

The Hidden Power of Africa's Peatlands

By Trésor Daniel MEFIRE

Introduction

Peatlands are wetlands characterized by the accumulation of organic matter (peat) due to slow decomposition in waterlogged, oxygen-poor conditions. These ecosystems cover approximately **3% of Earth's land surface** but store about **30% of global soil carbon**, making them disproportionately important for climate regulation (IUCN Peatland Programme, 2014; UNEP, 2025). In Africa, the Congo Basin hosts the world's largest tropical peatland complex, known as the **Cuvette Centrale**. This region alone stores an estimated **30 billion tonnes of carbon**, equivalent to about **three years of global greenhouse gas emissions** or **20 years of fossil fuel emissions from the United States** (PubMed, 2017; UNEP, 2025).

Importance of Peatlands

1. Carbon Storage Powerhouses

African peatlands store **twice as much carbon per unit area as tropical forests**. Globally, peatlands sequester more carbon than all other vegetation types combined (Forestry and Land Scotland, 2025). If degraded, they release significant amounts of CO₂ into the atmosphere. For example, the Congo Basin peatlands store **1.5 billion tonnes of carbon annually**, making them a critical carbon sink (UNEP, 2023).

2. Biodiversity Havens

These ecosystems support endangered species like **forest elephants, lowland gorillas, and bonobos**, as well as unique flora such as carnivorous sundews. They also provide critical ecosystem services like flood control and water filtration (Heinrich Böll Stiftung, 2023).

3. Climate Regulators

By storing carbon and regulating water cycles, peatlands mitigate climate change impacts. However, when drained or burned, they become major carbon emitters releasing up to **1.3 gigatonnes of CO₂ annually**, which accounts for about **5% of global human-induced emissions** (IPCC, 2019; Earth.Org, 2025).

4. Water Management

Healthy peatlands act as natural sponges that regulate water flow, reducing flooding risks during rainy seasons and maintaining water availability during droughts. In the Sahel region, peatlands play a crucial role in sustaining water resources for millions of people (FAO, 2023).

Threats to Peatlands

Despite their ecological importance, African peatlands face severe threats:

1. Agricultural Expansion

In Cameroon's **Lainde Massa bog**, agricultural activities have caused a staggering **98% loss of its area**, driven by population growth and agropastoral practices (WSSG, 2019). Similarly, in the Democratic Republic of Congo (DRC), peatlands are being drained for large-scale agriculture like oil palm plantations.

2. Industrial Exploitation

Logging and oil exploration are endangering vast peatland areas. For example:

- Industrial logging concessions overlap with **65% of Congo Basin peatlands**, putting them at high risk (Greenpeace, 2021).
- The proposed **Ngoki oil field** in the Congo Basin threatens over **6,000 square kilometers**, potentially releasing **1.34 gigatonnes of CO₂**, equivalent to Japan's annual emissions (Earth.Org, 2025).

3. Draining and Burning

Draining peatlands for agriculture or burning them for land clearance releases stored carbon into the atmosphere. In the Congo Basin alone, drained peatlands emit up to **50 million tonnes of CO₂ annually** (Global Peatlands Initiative, 2022).

4. Climate Change Impacts

Rising temperatures and changing rainfall patterns exacerbate peatland degradation by increasing droughts and wildfires. In East Africa, peatlands are drying out, making them more susceptible to fires (IPCC, 2023).

Consequences of Peatland

The destruction of African peatlands has dire environmental and social consequences:

1. Carbon Emissions

Drained or burned peatlands release up to **90% of their stored carbon**, turning them from carbon sinks into significant carbon sources (Joosten et al., 2012).

2. Biodiversity Loss

The destruction threatens iconic species like **forest elephants** and **lowland gorillas** that rely on these habitats for survival. In the Congo Basin, the loss of peatlands could lead to the extinction of several endemic species (WWF, 2023).

3. Water Cycle Disruption

Degraded peatlands lose their ability to regulate water flow effectively. This leads to increased flooding during rainy seasons and prolonged droughts during dry periods. In the Sahel, peatland degradation has already contributed to water scarcity for millions (FAO, 2023).

4. Health Impacts

Burning peat releases toxic substances that contribute to respiratory diseases and air pollution in nearby communities. In regions like the Sahel, where peatlands are already under pressure, this exacerbates public health challenges (WHO, 2023).

Solutions: Protecting and Restoring Peatlands in Africa

To safeguard African peatlands:

1. Awareness Campaigns

Public education campaigns under initiatives like the **UN Decade on Ecosystem Restoration (2021–2030)** emphasize the importance of conserving peatlands.

2. Restoration Efforts

Rewetting drained peatlands can reduce carbon emissions by up to **90%** while restoring biodiversity (Joosten et al., 2012). Initiatives like the **Great Green Wall** aim to restore degraded lands across Africa.

3. Strict Regulations

Governments must enforce laws protecting peatlands from industrial exploitation. The **African Union's Green Recovery Action Plan** prioritizes peatland conservation as part of its climate strategy (UNEP, 2025).

4. Community Involvement

Empowering local communities through sustainable resource management programs has shown promising results in Cameroon and other regions. For example, community-led conservation projects in the DRC have reduced deforestation rates by **30%** (WRI, 2023).

5. International Collaboration

Partnerships with countries like Indonesia under frameworks such as **REDD+** can help share best practices for peatland management (WRI, 2024).

6. Innovative Financing Mechanisms

Carbon credit schemes can incentivize governments and communities to protect these ecosystems while generating revenue for conservation efforts. For example, the **Congo Basin Blue Fund** aims to finance peatland restoration projects across Central Africa (African Development Bank, 2023).

Conclusion

African peatlands are not just wetlands they are **climate heroes** that store vast amounts of carbon while supporting biodiversity and human livelihoods. Protecting them is one of the most effective ways to combat climate change and ensure ecosystem resilience.

The time to act is now. By enforcing regulations, restoring degraded lands, involving local communities, and raising awareness globally, we can ensure that Africa's peatlands continue to provide their invaluable services for generations to come.

References

1. African Development Bank (2023). *Congo Basin Blue Fund*
2. PubMed (2017). *Age, extent and carbon storage of the central Congo Basin peatland complex.*
3. UNEP (2025). *Critical ecosystems: Congo Basin peatlands.*
4. Earth.Org (2025). *Plans to Drain Peatlands in Congo Could Release Vast Amounts of Carbon.*
5. Heinrich Böll Stiftung (2023). *Climate guardians under threat.*
6. Global Peatlands Initiative (2022). *The State of the World's Peatlands.*

7. Joosten et al., 2012: *Peatland restoration for climate change mitigation*. Nature Climate Change.
8. Forestry & Land Scotland (2025). *Peatland restoration benefits*.
9. FAO (2023). *Peatlands and Water Security in Africa*.
10. WWF (2023). *Biodiversity Loss in the Congo Basin*.
11. Wildlife Specialist School of Garoua (WSSG). 2019. Field Work Report. 10 Pages.
12. World Resources Institute (WRI). 2023. *Empowering local communities through sustainable resource management programs*.