Degradation of forests and wetlands has significant impacts on herpetofauna (reptiles and amphibians) and other wildlife

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Habitat loss is occurring at an accelerated rate worldwide, outpacing reforestation efforts

DEFORESTATION

420 million ha of forest has been lost worldwide through deforestation since 1990

In the most recent five-year period (2015–2020), the annual rate of deforestation was estimated at 10 million ha

WETLAND LOSS

With **35% loss globally since 1970**, wetlands are our most threatened ecosystem, disappearing <u>three times</u> faster than forests.

Agriculture, the most wide-spread form of land-use change, **has damaged more than half of Wetlands of International Importance**.

CONCERNING AFRICA……

across 37 randomly selected African nations, these countries experienced an average annual tree cover loss of 0.61% (SD ± 0.22%) between 2001 and 2022, resulting in an average loss of **13%** of their forests during this period

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EDITORIAL

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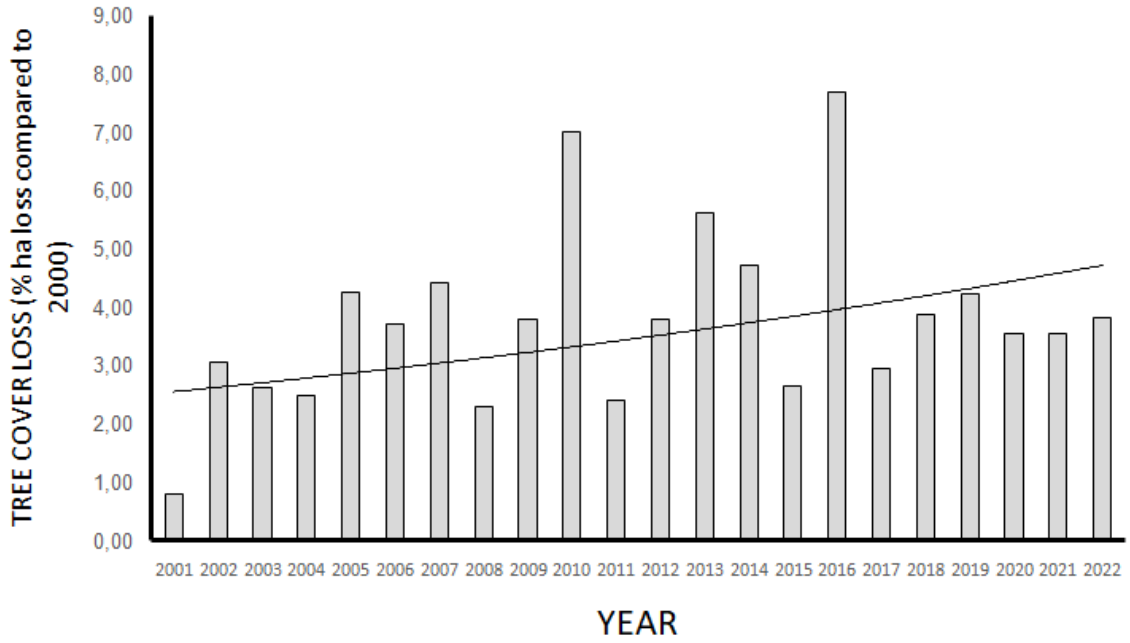
Africa's biodiversity in-between ecology and economy



data from Global Forest Watch

What’s about Uganda

DEFORESTATION

in **2010**, Uganda had 6.92 Mha of natural forest, extending over 29% of its land area.

In **2023**, it lost 68.7 kha of natural forest

WETLAND DEGRADATION

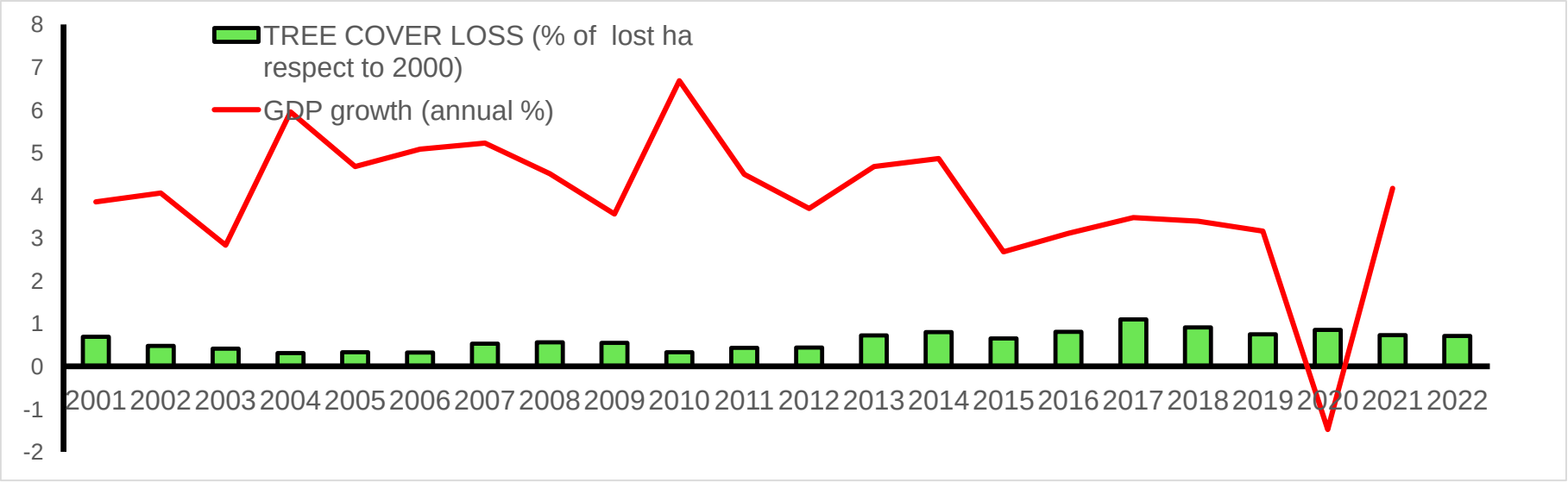
Wetland coverage has reduced from **15.5% in 1994 to 13%** (31,411.4 km2) of the total land cover in **2017**.

Uganda has therefore lost **42.4%** (15,820 km2) of its wetlands **over the last 20 years**, that is, from 37346.3 Km2 to 21526.3 km2.

Therefore, despite the trend in Uganda is not worst than in other African countries, **the situation is catastrophic** for the biodiversity but also for the economy ….

FOR THE ECONOMY

because: 1) there is a correlation between annual GDP increases and yearly % of forest loss;
2) eco-tourism is one of the main incomes for Uganda



WHAT ARE THE CONSEQUENCES FOR THE BIODIVERSITY?

AMPHIBIANS AND REPTILES ARE VERY GOOD MODELS TO STUDY THE EFFECTS OF HABITAT LOSS (DEFORESTATION AND WETLAND DESTRUCTION) IN AFRICA, BUT **FEW STUDIES** CARRIED OUT SO FAR

DIRECT EFFECTS OF FOREST LOSS WERE STUDIED ON REPTILE COMMUNITIES IN THE NIGER DELTA, SOUTHERN NIGERIA

THE STUDY MAY BE INDICATIVE ALSO FOR UGANDAN FORESTS AS THE SPECIES AND THE HABITATS ARE SIMILAR

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SHORT COMMUNICATION

WILEY African Journal of Ecology

Do community metrics vary in reptile communities from Niger Delta forests subjected to slash-and-burn agricultural practices?

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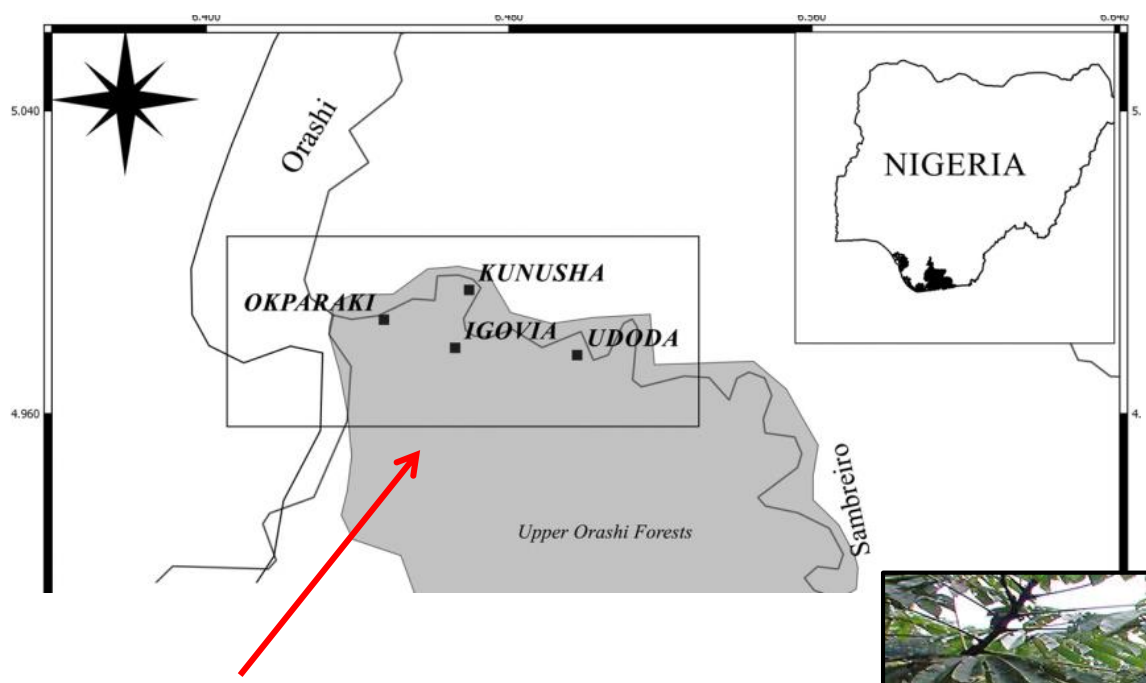
MY TEAM IN NIGERIA EXAMINED FOUR PLOTS:

A) A MATURE FOREST PLOT
B) A JUST BURNT FOREST PLOT
C) A RECOVERING PLOT AFTER 12-18 MONTHS FROM FIRE
D) A RECOVERING PLOT AFTER > 3 YEARS FROM FIRE



These are the four study plots; all of them are situated within the UPPER ORASHI FOREST RESERVE

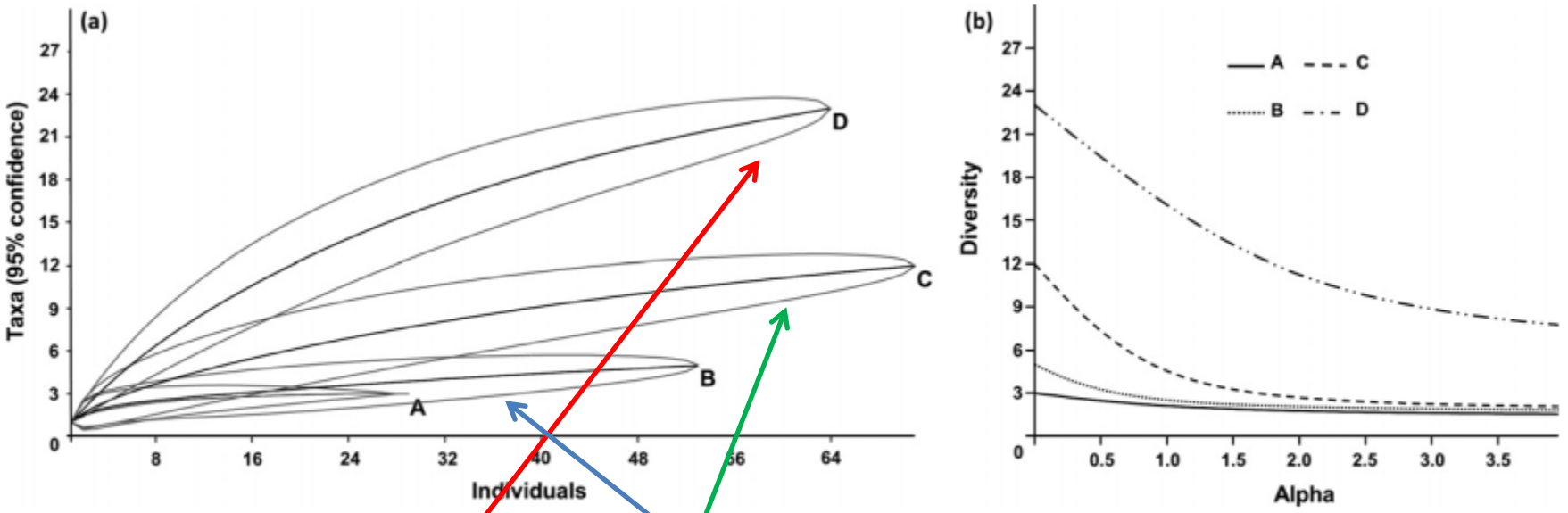


FIGURE 2 (a) Saturation curves (with 95% confidence intervals after 9,999 bootstraps) and (b) diversity profiles (95% confidence, after 9,999 bootstraps), for the community diversity of reptiles in the four treatment areas. Symbols: A = just burnt area; B = 12–16 months after fire; C = more than 3 years after fire; D = unburnt

MATURE FOREST HAS STILL MANY MORE SPECIES OF REPTILES THAN EVEN THE RECOVERING FOREST AFTER > 3 YEARS

JUST BURNT AND RECOVERING FOREST PLOT HAVE, FOR TWO YEARS AFTER FIRE, VERY FEW SPECIES SURVIVING

<u>Tortoises disappeared completely</u> and did not return even after years of recovering forests

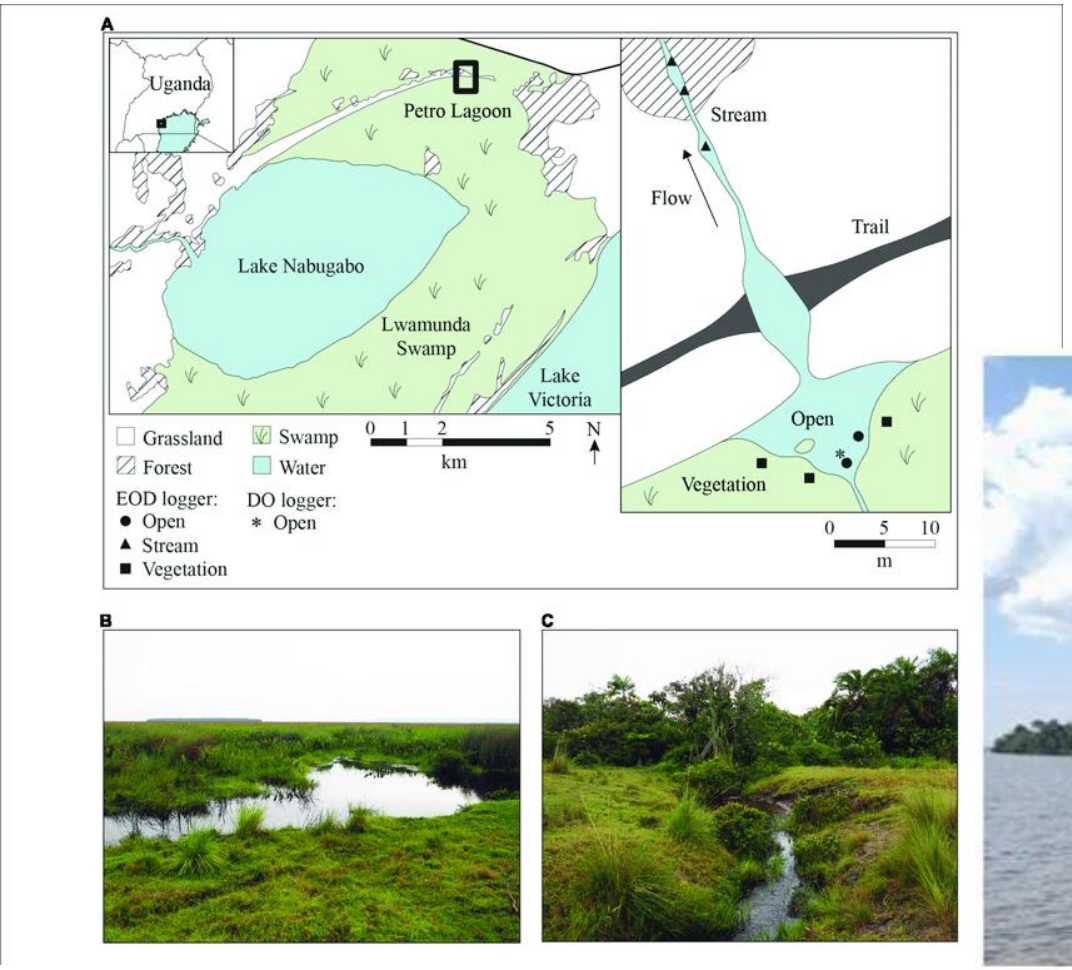
In general, all **slow-moving species** tend to have a more difficult recovery and recolonization of deforested areas than fast-moving species

Chamaeleons and large vipers are therefore also seriously affected

The effects of wetland devastation on herpetofauna were studied in Uganda by Mathias Behangana and our team

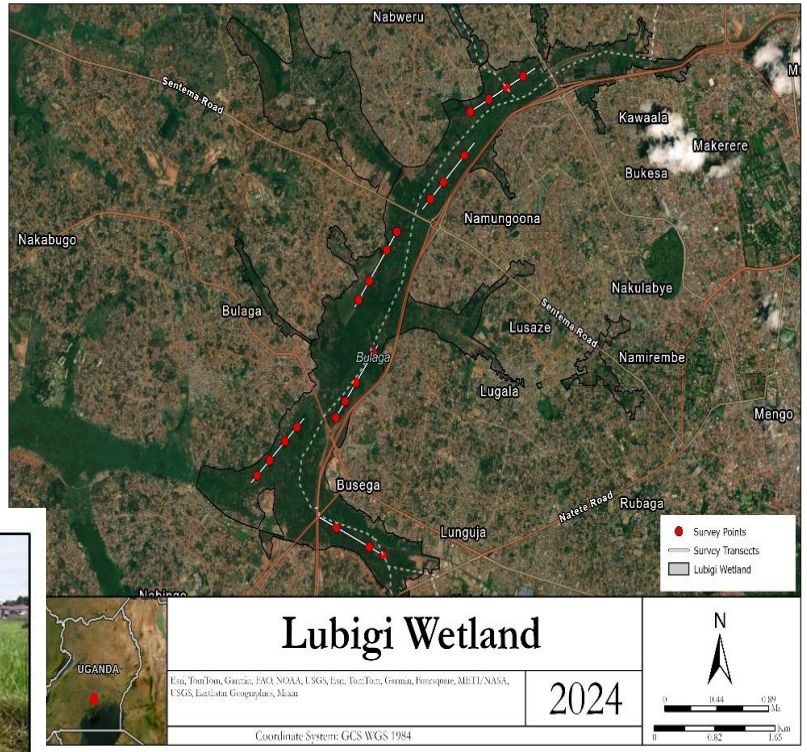
Comparisons between the species richness of well preserved wetlands with altered wetlands in Uganda may give the idea of what habitat devastation means….

As example, let's compare LAKE NABUGABO (well preserved wetlands) versus LUBIGI WETLAND, situated inside Kampala and highly degraded



This is the beautiful Lake Nabugabo….

… and this is the less beautiful LUBIGI wetland…..



As you can see all the habitat is totally devastated

What are the effects on the herpetofauna?

Do we miss some of the species with wetland alteration?


















Lake NABUGABO = 24 species of amphibians
LUBIGI WETLAND = 16 species

8 SPECIES WERE LOST!!!!!!!!!!!!!!!!!!!!!!!!!

…and the more the Lubigi wetland is used, the most additional species will disappear …..

EACH species has its role in the ecosystem so ….

The continued destruction of wetlands in Uganda is a CATASTROPHE FOR THE WHOLE ECOSYSTEM AND SHOULD BE STOPPED

THANK YOU

And now feel free to shot on with your questions…..