Achieving zero deforestation in the Brazilian Amazon: what is missing?

Paulo Moutinho^{1,2}, Raissa Guerra¹, Cláudia Azevedo-Ramos³

Introduction

Deforestation in the Amazon causes severe climatic and ecological damage in the region, with negative consequences for the livelihoods of forest-dependent peoples and agriculture. To prevent further damage, it will be both necessary and urgent to eliminate illegal deforestation, and perhaps also the legal kind. Brazil has committed to this by 2030, as stated in its Intended Nationally Declared Contributions (iNDC) as required by the Paris Agreement on

Reducing deforestation to zero

The significant reduction in Amazon deforestation that occurred between 2005 and 2014 can be attributed to several factors. Among them are the implementation of 'command and control' measures, the expansion of protected areas, and the demarcation and ratification of indigenous territories1 – today almost 54% of the Amazon forest falls under a certain category of protected area (figure 1).

Other factors include the drop in commodity prices in 20052, the soy moratorium agreement in 20063, and credit restrictions for landowners who deforest illegally4.

Despite a reduction of almost 80% in the rate of deforestation in the Amazon during the period 2005 – 2014, Brazil still deforests around 5,000 km2 of Amazon forest every year, the equivalent of three times the city of São Paulo. And there are no signs of this rate abating, which is to say, deforestation continues, but at a slower rate.

2. Assunção J, Gandour C, Rocha R. 2012. Deforestation Slowdown in the Legal Amazon: Prices or Policies? CPI Rio Working Paper 1.

3. Gibbs HK, Rausch L, Munger J, Schelly I, Morton DC, et al. 2015. Brazil's Soy Moratorium: Supply chain governance is needed to avoid ¹ Amazon Environmental Research Institute, IPAM, Brazil ² The Woods Hole Research Center, Falmouth, Massachusetts, United States

³Núcleo de Altos Estudos Amazônicos, NAEA, (Center of Higher Amazon Studies), Universidade Federal do Pará, Belém, Pará, Brazil

climate change. How can this be achieved? In this document we identify six fundamental strategies to end forest destruction in the Amazon.

The continuity of deforestation is the result of at least six major factors, which require six corresponding strategies, as shown in table 1.

The implementation of these strategies depends on the formulation of a new development paradigm that promotes economic growth, social justice, and productive agriculture, while protecting the fundamentally important ecological services of tropical forests. Preservation is easier and cheaper than restoration.

Contact

Dr. Paulo Moutinho, senior researcher moutinho@ipam.org.br

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^{1.} Soares-Filho BS, Rajão R, Macedo M, Carneiro A, Costa W, et al. 2014. Cracking Brazil's forest code. *Science* **344**: 363–364.

deforestation. Science 347(6220): 377–378.

doi: 10.1126/science.aaa0181.

^{4.} Pfaff A, Robalino J, Sandoval C, Herrera D. 2015. Protected area types, strategies and impacts in Brazil's Amazon: public PA strategies do not yield a consistent ranking of PA types by impact. *Philos T Roy Soc B* **370**(1681). doi: 10.1098/rstb.2014.0273.

Table 1. Six threats to deforestation reduction, and six strategies to achieve zero deforestation in the Brazilian Amazon.

Six greatest threats to zero deforestation	Six strategies to achieve zero deforestation
1. Brazil's Growth Acceleration Plan (PAC)- investment in over 40,000 infrastructure projects, such as highways, hydroelectric dams, and port construction, most of them in the Amazon region.	1. The establishment of socio-environmental safeguards for large infrastructure projects in the region.
2. Growing demand for commodities (beef and grains).	2. The consolidation and expansion of positive incentives for sustainable production of commodities (e.g.: low carbon agriculture).
3. Unsustainable rural settlement policies (10- 30%) of the 5.000 km ² deforested every year.	3. The establishment of a new policy guaranteeing social and environmental sustainability for rural settlements.
4. Less than full implementation of the Brazilian Forest Code	4. Full implementation of the Brazilian Forest Code via innovative market mechanisms.
5. Agribusiness lobby in the National Congress, pressured by expansion of agricultural and mining activities in protected areas.	5. Protect the rights of indigenous and traditional communities.
6. Lack of land tenure and the existence of undesignated public forestlands.	6. The expansion of protected areas or sustainable use areas, allocating the almost 80 million hectares of non-designated public forests as protected areas or areas for sustainable use of timber or non-timber products.

Figure 1. Deforested area and land tenure categories in the Brazilian Amazon



Source: Deforestation data from National Institute for Space Research (INPE) and Brazilian Amazon Forest Monitoring by Satellites Project (PRODES) (INPE/PRODES, 2016); IL, FCU, and SCU from Socio-environmental Institute (ISA, 2015).