

State-Level Implementation of Brazil's Forest Code

Ten Lessons Learned

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Brazil's Forest Code (Law no. 12,651/2012) is the country's main policy for protecting forests and other native vegetation on rural properties. Beyond setting rules on the conservation and use of this vegetation, the law creates instruments that make it possible to determine the environmental status of each rural property and monitor compliance with legal obligations. The information these instruments generate strengthens environmental management and can support land-use planning, policymaking, and decisions on economic activity and the environment. This makes the law central to reconciling agricultural production with environmental conservation.

Putting these rules and mechanisms into practice is a massive administrative undertaking. It involves millions of rural properties, multiple land and geospatial databases, dozens of public agencies, and different levels of government.

Although the Forest Code establishes a national legal framework, its implementation is decentralized, with states playing a central role. Over more than a decade, they have taken different paths, adopting distinct institutional arrangements, procedures, and strategies to implement the Rural Environmental Registry (*Cadastro Ambiental Rural* – CAR) and the Environmental Compliance Program (*Programa de Regularização Ambiental* – PRA).

Since 2019, researchers from Climate Policy Initiative/Pontifical Catholic University of Rio de Janeiro (CPI/PUC-Rio) have tracked how states implement the Forest Code. Each year, the report *Where Does Brazil Stand with the Implementation of the Forest Code? A Snapshot of CAR and PRA in Brazilian States* documents the year's main developments, changes, and challenges. **This publication takes a different approach. It draws on the accumulated knowledge built over the years to distill ten lessons learned from state experiences: what helps, hinders, or shapes implementation, and how states' strategies have responded to the challenges they faced**. CPI/PUC-Rio hosted a webinar to discuss and validate the lessons with state officials and technical staff in September 2026.

Each lesson starts from a concrete implementation challenge and uses state experiences to identify the strategies, conditions, and choices that shaped the outcomes. Bringing these lessons together allows solutions developed in some states to inform the work of others facing similar challenges and provides evidence to guide Forest Code implementation in the years ahead. The lessons may also help shape the design and implementation of other large-scale environmental and land use policies.

The Ten Lessons Learned

1 **Investing in data quality at registration accelerates implementation**
Improving CAR data quality from the outset reduces errors and rework, saving time, resources, and technical capacity later on.

2 **Shared infrastructure reduces implementation costs**
Pooling systems, tools, and other infrastructure components avoids duplicate investments and reduces the need for each state to develop and maintain similar technical capacity on its own.

3 **Automation is necessary but not sufficient**
Automation increases the capacity to process CAR registrations, but does not guarantee that reviews will be completed and registrations validated. Its results also depend on the rules and procedures in place and on the capacity of the technology infrastructure.

4 **Implementation at scale requires innovating, combining, and adapting strategies**
Challenges shift as Forest Code implementation advances, and strategies that work at one point may fall short as new bottlenecks and demands emerge. Moving forward at scale depends on the ability to create new solutions and to adapt or combine existing ones.

5 **Implementation is a continuous process**
CAR registration, review, and validation, followed by PRA enrollment and monitoring of compliance commitments, are successive and interdependent steps. States must plan their implementation capacity around the entire process, anticipating how progress in one step drives demand in the next.

6 **There is no silver bullet**
Depending on how many CAR registrations a state has and how varied they are, implementation may require several strategies at once.

7 **States learn from one another**
Solutions developed and tested in one state can be adapted to other contexts. This allows states to build on accumulated experience rather than start from scratch or tackle familiar problems alone.

8 **Legal certainty matters**
Clear, stable, and predictable rules are essential throughout Forest Code implementation. They guide the decisions of public and private actors, create the conditions for continued progress, and help sustain results over time.

9 **Effective communication is part of implementation**
Putting the Forest Code into practice depends on the participation of millions of rural landholders. Reaching them, explaining what they need to do, and getting them to respond are essential for CAR registrations to be validated and properties brought into environmental compliance.

10 **Land tenure issues constrain implementation in the Amazon**
Implementing the Forest Code at scale requires more than infrastructure, technology, and better CAR and PRA procedures. It also depends on stronger coordination between environmental and land tenure policies and the agencies responsible for them.

Implementing the Forest Code: an Evolving Process

The Forest Code sets rules for conserving native vegetation on rural properties, particularly in **Permanent Preservation Areas** (*Áreas de Preservação Permanente*, **APPs**) and **Legal Forest Reserves**. To apply these rules across millions of properties, the law created two key instruments: the **Rural Environmental Registry (CAR)** and the **Environmental Compliance Program (PRA).**

The CAR is a mandatory, self-declared registry that compiles georeferenced environmental information on each rural property, including its boundaries, APPs, Legal Forest Reserves, remaining native vegetation, and consolidated rural areas.[1] This information makes it possible to identify environmental deficits in APPs and Legal Forest Reserves—areas that must be brought into compliance with the Law's native vegetation requirements. The PRA sets the conditions and commitments for bringing a property into compliance through restoration, natural regeneration, or, where permitted by law, compensation.

Permanent Preservation Areas (APP)
An area protected because of its location and characteristics, where native vegetation plays an important role in protecting water resources, stabilizing soil, and regulating the climate, among other functions. Examples include riverbanks, areas around springs, and steep slopes.

Legal Forest Reserves
The share of a rural property that must keep its native vegetation cover, ranging from 20% to 80% of the property's area depending on its location. Its purpose is to conserve Brazil's different biomes. Unlike APPs, Legal Forest Reserves allow sustainable economic use of natural resources.

Implementing these instruments involves four main phases. First, landholders must **register every rural property in the CAR**. Second, **the responsible agency reviews the information** declared in the CAR, checks its consistency, and identifies any environmental deficits. When corrections, additional information, or other actions are needed, the agency notifies the landholder, and the registration may go through several review cycles before it is validated. Third, if the review identifies deficits covered by the program, landholders may apply to **enroll in the PRA** to address them. Fourth, landholders carry out the measures set out in the Environmental Compliance Agreement, while the agency monitors their implementation. The property achieves environmental compliance once all commitments have been fulfilled.

Making this process work at scale requires far more than systems for registering properties and reviewing registrations. Implementation also depends on regulations and administrative procedures, land and geospatial databases, technology infrastructure, staff and institutional capacity, communication with landholders, and mechanisms for coordinating across agencies and levels of government.

In the early years, efforts focused on developing the National Rural Environmental Registry System (*Sistema Nacional de Cadastro Ambiental Rural* – SICAR), the platform that receives, processes, and consolidates registrations nationwide; building the national CAR database; and establishing PRA regulations in the states. As these efforts advanced, attention shifted to reviewing and validating registrations. Expanding review capacity, in turn, exposed the challenge of completing reviews: many registrations cannot be validated until landholders take action, such as correcting data or providing additional information. More recently, two challenges have gained

1 Consolidated rural areas are portions of rural properties occupied by human activities before July 22, 2008, including buildings, improvements, or agricultural, livestock, or forestry activities. They are subject to more flexible compliance requirements.

prominence: getting landholders to enroll in the PRA to address deficits in APPs and Legal Forest Reserves and integrating environmental and land tenure databases to improve the information used in CAR reviews.

Lesson 1: Investing in Data Quality at Registration Accelerates Implementation

The CAR's self-declared design was key to registering millions of rural properties across Brazil. That scale, however, created a challenge for the phases that followed: registrations with errors or inconsistencies require corrections, notifications, and repeated review cycles, increasing the time and resources needed to build a reliable CAR database. Investing in data quality from the outset therefore reduces rework, speeds up the creation of a reliable database, and lowers costs in later phases.

Espírito Santo offers the clearest example. Since 2013, the state's Institute of Agricultural and Forestry Defense (*Instituto de Defesa Agropecuária e Florestal do Espírito Santo* – IDAF/ES) has taken direct responsibility for registering properties of up to 25 hectares in the CAR. This goes beyond technical assistance: IDAF/ES staff prepare the registrations themselves, from sketching the property to submitting it to the system, at no cost to landholders. Today, 48,000 of the state's 126,000 CAR registrations were prepared this way.[2]

Registrations prepared by IDAF/ES staff contain fewer errors and inconsistencies than those submitted by landholders, hired technical consultants, or other third parties. This higher data quality is associated with the state's performance in reviewing registrations: around 60% of Espírito Santo's registrations are now validated, the highest share of any Brazilian state.[3]

Several features of the state favored this strategy. Espírito Santo covers a relatively small area, most of its rural properties (over 90%) are smallholdings, and IDAF/ES has offices in all 78 municipalities. This local reach allowed the agency to serve smallholders directly across much of the state.

Espírito Santo's experience shows that registering properties at scale and ensuring data quality are not conflicting goals. Support during registration can improve data quality from the start, especially for groups with limited technical capacity, and make later review and validation easier. This lesson is particularly relevant where registration is still needed, such as individual plots in agrarian reform settlements and lands occupied by traditional peoples and communities.

2 Information provided by IDAF/ES to CPI/PUC-Rio in September 2026.
3 Lopes, Cristina L., Nina Didonet, and Joana Chiavari. *Where Does Brazil Stand with the Implementation of the Forest Code? A Snapshot of CAR and PRA in Brazilian States – 2025 Edition*. Rio de Janeiro: Climate Policy Initiative, 2025. bit.ly/WhereDoesBrazilStand2025.

Lesson 2: Shared Infrastructure Reduces Implementation Costs

Although Forest Code implementation is decentralized, this does not require each state to build and maintain all the infrastructure it needs on its own. States and the federal government can develop and share parts of this infrastructure.

States need information systems, reference databases, and tools to support CAR registration and review, as well as environmental compliance and monitoring. State-specific systems may offer greater autonomy and flexibility to address local needs, but developing, maintaining, and upgrading them requires sustained resources and technical capacity.

The evolution of SICAR illustrates the benefits of shared infrastructure. Initially designed to enable CAR registration and consolidate registrations nationwide, the system gradually incorporated new tools as implementation progressed. These include automated analysis of registrations, environmental compliance tools, and features to operationalize instruments such as the Environmental Reserve Quota (*Cota de Reserva Ambiental* – CRA). Each CRA represents one hectare of native vegetation that a landholder conserves beyond what the law requires. Landholders with Legal Forest Reserve deficits can buy these quotas to compensate for them, allowing those who conserve more than required to earn income by selling CRAs. Making these tools available nationwide has reduced the need for individual states to develop and maintain equivalent solutions.

Common systems and tools also make coordination easier among agencies and levels of government. Shared solutions promote greater standardization of information, terminology, and features, and can help address some of the interoperability challenges inherent in a decentralized national policy.

Acre, Rondônia, and Bahia maintained their own state systems from the early years of implementation. In Acre and Rondônia, adapting state platforms to new features and requirements set by rulings in ADPF 743, a constitutional case before Brazil's Supreme Court, proved costly and difficult. Both states plan to migrate to SICAR, where these solutions are available nationwide.[4] In Bahia, the state system had become outdated and costly to upgrade, which made it difficult to integrate its data with SICAR. These problems contributed to the state's decision to switch to the federal system.

Shared infrastructure can lower costs by avoiding duplicate investments and reducing the need for each state to individually develop, maintain, and upgrade similar solutions and sustain the technical capacity required to operate them.

4 ADPF 743 was filed in 2020 and focuses on policies to prevent and combat deforestation and wildfires in the Amazon and the Pantanal. The case challenges the government's performance in protecting the environment and implementing instruments established in Brazilian environmental law. Supreme Court rulings in this case have come to directly affect CAR implementation, as part of a set of structural measures aimed at strengthening the state's capacity to prevent, monitor, and control deforestation.

Lesson 3: Automation Is Necessary but Not Sufficient

Automation tools are essential for processing CAR registrations at scale. By handling large volumes of information simultaneously, they expand agencies' capacity far beyond what manual reviews or larger technical teams alone could achieve. Greater review capacity, however, does not necessarily mean that reviews are completed and registrations validated.

In Ceará, the adoption of streamlined analysis led to a sharp increase in processing capacity.[5] The number of registrations under review rose from about 51,000 at the end of 2024 to nearly 323,000 in September 2026, around 80% of all registrations in the state.[6,7] But 203,000 of them, almost 63%, are still awaiting landholders' responses to notifications from the state agency. Alagoas shows a similar pattern. Streamlined analysis also allowed the state to scale up reviews, and 121,000 registrations, 86% of the state's total, are now under review. Yet 96,000 of them, nearly 80%, are awaiting responses to notifications and cannot be validated until landholders address the outstanding issues.[8]

São Paulo shows how changes to rules and procedures can amplify the results of automation. One of the first states to adopt streamlined analysis at scale, São Paulo had already placed about 387,000 registrations under review by 2023, equivalent to 92% of its database. Yet only 34,000, or 8% of the database, had been validated.[9] Completing these reviews depended on landholders correcting their registrations and responding to the agency. São Paulo reduced this dependence by revising its legislation: for small properties, the agency now corrects registrations automatically, and the corrections take effect without requiring a response from landholders. By September 2026, about 200,000 registrations, 45% of the state's total, had been validated.[10]

Piauí also saw a sharp increase in processing capacity after adopting streamlined analysis. The share of registrations under review rose from about 2% in December 2025.[11,12,13] To complete these reviews and validate registrations, the state also adopted automatic corrections. It went a step further and developed a tool that records acceptance of the corrections in the system on behalf of landholders of small properties, so they no longer need to respond. However, SICAR could not handle the processing volume this tool generated at scale and became temporarily unavailable.[14] Once the system was restored, its processing capacity continued to limit the pace of validation, and by September 2026 only 20% of the state's registrations had been validated.[15] Piauí's experience reveals another limit to automation: whether the technology infrastructure can handle the volume of processing that new tools generate.

5 Streamlined analysis is a SICAR tool developed by the Brazilian Forest Service (SFB) that automatically checks information declared in the CAR against satellite imagery and reference geospatial databases. When it finds discrepancies, the tool proposes corrections that landholders may accept or reject.
6 Lopes, Cristina L. et al. *Where Does Brazil Stand with the Implementation of the Forest Code? A Snapshot of CAR and PRA in Brazilian States – 2024 Edition*. Rio de Janeiro: Climate Policy Inittiative, 2024. bit.ly/4C3CGYz.
7 Brazilian Forest Service (SFB). *Painel da Regularização Ambiental*. 2026. Date of access: October 16, 2026. bit.ly/4mJTs60.
8 Ibid.
9 Lopes, Cristina L., Maria Eduarda Segovia, and Joana Chiavari. *Where Does Brazil Stand with the Implementation of the Forest Code? A Snapshot of CAR and PRA in Brazilian States – 2023 Edition*. Rio de Janeiro: Climate Policy Initiative, 2023. bit.ly/WhereDoesBrazil-2023.
10 São Paulo State Secretariat of Agriculture and Supply (SAA/SP). *Painel da Regularização Ambiental de São Paulo* [São Paulo Environmental Compliance Dashboard]. 2026. Date of access: October 16, 2026. bit.ly/478DVHL.
11 Lopes, Cristina L., Nina Didonet, and Joana Chiavari. *Where Does Brazil Stand with the Implementation of the Forest Code? – 2025 Edition*. Rio de Janeiro: Climate Policy Initiative, 2025. bit.ly/WhereDoesBrazilStand2025.
12 Ibid.
13 Brazilian Forest Service (SFB). *Painel da Regularização Ambiental*. 2026. Date of access: October 16, 2026. bit.ly/4mJTs60.
14 Information provided by the Piauí State Secretariat of Environment and Water Resources (SEMARH/PI) to CPI/PUC-Rio in September 2026.
15 Brazilian Forest Service (SFB). *Painel da Regularização Ambiental*. 2026. Date of access: October 16, 2026. bit.ly/4mJTs60.

Automation is essential to dealing with the scale of Forest Code implementation, but its results also depend on the rules and procedures in place and on the capacity of the technology infrastructure.

Lesson 4: Implementation at Scale Requires Innovating, Combining, and Adapting Strategies

The challenges of implementing the Forest Code change as the policy advances. The strategies for addressing them must therefore change too.

Since 2019, Mato Grosso has steadily expanded its capacity to review CAR registrations. It first did so by hiring 50 analysts dedicated full-time to the CAR and upgrading the physical infrastructure used to process reviews. The state funded these investments with resources from settlement agreements between the Mato Grosso State Public Prosecutor's Office and rural landholders cited for environmental violations.

As reviews advanced, data quality became a growing concern, as did the need for landholders and their technical consultants to correct or complete their information. The state first relied on task forces and direct assistance to landholders and consultants, but this approach could not reach the scale required. In response, Mato Grosso developed *CAR Digital*, a tool that rebuilds registrations by cross-referencing registered property boundaries with high-resolution maps and land tenure and environmental data. The tool automatically maps APPs, Legal Forest Reserves, remaining native vegetation, and consolidated rural areas, producing more complete and accurate registrations.

Once the tool generated a new registration, landholders had to either accept it or justify keeping the original by submitting additional information or supporting documents. In practice, this requirement held back the completion of reviews. In 2025, the state launched version 2.0 of the system, which no longer requires landholders' prior acceptance. As a result, the number of registrations under review doubled, from 45,000 (30% of the database) to 92,000 (58%), and the share of validated registrations rose from 11% to 30%.[16,17]

As reviews and validations advanced, the main challenge shifted to environmental compliance. Mato Grosso responded by merging CAR review and PRA enrollment into a single administrative process. When a review identifies an environmental deficit on a property, the landholder has 90 days to enroll in the PRA and submit a restoration project to address it. Landholders who fail to do so face suspension of their CAR registration, which cuts off access to rural credit and other services that require an active CAR registration.

Mato Grosso's experience shows that strategies that work at one point may fall short as new bottlenecks and demands emerge. **Implementing the Forest Code at scale requires the ability to recognize these changes and respond to them, adapting and combining existing strategies and innovating with new solutions.**

16 Lopes, Cristina L., Nina Didonet, and Joana Chiavari. *Where Does Brazil Stand with the Implementation of the Forest Code? – 2025 Edition.* Rio de Janeiro: Climate Policy Initiative, 2025. bit.ly/WhereDoesBrazilStand2025.

17 Information provided by the Mato Grosso State Secretariat of Environment (SEMA/MT) to CPI/PUC-Rio in October 2026.

Lesson 5: Implementation Is a Continuous Process

Forest Code implementation involves successive and interdependent phases. Registration, review and validation, environmental compliance, and monitoring are all part of the same process. When states focus on one phase without preparing for the next, backlogs build up at different points in the process: registrations wait to be reviewed, properties with validated registrations await environmental compliance, and signed commitments wait to be implemented and monitored.

In Maranhão and Roraima, registration has advanced, but state agencies still have limited capacity to review these registrations. In Ceará and Alagoas, automation expanded review capacity, but many registrations cannot be validated because landholders have not responded to notifications from the state agency. Espírito Santo and Rondônia, meanwhile, face the challenge of moving properties with identified deficits toward environmental compliance.

São Paulo has gradually built the conditions for the different phases of implementation to work as a connected whole. The process begins with CAR registration and moves on to the review of the declared information, which concludes with validation. In this phase, the state combines an automated analysis tool with its technical staff. For small properties, the system corrects registration data automatically and unilaterally, without requiring the landholder's prior acceptance. The technical team reviews registrations that automation cannot complete.

Once the review is completed, the state system characterizes the property's deficits and automatically routes the process to the module for preparing a restoration project for degraded or altered areas. In this module, users can upload a previously prepared project or generate a new one with the support of *WebAmbiente*, a public online tool for restoration planning. The draft then undergoes technical review and, once approved, moves on to the electronic signing of the Environmental Compliance Agreement. A monitoring module tracks implementation of the agreed measures, completing an integrated digital process that runs from CAR registration to compliance monitoring. As a result, properties at different phases can move forward simultaneously on the same digital platform.

Planning for the full process becomes more important as reviews advance and more registrations are validated. More validated registrations mean greater demand for environmental compliance; more signed agreements, in turn, mean greater demand for monitoring. **States must therefore plan their implementation capacity around the entire process, not only the needs of each phase, anticipating the demand that progress in one phase will create in the others.**

Lesson 6: There Is No Silver Bullet

No single strategy is likely to address all the challenges of Forest Code implementation. The number and diversity of registrations in a state, along with its territorial characteristics, can make implementation more complex and limit what any one solution can achieve, calling for different responses.

Minas Gerais has the second-largest number of CAR registrations in the country, with more than one million. To handle this scale and the diversity of situations it involves, the state combines several strategies. For reviews, it uses multiple approaches at once, including a private contractor

that reviews registrations on the state's behalf, SICAR's streamlined analysis, *Selo Verde–CAR 2.0* (a tool developed by the Federal University of Minas Gerais – UFMG), and automatic correction and acceptance of registrations. For environmental compliance, the state created a self-declared PRA, which allows landholders with deficits to begin the compliance process before their registration is validated. It also set up *PRA Produzir Sustentável*, which pursues a broader environmental compliance agenda that includes supply chains, native seeds, and training for farmers.[18]

These strategies also rely on different actors. The state distributes activities among the environmental agency's headquarters, its regional offices, the contractor, municipalities, and other partners. To keep track of these efforts, it set up planning and monitoring mechanisms: workstreams with targets and deliverables, an internal system for tracking activities, and periodic workshops.

Minas Gerais's experience shows that a large and varied pool of registrations may require several strategies operating simultaneously, each with a distinct purpose and scope. Making progress under these conditions requires the ability to keep these efforts running, coordinate them, track their results, and assess what each one contributes.

Lesson 7: States Learn from One Another

States do not implement the Forest Code in isolation. Solutions developed and tested in one state have served as a reference for others, which assess them and adapt them to their own conditions. Forums for dialogue organized by the federal government and the states themselves, along with workshops, webinars, and seminars, help these experiences spread.

Paraná recently followed São Paulo's lead, adopting streamlined analysis with automatic corrections that take effect without a response from landholders. In 2025, Paraná had more validated registrations than any other state in absolute terms.[19] The state also intends to follow São Paulo's model for environmental compliance by building an integrated digital process that connects CAR review, the preparation of restoration projects, the signing of Environmental Compliance Agreements, and monitoring.

Other states, including Rio de Janeiro and Minas Gerais, have also adopted unilateral corrections. When designing its own procedures, Minas Gerais examined existing state experiences and drew directly on Rio de Janeiro's regulations, which it considered better suited to its circumstances. Ceará is considering revising its rules and plans to draw on the procedures and regulations adopted by São Paulo, Paraná, Minas Gerais, and Rio de Janeiro.

After a technical visit to Mato Grosso to learn about CAR Digital 2.0, Mato Grosso do Sul drew on its neighbor's experience to design a new strategy for advancing CAR reviews. It developed a new operational plan for the CAR and hired a specialized firm to build a system modeled on Mato Grosso's. Santa Catarina is considering the same path, adopting CAR Digital 2.0 along with São Paulo's model of supporting landholders through rural extension services.

18 *PRA Produzir Sustentável* is a program that seeks to reconcile agricultural production with environmental sustainability. Learn more at: PRA Produzir Sustentável. *Programa de adequação ambiental-produtiva de Minas Gerais*. nd. bit.ly/4AuRGNy.

19 Lopes, Cristina L., Nina Didonet, and Joana Chiavari. *Where Does Brazil Stand with the Implementation of the Forest Code? – 2025 Edition*. Rio de Janeiro: Climate Policy Initiative, 2025. bit.ly/WhereDoesBrazilStand2025.

Learning from one another allows states to build on accumulated knowledge and existing solutions, adapting them to new contexts when needed, rather than tackling familiar problems alone.

Lesson 8: Legal Certainty Matters

Forest Code implementation depends on clear, stable, and predictable rules to guide government decisions and the actions of everyone involved. Disputes over which rules apply can interrupt administrative procedures, delay decisions, and cast doubt on actions already taken during implementation.

For years, Paraná has faced a legal dispute over whether the Forest Code or the Atlantic Forest Law, a separate law that protects the Atlantic Forest biome, applies to consolidated rural areas. Successive court decisions have shifted back and forth on which legal framework should guide CAR reviews. In June 2025, the Federal Regional Court of the 4th Region, a federal appeals court, suspended a lower-court ruling that required the Atlantic Forest framework to be applied, allowing the state to continue its reviews under the Forest Code.[20] Soon afterward, Paraná adopted automatic corrections and made rapid progress in reviewing and validating registrations. Because the dispute has not been definitively settled, the actions taken since then could still be affected if the courts reverse their position.

In Rio Grande do Sul, a legal dispute also held back implementation for years. Uncertainty over how the law should treat native grasslands and livestock grazing in the Pampa, a grassland biome in southern Brazil, hindered progress on the CAR and environmental compliance. In 2025, a court-approved agreement paved the way for Decree no. 58,190/2025, which set criteria for the conservation, sustainable use, and restoration of the biome.[21] The new framework reduced the legal uncertainty that had long hindered environmental compliance and enabled the state to regulate its PRA.[22]

The CRA shows how legal uncertainty can block one of the Forest Code's most important instruments, which both helps landholders address Legal Forest Reserve deficits and rewards those who conserve more native vegetation than the law requires. In its 2018 rulings on the constitutionality of the Forest Code, Brazil's Supreme Court took conflicting positions on the territorial criterion for Legal Forest Reserve compensation, that is, where the area used to compensate a deficit must be located. This left it unclear which criterion should guide CRA implementation.[23] The dispute delayed the instrument's rollout until it was resolved in October 2024. Once it was settled, the federal government set up the platform and procedures for issuing, verifying, and tracking quotas, and Rio de Janeiro issued the country's first CRAs.[24]

Legal certainty is a condition for implementation, and it must be maintained throughout the process to guide decisions, enable progress, and sustain results over time.

20 Lopes, Cristina L., Nina Didonet, and Joana Chiavari. *Controvérsia entre Lei da Mata Atlântica e Código Florestal: TRF-4 Privilegia Estabilidade no Campo*. Rio de Janeiro: Climate Policy Initiative, 2026. bit.ly/Nota-TRF-4.
21 Lopes, Cristina L., Nina Didonet, and Joana Chiavari. *Where Does Brazil Stand with the Implementation of the Forest Code? – 2025 Edition*. Rio de Janeiro: Climate Policy Initiative, 2025. bit.ly/WhereDoesBrazilStand2025.
22 Rio Grande do Sul State Decree N. 58,804, as of 27 May 2026.
23 Lopes, Cristina L., Maria Eduarda Segovia, and Joana Chiavari. *Julgamento no STF Impacta o Código Florestal: O Critério de Identidade Ecológica Pode Ser Estendido para Todas as Formas de Compensação de Reserva Legal*. Rio de Janeiro: Climate Policy Initiative, 2023. bit.ly/3VxWhiD.
24 Lopes, Cristina L., Nina Didonet, and Joana Chiavari. *Where Does Brazil Stand with the Implementation of the Forest Code? – 2025 Edition*. Rio de Janeiro: Climate Policy Initiative, 2025. bit.ly/4ArcLZ3.

Lesson 9: Effective Communication Is Part of Implementation

Putting the Forest Code into practice depends not only on government action but also on the participation of millions of rural landholders. They need to receive information, understand when and how they must act, and have the means to respond to requests from public authorities.[25]

Landholders play a role at several phases of implementation: they register their properties in the CAR, respond to notifications, correct information, and enroll in environmental compliance mechanisms. In many states, 50% to 80% of registrations under review are waiting for landholders to respond before the process can move forward.

São Paulo shows how this bottleneck can persist even after technological and procedural improvements. Once the state had applied automatic corrections to all eligible registrations, the remaining cases still depended on landholders' responses. The state now identifies communication as one of the main obstacles to moving these cases forward.

States have responded on two fronts. The first aims to improve their ability to reach and guide landholders, through direct assistance, partnerships with rural unions and technical assistance services, and a wider range of communication and notification channels: letters, public notices, email, WhatsApp, and radio. The second aims to prompt a response when communication alone is not enough. In Mato Grosso, the Federal District, and Acre, landholders who fail to respond lose the benefits of an active CAR registration, such as access to rural credit. Mato Grosso and the Federal District suspend the registration, while Acre archives it after two unanswered notifications.

Despite this variety of strategies, communication remains a bottleneck. Further progress in Forest Code implementation requires new ways to inform landholders, raise their awareness, and mobilize them to act.

Lesson 10: Land Tenure Issues Constrain Implementation in the Amazon

CAR reviews require reliable information about a property's location and boundaries and how they relate to other private properties and public lands. When a review identifies overlaps or conflicts that the agency responsible for the CAR has no authority to resolve, progress also depends on information and action from the agencies responsible for land tenure and territorial management.

Land tenure and territorial governance are particularly important in the Legal Amazon, a nine-state administrative region that encompasses the Amazon biome. In eight of the region's nine states, more than half of CAR registrations significantly overlap one another.[26] Adding to the problem, registrations also overlap public lands, including Indigenous Lands and Protected Areas. When these issues cannot be resolved with the information available in the CAR, the registrations cannot be validated. Progress then depends on land tenure information and, in many cases, action by other agencies.

25 Moynihan, Donald P., Pamela Herd, and Hope Harvey. "Administrative Burden: Learning, Psychological, and Compliance Costs in Citizen-State Interactions". *Journal of Public Administration Research and Theory* 25, no. 1 (2015): 43–69. bit.ly/4dGjQvU.

26 Institute for Territorial Governance and Public Policy (IGPP). *Lei de Proteção da Vegetação Nativa: Modelagem Espacial de Alta Resolução – Nota Técnica e Metodológica, Atualização 2025*. 2025. bit.ly/3TWqA2b.

Pará has been addressing this challenge by strengthening coordination between environmental and land tenure policies. In partnership with the National Institute for Colonization and Agrarian Reform, the state has validated about 2,000 CAR registrations in agrarian reform settlements and is working to integrate its state system with the Environmental Management System for Agrarian Reform Settlements. Through cooperation with the Pará Land Institute, the state also issues CAR registrations together with land titles, using information gathered during the titling process to prepare the registrations.

The problem has also reached the federal level. In 2026, in ADPF 743, the Supreme Court ordered the federal government to act on certain CAR registrations that overlap officially recognized Indigenous Lands and federal Protected Areas, including notifying those who filed them and deciding whether to keep or suspend the registrations. The ruling responds to the need for federal action on these overlaps, but the institutional and operational arrangements for carrying it out have yet to be defined.

Implementing the Forest Code at scale in the Amazon requires more than infrastructure, technology, and better CAR and PRA procedures. It also depends on stronger coordination between environmental and land tenure policies and the agencies responsible for them.

What We Can Learn from the Ten Lessons

More than a decade of state experience shows that as Forest Code implementation progresses, bottlenecks shift, new challenges emerge, and the capacities, strategies, and solutions needed to address them must evolve as well.

Building the CAR database required certain capacities. Reviewing registrations at scale created new technological and information demands. Progress in validation made communication and correction procedures more important, while environmental compliance and land tenure issues are making coordination with other agencies, policies, and instruments increasingly necessary. Progress in implementation, therefore, does not eliminate challenges. It changes their nature and the capacities needed to address them.

This trajectory shows that coordination is essential throughout implementation. It is needed between the successive phases of the process, between public authorities and rural landholders, and among state agencies, administrative structures, and levels of government responsible for systems, databases, environmental compliance, and other policies that shape implementation.

State experiences also show that not all challenges arise in every context. Some recur across states, while others stem from the specific characteristics of particular regions or of a state's pool of registrations. Likewise, strategies that work well in one context do not necessarily produce the same results elsewhere. Distinguishing what can be generalized from what depends on local circumstances is therefore part of what implementation has taught.

Bringing these lessons together allows the strategies already adopted, their results, and their limits to inform new decisions, so that accumulated learning can help guide the next steps of Forest Code implementation.

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