among the largest landscapes devoted to conservation on the planet. In all, it supports more than 125 mammal, 400 bird, 104 reptile, 30 amphibian, and 60 fish species.

At approximately 100,000 square kilometers (40,000 square miles), the Great Limpopo TFCA encompasses five national parks spanning three countries: Kruger in South Africa; Gonarezhou in Zimbabwe; and Limpopo, Banhine and Zinave in Mozambique.

Kruger and Limpopo national parks share a common boundary along a fence that is already coming down, and a route to allow wildlife free movement between Kruger and Gonarezhou is being evaluated. Effective habitat corridors for connecting the rest of this vast conservation landscape are still being evaluated.

These changes in land use are being facilitated by the removal of kilometers of fence. The subsequent reunion of long-separated wildlife populations, together with new opportunities for wildlife to come into contact with livestock, makes addressing disease issues within the TFCA context an urgent priority.

How this is done will affect the region's wildlife, domestic animals, and human communities for generations to come.

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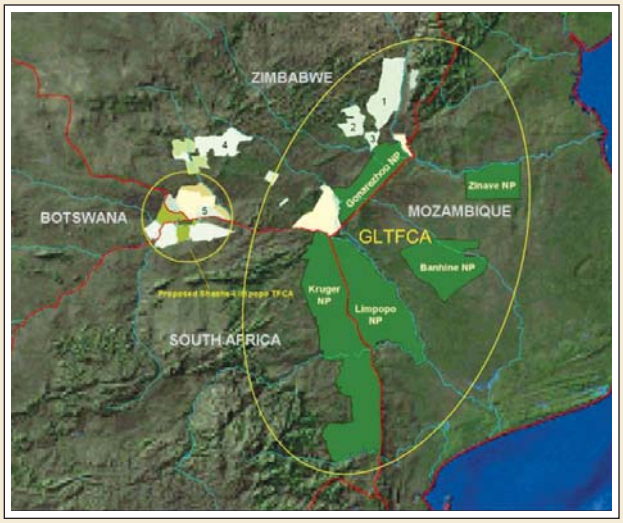
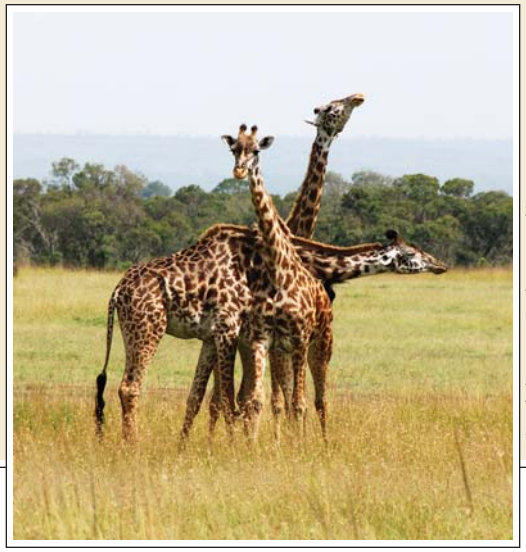


Map courtesy of the CESVI Southern Lowveld Project



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The Stakes Are Enormous. The Time to Act is Now.

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AS IN PREVIOUS PERIODS, HUMAN AND ANIMAL diseases such as malaria, anthrax, trypanosomiasis, theileriasis, bovine tuberculosis, rabies, and foot and mouth disease continue to play a significant role in the overall development of the region encompassed by the Great Limpopo TFCA.

By the 1960s, for instance, tsetse flies and trypanosomiasis had advanced well south and west of the Save River, and joint international control operations during the late 1960s and early 1970s were required to halt their advance. Foot and mouth disease continues to impact the livestock industry, with control measures having major secondary impacts on the wildlife industry in south eastern Zimbabwe and more recently in north eastern South Africa adjacent to Kruger National Park.

■ The increasing contact between populations of wildlife, domestic animals, and people only increases the risks of the emergence or resurgence of diseases.

The advent of HIV-AIDS and the spread of bovine tuberculosis pose more recent threats to human well-being, and development, across the region.

Meanwhile, the increasing contact between populations of wildlife, domestic animals, and people only increases the risks of the emergence or resurgence of diseases. The possible development of drug resistant organisms further compounds the problem.

This is why the "One Health" paradigm in which the AHEAD Great Limpopo TFCA Conceptual Framework is grounded is so critical—for sustainable resource management policies and land-use decisions not just in the Great Limpopo TFCA, but in other conservation landscapes across Africa.

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The "One Health" paradigm takes a broad ecological definition of health that brings together many disciplines that too often have remained isolated from each other.

Next Steps: What's Needed Now?

If those whose mandate is biodiversity conservation do not address the threats that the livestock sector associates, rightly or wrongly, with wildlife and disease, a vision for protected areas and TFCAs in many parts of the world will likely fail. And if wildlife conservation is to be a socioculturally acceptable and economically rational land-use choice, then leveling the playing field by identifying incentives that work against environmentally sustainable land-use practices is equally important.

Disease and pest control schemes, for instance, that are not preceded by robust environmental and social impact assessments are likely to fail in the long run.

Southern African TFCAs may provide excellent models within which to study and mitigate the political and socioeconomic tensions between biodiversity conservation and livestock agriculture in the broader region. Doing so effectively will be critical to successful, sustained biodiversity conservation, public health, and agri-biosecurity.

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■ These issues simply merit more attention than either the conservation or development communities have given them to date.

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We must also continue to learn from disciplines with which we may not have communicated well in the the past, and we must consciously work to break down sectoral barriers that technical language and vocabulary have historically helped to reinforce.

Whether we are looking at a large, complex international land-use matrix such as a TFCA or at a small, isolated protected area surrounded by human activities, these issues simply merit more attention than either the conservation or development communities have given them to date.

With a healthy respect for the complex challenges facing the places and people we care about, and adequate resources to fill the knowledge gaps highlighted by this Conceptual Framework, a successful "One Health" approach in southern Africa and beyond is certainly within our grasp.

For a copy of the complete 14-page "The AHEAD-GLTFCA Programme: Key Questions and Conceptual Framework Revisited," please see **http://wcs-ahead.org/workinggrps_limpopo.html**

Notes:

This executive summary was largely derived from the following sources:

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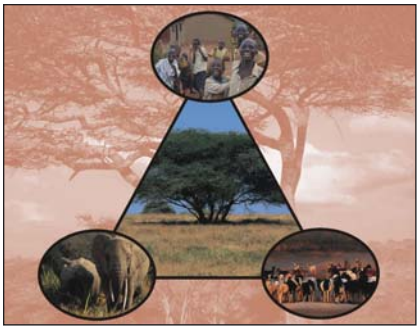

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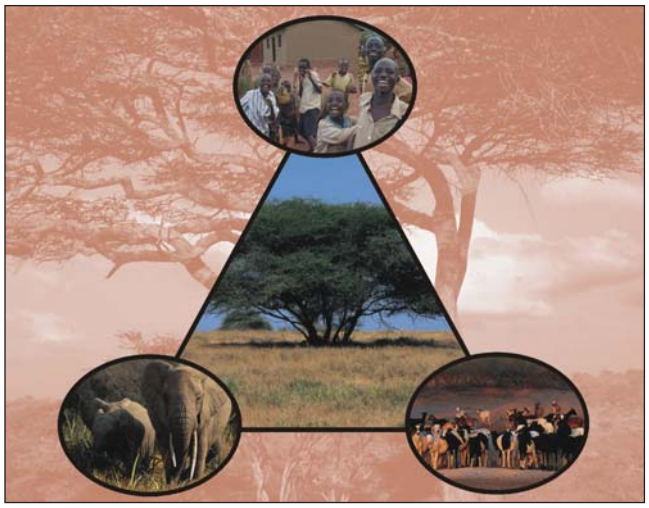

AHEAD-Animal Health for the Environment And Development

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The Wildlife Conservation Society (WCS) and a wide range of partners helped to start *AHEAD* in recognition of the importance of animal health to both conservation and development interests.

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