



**Building Consensus on Albertine Rift Climate  
Change Adaptation for Conservation: An  
Outreach Workshop to Share Results of New  
Modelling and Vulnerability Assessments**

**22-25 February 2011**

**La Palisse Hotel, Gashora, Rwanda**

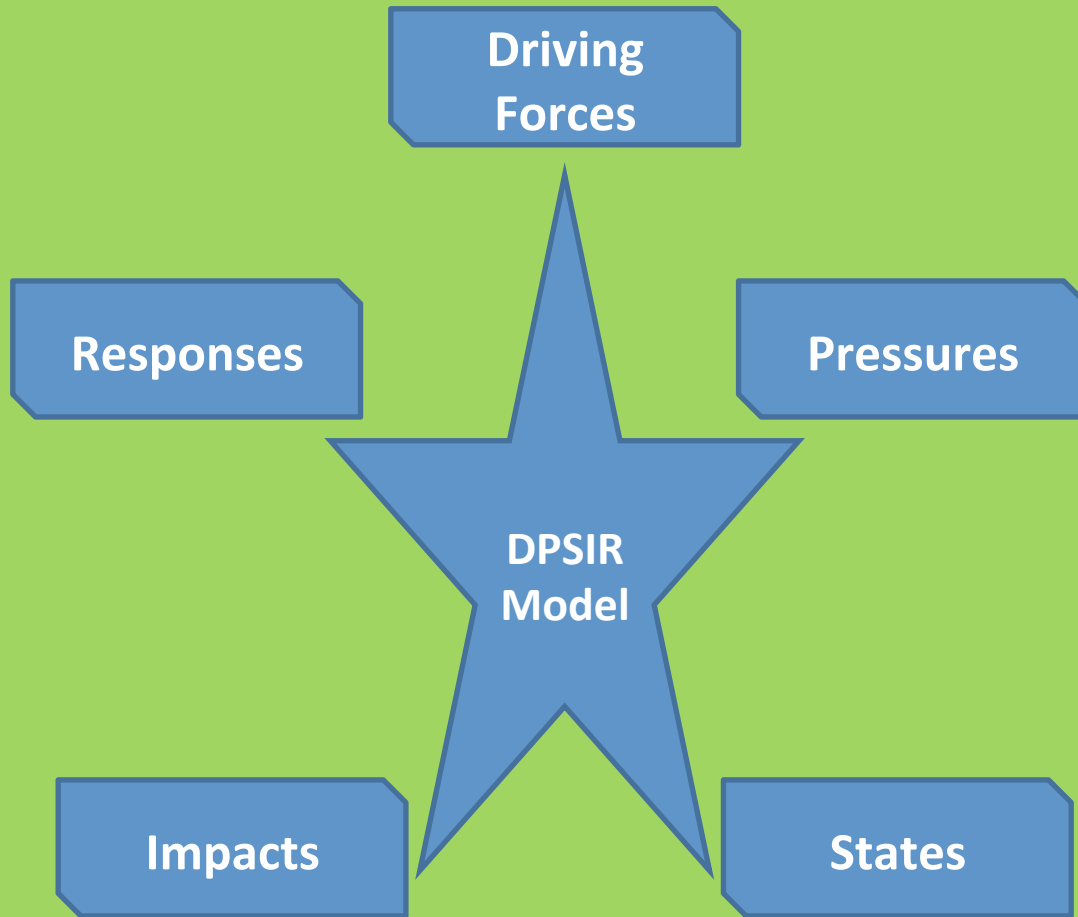
**Current State of Albertine Rift Conservation:  
Challenges and Opportunities  
in face of Climate Change**

**Dr Sam Kanyamibwa  
Executive Secretary, ARCOS**

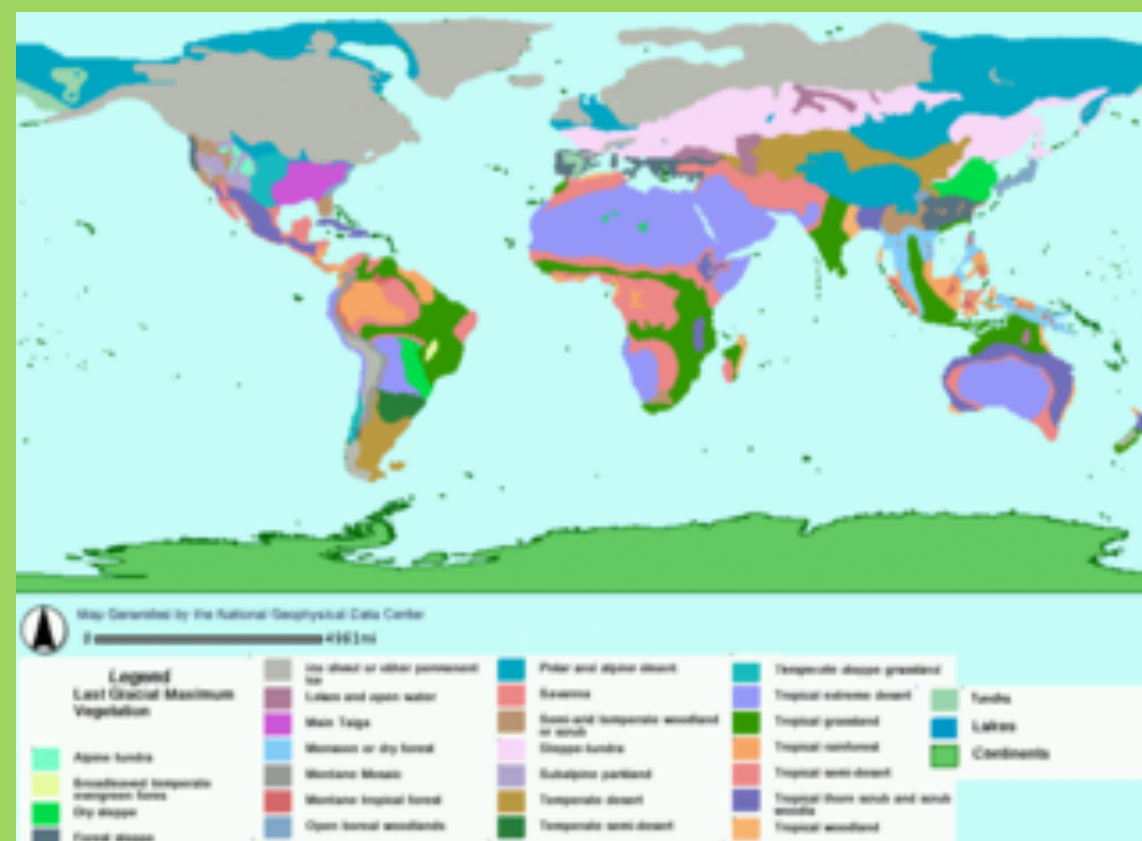
# Plan

1. Intro: The Albertine Rift in Global Context
2. State of Conservation and Development in the AR
3. Climate Change in the Albertine Rift
4. Key Challenges and Opportunities
5. Conclusion and Recommendations

# 1. Introduction



# *The influence of Glaciations on today centres of endemism*



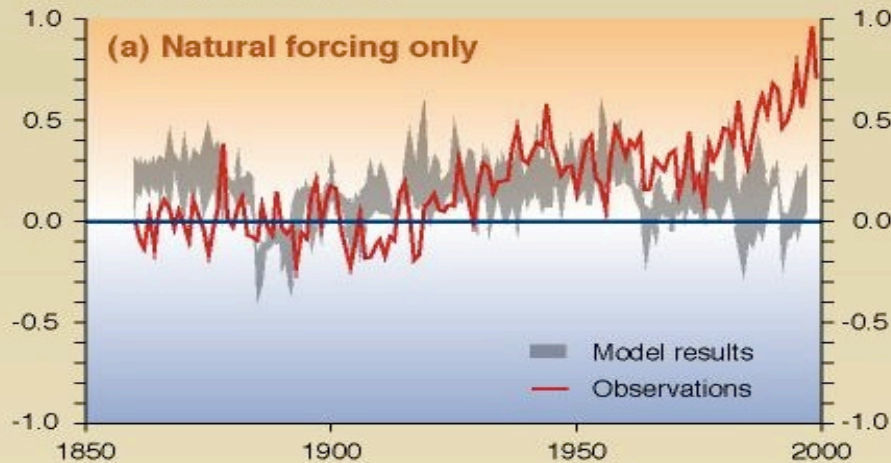
Palynological records show that during last glaciations, the distribution of lowland rain forests was reduced due to the effects of climatic changes, many species found refuge in montane areas such as the Albertine Rift.

# What the global models tell us?

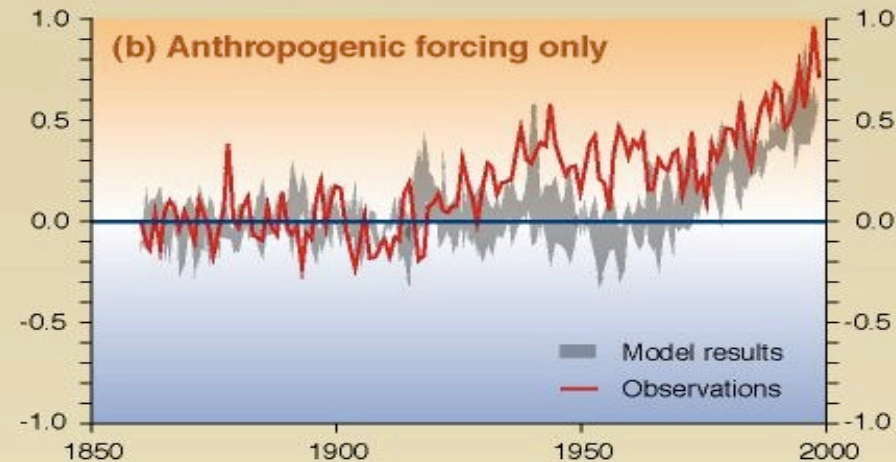
Link between warming and human activities (IPCC 2001)

## Comparison between model and observations of the temperature rise since 1860

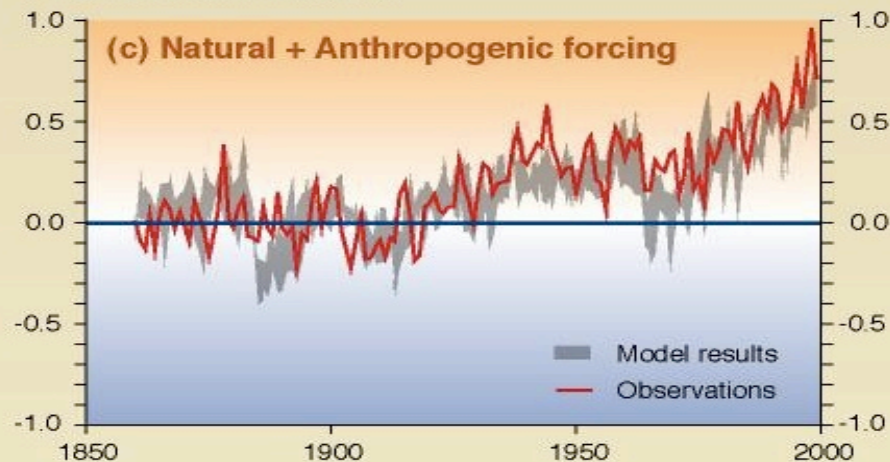
Temperature anomalies in °C



Temperature anomalies in °C



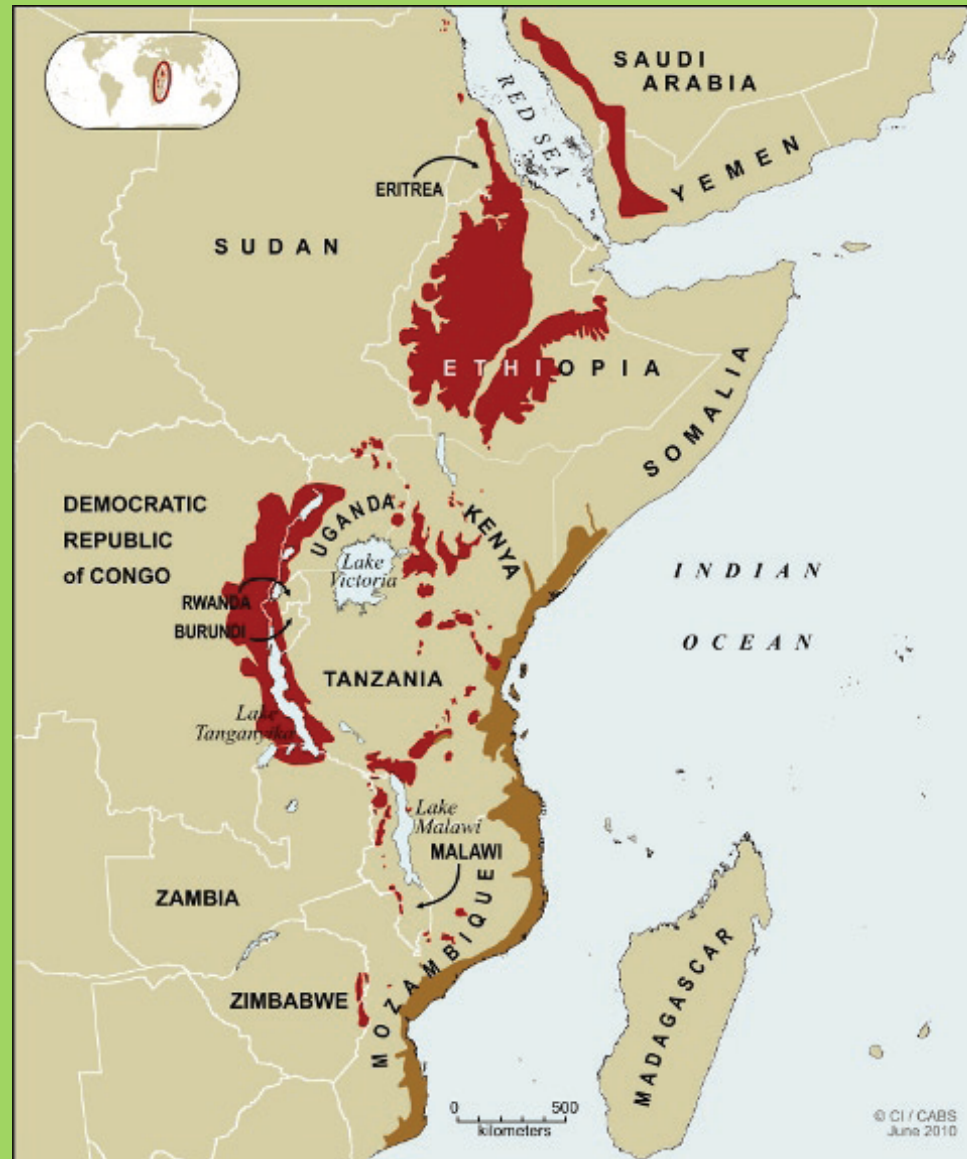
Temperature anomalies in °C



# Advance in Conservation: Global biodiversity mapping (Years 1980s)

- **Norman Myers in 1988** identified tropical forest ‘**hotspots**’ characterized both by exceptional levels of plant endemism and by serious levels of habitat loss
- ***C. J. Bibby et al. 1992. Putting biodiversity on the map: **priority areas** for global conservation.*** International Council for Bird Conservation (Now BirdLife International). Later, Endemic Bird Areas
- **WWF, Global 200 Ecoregions**
- International and national **site** priority setting (PAs)

# The Eastern Afromontane Hotspot



## 2. State of Conservation and Development in the Albertine Rift



# From Ad-hoc Species focus to long-term research, site conservation and transboundary/landscape and Regional collaborative Action

- ✓ In the past, ad-hoc inventories and species identification
- ✓ Species focused projects
- ✓ The region has some of the oldest field research like on Mountain gorilla
- ✓ Integrated Conservation and Development Programmes
- ✓ Transboundary Programmes (WWF/AWF/FFI through IGCP, LTA)
- ✓ Regional initiatives, Regional Conservation Framework, Regional NGO (ARCOS), Regional Programmes (WCS, WWF, NBI, LTA)
- ✓ Government Environmental Initiatives (LTA, GVTCS, LTA)
- ✓ CEPGL, New EAC, Secretariat for Peace and Security and Governance).
- ✓ Universities and Research Institutions

# Strategic Planning Process



## A framework for conservation in the Albertine Rift



2004 - 2030



ALBERTINE RIFT CONSERVATION SOCIETY

## ALBERTINE RIFT REGIONAL MONITORING FRAMEWORK MEETING

KAMPALA, 03-05 JULY 2007



FINAL REPORT

Sam Kanyambwa & Cecily Kabagumya  
ARCOS, October 2007

Transboundary Core Secretariat



TEN YEAR TRANSBOUNDARY STRATEGIC PLAN  
Central Albertine Rift Transboundary Protected Area Network

Supported by JGCP funded by USAID

International Gorilla Conservation Programme



TCP, Final Version, 20 Feb. 08

## PLAN STRATEGIQUE DE CONSERVATION DE LA CRETE CONGO-NIL



REVISED DRAFT (June, 2007)



Greater Mahale Ecosystem  
Conservation Action Planning Meeting  
Kigoma December 10<sup>th</sup> - 14<sup>th</sup> 2007

## Meeting Summary

January 2008



# Progress in the 6 AR Landscapes

- North-Planning Unit 1: Strategic planning ongoing through WWF/GEF project; looking at corridors and sustainable financing (plus WCS, ARCOS).
- ✓ Greater Virungas- Planning Unit 2: transboundary strategic plan and Protocol d'accord between governments led by IGCP, UWA, RDB, GVTCS, etc.
- Itombwe-Maiko – Planning Unit 3: Surveys and landscape planning (DFGFI, WCS, CARPE). Need to protect Itombwe ( 6,033 km<sup>2</sup> )
- ✓ Congo Nile Divide– Planning Unit 4: strategic plan complete, looking at transboundary collaboration between Kibira and Nyungwe parks (WCS, RDB, INECN, and others)
- ✓ Greater Mahale – Planning Unit 5: Strategic plan complete for the Greater Mahale Ecosystem with TANAPA and Frankfurt Zoological Society
- Misotshi-Kabogo- Planning Unit 6: Surveys by WCS

# Regional Monitoring Framework

- **Regional Monitoring Vision**

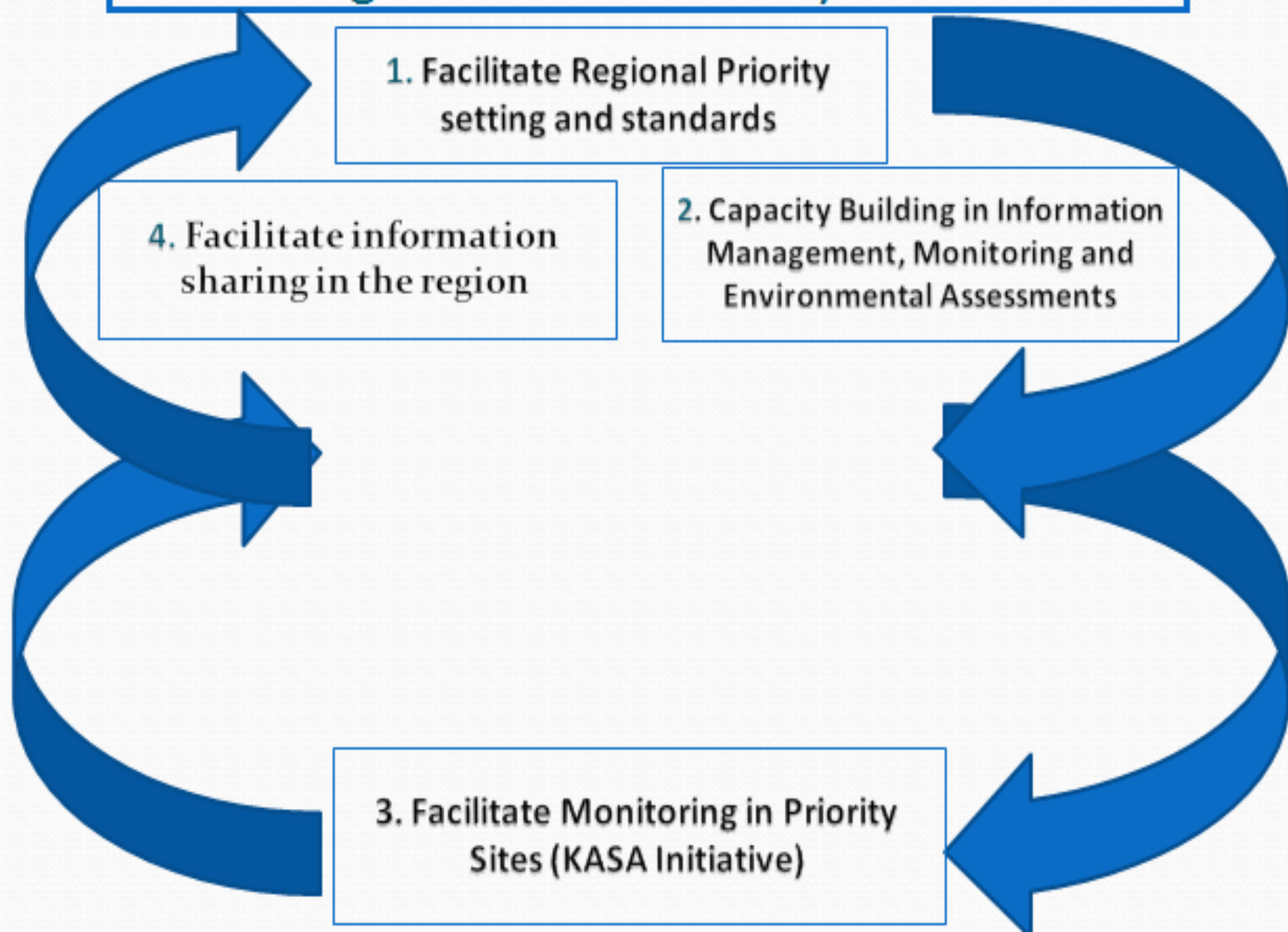
- **“A harmonized, participatory and cost-effective regional biodiversity monitoring framework that generates and provides information that is used by all stakeholders for biodiversity conservation and for promoting sustainable development in the Albertine Rift by 2030”**

- **Strategic Objectives:**

- Mechanism for coordination of the Albertine Rift biodiversity monitoring in place and operational
- Institutional monitoring capacity enhanced
- Mechanisms for data sharing in place and operational
- Data collection programmes in selected areas enhanced and/or designed
- Advocate for interventions where declines in conservation targets are observed

- **The indicators at species level, habitat level and process level, using Pressure-State-Response Model**

# ARBMIS-Albertine Rift Biodiversity Monitoring and Information System





# Data Management, Sharing and Reporting in the Albertine Rift

## MEMORANDUM OF UNDERSTANDING

*ON THE COLLABORATION IN BIODIVERSITY DATA AND  
INFORMATION SHARING IN THE ALBERTINE RIFT REGION*

Mosa Court Apartments, Kampala, Uganda  
Wednesday, 20<sup>th</sup> October 2010

## Towards the implementation of a shared Vision:

*“The Central Albertine  
Rift Transfrontier  
Protected Area  
Network together  
with the surrounding  
Landscape conserved  
sustainably”*

1991

2004

Oct  
2005

May  
2006

July  
2008

Feb  
2009

1991:

Initiation of  
the informal  
Transboundary  
Collaboration  
Process  
between  
protected area  
field staff

2004:

The MoU  
established a  
transboundary  
core  
secretariat  
composed of  
the Heads of  
ICCN, ORTPN  
and UWA

Oct 2005:

Tripartite  
Declaration on the  
Transboundary  
Natural  
Management  
of the  
Transfrontier  
Protected Area  
Network of the  
Central Albertine  
Rift

May 2006:

The 10 year  
Transboundary  
Strategic Plan  
agreed by the  
three Protected  
Area Authorities.  
provides for  
establishment of  
permanent  
Secretariat.

July 2008:

Rubavu  
Ministerial  
Declaration for  
Greater  
Virunga  
Transboundary  
Collaboration

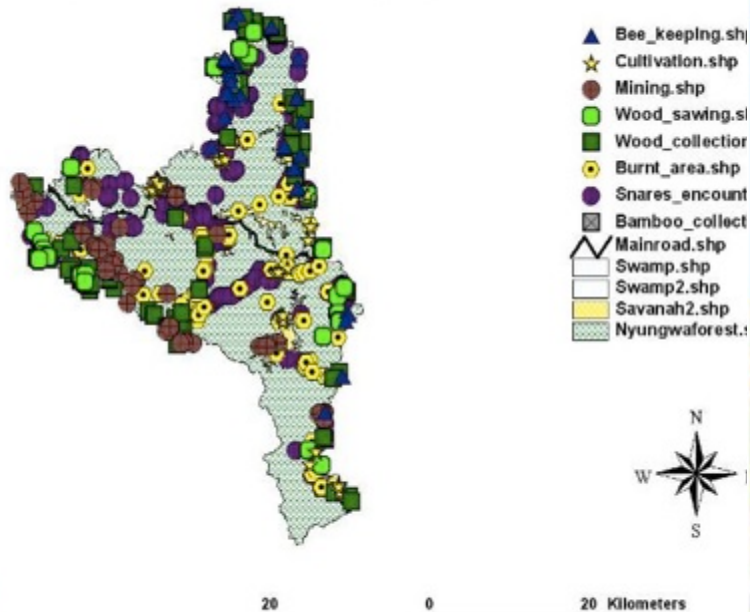
February  
2009:

Agreement  
minute for  
the  
institutional  
isation of the  
Transboundary  
Secretariat

# Quite a lot happening in the AR



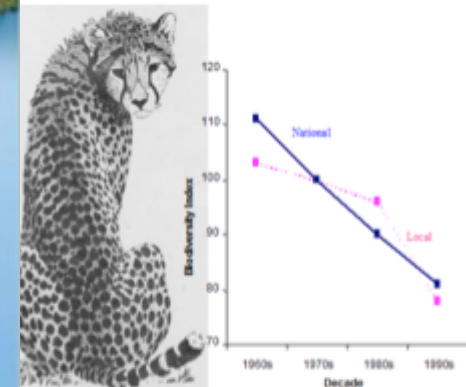
## Illegal Activities in Nyungwe Forest



Nyungwe Forest Conservation Project



## The State of Uganda's BIODIVERSITY 2000

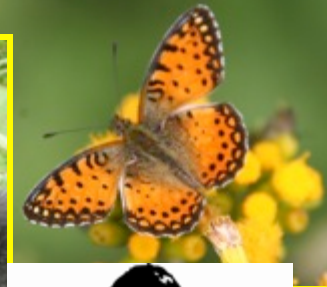
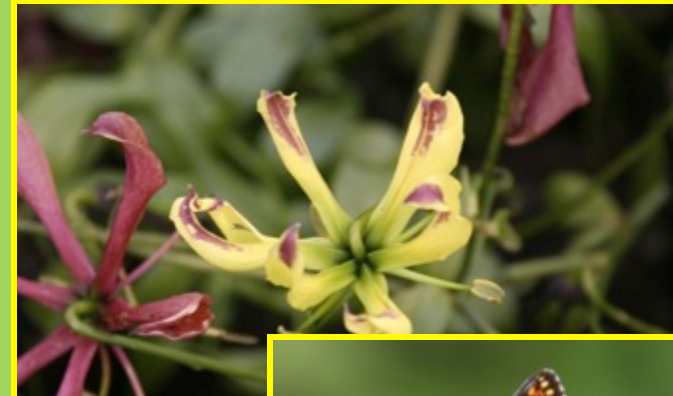


an analysis of trends

FIRST EDITION

A sequel to "Biodiversity Monitoring in Uganda, 1999"

# DFGFI Research and Monitoring



The Dian Fossey  
Gorilla Fund  
International

### 3. Climate Change in the AR

- Mountain ecosystems are among the most affected by climate change
- Already increased frequency of some extreme events in some places
- Floods, droughts, landslides and increased incidences of malaria and cholera
- Decreases in run-off and water availability, affecting agriculture and hydropower systems
- Change in landscape (imisozi yanamye)
- Observed effects on some species in the region (mountain gorillas, birds, phenology, etc.), even if still a lot to know...

# Climate change in the AR (cont.)

1958



1906



1992



2008



# 4. Key Challenges We Face

- 1) Limited Implementation of Regional Framework
- 2) Population Pressure
- 3) Unsustainable agriculture
- 4) Human/wildlife Conflicts, Diseases Outbreaks, Invasive species
- 5) Development drivers
- 6) Local stakeholders capacity (Governments, NGOs)
- 7) Governance and Policy Framework
- 8) Climate Change
- 9) Information, data and coordination
- 10) Inadequate resources



## 4.1. Regional Framework in Place but limited resources for coordinated implementation

| Issues   | Opportunities   |
|--|---|
| <ul style="list-style-type: none"><li>• Not enough Monitoring</li><li>• Gaps in protection and connectivity</li><li>• Emerging issues need to be integrated</li><li>• Local stakeholders capacity (Governments, NGOs)</li><li>• Government Ownership</li></ul> | <ul style="list-style-type: none"><li>• Peace in the region</li><li>• Extension of East African Community</li><li>• Eastern Afromontane Hotspot Profiling (CEPF)</li><li>• Willingness to cooperate</li></ul> |

## 4.2. Population pressure

### Issues

- High population density
- Shortage of arable land
- Decreasing soil fertility and productivity
- Exposure to soil erosion
- Unsustainable Agriculture
- Growth of Urban areas

### Opportunities

- Enhance agroforestry
- Erosion and nutrient loss control (terracing, etc.)
- Promote species that enhance soil productivity and ecological zones

## 4.3 Protected Area Encroachment and other illegal activities

| Issues   | Opportunities  |
|--|--|
| <ul style="list-style-type: none"><li>– illegal logging</li><li>– charcoal production</li><li>– Bushfires</li><li>– illegal tree cutting, fishing</li><li>– livestock grazing</li><li>– Mining</li><li>– Traditional beekeeping</li><li>– Poaching</li><li>– Exotic species/Invasive species (Eucalyptus, Water Jacinth)</li></ul> | <ul style="list-style-type: none"><li>• Community empowerment and income generation activities</li><li>• Development of alternatives and sustainable technology in charcoal making, agriculture, beekeeping, etc.</li><li>• Enhancing enforcement, including community participation</li></ul> |



## 4.4. Agriculture

### Issues

- Limited land and population increasing
- Poor traditional technology
- Rwanda alone: 1.4 million tonnes of soil lost every year due to erosion
- Tendency towards agrochemical products (harmful consequences on human and ecosystem health)

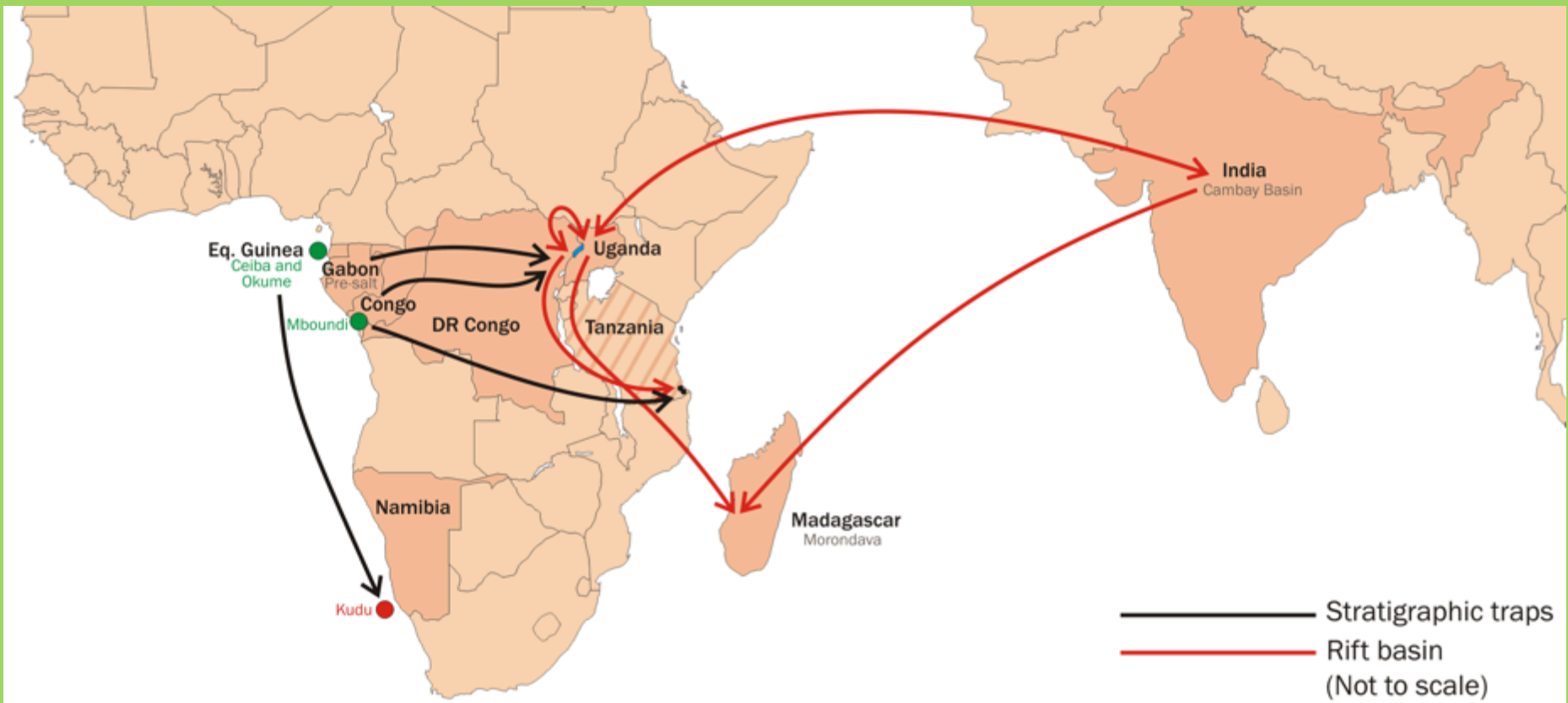
### Opportunities

- Training and extension programmes to assist communities
- Research and technology development for adapted crops
- Soil conservation programmes
- National policy in agriculture, and different sectors

## 4.5. Economic Development Drivers

| Issues   | Opportunities   |
|--|---|
| <ul style="list-style-type: none"><li>• Urbanisation</li><li>• Pollution</li><li>• Oil and Gas</li><li>• increased water use (domestic, agriculture, hydro-power generation, etc.)</li></ul> | <ul style="list-style-type: none"><li>• EIA and SEA</li><li>• The Cleaner Production and Corporate Environmental Responsibility</li><li>• Environmental integration in government investment policy</li></ul> |





*Albertine Rift as one of the top strategic areas for oil exploration by Tullowoil ([http://www.tullowoil.com/files/pdf/capital\\_markets/](http://www.tullowoil.com/files/pdf/capital_markets/))*

## 4.6. Governance

### Issues

- Shared vision
- Participation in NRM decision-making
- Accountability
- Legal framework and rule of law
- Inter-linkages of policies
- Performance and capacity

### Opportunities

- Participation in decentralisation process
- Mainstreaming environment into local development plans
- Research and documentation of best practices
- Increased recognition of role of civil society in promoting pro-poor and pro-environment stance in policy-making, planning and budgeting.
- National strategies and policies, including NAPAs



## 4.7. Energy

### Issues

- Enormous use of biomass in the region
- Forest degradation
- Effect on human health

### Opportunities

- **Energy Conservation programmes, awareness**
- **Promotion of renewable energy alternatives : micro-dams, cooking stoves, solar, biogas)**
- **Environmental and social requirements in energy projects (Methane gas in Lake Kivu, opportunity for social, ecological and economic impact if done well).**



## 5. Conclusions and Recommendations



# From Pressure to State and Response

- ❖ The human impact in the AR is driving accelerated change affecting landscapes, habitats, species and ecosystem services
- ❖ We should recognise efforts done by our governments, different conservation practitioners to reduce the speed of destruction and environmental degradation
- ❖ Accelerated dimension of climate change and development needs require special attention, otherwise the degradation of the environment and natural resources will undermine our countries' ability to sustain economic growth that is vital to the goals of development.
- ❖ If the international community is aware of climate change today, it is because of lengthy work of IPCC. We need also high science in the AR, to guide decision-making

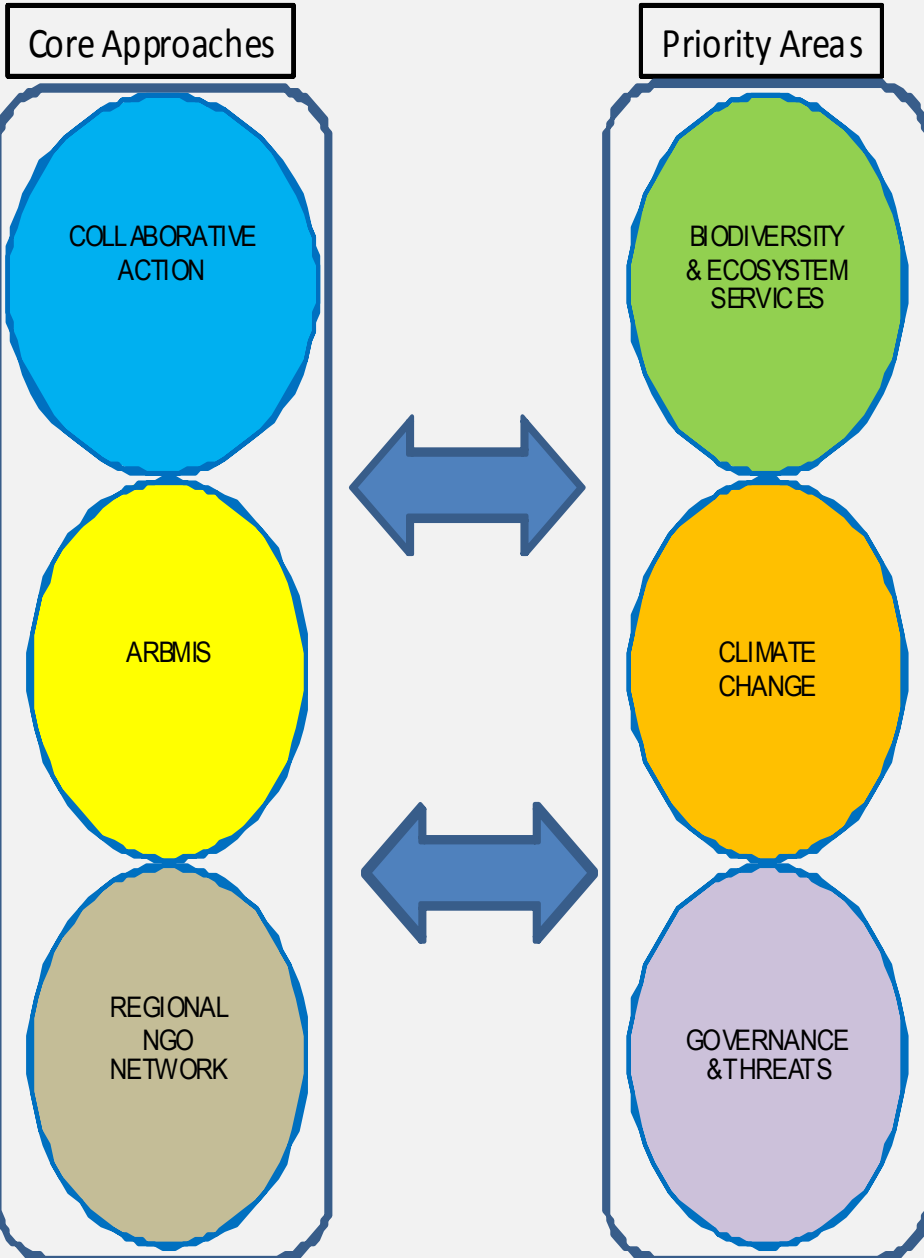
# Recommendations

- **Dealing with climate change requires a multidisciplinary approach. Collaborative scientific community and interface with decision makers need more attention.**
- **Traditional knowledge and practices in dealing with extreme weather conditions need to be captured and shared**
- **We need integrated environmental management, good governance, innovative technology and enabling policy conditions in climate change adaptation to bring lasting win-win solutions (sustainable adaptation strategies)**
- **Climate change adaptation should be integrated within the broader sectors of sustainable development, including budgeting**

# ARCOS Plan Ahead



**ARCOS  
STRATEGIC  
AREAS  
2011-2015**



# Friends of The Albertine Rift

## Les Amis du Rift Albertin

[www.arcosnetwork.org](http://www.arcosnetwork.org)



*Murakoze, Thank you, Merci, Asanteni*  
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