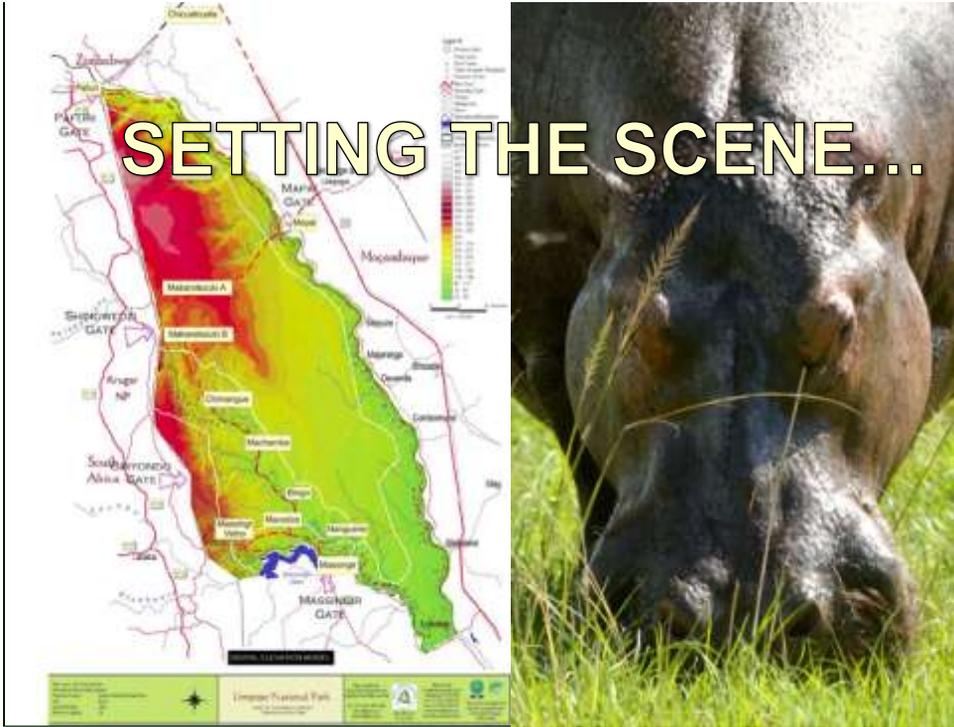


# Rapid Veterinary Assessment of livestock, wildlife and human health issues in rural communities in and around Limpopo NP 2007 and 2010





## ECOSYSTEM APPROACH TO HEALTH

**Ecosystem** is a biological community of interacting organisms and their environment



Human Communities



Disease vector



Wildlife



Human livelihoods  
Livestock



Natural communities



# The Interface in Context

**The Interface maybe:**

1. Linear
2. Patchy
3. Focal
4. Diffuse



## RECURRENT, PERSISTENT AND SO CALLED EMERGING DISEASES IN AFRICA



Diseases having a Direct  
Impact on Human Health

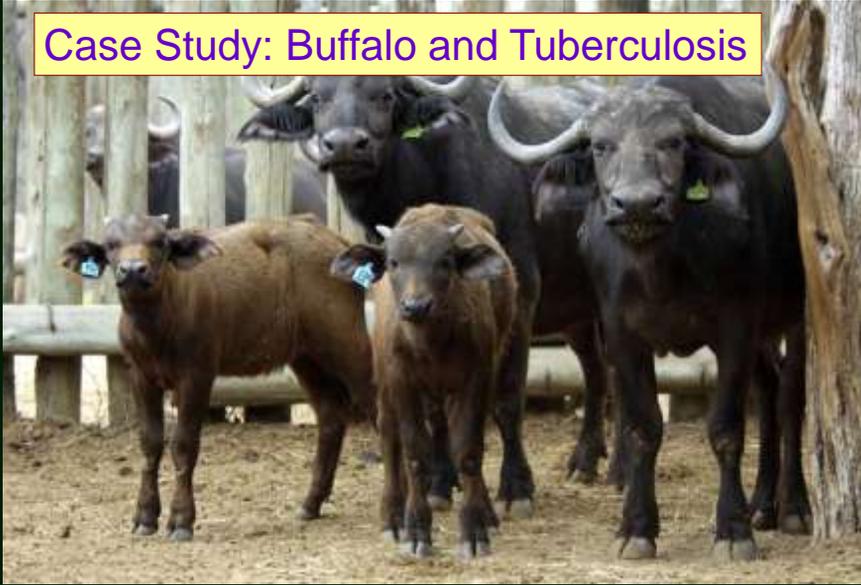
HIV-AIDS  
SIVs  
Ebola  
Rift Valley Fever (RVF)  
Congo-Crimean HF,  
TB  
Malaria  
Trypanosomiasis

Diseases having an Indirect  
Impact on Human Health

Foot-and-Mouth Disease  
Rinderpest  
Anthrax  
Bovine TB  
CBBP  
Canine Distemper  
Trypanosomiasis

Many of these diseases have political, cultural and institutional constraints in terms of control, treatment and prevention. Some have a positive effect on Protected Areas and Conservation by restricting access.

# Case Study: Buffalo and Tuberculosis



## Bovine Tuberculosis in Buffalo herds in Kruger National park, South Africa: prevalence zones and disease

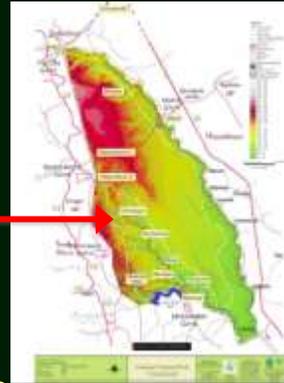
! 2004/2008



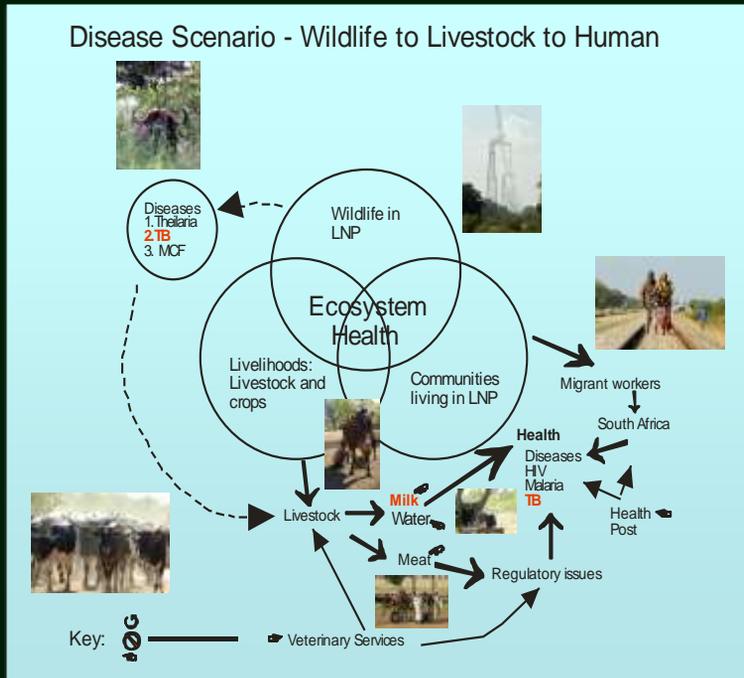
# Why should we be concerned with Bovine TB?



- ✓ Communities living in Limpopo National Park,
- ✓ Fences down!
- ✓ Large number of cattle,
- ✓ Movement in and out of Park,
- ✓ HIV prevalence is significant,
- ✓ Unknown TB status in people,
- ✓ Unknown status to east, south and north in terms of disease.



## Disease Scenario - Wildlife to Livestock to Human



Migrant workers  
HIV-Aids

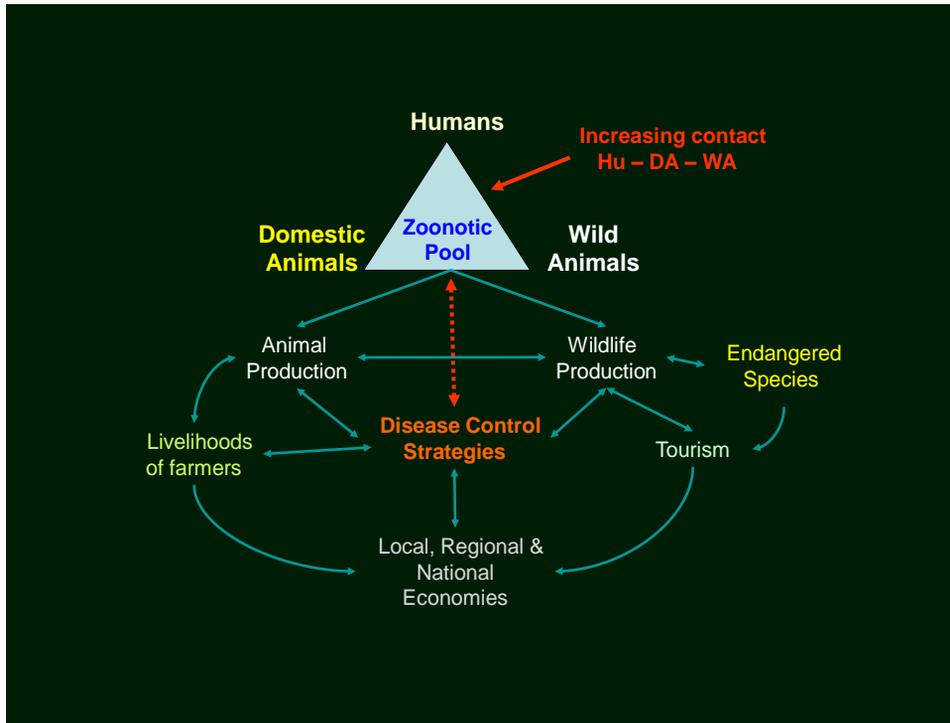




### CASE STUDY: *Mycobacterium tuberculosis* - a threat to free-ranging Wildlife



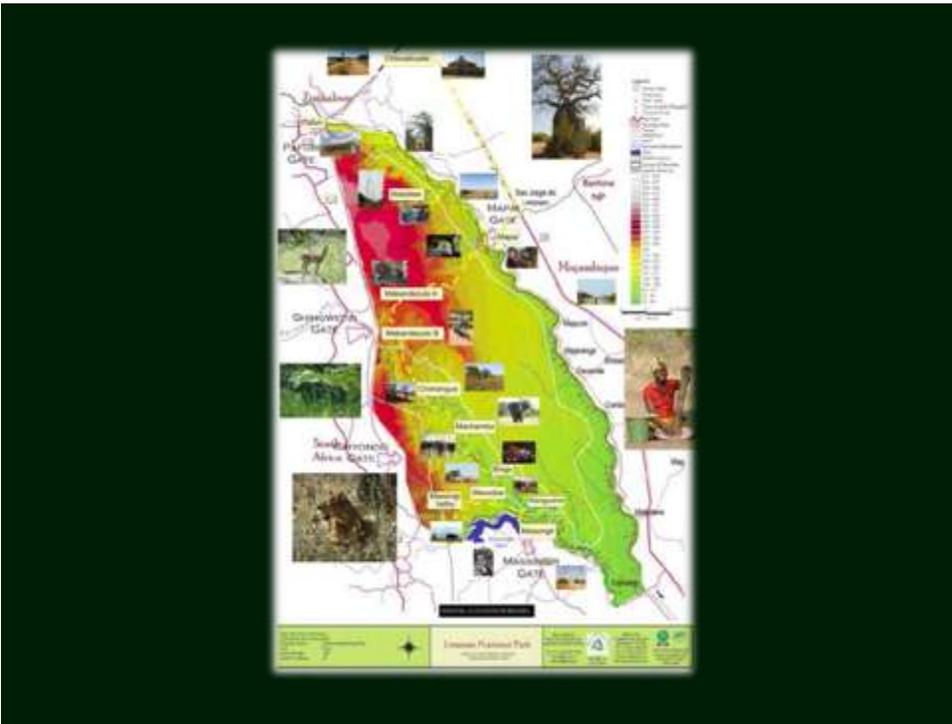
- *M. Tuberculosis* was confirmed in a group of Suricates (n=21) (*Suricata suricatta*) in the northern Cape, South Africa and in Banded Mongoose (n=7) (*Mungos mungo*) in the Chobe National Park, Northern Botswana (Alexander et al., 2002),
- Behaviour patterns of both species would facilitate exposure to human excretions in the environment,
- Botswana has one of the highest HIV/Aids incidences in the world, with a concomitant increase in overt TB cases,
- *M. Tuberculosis*, as a so called emerging disease, may pose a threat to free-ranging wildlife populations who have close contact as a result of human activities.



## Rapid Veterinary Health Assessment

### The Process....

- ✓ Assess the main veterinary and health (broadly speaking) issues in the Limpopo National Park (LNP) and surrounds,
- ✓ Assess any shifts related to key drivers identified previously,
- ✓ Make recommendations as to the way forward.







## DRIVERS 2007

- ✓ Fences, for example, the removal of Kruger National Park (KNP) fence,
- ✓ Livestock,
- ✓ Resettlement of communities and their livestock,
- ✓ HIV and migrant workers,
- ✓ Lack of resources within DNVS and LNP, including transport and fuel, lack of human capacity,
- ✓ Access to and availability of water,
- ✓ Land Use planning in and around GLTFCA,
- ✓ Movement of livestock and livestock products,
- ✓ Zoonotic diseases, including public health issues such as consuming unpasteurized milk,
- ✓ Human-Wildlife Conflict (HWC), including crop destruction.



## DRIVERS 2010

- ✓ Resettlement, disillusioned communities,
- ✓ Housing, incomplete and poor design,
- ✓ Human wildlife conflict (HWC), increasing especially with elephant,
- ✓ HWC, increasing presence of buffalo and potential contact with cattle,
- ✓ Health, provisioning inadequate and difficulty with transport,
- ✓ Health, threat of wildlife limiting people's ability to move around,
- ✓ Transport, not available
- ✓ Roads, poor condition and sometimes impassable,
- ✓ Communication, poor from LNP,
- ✓ Water, access, availability and quality,
- ✓ Bore-holes (if present often not working),
- ✓ Fencing and Corridors,
- ✓ Benefits (20%) – recurring theme



## ➔ Resettlement



- Communication,
- Transparency,
- Progress.

## → Human Health and Well Being

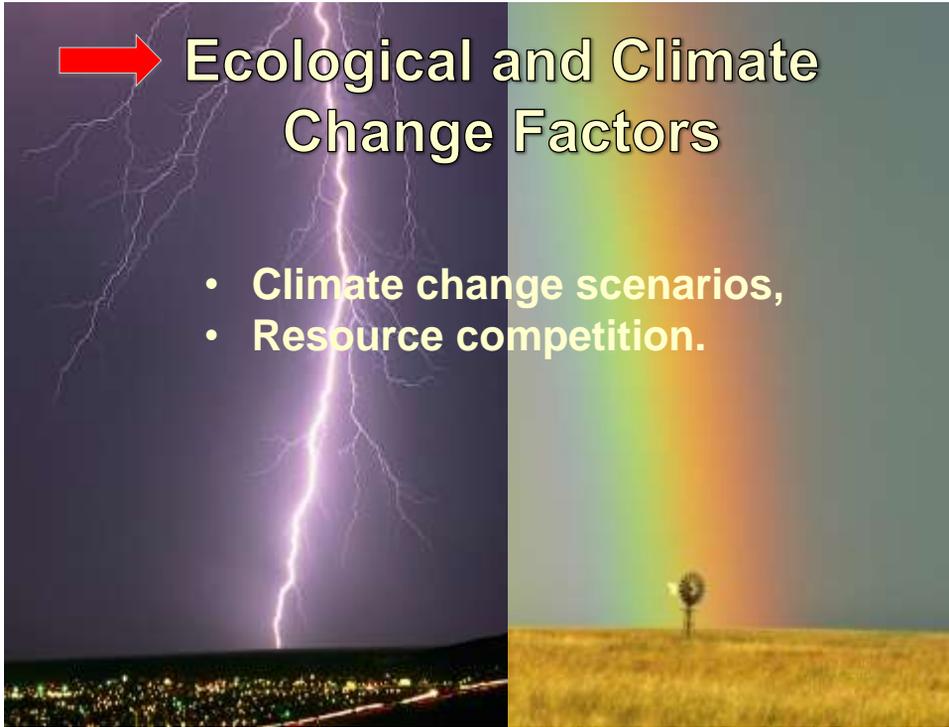
- Poor and understaffed health facilities,
- Poor road infrastructure,
- Problem animals.



## → Animal Health (Veterinary) Issues

- Veterinary capacity within LNP,
- Disease transmission and mitigations measures,
- Livestock resettlement issues,
- BTB.





## → Ecological and Climate Change Factors

- Climate change scenarios,
- Resource competition.

## Key Driver: Water

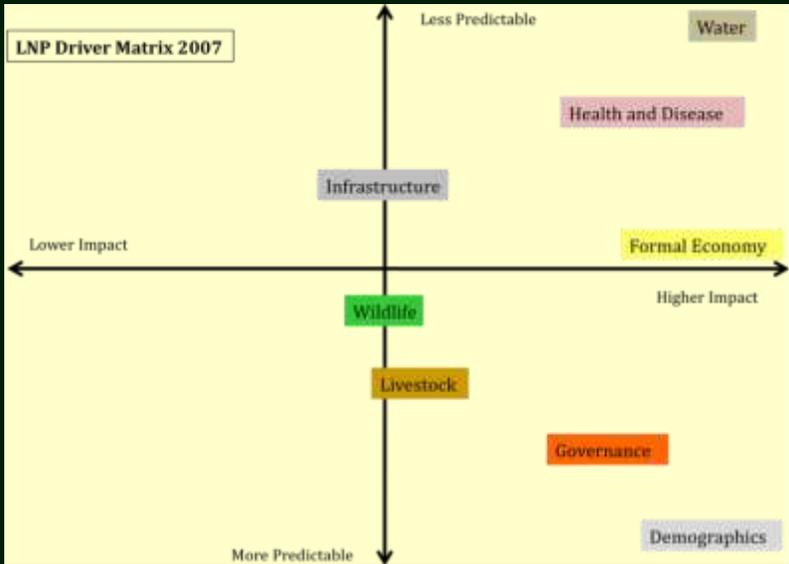


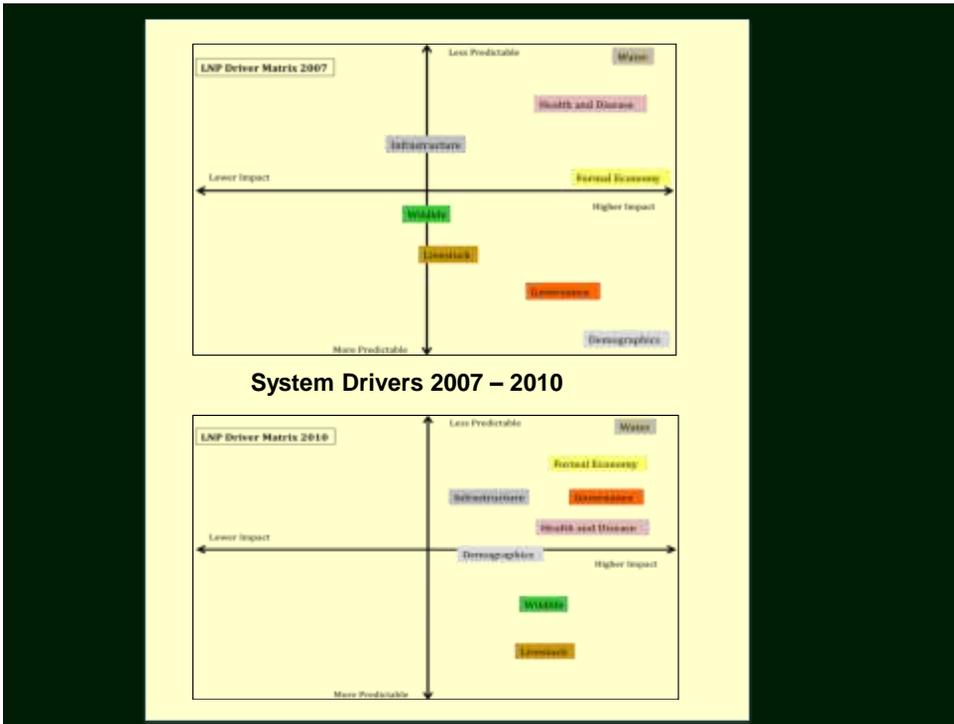
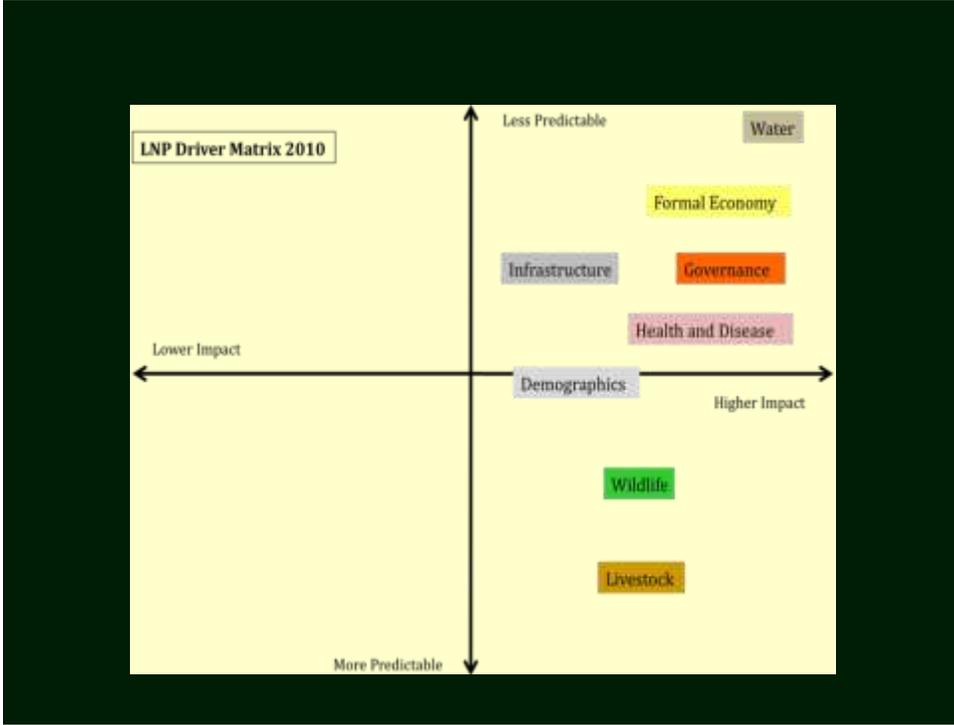
# ➔ Planning and Policy

- Higher degree of collaboration and integration needed,
- Current planning tends to be compartmentalized and hierarchical,
- Integration and operationalization at local, provincial and national levels.



## Driver Matrices:





## Summary:

The rapid assessment revealed that the development of the LNP is at a critical stage in terms of its legitimacy in the eyes of the community – resettlement is a key driver in this instance. There are a number of health related issues that are still of great importance and the increasing contact and interactions between wildlife, people and their livestock is creating significant concern. This is at the village and community level but there is increasing concern at the national level in terms of the control of trans-boundary diseases with the increasingly active interface within LNP.

## Health and Conservation

Poverty is an integral part of the Health paradigm

Health is a key area where holistic, integrated multi-disciplinary approaches across landscapes need to be adopted to ensure long-term conservation success.

It should be an integral part of any Landscape Based Conservation Program.

**Healthy people and their livestock are more likely to support conservation initiatives and be good environmental stewards.**

**HEALTH – A PART OF THE TOOLKIT**