



Global
Landscapes
Forum

FACTSHEET

RESTORATION AND CLIMATE CHANGE

Photo by Weanont Joe/Unsplash

What is restoration?

Forest and landscape restoration (FLR), also referred to as ecosystem restoration, is about much more than just planting trees.

Instead, it's the process of restoring deforested or degraded landscapes using a wide range of methods to meet both human and ecological needs. These can include agroforestry, regeneration, managed plantations, ecological corridors, and protected wildlife reserves.

Restoration aims to maintain and enhance natural ecosystems and build their long-term resilience. It also emphasizes working with various stakeholders to design and implement restoration methods that are tailored to local circumstances.

How do forests and other landscapes support a healthy climate?



Forests are a vital part of the solution to the climate crisis as they store vast amounts of carbon in the form of biomass, absorbing 4–6 Gt of carbon per year. However, when they are cut down or burned, they release this carbon into the atmosphere as carbon dioxide. Deforestation and forest degradation are responsible for between 10–15% of global greenhouse gas emissions – second only to the burning of fossil fuels.



Wetlands, too, play an important role in carbon storage, storing twice as much carbon as forests – yet they're disappearing three times faster. Over 35% of the world's wetlands have been lost since 1970, and their rate of decline is accelerating.



Peatlands are a type of wetland that feature a layer of partially decayed organic matter known as peat on the surface. Peatlands store more carbon than all of the world's forests, despite making up only 3% of the Earth's surface.



Agriculture is responsible for around a quarter of the world's greenhouse gas emissions, mainly through deforestation and other types of land-use change. However, agricultural landscapes can also be transformed to mitigate climate change, such as by integrating trees with croplands and grazing lands.



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Case study

Over 80% of the population of Sub-Saharan Africa lives off the land, but some two-thirds of the continent's cropland suffers from land degradation as a result of overgrazing, agricultural practices and the conversion of forests into farmland.

The **Regreening Africa** initiative aims to restore 1 million hectares of land across eight Sub-Saharan African countries, particularly through **agroforestry** methods such as **farmer-managed natural regeneration**. This will boost the food security and climate resilience of 500,000 households by 2022.

How can restoration solve the climate crisis?

According to the [Intergovernmental Panel on Climate Change \(IPCC\)](#), we could limit global warming to 1.5 degrees Celsius by planting almost a billion hectares of new forests – or roughly 1.2 trillion trees. This could reduce the amount of carbon in the atmosphere by a quarter.

Importantly though, not all forests are created equal: tropical rainforests like the Amazon are especially valuable for their biodiversity and role in regulating the Earth's climate, not to mention their key contribution to millions of livelihoods. We need to halt tropical deforestation as we work to restore degraded lands.

But planting trees isn't the only solution. We also need to restore all types of degraded landscapes, from wetlands to oceans, from rural to urban. Beyond storing carbon, restoration offers multiple goods and services that can help build the resilience and adaptive capacity of people and ecosystems in a warming world.

And we need to act quickly, because many landscapes and ecosystems could become less capable of absorbing carbon dioxide as the planet gets hotter.

The Bonn Challenge aims to **restore 350 million hectares of degraded land by 2030**, which could:



Remove **13 to 26 billion tons** of greenhouse gases from the atmosphere



Generate **USD 9 trillion** in ecosystem services



Produce economic benefits around **9 times** the cost of investment

By restoring just **15% of priority areas**, we could:



Sequester **299 billion tons** of carbon



Improve the cost-effectiveness of restoration by **13 times**

Further reading:

- [What is forest and landscape restoration \(FLR\)?](#)
- [What is ecosystem restoration?](#)
- [Targeted ecosystem restoration can protect climate, biodiversity](#)
- [Restoration of degraded grasslands can benefit climate change mitigation and key ecosystem services](#)
- [Power to the peat: 3 ways to restore peatlands](#)
- [Land ecosystems are becoming less efficient at absorbing carbon dioxide](#)
- [Creating a sustainable food future: a menu of solutions to feed nearly 10 billion people by 2050](#)

Global Landscapes Forum

The Global Landscapes Forum (GLF) is the world's largest knowledge-led platform on integrated land use, dedicated to achieving the Sustainable Development Goals and Paris Climate Agreement. The Forum takes a holistic approach to create sustainable landscapes that are productive, prosperous, equitable and resilient and considers five cohesive themes of food and livelihood initiatives, landscape restoration, rights, finance and measuring progress. It is led by the Center for International Forestry Research (CIFOR), in collaboration with its co-founders UN Environment and the World Bank and Charter Members.

Charter Members: CIAT, CIFOR, CIRAD, Climate Focus, Conservation International, Crop Trust, Ecoagriculture Partners, EFI, Evergreen Agriculture, FSC, GEF, GIZ, ICIMOD, IFOAM - Organics International, ILRI, INBAR, IPMG, IUFRO, Rainforest Alliance, Rare, RRI, SAN, UN Environment, (TMG) Think Tank, Wageningen Centre for Development Innovation, part of Wageningen Research, WFO, World Agroforestry, World Bank Group, WRI, WWF Germany, Youth in Landscapes Initiative.

CIFOR-ICRAF

The Center for International Forestry Research (CIFOR) and World Agroforestry (ICRAF) envision a more equitable world where trees in all landscapes, from drylands to the humid tropics, enhance the environment and well-being for all. CIFOR and ICRAF are CGIAR Research Centers.

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Funding partners

