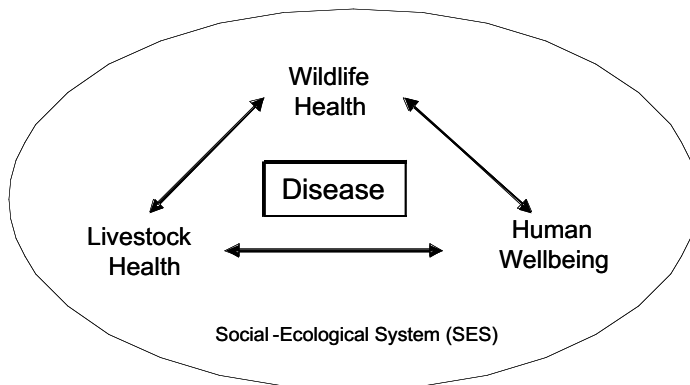


**An Overview of discussions at the  
AHEAD-GLTFCA Framework Meeting held at Skukuza  
3<sup>rd</sup> – 6<sup>th</sup> May 2005**

**Background documents for the 6<sup>th</sup> Working Group Meeting  
Pestana Lodge, Nelspruit-**

**1. Definition of System Boundary**

**A. Initial view of “system” boundary (World Parks Congress?)**



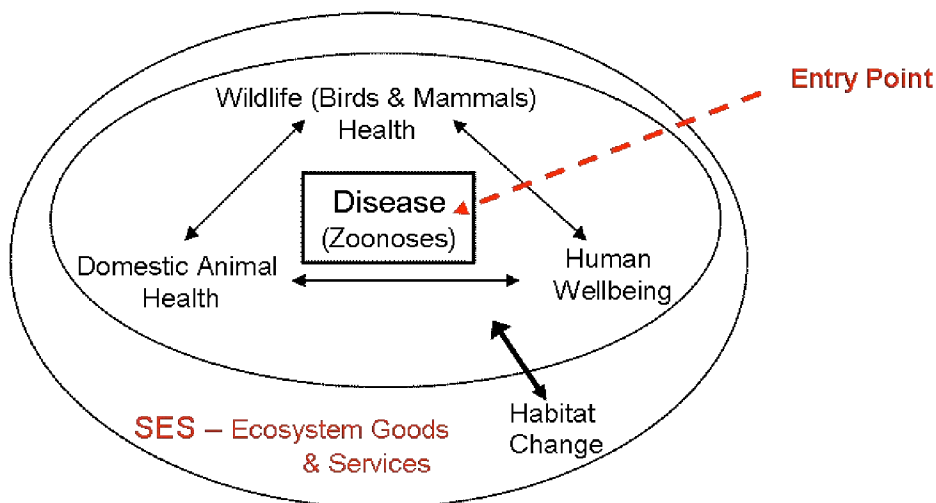
**Spatial Boundaries :**

Mozambique: Limpopo – Banhine – Zinave and intervening areas  
(Eastern boundary of KNP)

South Africa: Kruger NP and fuzzy western boundary  
(Escarpment ?)

Zimbabwe: Gonarezhou NP, Conservancies and fuzzy north -western boundary  
(Biosphere Reserve westwards to Shashe -Limpopo TFCA?)

**B. Modified version of “system” boundary (May 2005 Framework Meeting)**



## 2. Time Lines in the GLTFCA System

(Note: The arrows in the central column – Regional and Mozambique indicate that the phenomenon also applied to South Africa and Zimbabwe)

Time Period	South Africa	Regional and Mozambique	Zimbabwe	Key Drivers/Changes
<b>Pre 1500</b> (c. AD 200-700)		Livestock invasions		- New wildlife-livestock disease interactions and evolution Period of wealth accumulation
<b>1500 to 1800</b>	European settlement started in 1725  Mfecane Wars	← Mini Ice Age – Arid period? → - Establishment of Portuguese ports on the coast – Delagoa Bay ← Firearms and ivory trade →	Collapse of Great Zimbabwe	Turmoil and collapse of dynasties
<b>1800 to 1900</b>  (What did the landscape look like? Very open?)	1836 Cape Settlers move north Anglo-Boer War Sabi Game Reserve 1898 Gold rush – Barberton and Pilgram’s Rest	← Introduction of alien diseases after about 1830 (Bovine TB, Brucellosis and Human TB) ← 1884 Conference of Berlin → and partition of Africa ← Ivory trade collapsed 1890 → ← Rinderpest → collapse of livestock populations	1835 Measles and smallpox outbreaks  1893-96 Matebele wars	- Movements of people & War - Introduced human diseases and population declines - Colonisation - Collapse of Wildlife & Livestock populations - “Kings Game” legislation
<b>1900 to 1945</b> Conservationist paradigm (Focus on erosion, grazing and livestock management)	1908 – OVRI 1912 ANC formed 1913 Native land Act European settlement in Lowveld from 1910 1936 Natives Trust Land Act (Acornhoek) 1940s irrigation and agricultural development	???? (major gap in info here for Mozambique)  ← Shangaans to the Mines →  ← Rapid Demographic changes (linked to malaria control) ← 1st World War 1914-1918 → ← Anthrax panzootic 1923 → ← 1929 – 30 Great Depression → ← Asian Flu (c. 1920?) →	Pole tax and labour laws 1911 Land apportionment 1915 European settlement 1923 Self governing colony 1928 Gonarezhou GR 1919? Tsetse expansion into SEL and start of control hunting 1931 FMD in Zim	- Start of vet research, dips, vaccines and wildlife control to control livestock diseases - Rapid human pop. Growth - Land resettlement and displacements - Expansion of livestock pop. - Artificial water supplies for wildlife - Bush encroachment + Trees - Game reserves and recovery of wildlife from hunting and rinderpest - Fencing & Mechanisation - Anthrax Panzootic in lowveld

Time Period	South Africa	Regional and Mozambique	Zimbabwe	Key Drivers/Changes
<p><b>1945 – 2005</b></p> <ul style="list-style-type: none"> <li>• Changing paradigms from “Game Reserves” in early days to “Ecosystem Stability” and pragmatic intervention to maintain stability, to “Biodiversity / Heterogeneity”</li> <li>• 1960s Wildlife vets with capture &amp; translocation</li> <li>• ? of thresholds in control and outbreaks of animal diseases</li> <li>• CITES and green activist movement</li> <li>• Environmental Justice</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• 1959 Bantu Self Govt. Act</li> <li>• Expansion of irrigation</li> <li>• Shift to wildlife landuse from 1952 but mainly since 1970s with rapid development since 1975 - rise in land prices</li> <li>• Extension of Kruger NP in 1960s</li> <li>• Culling of elephant 1967 and buffalo and hippos</li> <li>• Progressive decline of livestock (FMD &amp; marketing)</li> <li>• 1980s Crisis in Agric. With reduced subsidies and further shift to wildlife in lowveld</li> <li>• Anthrax epizootics in 1990, 91, 93, 99.</li> <li>• EMC in elephants in 1993</li> <li>• Bovine TB in wildlife 1960s but only diagnosed in 1990</li> <li>• Elephant culling moratorium 1995</li> <li>• Democratisation in SA followed by new Biodiversity, water and land legislation with cooperative governance of natural resources</li> <li>• Land claims</li> <li>• Increasing tourism since 1994</li> <li>• Translocations and fences dropped →</li> </ul>	<p>← Atlantic Charter Decolonisation →</p> <p>← Eradication of Tsetse → (East Coast fever, BCPP, Glanders)</p> <p>← Trade driven disease control → (1970s with fences to control wildlife, mainly buffalo, &amp; people?)</p> <ul style="list-style-type: none"> <li>• 1972 Bahnine and Zinave gazetted</li> <li>• Fall of Salazaar Govt. and decolonization</li> <li>• Civil War and collapse of wildlife management</li> </ul> <p>← GATT/WTO/OIE impacts → (since 1980)</p> <p>← Major drought 1991/92 →</p> <p>← Major Floods 2001/02 →</p> <p>← TFCAs 2002 →</p> <p>← Emerging infections →</p> <p>← Water catchment Mgmt. →</p> <p>← Regional Climate Change →</p>	<ul style="list-style-type: none"> <li>• Second wave of European immigration 1945-55</li> <li>• Contraction of area of Communal Lands in SEL</li> <li>• Major irrigation schemes developed 1950s &amp; 1960s</li> <li>• 1960 Beginning of Game Ranching</li> <li>• Role of buffalo in FMD established</li> <li>• Eradication of buffalo in SE</li> <li>• Elephant culls 1970s and translocations 1990s</li> <li>• Liberation War 1975-80</li> <li>• 1989 CITES ban on ivory trade and cessation of culling</li> <li>• Start of CAMPFIRE</li> <li>• Conservancies 1991/92</li> <li>• Tourism declines 1997</li> <li>• 2000 land reform and economic decline and crash in tourism</li> </ul>	<ul style="list-style-type: none"> <li>• Human Population Growth</li> <li>• Land tenure and relocation of people</li> <li>• Wildlife legislation and ownership to farmers in 1960s and 1970s</li> <li>• Increase in knowledge of diseases with developments in molecular biology</li> <li>• Increased tourism (1950s) and increased water points, roads, etc.</li> <li>• Liberation wars/Civil wars</li> <li>• Droughts and impact of El Nino</li> <li>• Political instability triggering disease outbreaks</li> <li>• World Trade dynamics</li> <li>• Increasing contact between people and wildlife</li> <li>• Habitat changes</li> <li>• Translocation of animals</li> <li>• Diseases crossing species barriers (e.g. BTB)</li> <li>• Increased water demand with population growth and agro-industries</li> <li>• Changes in legislation</li> <li>• Politics of Patronage</li> <li>• Exchange rates and tourism growth</li> <li>• Fuel prices and airfares</li> </ul>

### 3. Assessment of Goods and Services related to Livestock and Wildlife in the GLTFCA

#### A. LIVESTOCK:

<b><u>Disservices:</u></b>	<b><u>Supporting Services</u></b>	<b><u>Services:</u></b>
<p>Zoonoses</p> <p>Trampling and erosion</p> <p>Overgrazing</p> <p>Bush encroachment</p> <p>Nutrient redistribution</p>		<p style="text-align: center;">Soil formation, Nutrient cycling, Primary Production</p> <p><b>a) <u>Provisioning</u></b></p> <p>Food: Milk, Meat Fibre: Hides Dung: Fertilizer Draught power Transport</p> <p><b>b) <u>Regulating</u></b></p> <p>Diseases</p> <p><b>c) <u>Cultural</u></b></p> <p>Bride price Religious rituals Banking</p>

<b>Some Characteristics of Communal Land communities in TFCA</b>	
<p><u>Black SA Communities</u></p> <ul style="list-style-type: none"> <li>• Population density &lt;100 km2</li> <li>• Mainly pensioners</li> <li>• Labour market</li> <li>• Live adjacent to protected areas creating a “hard edge”</li> <li>• Livelihoods rely on urban remittances</li> <li>• Capital base – concrete, cars, TVs and cell phones</li> <li>• Agriculture, home gardens and livestock a small part of livelihood strategies</li> <li>• Meat unprocessed or certified</li> <li>• Milk not pasteurized</li> <li>• Basic surveillance of disease and dipping good</li> </ul>	<p><u>Agro-pastoral Communities in Mozambique and Zimbabwe</u></p> <ul style="list-style-type: none"> <li>• Population density 10-50 people/km2</li> <li>• “Ecosystem people”</li> <li>• Live in a mosaic with wildlife and a soft edge in most parts</li> <li>• Capital base ?????</li> <li>• Communal Lands form dormitories to the cities</li> <li>• Standard of veterinary services poor or absent</li> <li>• Depend on livestock for food security, draught, manure, cultural and spiritual needs, ???, ???</li> <li>• Disease risks – Brucellosis, Anthrax, Cystercosis, FMD, BTB</li> <li>• Market barriers as a result of FMD</li> </ul>

**B. WILDLIFE**

<p><b><u>Disservices:</u></b></p> <p>Crop raiding</p> <p>Zoonoses</p> <p>Trampling and erosion</p> <p>Overgrazing</p> <p>Bush encroachment</p> <p>Nutrient redistribution</p>	<p style="text-align: center;"><b><u>Supporting Services</u></b></p> <p style="text-align: center;">Soil formation, Nutrient cycling, Primary Production</p>	<p><b><u>Services:</u></b></p> <p><b>a) <u>Provisioning</u></b></p> <p>Food: Meat Fibre: Hides Ecotourism: Cash, Employment, Community development projects Medicines</p> <p><b>b) <u>Regulating</u></b></p> <p>Diseases</p> <p><b>c) <u>Cultural</u></b></p> <p>Recreational Educational</p>
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<p style="text-align: center;"><b>Some Characteristics of Communal Land communities in TFCA</b></p>	
<p><b><u>Black SA Communities</u></b></p> <ul style="list-style-type: none"> <li>• Population density &lt;100 km2</li> <li>• Mainly pensioners</li> <li>• Labour market</li> <li>• Live adjacent to protected areas creating a “hard edge”</li> <li>• Livelihoods rely on urban remittances</li> <li>• Capital base – concrete, cars, TVs and cell phones</li> <li>• Population densities too high to support wildlife</li> <li>• Some benefits overflow from protected areas – e.g. meat, employment</li> <li>• Some communities have benefited from land claims (e.g. Makuleke).</li> <li>• BTb from wildlife to livestock a potential problem with risks exacerbated by HIV-AIDS</li> </ul>	<p><b><u>Agro-pastoral Communities in Mozambique and Zimbabwe</u></b></p> <ul style="list-style-type: none"> <li>• Population density 10-50 people/km2</li> <li>• “Ecosystem people”</li> <li>• Live in a mosaic with wildlife and a soft edge in most parts</li> <li>• <b>Capital base ?????</b></li> <li>• Communal Lands form dormitories to the cities</li> <li>• Disease risks – Brucellosis, Anthrax, Cystercosis, FMD, BTB</li> <li>• Market barriers as a result of FMD</li> <li>• Zoonoses and risks to livestock</li> <li>• Illegal pet trade</li> <li>• Hunting as a recreation</li> <li>• Contributes to nutrition and food security</li> <li>• <b>DCAs ???</b></li> <li>• Potential IRR</li> <li>• Returns from nature based tourism</li> </ul>

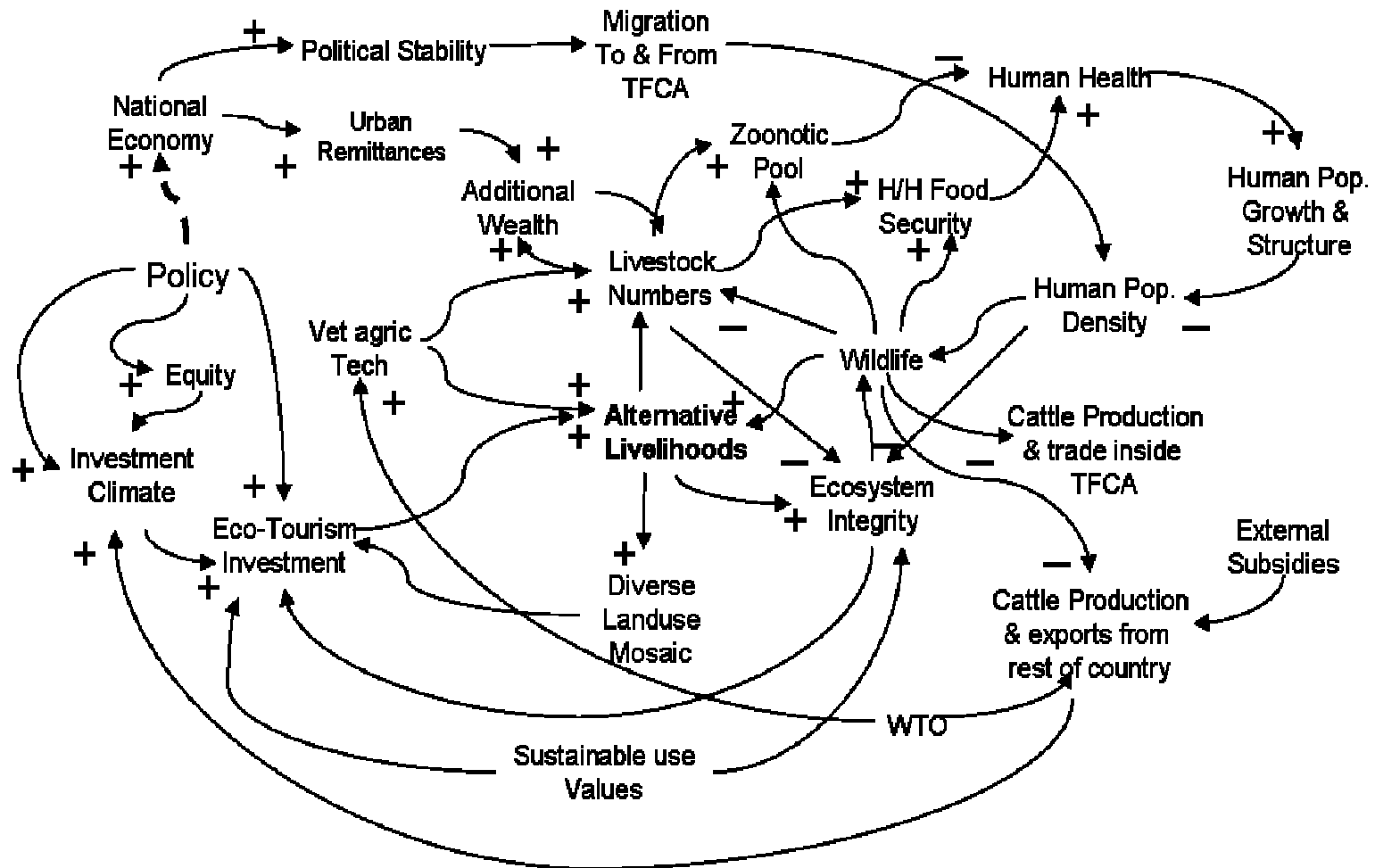
**C. WILDLIFE/CATTLE (ECONOMIC-ENTREPRENEURIAL ASPECTS)**

<p><b><u>Disservices:</u></b></p> <p>Crop raiding</p> <p>Zoonoses</p> <p>Trampling and erosion</p> <p>Overgrazing</p> <p>Bush encroachment</p> <p>Nutrient redistribution</p>	<p><b><u>Supporting Services</u></b></p> <p>Soil formation, Nutrient cycling, Primary Production</p>	<p><b><u>Services:</u></b></p> <p><b>a) <u>Provisioning</u></b></p> <p>Food: Meat                  Fibre: Hides                  Manure/fuel/building                  Ecotourism: Cash, Employment,                  Community development projects                  Medicines</p> <p><b>b) <u>Regulating</u></b></p> <p>Disease regulation</p> <p><b>c) <u>Cultural</u></b></p> <p>Recreational                  Educational                  Existence values</p>
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<p><b>The 3 countries differ in:</b></p> <ul style="list-style-type: none"> <li>• relative strengths of environmental agencies and resources available to them</li> <li>• Levels of corruption</li> <li>• Landuse patterns and policies</li> <li>• Environmental histories</li> <li>• Size and wealth of middle class, GDP, etc.</li> </ul>
<p><b>What are governments getting out of the TFCA development?</b></p> <ul style="list-style-type: none"> <li>• Control – own power base, bureaucrats acting as power brokers</li> <li>• Creating a legacy or monument</li> <li>• Achieving a mandate</li> <li>• TFCAs provide a business opportunities for ranching , nature based tourism with associated capital investments and profits</li> </ul>
<p><b>Disease regulation:</b></p> <ul style="list-style-type: none"> <li>• “Healthier landscape” resulting in better landuse according to values</li> <li>• Meeting sustainable development values including genetic store</li> <li>• Perceived better deal for locals</li> <li>• Political “stabilizer”</li> </ul>
<p><b>Cultural:</b></p> <ul style="list-style-type: none"> <li>• Way of life (ranching/hunting)</li> <li>• Recreational opportunities (ecotourism/hunting/cultural tourism etc.)</li> <li>• Existence values</li> <li>•</li> </ul>
<p><b>Risks and Threats:</b></p> <ul style="list-style-type: none"> <li>• Worsening disease and other security threats</li> <li>• Trade barriers</li> <li>• Physical threats to people associated with wildlife</li> <li>• Links (gaps?) between rich and poor</li> <li>• Capital investment and foreign currency falls short</li> </ul>

#### 4. Exploration of system dynamics

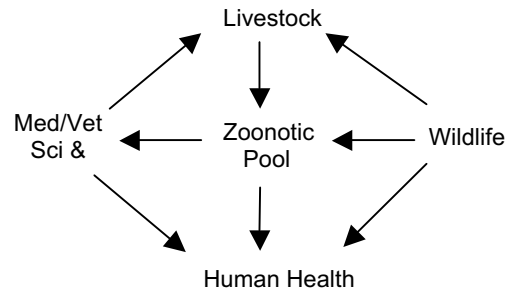
An example of a TFCA Agro-pastoral system centered on Alternative Livelihoods/Livestock/Wildlife



## 5. Research Directions

The purpose of this session was to explore linkages between the systems diagrams and some the main themes of the overall programme.

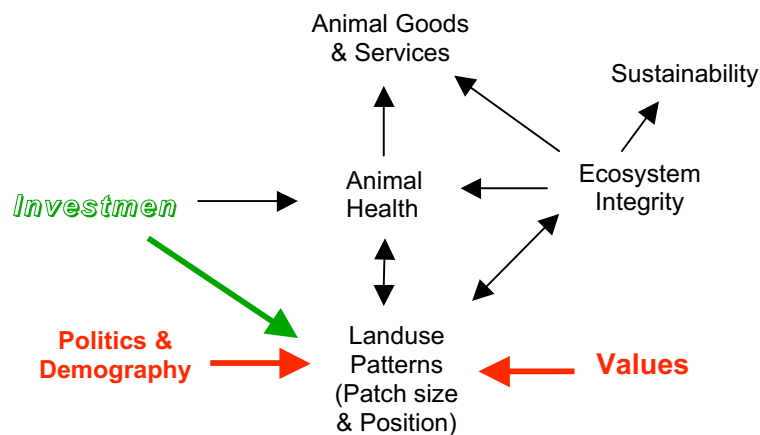
### Theme 2. Animal Health and Disease/Human Health



- Animal Management strategies (livestock and wildlife)
- Disease control strategies
- Public health strategies
- Disease dynamics and patterns (spatial and temporal)
- Species mixes and disease dynamics (livestock/wildlife)
- Contact interfaces between humans/livestock/wildlife
- Spatial-temporal patterns and dynamics of disease & health
- HIV and increased vulnerability to zoonoses (?facilitation between diseases)  
(Involve surveillance, monitoring and research)

### Theme 3. Landuse, Ecosystem Goods and Services and Animal Health

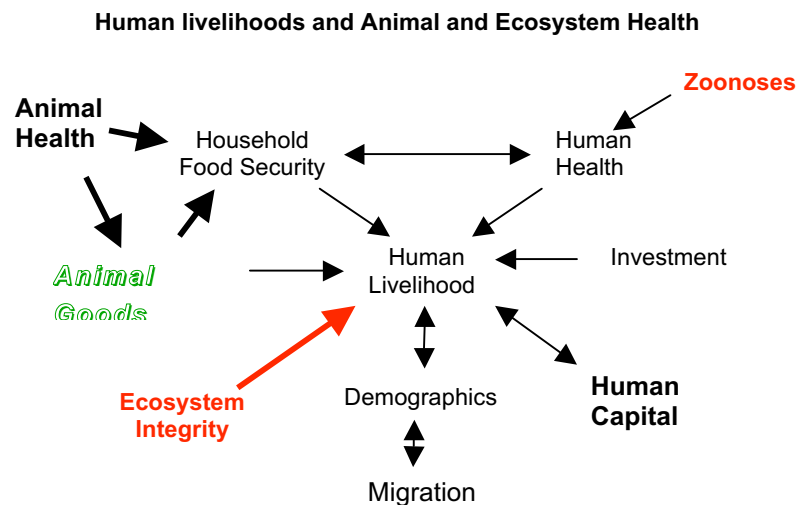
#### Landuse, Ecosystem Goods & Services, and Animal Health



- Soft and hard boundaries between animal production systems (? Value systems)
- Supply and demand for ecosystem services
- Tenure and animal health and goods and services



#### **Theme 4. Human livelihoods and animal and ecosystem health.**



- Impact of changing land uses on livelihoods
- Impact of changing animal goods and services on livelihoods
- Implication of animal health and goods and services on livelihoods

Additional comment:

Where are adaptive strategies and flexibility important in the system?

What is the influence/impact of corrupt elites on the system and its development?

#### **6. Scenario Planning - Presentation by Mike Muphree and ensuing discussion**

#### **7. Organisations and Players in the GLTFCA (*Stakeholder Map*)**

##### **1. Government structures:**

- Appropriate Ministries in each country
- National Transfrontier National Park Committees
- GLTFNP Joint Management Board
  - Working Groups and Sub-committees (e.g. Conservation & Veterinary)
- Agriculture and Veterinary Departments
  - Mozambique – DINAP
  - South Africa – Animal Health, ARC-OVI
  - Zimbabwe – Dept. Veterinary Services, Wildlife Veterinary Unit
- Health
- Wildlife agencies
  - Mozambique – Dept. Wildlife & Tourism, DNFFB
  - SA. - Dept. Environment and Tourism (DEAT), SANParks
  - Zimbabwe – National Parks & Wildlife Management Authority
- Environment agencies

## **2. Local Government Structures:**

- Provinces
  - Mozambique – Gaza,
  - South Africa – Mpumalanga, Limpopo
  - Zimbabwe – Matabeleland South, Masvingo, Mashonaland East
- District authorities
  - Mozambique – Districts
  - South Africa – xx Municipalities
  - Zimbabwe – Beitbridge, Chiredzi, Chipinge and Mwenezi District Councils

## **3. Academic and research Institutions:**

- Mozambique:
  - Eduardo Mondlane
  - Veterinary Research Institute
- South Africa:
  - University Kwazulu/Natal and Institute of Natural Resources
  - University of the Witwatersrand – Wits Rural Facility, TPARI
  - University of Pretoria – OP, MRI, CWS
- Zimbabwe:
  - University of Zimbabwe – CASS, IES, TREP
- External Universities
  - Berkeley – Dept. xxx

## **4. Non Governmental Organisations:**

- Southern African NGOs: PPF, EWT, ART
- International NGOs: IUCN, WCS, WWF, AWF, IFAW

## **5. International Donor Agencies and Foundations:**

World Bank, UNEP, UNDP, EU, DGIS, NORAD, USAID, FAO, CIRAD, FORD

## **6. Private Sector:**

- Conservancies bordering National Parks in South Africa & Zimbabwe
- Tourism agencies (e.g. Wilderness Safaris, etc.)
- Agro-industries (e.g. sugar production and large scale irrigation)
- Commercial ranchers (cattle-wildlife)

## **7. Communal Sector/Informal Sector**

- Traditional Leaders
- Village Heads and Spiritual Leaders
- Small-scale farmers (agro-pastoralists and irrigators)
- Informal traders (e.g. curio manufacturers and traders, cross border traders)