

Importance of terrestrial ecosystems for the implementation of the Paris Agreement



Convention on Biological Diversity

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Paris Agreement

Preamble: Notes the importance of ensuring the integrity of ecosystems and protection of biodiversity

Art. 5: Take action to conserve and enhance sinks and reservoirs of GHGs

Art. 7: Adaptation goal: enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change

Art. 8: importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change

Sectors:
Agriculture
Forestry
Water
Health
Etc.

Sustainable Development Goals (SDGs)



Goal 13: Take urgent action to combat climate change and its impacts.



Goal 15: Protect, restore and promote the sustainable use of terrestrial ecosystems, combat desertification, halt and reverse land degradation and halt biodiversity loss.

Convention on Biological Diversity (CBD)



Aichi T.10: minimize pressures on vulnerable ecosystems to climate change



Aichi T.14: restore and safeguard ecosystems that provide essential services



Aichi T.15: enhance ecosystem resilience and contribution of biodiversity to carbon stocks through conservation and restoration

Research:

- Modelling/scenarios
- Observations
- Assessments
- Synthesis reports

Inform on:

- Contribution of biodiversity and ecosystems to climate change mitigation (carbon storage, avoided emissions, etc.)
- Contribution of biodiversity and ecosystems to adaptation (increased resilience, etc.)
- Proper ecosystem management for maximizing benefits (restoration, etc.)

Major sources (among others):

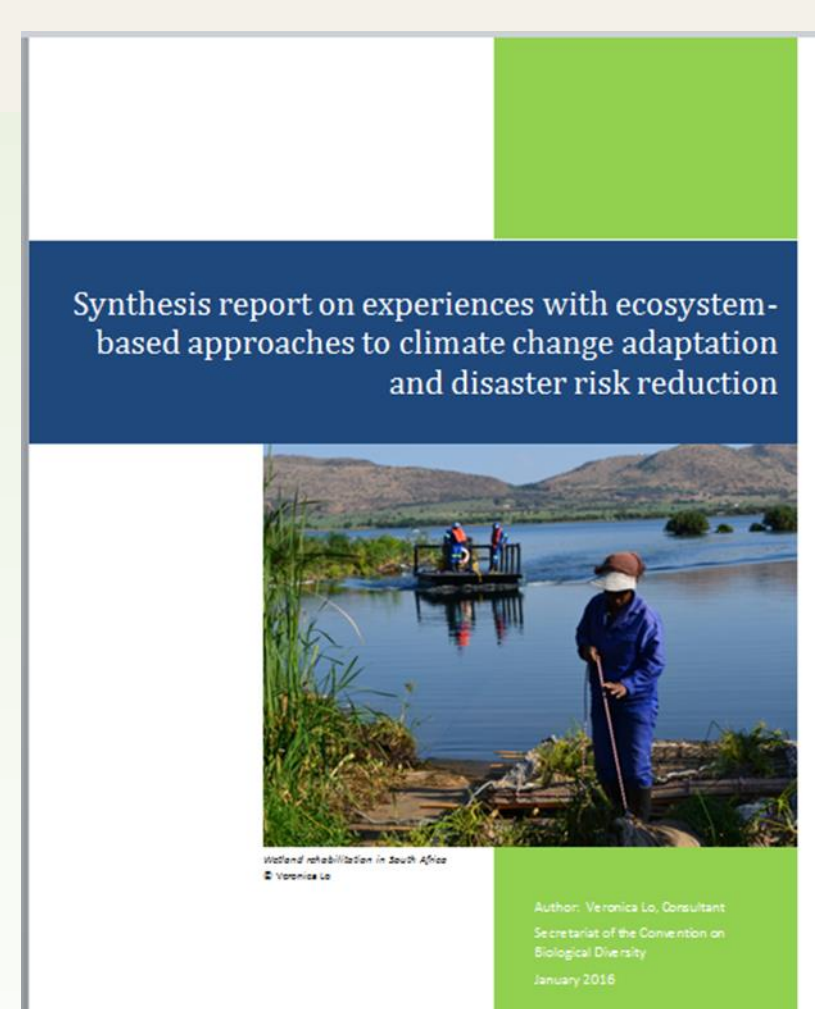
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)
- IPCC AR5
- Scientific literature (peer reviewed) (e.g. Griscom, B.W. et al. 2017)
- CBD Technical Series No. 41, No. 85, No. 86
- Leadley, P. et al. 2016. Relationship between the Aichi Targets and Land-based Climate Mitigation

Ecosystems provide a wide range of ecosystem services that are essential for human well-being and sustainable development and play a key role in the global carbon cycle and in adapting to climate change.

How ecosystems contribute to mitigation (examples):

- Sustainable land use management activities, including reduced deforestation and forest degradation;
- Sustainable cropland and livestock management;
- Restoration of degraded peatlands and grasslands;
- Agroforestry.

(CBD Technical Series No. 41)



How ecosystems contribute to adaptation (examples):

- Restoration of floodplains for flood protection and water storage;
- Greening of cities to counter the heat island effect;
- Crop diversification with indigenous varieties that are resistant to climate change;
- Creation of protected areas to enhance ecosystem resilience and for continued provision of essential ecosystem services such as erosion control, beach stabilization and water retention;
- Sustainable management of grasslands and rangelands to enhance pastoral livelihoods and increase resilience to climate-induced drought and flooding.

(CBD Technical Series No. 85)

Main findings from IPBES assessments:

- Deforestation contributes to about 10% of all human-induced GHG emissions;
- Land degradation between 2000 and 2009 responsible for annual global emissions of up to 4.4 billion tonnes of CO₂;
- The avoidance, reduction and reversal of land degradation could provide more than 1/3 of the most cost-effective greenhouse gas mitigation activities needed by 2030 to keep global warming under the 2° C threshold;
- By 2050, the combination of land degradation and climate change is predicted to reduce global crop yields by an average of 10%, and by up to 50% in some regions.

(IPBES Assessment Report on Land Degradation and Restoration, Summary for policy-makers)