



Measuring sustainability in Mozambique: Environmental trends and policy implications

Francisco Costa and Pedro Henrique Chaves Maia

- Mozambique experienced significant deforestation between 2000-2022, with provinces losing an average of 21% of their tree coverage, particularly in central regions and Zambezia province.
- Despite deforestation, most regions maintain negative net forest carbon emissions, indicating forests still sequester more carbon than they emit.
- Infrastructure access has improved but shows regional disparities - electricity access increased from 10% to 35% (2000-2017), and piped water from 22.5% to 40%, with the southern region seeing the largest gains.
- Current data fragmentation across government agencies and limited access to administrative data hinders evidence-based environmental policymaking.

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The challenge

Economic development in low-income countries like Mozambique relies heavily on expanding agricultural and industrial production. This expansion requires substantial infrastructure development and increased energy consumption, which can lead to environmental degradation through deforestation, pollution, and greenhouse gas emissions.

Policymakers and researchers need reliable environmental data to evaluate the impacts of different policies and programs. However, in Mozambique:

- Government data remains fragmented across various agencies with minimal inter-ministerial coordination.
- Satellite-derived international data sources, while publicly available, present technical barriers for policymakers.
- Access to administrative data is limited, hampering comprehensive environmental assessment.

Research approach

This project compiled and analysed environmental and infrastructure data across Mozambique's administrative levels from 2000-2022, integrating information from eight distinct public sources: the Forest Landscape Integrity Index, census data on infrastructure access, and data on protected areas, mangrove forests, peatlands, tree cover, forest carbon fluxes, and administrative boundaries.

Key findings

Environmental changes

Tree cover loss:

- Provinces experienced an average 21% reduction in tree cover since 2000.
- Central regions and Zambezia province show the highest deforestation rates.
- The southern region experienced the lowest deforestation, partly due to already low forest coverage.

Carbon sequestration:

- Despite deforestation, most regions maintain negative net forest carbon emissions.
- Forests continue to sequester more carbon than they emit.

- There is a high spatial variance in emission levels across regions.

Protected areas:

- Protected areas constitute 8% of national territory.
- Provincial variation ranges from 0% to 25%.
- Coverage helps preserve critical ecosystems.

Infrastructure development

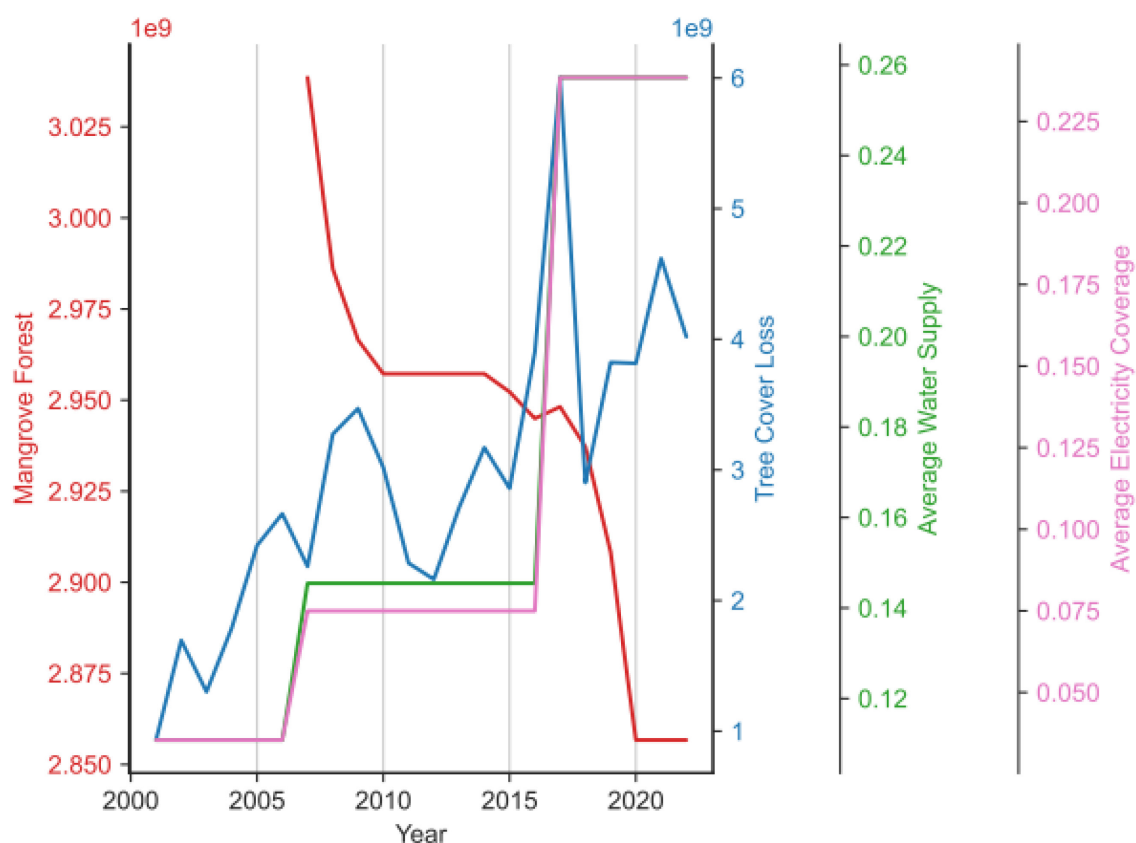
Electricity access:

- Electricity access increased from 10% to 35% (2000-2017).
- The southern region saw a ~30 percentage point increase.
- The northern region lags with a ~30% access rate.

Piped water coverage:

- Piped water coverage expanded from 22.5% to 40% (2000-2017).
- There are regional disparities similar to those observed in electricity access.
- The southern region leads in piped water coverage improvement.

FIGURE 1: Evolution of main outcomes



Policy recommendations

1. Strengthen data integration and access

- Establish a centralised environmental data repository.
- Improve coordination between government agencies.
- Create standardised data-sharing protocols.

2. Enhance forest protection

- Focus conservation efforts on central regions and Zambezia.
- Expand protected areas strategically.
- Maintain carbon sequestration capacity.

3. Improve environmental monitoring

- Invest in local data collection capacity.
- Utilise satellite data more effectively.
- Train policymakers in data interpretation.

Implementation challenges

Data access:

- Government agencies' reluctance to share data remains a significant barrier.
- Early stakeholder engagement in future data collection efforts is crucial.
- Improved data-sharing policies and infrastructure are necessary.

Resource constraints:

- Limited resources are available for data collection and monitoring.
- International partnerships could help to bridge gaps.
- Capacity building in data collection and analysis is necessary.