INSIGHTS

LARGE-SCALE REFORESTATION
STARTING WITH PUBLIC LANDS IN THE BRAZILIAN AMAZON

INPUT
Iniciativa para o Uso da Terra

CLIMATE POLICY INITIATIVE

Although promoting large-scale reforestation is no easy task, Brazil is uniquely positioned to reap substantial gains from undertaking this endeavor. Internally, it stands to benefit from addressing a key source of inefficiency in Brazilian land use: vast amounts of degraded and deforested lands currently serving no productive purpose. Reforestation could transform these areas into valuable environmental assets, whilst contributing to reductions in Brazil s greenhouse gas emissions. Internationally, the country already plays a prominent role in world agricultural commodity markets, and has become increasingly influential in the environmental arena. Pursuing large-scale reforestation would confirm Brazil's commitment to the global effort to mitigate climate change and, therefore, strengthen Brazil s strategic position and thereby its leverage in the environmental scenario and other multilateral fora.

Moreover, the ability to push large-scale reforestation without jeopardizing agricultural production in Brazil allows the nation to reconcile climate change mitigation and economic development goals. Brazil could take leadership over implementing concrete measures towards sustainable development.

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DEFORESTATION AND REGENERATION IN AMAZON PUBLIC LANDS

Large-scale reforestation poses many practical challenges. In this brief, researchers at Climate Policy Initiative (CPI/PUC-Rio) propose a starting point for this effort. They argue that **cleared lands within public domain in the Amazon offer a unique opportunity for Brazil to implement large-scale reforestation by relying on natural forest regeneration**. This natural phenomenon is already in course. The extent of forest regrowth in the Brazilian Amazon jumped by more than 70% between 2004 and 2014, rising from 10 million to over 17 million hectares. By the mid-2010s, regeneration covered nearly a quarter of the area deforested in the Brazilian Amazon throughout its history.

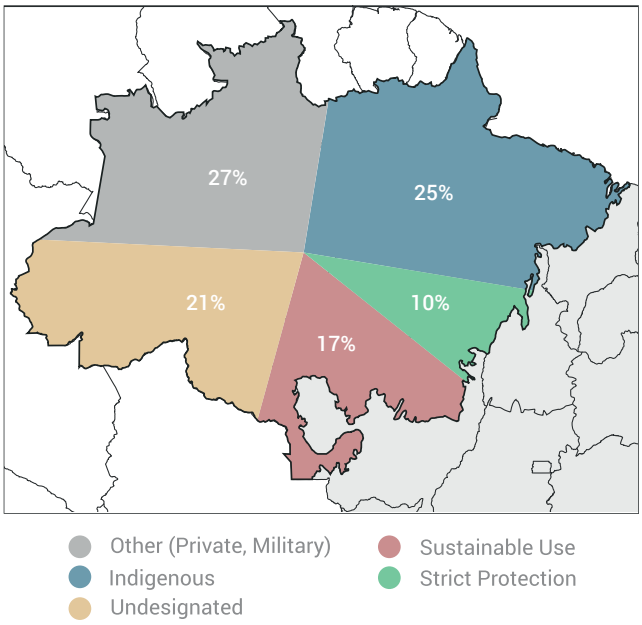
This observation yields two key takeaways. First, it suggests that a significant amount of cleared land in the Brazilian Amazon is not put to productive use and is abandoned, pointing towards a wasteful pattern of land use. Second, it is striking to note that the remarkable increase in Amazon regeneration occurred in a context lacking targeted policy action to promote or protect regeneration. This indicates that tropical regeneration is physically viable

within a relatively short time span, even in a setting of heightened vulnerability for regrowth. **The availability of unused cleared lands and the feasibility of natural regeneration in the Brazilian Amazon constitute a favorable scenario for large-scale reforestation efforts**.

Public lands are a particularly good starting point for these efforts. More than half of the Brazilian Amazon is under protection as indigenous lands, strictly protected areas, or protected areas of sustainable use. By 2014, protected territory had seen five million hectares of deforestation. In that same year, the latest for which data on forest regrowth are available, regeneration covered about two million hectares of deforested areas under protection. **The three million hectares that remain cleared are the ideal place to kick-start large-scale reforestation.**

Cleared lands inside protected territory are typically publicly owned[1] and have well-defined governance, providing a solid regulatory framework for adopting targeted policy action. They are also subject to greater scrutiny of potentially detrimental activity, due to dedicated monitoring from specialized agencies and close attention from both the civil society and the media. This might help foster regeneration by restricting human interference and thereby allowing a natural process of forest regrowth to occur. Moreover, cleared lands in protected territory are typically in close proximity to primary forest, a key driver of natural regeneration. Primary forests hold seed banks and serve as habitats for animals that carry these seeds, as well as for pollinators and predators of pathogens that pose as threats to forest regrowth. This unique combination of defined governance and favorable biophysical characteristics offers a notable opportunity for reforestation within protected territory.

Figure 1: Distribution of Land Tenure in the Brazilian Amazon

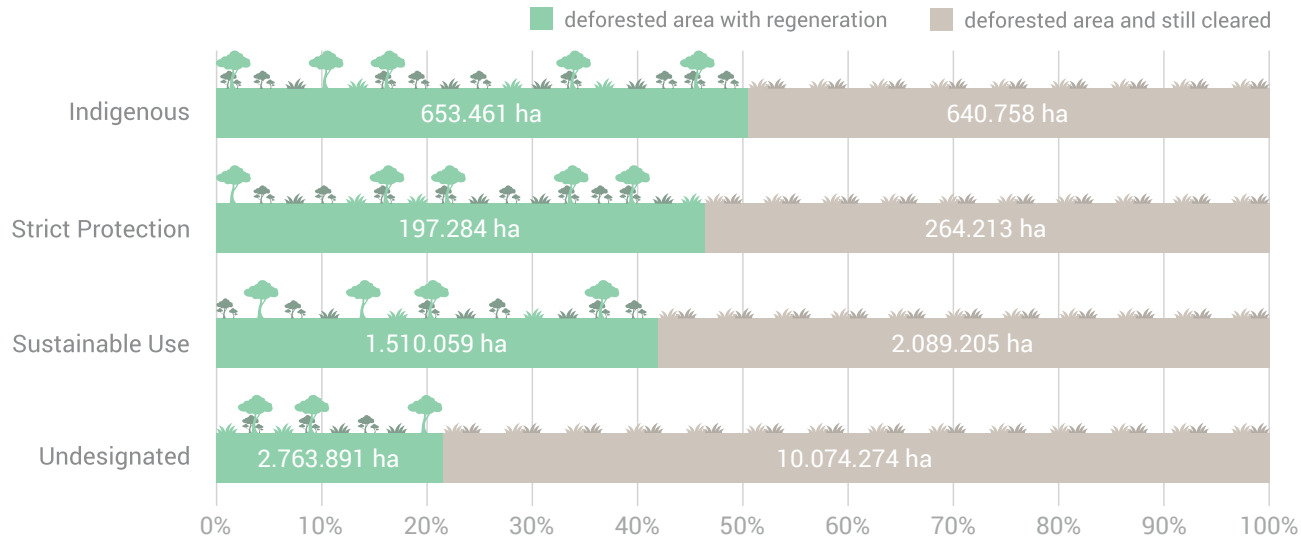


Elaboration: *Climate Policy Initiative*
Source: *Protected territory from the Brazilian Native Peoples Foundation (FUNAI), Socioenvironmental Institute (ISA), and the Brazilian Ministry for the Environment (MMA). Undesignated lands from Imaflora and GeoLab.*

However, not all public lands in the Brazilian Amazon are under protection. About 90 million hectares of publicly owned territory remain undesignated, awaiting assignment to a specific use. More than two-thirds of deforested areas in Amazon public lands are located in this undesignated territory, totaling nearly 13 million hectares of deforestation in 2014. Regeneration of deforested areas in undesignated lands is not as common as in protected territory, but the extent of forest regrowth seen in 2014 shows that it is certainly viable. Pushing for further reforestation in these areas is admittedly more challenging, not least due to the high rates of property rights conflicts, rural violence, and squatting that disproportionately affect these public lands. Yet, cleared areas in undesignated territory are often the site of illegal occupations and land grabbing, both of which are typically associated with wasteful and inefficient land use patterns. Promoting reforestation alongside land tenure regularization could help reconcile local development and environmental goals.

1 Protected areas for sustainable use may contain private properties. The proposed strategy of reforesting cleared lands under public domain does not necessarily apply to lands within such properties.

Figure 2: Deforestation and Regeneration by Land Tenure Category in the Brazilian Amazon



Elaboration: *Climate Policy Initiative*
Source: *Regeneration from TerraClass Amaznia by the Brazilian National Institute for Space Research (Inpe) and the Brazilian Enterprise for Agricultural Research (Embrapa). Deforestation from the Project for Monitoring Amazon Deforestation (PRODES) by Inpe. Protected territory from the Brazilian Native Peoples Foundation (FUNAI), Socioenvironmental Institute (ISA), and the Brazilian Ministry for the Environment (MMA). Undesignated lands from Imaflora and GeoLab.*

CONCLUSION

Brazil stands before an unprecedented opportunity to promote large-scale reforestation, but it also faces an ambitious target. Following the Paris Agreement on Climate Change, Brazil voluntarily committed to reduce its national greenhouse gas emissions by over a third below 2005 levels. As part of its proposed strategy to meet this target, the country intends to restore and reforest 12 million hectares of deforested or degraded lands countrywide by 2030. Launched by the Brazilian Ministry of the Environment in 2017, the National Plan for Recovery of Native Vegetation (Planaveg in the Portuguese acronym) proposes mechanisms to achieve this target focusing in private lands. Thus, a strategy that promotes reforestation in public areas is still necessary and would be complementary to Planaveg s effort. Pursuing an increase of 12 million hectares in reforestation is a valuable contribution to the pursuit of a shared global interest to mitigate climate change while improving human well-being but one that requires deliberate action and unwavering political will. If Brazil is to meet its international emissions reduction commitments and consolidate its position as a sustainable producer of agricultural products, it needs to dedicate more attention and resources financial, legal, technical, and personnel to support the forest as it grows back. Doing so in public lands is a good and practical place to start.

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