THE CONVERSATION

The long shadow of colonial forestry is a threat to savannas and grasslands

31 December 2020

Grasslands can store carbon reliably under increasingly hot and dry climates. Shutterstock

Tree planting to restore forests, capture carbon and improve the land has gained strong momentum in recent years. The Bonn Challenge and its offshoots such as AFR100, initiatives focused on forest restoration, have persuaded developing countries to commit millions of hectares of land to these projects. Funding for AFR100 has been secured from international donors with more than a billion US dollars pledged over the next 10 years.

This is a potential threat to drylands, grasslands, savannas and the rangelands they support.

Large areas targeted for forest restoration in Africa, Asia and South America are covered by savanna and grassland. These open ecosystems are incorrectly mapped as degraded forest in the publicly accessible Atlas of Forest and Landscape Restoration Opportunities.

They are in fact ancient, productive and biodiverse and support millions of livelihoods. They also provide many important ecosystem services, which would be lost if converted to forests.

Savanna and grassland store up to a third of the world's carbon in its soils. They keep streams flowing, recharge groundwater, and provide grazing for livestock and wildlife.

Grasslands can store carbon reliably under increasingly hot and dry climates. The same conditions make forests vulnerable to die-back and wildfires. Restoring grasslands is also relatively cheap and has the highest benefit-to-cost ratio of all the world's biomes.

Instead of providing guidance on how to restore healthy grasslands andsavannas, documents guiding forest landscape restoration focus entirely on increasing tree cover. Rangelands and grassy biomes are barely mentioned on the websites of the Global Partnership on Forest and Landscape Restoration, the Bonn Challenge and AFR100.

A recent review of forest landscape restoration projects in Africa found no examples of grassland restoration. Projects instead focused on afforestation – planting trees where they didn't previously occur – regardless of vegetation type. This threatens the biodiversity of grasslands and savannas, which is rapidly lost under dense tree cover and is slow and difficult to restore.

Forest targets that aren't based on science

Meeting the international targets for forest restoration requires large-scale afforestation. Nearly half the land pledged for forest restoration is earmarked for plantations, mostly of fast-growing exotic species. These provide a fraction of the ecosystem services of the natural vegetation they replace. And they store 40 times less carbon than naturally regenerating forests.

Forest restoration initiatives tend to be driven by targets, with little regard for local ecological context. This commitment to fixed areas of forest cover encourages tree plantations in ecologically inappropriate sites and conditions.

For example, Malawi has reportedly pledged 4.5 million hectares to forest restoration. This is over a third of the country's total area. Planting trees and restoring community woodlots, plantations and riverbanks is presented as addressing food and water insecurity and restoring biodiversity. Yet studies have shown that Malawi's vegetation has been mostly savanna and grasslands for thousands of years.

The National Mission for a Green India aims to put a third of the country's area under forest cover, no matter what natural vegetation existed originally. Large areas of natural grassland-forest mosaics have been replaced with commercial plantations. In many areas these species have become invasive and difficult to control.

Why does forest restoration continue to ignore the local ecological context? What is the science that underpins these massive schemes?

The colonial roots of tree planting

Historical research shows that the fascination with tree-planting has its origins in colonial forestry. This in turn was rooted in the centuries-old (and now disproven) theory that forests bring rain and deforestation cause areas to dry up. The colonial forestry approach was to plant trees to make up for deforestation caused by local people. The latter often lost control over their land in the process.

Initially applied in Algeria, this approach was adopted throughout Francophone Africa, Madagascar, and eventually also the British colonies in East Africa and India. Since historical forest cover of Europe was estimated at roughly one-third, this became the target in other places too.

This led to over two centuries of planting forests as a solution for a variety of ills, including drought, warming temperatures, soil erosion and lost biodiversity. It's remarkable how today's science-policy platforms continue this narrative.

Promoting appropriate solutions

Forest landscape restoration has become a powerful instrument for guiding global efforts and funding. Its proponents have a responsibility to ensure that the framework is scientifically sound. Rather than setting ambitious but ecologically flawed targets for planting trees, landscape restoration should be appropriate for local social and ecological contexts.

No amount of ecosystem restoration will solve the climate crisis if its underlying causes are not addressed. The clearing of forests and other ecosystems for commodity agriculture and timber urgently needs to be regulated. Emissions from burning fossil fuels need to be drastically reduced.

Rather than targeting developing – and rapidly urbanising – countries for afforestation, incentives should aim to reduce fossil fuel emissions, convert to renewable energy and build energy-saving infrastructure.

Source: https://theconversation.com/the-long-shadow-of-colonial-forestry-is-a-threat-to-savannas-and-grasslands-151700