

**Removal and Mitigation of Perverse, and the
Promotion of Positive, Incentives Measures for
Biodiversity use and Conservation: Experiences
from Uganda**

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Location of Uganda in Africa



Introduction

- The major ecosystems containing Uganda's biodiversity include:
 - Forests
 - Savannah/Grassland
 - Wetlands
 - Other aquatic ecosystems

Current Status of Biodiversity

- Uganda is naturally endowed in biodiversity in terms of species richness and abundance.
- Recent surveys indicate an occurrence of over 18,783 species (NEMA, 2006).
- Most of Uganda's biodiversity is in protected areas
- There is a lot of biodiversity on private land, however it is being degraded/over harvested
- Biodiversity loss in Uganda is estimated at 10-11% per decade (NEMA)

Biodiversity Status in Uganda

	Type of species	Number of species	%of Global species
1.	Mammals	345	7.5
2.	Reptiles	142	1.9
3.	Fish	501	2.0
4.	Amphibians	86	1.7
5.	Butterflies	1242	6.8
6.	Birds	1012	10.2
7.	Fungi (Polypore)	173	16

Biodiversity Hot spots in Uganda

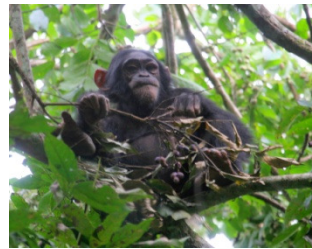
Location	Purpose
Mgahinga Gorrilla National Park	Mountain Gorilla (<i>Gorilla berengei</i>) and other regionally and globally important species
Bwindi Impenetrable National Park	Mountain Gorilla (<i>Gorilla berengei</i>) and other regionally and globally important species
Rwenzori Mountain National Park	Bay duiker (<i>Cephalaphus leucogaster</i>)
Sango Bay wetland and forest ecosystem	Biodiversity of global importance
Kibaale National Park	Regional and globally endemic species
Dry mountains of Karamoja- Napak, Kadam, Timu, Morungole, moroto	Regional and globally endemic species
Lake Victoria	Cichlid and Nile perch species (alien species invasion)
Papyrus Swamps of Lake Edward, George and Bunyonyi	Endemic papyrus (<i>Chloropeta gracilirostris</i>)
Mount Elgon National Park	Regional and globally endemic species

TRUALLY GIFTED BY NATURE

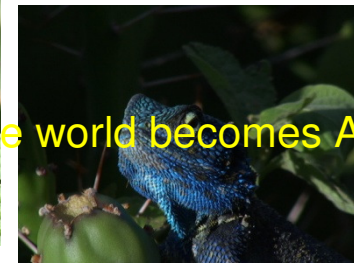
- ❑ Uganda's Unique Species
- ❑ At least 50% of the famed Mountain Gorillas.



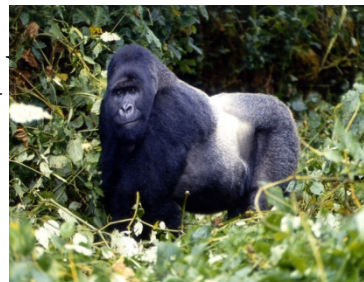
- ❑ Over 1,000+ Birds Species (over 70% of Global Bird Diversity).



- ❑ Host to over 7% on Global Mammal Species Diversity.



- ❑ Unique game in addition to the big fi



e world becomes Alive

A Mtn. Gorilla
in Bwindi NP



QUEEN ELIZABETH NP





Challenges of Conservation and Sustainable use of Biodiversity in Uganda

- High levels of poverty
 - 31% of the population of 30 million is below the poverty line
 - Percapita income, US\$ 300
- High population growth rates
 - 3.2% p.a.
- Proliferation of invasive alien species
 - Water hyacinth
 - Nile Perch
 - Limited capacity to prevent, assess and manage the risks posed by alien invasive species
- Incoherent policies
 - Decentralization
- Climate change
 - Increasing incidence of droughts and floods
- Changing production and consumption patterns
- Habitat conversion, degradation and fragmentation
- Pollution
- Unsustainable harvesting
- Compliance enforcement

Measures for Biodiversity use and Conservation in Uganda

Government has put in place PA systems to enhance the conservation of biodiversity and these include forest reserves, national parks, wildlife reserves and Ramsar sites.

Tools employed to support the measures:

- Financial instruments
 - Environmental Funds
 - National Environment Fund (NEF)-NEMA
 - Friend a Gorilla-UWA
 - Bwindi Impenetrable Forest Conservation Trust Fund
 - GEF small grants
 - Subsidies e.g. given to the leather and tanning industries to manage effluents
- Corporate social responsibility
 - Big private companies e.g. Banks and Communication companies are investing in ecosystems sustainability as a CSR.

Tools of Conservation and Sustainable use of Biodiversity in Uganda

- Collaborative Management Schemes
 - National Parks and Game Reserves
 - 20% of all entry fee collections flow directly to communities neighboring PAs
 - A total of US\$1.7m was collected since 2000 out of which US\$ 896,000 was disbursed to 600,000 people surrounding NPs.
 - Forest reserves
 - Community Forest Management schemes
 - Fisheries
 - Beach Management Units (BMUs)
 - retention of 25% of the money generated from **fish** movement permits at landing site (Statutory Instrument No. 61 of 2002);

Tools of Conservation and Sustainable use of Biodiversity in Uganda

- Market creation
 - Carbon sequestration offsets, planting of trees to tap ERs especially in the voluntary market. Communities mobilized to plant trees by CSOs
- Property rights
 - Use rights
 - Fishing licenses
 - Ownership rights
 - Certificate of ownership e.g. land. A lot of biodiversity on privately owned land has been lost
 - Intellectual property rights over biodiversity are yet to be developed.
 - Exploitation of local biodiversity and indigenous knowledge e.g. Tilapia taken by China

Tools for Conservation and Sustainable use of Biodiversity contd

- Charges
 - Entrance fees in NPs and other PAs
 - Water charges
 - Discharge fees
- Payment for Ecosystem Services (PES)
 - Being encouraged e.g. for water catchments by the water based industries to pay
 - Carbon sequestration projects

Tools for Conservation and Sustainable use of Biodiversity contd

Biodiversity Valuation

- Attempts have been made to value Uganda's rich biodiversity resources, including:
 - carrying out a comprehensive inventory of the biodiversity resources including:
 - terrestrial, aquatic and below ground biodiversity.
- **Challenge**
 - Creating adequate resources (human and infrastructure) for carrying biodiversity inventories
- **Restoration of degraded ecosystems**
 - Forests, wetlands, river banks and lake shores

Tools for Conservation and Sustainable use of Biodiversity contd

Private Sector Participation

- A National Bio-Trade Programme (NBP) put in place to promote trade and investment in products and services derived from Uganda's biodiversity.
- NBP is focusing on natural ingredients for food, cosmetics and pharmaceuticals and trade in wildlife and is targeting international markets.
- The private sector and the business communities have begun domesticating some of the plant species that have medical values for example *Prunus Africana* and *Aloe vera*.
- Uganda Commercial *Aloe vera* Framers Association and a US Firm have raised US\$600,000 (about sh 1b) to put up a processing plant for processing various health products from *Aloe vera*.

Tools of Biodiversity Conservation in Uganda Contd

Incentives for Reforestation (case study)

- The private sector since 2004 has established about 14,000 ha of quality timber plantations.
 - Property rights (Permits and Licenses)
 - Access of CFR land by the private sector in blocks of 5 ha.
 - Licensing by NFA created security for private investment in CFR land
 - Licenses were given to the rich who can afford to plant, raising issues of equity and access.
 - Financial incentives
 - The Sawlog Grant Production Scheme (SPGS) provided seed money to catalyse private sector investment in forests.
 - The Scheme put emphasis on quality management as a basis for the investor to get the grant money.
 - Provision of free or subsidized seedlings for tree planting

Tools of Biodiversity Conservation in Uganda Contd

Incentives for reforestation contd

- Richer Biodiversity Natural forests (though degraded) have been replaced by plantation forests (basically Pines and Eucalyptus)-loss of Biodiversity
 - Massive cutting down of natural forests, selling timber and other products, lucrative business
 - Concerns of forest loss raised, leading to a presidential directive to stop the licensing of degraded forest reserves to private investors
- Lessons learnt
 - Good incentives have led to the massive participation of the private sector (command over 50% of planted forests)
 - Importance of strategic partnerships-PPP
 - The need for evaluation of incentives and their impacts especially on ecological efficiency

Tools of Biodiversity Conservation in Uganda Contd

- Decentralized environmental management
 - Created local ownership and a sense of participation.
 - Limited capacity to execute the decentralized environmental management functions.
 - Degradation of ecosystems e.g. forests, wetlands under local control.
 - Political interference
 - Emphasis on revenue efficiency as opposed to ecological efficiency

Negative/Perverse incentives

- Undervaluation of the property rights (license): the case of Fisheries in Lake George (1998)
 - Official price of license undervalued, 7-10 times lower than the informal price
 - Legal fishermen compete to extract maximum rent during the fishing season
 - Bonafide fishermen have no incentive to stop illegal fishing since they also pay a nominal fee
 - Revenue generated is not enough to meet enforcement costs.
 - Declining fish catch, reduced fish weight and changed species composition in a once very productive lake.
 - **This is an illustration of market, policy and institutional failure to conserve fisheries biodiversity**

Negative/Perverse incentives

- Incoherent policies
 - Introduction of alien species e.g. Nile perch (fish) without EIA
 - Giving forest reserves as investment incentive
 - Bugala Forests, Namanve, proposed give away of Mabira Forest Reserve
 - Allowing encroachment on PAs for short term political gains (political appeasement)
 - Uncertainty of Govt policy on Forest reserves
 - Liberalization policies
 - Unsustainable harvesting of resources beyond the MSY
 - Fish export processing industries

Conclusions and Recommendations

- EIs are revenue generation tools, there is no re-investment to promote sustainable ecosystem management
- Environmental taxes and MBI are not based on MSY of the resource.
- Need to adapt and adopt innovative approaches for conservation of biodiversity
- Good incentives as seen in forestry can strengthen strategic partnerships between Govt and the private sector for sustainable biodiversity management.

Recommendations

- Improve the design of the instruments to reduce/minimize perverse effects
 - Subject them to EIA/SEA
 - Review them regularly for their continued relevance, efficiency and cost-effectiveness
- Use of tools such as property rights requires a clear set of rules/conditions to be followed
- Introduce a cess on resources exports e.g. 3% on fish exports to generate rent for the sustainable management of the resource at a sector level.
- Correct market, policy and institutional failures that cause perverse incentives
 - Prices should reflect true resource values and real costs of their degradation
- Improve PPPs in ecosystem management as a strategy to conserve biodiversity