AMAZÔNIA 2030

Forest Restoration in the Amazon: What is the Role of State-level Public Policies?

Introduction

The Amazon is home to the largest tropical forest in the world but has been facing intense deforestation in recent decades.[1] Given the biome's high potential for natural regeneration and the extent of deforested, abandoned, or underused areas, forest restoration could become a high-value economic activity for the region, driven by both the carbon market and forest-based bioeconomy.[2] In addition, forest restoration has also emerged as a central strategy for the mitigation of climate change, biodiversity conservation, and the provision of ecosystem services.[3]

Historically, the federal government was the main body responsible for formulating and implementing environmental policies in the Amazon, centralizing efforts aimed at the conservation and restoration of native vegetation. In recent decades, however, states in the Amazon region have assumed a more active role in formulating public environmental policies, expanding their institutional competencies, and building regulatory frameworks that seek to regulate and encourage different types of forest restoration.

From the 2000s onward, for example, several states in the region began to structure their policies on climate change, Reducing Emissions from Deforestation and Forest Degradation (REDD+) and Payment for Environmental Services (PES) in response to the increase in deforestation and growing international pressure. In some cases, these initiatives have preceded national policies and commitments.

Similarly, with the adoption of the Forest Code in 2012, states assumed the responsibility of regulating and implementing the Rural Environmental Registry *(Cadastro Ambiental Rural* - CAR) and the Environmental Compliance Programs (*Programas de Regularização Ambiental* - PRAs), which are key instruments for enabling the restoration of native vegetation in areas under private occupation.

1 Terra Brasilis. *Deforestation Rates - Legal Amazon - States*. 2024. bit.ly/4k1bS1x.
2 Guimarães, Jayne et al. *A Vocação da Restauração Florestal na Amazônia com Base na Vegetação Secundária*. Amazônia 2030, 2025. bit.ly/4lKPbQz.
3 FAO. *What is Ecosystem Restoration?* nd. Access date: March 20, 2025. bit.ly/4dhUu6b.

More recently, the growing demand for carbon credit from nature-based solutions has driven new initiatives aimed at forest conservation and restoration, expanding both the interest and engagement of states in this agenda.

What is the role of state public policies in advancing forest restoration in the Amazon?[4] **Are they contributing to the agenda or creating obstacles to promoting it? Are there any regulatory gaps? To answer these questions, researchers from Climate Policy Initiative/Pontifical Catholic University of Rio de Janeiro (CPI/PUC-RIO) and Amazon 2030** conducted a mapping and analysis of state legislation directly or indirectly related to forest restoration. This report identifies the main contributions, limitations, and opportunities of current state policies.

The Role of State Policies in Forest Restoration

Public policy plays a crucial role in forest restoration; they establish the sector's regulatory framework by defining rules, responsibilities, criteria, incentives and procedures needed for implementation. A solid regulatory framework is essential to provide legal clarity, reduce risks and uncertainty, and attract investment. In addition, policies can create demand for forest restoration by establishing legal requirements for the recovery of degraded areas and offering incentives for voluntary restoration. Another key aspect is the coordination both across different levels of government and among stakeholders, through effective governance arrangements and participation processes. Finally, financial policies are essential to making forest restoration economically viable, thereby enhancing the sector's attractiveness and competitiveness.

Although a significant part of the Amazon is under federal jurisdictional, Brazilian states play a central role in advancing forest restoration agendas within their territories.[5] This role is supported by Law no. 140 of 2011, which defines the environmental competencies of federal, state and municipal governments. According to this legal framework, states are responsible for developing and implementing public policies related to environmental management on private rural lands and on lands under their state jurisdiction.

4 For the purposes of this report, we consider the Amazon states to be those where the Amazon biome is predominant, *i.e.*, those where it covers more than 50% of the territory. These are: Acre, Amapá, Amazonas, Mato Grosso, Pará, Rondônia, and Roraima. Maranhão and Tocantins were excluded from the analysis as less than 50% of their territory is covered by the biome.

5 Santos, Daniel et al. *Fatos da Amazônia - 2024*. Amazônia 2030, 2024. bit.ly/4k1nt06.

In assessing the role of state-level public policies in the forest restoration agenda, the study did not evaluate the effectiveness or impact of these policies, but rather their ability to lay the groundwork for scaling forest restoration. Based on this perspective, the researchers concluded that, in many cases, state-level public policies have made a significant contribution to advancing forest restoration. For example, by regulating the Forest Code at state level, states have helped generate demand for forest restoration by enforcing compliance measures in Permanent Preservation Areas (*Áreas de Preservação Permanente* - APPs) and Legal Reserves. States have also established rules, technical criteria, and procedures for implementing the CAR and the PRA, and guiding the preparation of Recovery Plans for Degraded Areas (*Projeto de Recuperação de Áreas Degradadas e Alteradas* - PRADA). Finally, states have adopted financial policies that can boost the sector, making it more competitive and economically viable.

However, there are significant gaps for which normative frameworks would be desirable. The absence of the necessary governance to articulate and coordinate the different levels of government and the various agents involved in forest restoration, such as rural producers, restoration practitioners, funders, NGOs, and academia, hinders integrated policy implementation. In addition, most states have not yet connected their forest restoration policies with carbon market opportunities that could create additional demand for voluntary forest restoration.

Finally, there is a risk that excessive regulation may create barriers, hinder innovation, and limit the expansion of practices aligned with large-scale forest restoration. The study identifies that forestry with native species illustrates this challenge: still incipient in the Amazon, this activity faces multiple obstacles, such as burdensome or unclear authorization procedures, inconsistent legal requirements across states, and a lack of incentives for its adoption. State regulations on the collection, production, and commercialization of native seeds and seedlings also pose challenges, as they do not take the specificities of forest restoration into account. In addition, the wide variation in criteria and parameters for restoring APPs and Legal Reserves across states hinders the adoption of integrated and landscape-based restoration approaches. Together, these factors undermine the efficient implementation of large-scale forest restoration projects, which can limit the geographic scope and effectiveness of these initiatives.

Key Findings

1. **The pioneering actions of Amazonian states have positioned them as key actors in the development of forest conservation and restoration policies in the region.** They stand out for their leadership and innovation in the development of forest policies. For instance, these states have adopted PES and REDD+ programs even before federal initiatives were established. In addition, the developments in Mato Grosso and Pará were instrumental in shaping the CAR and the PRA at the national level, anticipating significant advances in the environmental regularization of rural properties.

2. **State-level policies prioritize mandatory forest restoration as part of legal compliance with APPs and Legal Reserves requirements.** This priority is reflected in native vegetation recovery plans, initiatives for productive forest restoration, and financial instruments for forest restoration. In contrast, voluntary forest restoration still lacks clear and robust incentives, especially in areas under alternative land use. This approach highlights the pivotal role of the Forest Code while revealing regulatory gaps in the promotion of voluntary forest restoration.

3. **Carbon markets have not yet been effectively integrated into state-level forest restoration policies in the Amazon, except for Pará, which links forest restoration to public concessions designed for carbon credit generation.** In other states, carbon markets are recognized as a potential source of funding for forest restoration, but there are still no concrete strategies that connect restoration actions directly with credit generation and commercialization. Instead, the issue is usually addressed in PES and REDD+ policies, with an emphasis on financial compensation for forest conservation. Rondônia has taken an innovative step by establishing a state carbon accounting system, offering a more structured approach to quantify and monitor emissions.

4. **Productive restoration using Agroforestry Systems (AFS) and Crop-Cattle-Forest Integration (CCFI), is a cornerstone of multiple state policies.** These models are embedded in regulations related to native vegetation restoration, bioeconomy, agroecology, and low-carbon agriculture. Forestry with native species along with AFS and CCFI, offers a viable economic model for combining the recovery of degraded areas with income generation, and the supply of timber and non-timber products. In addition, it also serves as a complementary strategy in large-scale ecological restoration projects. **However, there are still no specific policies aimed at promoting forestry with native species.**

5. **Some state regulations represent barriers to large-scale forest restoration in the Amazon.** In certain states, the requirement for environmental permits for forestry with native species imposes excessive bureaucracy, hindering the sector's development. Additionally, regulations governing the collection, production, and commercialization of native seeds and seedlings are primarily designed for agriculture phytosanitary protection and do not include specific incentives for forest restoration.

6. **Diverse approaches across the Amazonian states reflect local environmental, land-use and land-tenure conditions.** While some states adopt forest conservation and restoration policies in response to historical deforestation, others focus on strategies to preserve existing forest cover. Additionally, some prioritize policies for privately owned lands, while others focus on collective land use by Indigenous Peoples and traditional communities.

7. **In most Amazonian states, forest restoration is addressed through multiple policies without clear institutional or programmatic alignment.** So far, only Pará has developed a native vegetation restoration plan that integrates forest restoration across sectors. Acre is currently developing its own plan. The success of these plans will depend on each state's ability to coordinate multiple restoration efforts across different policies and ensure participatory governance among stakeholders.

8. **Of all Amazonian states, Pará has the most comprehensive forest restoration policy framework.** It has been a pioneer in several areas, including the State Plan for the Restoration of Native Vegetation (*Plano Estadual de Recuperação da Vegetação Nativa do Pará* - PRVN-PA), the State Bioeconomy Strategy, and the use of forest concessions for restoration, through the creation of a dedicated Restoration Unit. Pará is also the only state that explicitly recognizes the importance of natural regeneration as a priority strategy for large-scale forest restoration.

State Policies for Forest Restoration

To provide an overview of state-level policies that directly or indirectly relate to forest restoration in the Amazon, this study mapped and classified policies in seven states where the Amazon biome covers more than 50% of the territory: Acre, Amapá, Amazonas, Mato Grosso, Pará, Rondônia, and Roraima. Maranhão and Tocantins were excluded, as the biome occupies less than half of their area.

Given the diversity of terms used by state governments, such as reforestation, recovery, rehabilitation, and natural regeneration, the concept of forest restoration adopted in this report is intentionally broad. It encompasses multiple approaches, including ecological restoration, natural regeneration, forestry with native species, and agroforestry systems, among others.

Policies were grouped into eight categories adapted from CPI/PUC-RIO's previous publication *Restoration at Scale in Brazil*: (1) Umbrella Policies, (2) Conservation Policies, (3) Environmental Compensation, (4) Native Vegetation Recovery, (5) Productive Restoration, (6) Incentives, (7) Finance, and (8) Restoration Value Chains.

This framework made it possible to systematize the set of policies mapped across states, revealing both common patterns and local specificities in the regulation of forest restoration in the Amazon. The following sections present an analysis of each category, highlighting the main trends, innovations, and gaps across Amazonian states.

State Umbrella Policies

- State Constitutions, State Environmental Policies, State Climate Change Policies, and State Water Resources Policies, referred in this report as “umbrella policies”, incorporate the guidelines of federal policies while introducing innovations that help advance the forest restoration agenda in the region.

- Many state policies address forest restoration in isolation, without clear institutional or programmatic alignment and coordination, which undermines the potential to recover degraded areas through integrated solutions. One example is the lack of synergy between some State Water Resources Policies and the Forest Code, particularly regarding the restoration of riparian forests and other APPs.

State Policies for Conservation

- The Amazon biome received special legal treatment in the 1965 Forest Code, which established strict conservation rules to be implemented by the states. Later, the states of Mato Grosso and Pará introduced pioneering initiatives promoting rural land registration and environmental compliance programs, which directly influenced the 2012 revision of the Forest Code and the creation of the CAR and PRA at the national level. This interaction between federal and state policies highlights the importance of considering regional specificities in Brazilian forest policy.

- Amazonian states apply distinct and specific criteria for the restoration of APP and Legal Reserves, including requirements for native or exotic species, vegetation cover thresholds, and rules for monitoring and reporting compliance. This regulatory heterogeneity presents challenges for restoration programs and projects, particularly at large scales.

- The conservation and use of public forests in Amazonian states are regulated in different ways. For instance, Amazonas has a dedicated public forest management policy, Acre addresses the issue within its protected areas policy, and Mato Grosso has a forest management law that applies to public and private land. These varying approaches reflect the different models

adopted by the states. While Acre focuses on community concessions, Pará emphasizes commercial concessions, and Mato Grosso adopts a public tender model for forest use.

- Although the Federal Public Forest Management Law expanded the scope of forest concessions to include the forest restoration of degraded lands and carbon credit generation, most states have yet to incorporate these changes into their legal frameworks. These diverse state approaches to forest use regulation may shape how they engage with forest restoration concessions. Pará, for example, is a pioneer, having established its own concession mechanism for forest restoration through the creation of Native Vegetation Restoration Units, enabling the restoration of degraded public lands through partnerships with the private sector.

State Policies for Environmental Compensation

- State reforestation policies do not ensure adequate compensation for the damage caused by authorized native vegetation clearance, as they approach the issue from the perspective of raw material supply. These policies require only partial compensation of the lost biomass through forest plantations using native or exotic species, without accounting for ecological impacts such as loss of biodiversity and ecosystem services.

State Policies for the Restoration of Native Vegetation

- So far, Pará is the only state to have adopted a State Plan for the Restoration of Native Vegetation (PRVN-PA) as a guiding policy for forest restoration. The state has set an ambitious target, with a strong focus on restoring APP and Legal Reserve deficits, while also recognizing the importance of promoting the natural regeneration processes already underway.

- Acre is currently developing its own State Plan for the Restoration of Native Vegetation (PEVEG), aiming to coordinate, integrate, and promote policies related to native vegetation restoration.

State Policies for Productive Restoration

- Pará and Amazonas are currently the only states to adopt a State Bioeconomy Strategy. In Pará, productive restoration is one of the pillars of the State's Bioeconomy Plan, supporting the development of sustainable value chains. Amazonas is in the process of drafting its implementation plan, while other states are making progress in drawing up policies for the sector.

- Amazonian states still lack specific policies to promote forestry with native species, and in some cases, authorization procedures remain burdensome, hindering its development as a productive activity aligned with forest restoration. Rondônia stands out for having a planted forests policy that exempts this activity from environmental licensing, thereby facilitating the development of forestry projects with both exotic and native species.

- Agroecology policies and low-carbon agriculture plans adopted by states promote the recovery of degraded areas through integrated production systems such as AFS and CCFI, and planted forests.

State Policies for Restoration Incentive

- Amazonian states have been pioneers in implementing PES and REDD+ policies in Brazil, which incentivize forest conservation and restoration through financial mechanisms. *Bolsa Floresta* (Amazonas) and *ISA Carbono* (Acre), are examples of programs established under these policies.

- These states are also at the forefront of implementing jurisdictional REDD+ programs that cover entire state territories, offering a broader and more coordinated payment model that particularly benefits small landholders as well as traditional and Indigenous communities.

- States such as Amazonas, Mato Grosso, Pará, Rondônia, and Roraima have environmental fine conservation programs, which allow offenders to substitute the payment of environmental fines by investing an equivalent amount in approved forest restoration projects. These programs can operate under individual or collective models. The collective conversion model enables offenders to contribute quotas to pre-approved projects, facilitating the financing of larger-scale initiatives and directing resources to priority areas—thus supporting more strategic landscape planning.

State Policies for Restoration Financing

- State environmental and climate change policies include a range of financial instruments that can boost both ecological and productive forest restoration. Among these, state environmental funds stand out as established and accessible funding sources, with available financial resources to support the sector.

State Policies Supporting the Restoration Chain

- State policies on the collection, production, and distribution of seeds and seedlings follow federal regulations that prioritize phytosanitary protection for agricultural purposes. However, they do not include specific incentives for native species seeds and seedlings supply chains for forest restoration. These regulations create barriers to the expansion of nurseries and hinder large-scale restoration efforts.

Conclusion

Amazonian states have emerged as key actors in forest restoration policy, demonstrating leadership and innovation that often preceded federal initiatives. Their regulatory frameworks—particularly around mandatory restoration tied to the Forest Code—have laid important groundwork for advancing restoration at scale. However, the overall policy landscape remains fragmented. While some states have developed comprehensive plans and financial instruments to support restoration, others lack coordination, alignment, or specific policies for critical areas like forestry with native species or the forest restoration value chain.

To fully unlock the forest restoration potential of the Amazon, states must overcome regulatory barriers, strengthen governance and intersectoral coordination, and integrate restoration strategies with emerging opportunities, such as the carbon market. Enhanced alignment across states and with federal frameworks will be essential to scale effective, inclusive, and sustainable restoration efforts in the region.

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Acknowledgments

This work is supported by a grant from Itaúsa Institute. This publication does not necessarily represent the view of our funders and partners.

The authors would like to thank Anna Maria Cárcamo and Daniella Brum for their contribution in the early stages of the project, particularly for their research and preliminary survey of public policies, Gabriel Conzendey and Giovana Souza for their assistance with the research, and the participants in the Amazon 2030 project meetings for their comments and suggestions. We would also like to thank Kirsty Taylor, Natalie Hoover, Giovanna de Miranda, and Camila Calado for their work in reviewing and editing the text, and Meyrele Nascimento and Nina Oswald Vieira for their graphic design work.

Suggested citation

Lopes, Cristina L., Ana Flávia Corleto, Nina Didonet, and Joana Chiavari. *Forest Restoration in the Amazon: What is the Role of State-level Public Policies?* Rio de Janeiro: Climate Policy Initiative and Amazon 2030, 2025.

About Amazon 2030

Amazon 2030 is an initiative by Brazilian researchers that seeks to develop an action plan for the sustainable development of the Brazilian Amazon. Our objective is to promote higher standards of economic and human development and to achieve the sustainable use of resources by 2030.

About Climate Policy Initiative

Climate Policy Initiative (CPI) is an organization with international expertise in finance and policy analysis. CPI has seven offices around the world. In Brazil, CPI has a partnership with the Pontifical Catholic University of Rio de Janeiro (PUC-RIO). CPI/PUC-RIO works to improve the effectiveness of public policies and sustainable finance in Brazil through evidence-based analysis and strategic partnerships with members of the government, civil society, the private sector and financial institutions.

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