Bat conservation in Eastern Africa: challenges and opportunities

Nicholas O. Oguge, PhD
Centre for Advanced Studies in Environmental Law & Policy
University of Nairobi
Outline

• Drivers of environmental change in the region
• Conserving bats in Eastern Africa – challenges (and opportunities?)
• How can we use knowledge on bats push for policy changes?
• Conclusions
"Eradicating poverty is the greatest global challenge facing the world today and an indispensable requirement for sustainable development".

In Africa, we have convergent economic and environmental challenges:
- High food, energy and commodity prices,
- Persistent income inequality, and
- Extensive environmental degradation

If we throw climate change into the mix, then we cast a long shadow on our collective prosperity.
• 12 pillars of competitiveness analysis measured as Global Competitive Index (GCI).
• While all of the pillars will matter to a certain extent for all economies, they will affect them in different ways: the best way for Rwanda to improve its competitiveness is not the same as the best way for Germany to do so.
• This is because Rwanda and Germany are in different stages of development.
12 pillars of competitiveness

- **Basic requirements (factor-driven economies)**
  - Institutions
  - Infrastructure
  - Macroeconomic environment
  - Health and primary education

- **Efficiency enhancers (efficiency-driven)**
  - Higher education and training
  - Goods market efficiency
  - Labor market efficiency
  - Financial market development
  - Technological readiness
  - Market size

- **Innovation and sophistication factors (innovation-driven)**
  - Business sophistication
  - Innovation
Factor-driven economies

- GCI assumes that, in the first of three stages, the economy is *factor-driven* and countries compete based on their factor endowments: primarily unskilled labor and natural resources.

- This is the status most African countries where majority of populations are rural and *biodiversity dependent*. 
Ecological scarcity and demography

• Biodiversity use in sub-Saharan Africa is not sustainable, thus affecting ecosystems health.
• Some of the reasons for this include:
  – High population growth
  – Habitat conversion and degradation
  – Rapid urbanization
  – Dependence on biomass fuel for energy
  – Policies geared towards rapid economic development
Population growth

• Kenyan population trebled between 1969 and 1999.
• It also increased by 1 million people per year between 1999 and 2009.
• At current growth rate of 2.9% it is expected to reach 77 million by 2030.
Africa’s “Shrinking” Land Base

1950
13.5 ha/person

1970
8.3 ha/person

1990
4.7 ha/person

2005
3.2 ha/person

2050
1.5 ha/person

Source: US Census Bureau, UN 2007, CIESIN
UNEP/GRID
Habitat conversion
Deforestation in Madagascar

In this satellite image of Madagascar, the narrow strip of dark green running along the eastern coast (yellow arrow) is all that remains of the island’s original rain forests.
Degradation of savannah ecosystems
Biomass energy: widening gap between wood fuel supply and demand

Biomass fuel=68% of energy consumption in Kenya of which 45% from forests

FAO 2010
Forest destruction: Maasai Mau - Kenya
Proposed Lamu Port-South-Sudan-Ethiopia Transport Corridor (LAPSSET) US$ 23 billion
Bat conservation in sub Saharan Africa

• Characterized by:
  – Limited knowledge of species and their distribution
  – Concomitant poor knowledge of their ecology
  – Low numbers of expertise and funding
  – Relatively low accessibility to published information
  – some species are classed as Data Deficient on the IUCN Red List
Some recent (2012) studies in East Africa

The monograph present keys and ancillary information on 145 Species of bats known to inhabit Kenya (108), Tanzania (105), Uganda (98), Rwanda (49) and Burundi (33)

What is the accessibility of such information to local scientists? How can this be shared more widely? Are there more publications out there on EA bats?
Challenges in bat conservation

• Land use changes favouring:
  – Agriculture,
  – Infrastructural development, and
  – Urbanization lacking spatial planning
• have led to reduction and modification of wild areas,
• resulting in the extinction threats to biodiversity and loss of natural areas that serve as bat habitat.
Conservation policies focused on charismatic species

"the primary goal of wildlife conservation is the optimization of returns from wildlife defined broadly to include aesthetic, cultural, scientific and economic gains"
Challenges associated with ignorance

- Local knowledge on bats shrouded in mystery, mythical folklores and misinformation
- Some species tend to colonize roofs above ceiling boards leading to conflicts with home owners
- Human response is destruction or fragmentation of their roosting and foraging habitats
Opportunities for bat conservation

• Bats do provide ecosystem services.
• It is important to get this message out by creating awareness about importance of bats, e.g.
• In *supporting* primary production through pollination and seed dispersal
• In *regulating* diseases through insect control
• These are two of four services provided by ecosystems (+provisioning & cultural) -MEA
Aichi Biodiversity Targets

**Target 2** of the Convention of Biological Diversity

- By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.
Need for appropriate policies

Article 201 of Rio+20

• We support mainstreaming the consideration of the socio-economic impacts and benefits of the conservation and sustainable use of biodiversity and its components, as well as ecosystems that provide essential services, into relevant programmes and policies at all levels, in accordance with national legislation, circumstances and priorities.
Can IPBES be way to go?

Article 204:

• We take note of the establishment of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, and invite an early commencement of its work, in order to provide the best available policy-relevant information on biodiversity to assist decision-makers.
Conclusions

• Public policy is the best mechanism we have to deal with collective challenges.

• We have to provide evidence that bats make substantial contribution to countries’ GDP through:
  – Agriculture/horticulture/wine/spirit industry earnings
  – Reduction in costs of treatment of insect-borne diseases, thus of public health importance
Support to local scientists to gather such evidence and disseminate them at all levels