



# Deforestation in the Amazon: What is illegal and what is not?

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## Abstract

Brazil has succeeded in reducing deforestation rates in the Amazon, but has not succeeded in explaining to the general public how much of this deforestation was illegal and how much was legally authorized. Transparency of deforestation data is limited, and pertinent legislation is little understood and poorly applied in practice. Lack of dissemination of information on authorized clearing of vegetation and lack of implementation of regulatory frameworks are contentious issues when defining strategies to reach zero deforestation in the Amazon region and for building policies related to climate change mitigation. The need to establish the new Forest Code provides an opportunity to establish goals and regulations for zero deforestation. This paper provides recommendations on how to communicate this information to the general public, how to make regulatory instruments effective and how to implement a zero deforestation agenda.

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## Introduction

It is often said that Brazil is at the forefront of establishing sound environmental laws. Several important pieces of environmental legislation come to mind, including the Constitution itself. There are also an overwhelming number of environmental rules and regulations. However, the effectiveness in implementation of these rules and regulations is often called into doubt. A clear example of environmental noncompliance is related to illegal deforestation in the Brazilian Amazon.

In light of public policies adopted since 2004 and the use of geo-processing tools for monitoring deforestation, the country succeeded in reducing Amazon deforestation rates to 500,000 hectares/year. This rate reached stabilization over the past four years, after a decrease of 70% in previous years, compared with the average of the period of 1996–2005 (INPE, 2015). However, monitoring tools did not advance to the point of differentiating how much of this deforestation is legal, and how much is not. Moreover, an illegal deforestation rate of this order of magnitude would be simply unacceptable.

Governments are inefficient in responding to the demand for information on illegal forest clearing. Transparency regarding deforestation data is limited and the issue is frequently sidelined. Regulatory frameworks are not well understood and are insufficiently applied. Institutional integration of environmental agencies with law enforcement agencies works at the federal level, but less so at the local level. The federal government fails in meeting its constitutional authority to establish general rules and regulations, and in performing its role as coordinator of the National Environmental System - SISNAMA.

Unavailable information on the authorized removal of vegetation and lack of adherence to the regulatory framework are important obstacles to defining strategies for reaching zero deforestation in the region. These two deficiencies also cause problems for promoting environmental regulation of private properties as required by the new Forest Code, especially for implementing the Rural Environmental Registry (CAR), an online geographical-based registry of private lands.

Efficient forest and climate change policies require concrete initiatives to halt illegal deforestation in all Brazilian biomes and to make transparent information on legal authorizations of vegetation removal. Effective monitoring of forest cover requires understanding the laws and procedures that define licensing of the replacement of native vegetation for land uses such as agriculture, industry, energy generation and transmission,

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mining, transport, urban settlements or other forms of human occupation. This commentary aims to shed light on this problem of distinguishing illegal deforestation from legal vegetation removal, since every year we are aware of the total deforestation rates without understanding which percentage comes from legal authorizations and illegal removals. The commentary also offers reflections and recommendations on how to convey information on deforestation to the general public, how to ensure the effectiveness of regulatory instruments for controlling deforestation in the Amazon, and how to implement a zero deforestation agenda.

## Who is responsible for licensing removal of native vegetation in the Amazon?

Most requests for legal removal of vegetation fall under the jurisdiction of state environmental agencies (OEMAs). States are authorized to license clearing of native vegetation on private properties and in state public forests and protected areas, as well for projects environmentally licensed by the state government.

The federal government, through the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) and the Chico Mendes Institute for Biodiversity Conservation (ICMbio), has the mandate to authorize removal of native vegetation and subsequent vegetative formations in public forests and federal conservation areas (e.g. National Forests or Parks), except those forested areas already fully protected (for example, ecological conservation units). Also the federal government can allow removal of native forest in projects environmentally licensed or authorized by the federal government, such as the case of the Belo Monte Hydroelectric power plant.

In the case of land subdivisions in cities and urban settlements, jurisdiction to license the removal of vegetation is held by the municipalities. These mandates, as spelled out in environmental regulations such as Law No. 6,938 of August 31, 1981 (establishing the National Environmental Policy), were ratified under the Federal Constitution of 1988 and Supplementary Law No. 140 of December 8, 2011, among others.

## What are the regulations for removal of native vegetation in the Amazon?

Historically, the country faced overlapping rules, fees and procedures for issuing permits and licenses for removal of native vegetation between IBAMA and the OEMAs. This resulted from certain incompatibilities of the old version of the Forest Code with Law No. 6.938/81 (regulating environmental permits) and also due to the mandates of state governments. This undesirable overlap only ceased to exist since 2003 when decentralization of forest management took place.

Currently, the overall guiding forest directive is the new Forest Code (Law No. 12,651 of May 25, 2012) and its associated regulations. Within limits defined by percentage of total property area, the new regulations allow for legal deforestation for alternative land uses, excluding permanent preservation areas and legal reserves. Land registration under the Rural Environmental Registry (CAR) is a prerequisite for new licenses and regularization of deforested areas on rural properties as provided for in the new Forest Code. Therefore, legal deforestation may be permitted in the Amazon region.

In addition, federal regulations under Decree No. 5,975 of November 31, 2006, and regulatory instructions from the Ministry of Environment and IBAMA lost their applicability, in practice, due to the existence of other federal and state laws. Under federal environmental licensing procedures for large impact projects, specific rules apply for removal of vegetation. States have their own criteria and regulations for environmental licensing of agricultural activities that involve forest clearing. States also have law enforcement and monitoring authority over forest clearing. This authority consists of establishing standards and associated penalties (administrative, civil and criminal) to discipline forest exploitation, deforestation for alternative land uses and extraction of forest resources.

Chapter V of the new Forest Code (Law No. 12,651 of May 25, 2012), dealing with authorization for removal of native vegetation, has not yet had regulations issued. Therefore, there is no general rule regulating forest clearing. Future regulations to be established under Chapter V should take into account compliance with the requirements of standards and procedures of environmental licensing provided for in Law No. 6938 of August 31, 1981, considering the procedures, concepts and terminology adopted by environmental licensing bodies of state and federal governments.

## What are the causes of noncompliance with regulations?

Periodically, Amazonian deforestation statistics are made available through information provided by the federal government or by non-governmental organizations. How much of this land clearing is legal and authorized deforestation in accordance with environmental regulations? Accurate statistics on illegal deforestation are not made readily available, and if available, they are scattered with little transparency among the websites of environmental agencies. In reality, only a small percentage of forest clearing is assumed to be within legal limits, thus the largest part of deforestation is not in accordance with the regulations.

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Reasons for the lack of compliance with existing regulations are directly related to the causes of deforestation. These include (based on the author's professional observations over 35 years working in the Brazilian Governmental Agency): a) land-grabbing of undesignated federal and state public lands covering millions of hectares; b) lack of clear land tenure; c) the difficulty of land owners to physically access environmental agencies whose offices are concentrated in capital cities and major urban centers; d) poor management of designated public lands (e.g., settlement projects and protected areas); e) depreciation of forest assets; f) bureaucracy and limited presence of environmental agencies; g) lack of incentives to comply with existing laws; e) lack of financial resources to pay the costs of land registration and licensing; and i) impunity, for example, related to corruption or slowness of justice in applying penalties.

## Lack of transparency, coordination and integration: What has and has not been done?

Enforcement of deforestation control policies requires high levels of coordination and integration, particularly among federal, state and municipal agencies. Coordination efforts are fragile and have not yet been effectively implemented by the responsible agencies. Integrated action has worked at the federal level for law enforcement operations, but attempts to integrate federal and state agencies efforts have revealed more confrontation and exchanges of blame and excuses than joint work. Examples include the lack of integration of deforestation control systems, monitoring of logging activities, and issuing of environmental licenses. This situation exposes three unsolved problems: 1) the absence of general rules guiding procedures for licensing vegetation removal; 2) the lack of integration of actions and systems to control forest activities; and 3) the lack of transparency and information on licensing and permits for removal of vegetation in the Amazon.

States issue licenses that the federal government is not aware of and does not have access to. The federal government authorizes deforestation that the states are not aware of, and again, the information is not shared or integrated. The general public, in turn, is made aware of illegality in land clearing only when widely publicized by the media. Consequently, systems integration is at the center of current discussions and is considered a priority. Unfortunately, a previous initiative of IBAMA to integrate state and federal environmental information systems through the Shared Environmental Information System (SISCOM) did not advance because application of the standards was not effective due to their lack of capacity. Another potentially positive initiative was the establishment of CONAMA (the National Environment Council) Resolution No. 379.19 of October 2006, requiring integration, transparency and availability of all information related to permits and licenses for vegetation removal issued by federal and state governments through the National Forest Management Portal. The goals of this resolution have not yet been met as the regulation has had little effectiveness in its application.

IBAMA also tried unsuccessfully to deploy an integrated licensing system for control of forest activities, the Environmental Federal Licensing (LAF). IBAMA also presented a project proposal (ProControle) intended to strengthen the organizational infrastructure of state agencies, regulation and control of forest management, and improvement in planning of integration and coordination of actions among institutions. The project did not, however, receive approval by the Ministry of Environment.

Another initiative for information sharing, coordinated by the Brazilian Forest Service (SFB), was the National Forest Information System (SNIF), integrating various actors in the forest sector, including all appropriate federal agencies.

Reasons for the lack of effectiveness of the actions mentioned above include: 1) administrative discontinuity; 2) operational difficulties for construction of appropriate information systems; and 3) lack of priority of the forest agenda on the part of governments and environmental institutions.

It is important to note that, unlike forest management, decentralization of environmental management, especially strengthening of the licensing system of the brown agenda (licensing of polluting industrial activities), was the subject of institutional strengthening actions by federal government programs such as the National Environmental Program (PNMA I and II) and the Pilot Program to Conserve the Brazilian Rainforest (PPG7-PRN/PGAI). In 1994, a decentralization program for environmental management was established by MMA and IBAMA employing a strategy of federated agreements.

## What to do?

In recent years, Brazil has learned several lessons on how to fight deforestation in the Amazon. Experience with proposals already drawn up, issuance of regulations under Law No. 12,651 of May 25, 2012 and implementation of the CAR, would create conditions to effectively coordinate, integrate, deliver and lend transparency to the licensing and authorization processes of vegetation removal in the Amazon, in support of zero deforestation targets. Suggestions of steps to be taken can be found below:

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1) The federal government should issue regulations, through a process of extensive public hearings, for Chapter V of Law No. 12,651 of May 25, 2012 dealing with authorization and licensing for removal of native vegetation. This would be an opportunity to establish goals and regulations aiming at zero deforestation, taking into account necessary permission for removing vegetation associated with public utility projects, infrastructure projects, urban settlements and maintenance of living standards and the livelihoods of local communities.

This regulation should take into account compliance with the requirements of environmental licensing rules and procedures laid down by Law No. 6938 of August 31, 1981 and its norms, especially as they apply to alternative land uses at the state level.

2) With full implementation of the CAR by federal and state governments, it will be necessary to implement procedures and an integrated system to ensure transparency and availability of all information related to permits and licenses for vegetation removal issued by federal, states and municipal governments. Resolution No. 379, of October 19, 2006 establishes criteria and minimum guidelines that can be used to develop the new regulations that make this integrated system feasible.

3) In their daily lives, landowners face many difficulties and have valid complaints about the operation, organization and quality of services delivered by environmental agencies. It is necessary to improve these services and relationships with property owners by basing them on successful service-oriented agencies, using an integrated system, and also by establishing joint efforts among the different levels of environmental agencies (federal, state and municipal).

4) The federal government must build strategies and plans so that regulations suggested under item 1 (above) aim at: a. training staff of state environmental agencies in key themes related to forest management and forest policy instruments; b. improving and standardizing systems for licensing forest activities; c. evaluating and establishing state forest regulations, subject to available general rules; d. improving forest law enforcement departments at the OEMAs; e. integrating state and federal systems for forest and environmental law enforcement; and f. defining mechanisms for evaluating the performance of forest management practices as regulated by IBAMA and the OEMAs.

5) Clear definition of responsibilities for the management and implementation of deforestation control policies is important to ensure appropriate conditions to achieve zero deforestation targets. Development and implementation of full regulations under Complementary Law No. 140 of December 8, 2011 will be necessary to clarify who is responsible for what under the SISNAMA.

6) Undoubtedly, the organizational and operational structure of SISNAMA should enable prioritizing topics related to institutional coordination, especially with regards to federated entities. In addition, the Ministry of Environment should resume forums for discussion and negotiation of national forest policies.

7) IBAMA, the federal agency responsible for command and control actions, should centralize specific integration systems in forest management administration and also establish and strengthen institutional coordination bodies.

Finally, what is being suggested does not require a significant amount of financial and human resources. It only requires prioritizing the protection of Amazon forest heritage, and at the same time, committing to better transparency and dissemination of accurate information. After all, it is in everyone's interest to establish a level playing field and provide adequate information on the goods and services provided by the forest.

These proposals do not require establishing new governmental authorities or responsibilities. The ideas expressed here are already the responsibility of government policy makers, managers and public institutions, involving policy formulation, planning, regulation, coordination, control, evaluation and delivery of services to the general public.

## Conclusion

In spite of extensive study of deforestation in the Amazon, very little evaluation and discussion has addressed legal deforestation carried out in situations still allowed under Brazilian environmental legislation. In practice, federal, state and local laws still allow clearing of forests for many purposes. The country needs to implement a zero deforestation policy, but this requires statistics and associated information on authorized clearing. The set of recommendations offered in this paper contribute to the fight against illegal deforestation in the region, while indicating ways to improve tools to control deforestation and to strengthen forest governance.

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### Competing interests

The author declares that no competing interests exist.

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