CHALLENGES AND OPPORTUNITIES FOR THE IMPLEMENTATION OF THE NEW BRAZILIAN FOREST CODE

OBSERVATÓRIO DO CÓDIGO FLORESTAL

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The *Observatório do Código Florestal* (OCF) Forest Code Observatory, in English, was created in May of 2013 to advance social accountability over the implementation of Law # 12,651/2012 (the Brazilian Forest Code) and to ensure the environmental, social and economic integrity of forests on private property. The Observatório is a network made up of 22 independent organizations, which came together with the goal of fostering the effective implementation of the Forest Code.

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STRUCTURE OF **THE FOREST LAW**

The first national rules and sanctions involving forest exploitation and land use were created back in the day, during Brazil's colonial period (1500-1822). The first formal Brazilian Forest Code, however, began to take shape in 1934 when it was established that rural estate properties should keep undisturbed native vegetation plots in order to guarantee the supply of coal and timber – essential fossil fuels for that period's economy.

New laws and decrees were passed between 1965 and 2012 in order to protect plots of native vegetation in rural properties and possessions. During this period, the legislation for the Legal Reserve and for the Permanent Preservation Area was consolidated.

A **Legal Reserve (RL, from the Portuguese "Reserva Legal")** is an area within the rural estate that must be covered by native vegetation and that may be managed sustainably. This may vary from 20 to 80% of the total rural property area, depending on the biome and the region in which it is located.

A **Permanent Preservation Area (APP, from the Portuguese "Área de Preservação Permanente")** may be covered or not by native vegetation. Its environmental function is to preserve water resources, landscapes, prevent soil erosion, protect the region's biodiversity and soil, and ensure the well-being of human populations. Of a variable size, a permanent preservation area is always located around water sources and watercourses, on hilltops and other sensitive areas.

With the implementation of the 1988 Federal Constitution, the Federal Government ceased to be the sole legislator on matters concerning the maintenance of native vegetation in rural estates and possessions. Since then, States and Municipalities are allowed to establish their own rules provided these are always more restrictive than the federal laws.

Restrictions to deforestation soared strongly from 1995 onwards, when there was an annual deforestation record of 2.9 million hectares registered for the Amazon Forest. In 2004, the Federal Government launched the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAM). Such actions have helped to reduce forest loss by 82% in the last decade[1].

After an intense public and political debate, the reform of the Forest Code was approved by the National Congress and published in May 2012. Law 12.651 is now the main regulatory instrument regarding conservation and use of native vegetation on private land in Brazil. The country now faces the challenge of implementing it in a qualified and effective manner.

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Productive landscape in the state of Mato Grosso, with highlights for the conserved Permanent Preservation Areas in the borders of water courses and the Legal Reserve connected.

The Forest Code regulates the use of about 281 million hectares of remnant native vegetation on Brazil's rural properties. Of these, 193 million hectares (69%) constitute legally protected areas within Legal Reserves and Permanent Preservation Areas. This represents a CO_2 stock of 87 billion tons. The other 88 million hectares (31%) are surpluses of Legal Reserves and as such they can be legally cleared. If this area is indeed legally cleared, there is a potential emission of approximately 18 billion tons of CO_2. Moreover, it is estimated that the total forest area to be restored equals 20 to 22 million hectares, of which 78% are from Legal Reserve liabilities, and 22% from deficits of Permanent Preservation Areas[2].

For these reasons, the effective implementation of the Forest Code is fundamental to: (i) conserve about

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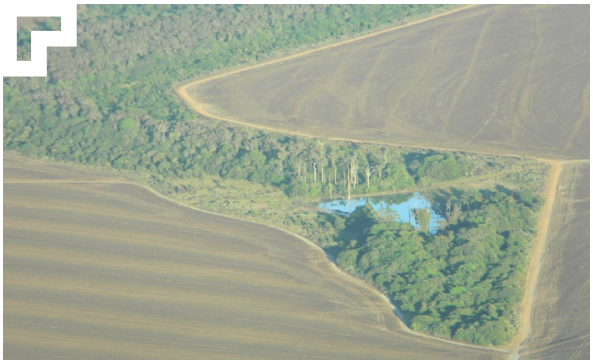

Permanent Preservation Area in rural property.

1 Based on data by the National Institute for Space Research through the Monitoring System of Legal Amazon Deforestation (PRODES/INPE) available at: http://www.obt.inpe.br/prodes/index.php .

87 billion tons of CO_2 in Permanent Preservation Areas and Legal Reserves, (ii) remove from the atmosphere a not estimated quantity of CO_2 through the restoration of 20 to 22 million hectares of forest liabilities, and (iii) implement economic incentives and mechanisms capable to prevent the emission of about 18 billion tons of CO_2 stocked in areas that can be legally deforested.

PRACTICAL IMPLEMENTATION OF THE FOREST CODE: **CONTEXT AND CHALLENGES**

The Forest Code creates opportunities to develop and apply technical and political innovations that, if properly and effectively applied, may lead to greater regularity and sustainability in agricultural production. Some of these innovations are:

Rural Environmental Registry
(CAR, from the Portuguese "Cadastro Ambiental Rural")
Transparency in the application of the law
Environmental Regularization Programs (PRAs, from the Portuguese "Programas de Regularização Ambiental")
Incentive to reforestation wood market
Restricted Use Areas in Pantanal and Other Wetlands
Rules for issuing Environmental Reserve Quotas (CRAs, from the Portuguese "Cotas de Reserva Ambiental")
Economic incentives for certified and sustainable production
Differentiated conditions for Rural Insurance, Taxes and Credit
Increase in the Environmental State Tax (ICMS) and Payment for Environmental Services

All landowners and land possessors are responsible for registering with the Rural Environmental Registry. The Registry will be used by the public authorities to document orderly the use of the territory. Towards this end, the Federal Government is implementing the National System of Rural Environmental Registry (SICAR), where rural properties, areas of traditional communities and peoples, and land settlements from land reform programs shall be registered in order to define the boundaries of their lands, productive areas, Legal Reserves and Permanent Preservation Areas.

State authorities are responsible for evaluating and validating the registered areas, pointing to deficits or surpluses of native vegetation, and for identifying overlapping between rural properties and protected areas in Conservation Units and Indigenous Lands, although this registry is not aimed at solving land-tenure issues. State authorities should also regulate, implement and oversee the Environmental Regularization Programs. Taking part in these programs is mandatory for all

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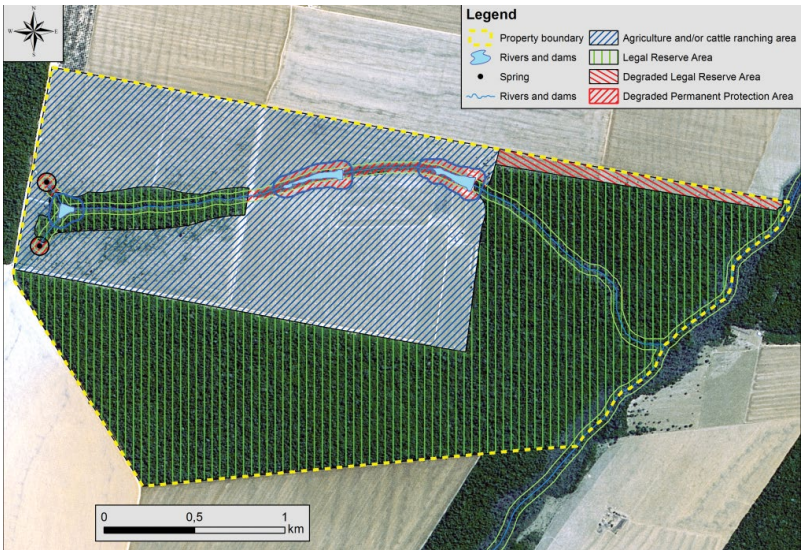

A rural property registered with Rural Environmental Registry, showing the Permanent Preservation Areas, Legal Reserve, degraded areas and areas of agricultural use.

2 Britaldo Soares-Filho, Raoni Rajão, Marcia Macedo, Arnaldo Carneiro, William Costa, Michael Coe, Hermann Rodrigues, Ane Alencar (2014) 'Cracking Brazil's Forest Code'. Science, 344 (6182): 363. DOI: 10.1126/Science.1246663, 2014.

properties encompassing degraded Permanent Preservation Areas, and for medium and large landowners who illegally deforested their Legal Reserves until July 2008. These producers will be able to restore or offset deforested legal reserves within the same biome. In case they choose to offset, they can acquire Environmental Reserve Quotas[3], rent or purchase land to be used as Legal Reserves, or donate areas to local governments to be used as national parks and other Conservation Units.

SCENARIOS

Brazil and Africa are among the few regions on the planet where cattle and crop raising can still expand production, especially on Cerrado and Amazon Forest plots that have already been cleared. While the pressure to replace forest and other native vegetation formations with spaces for commodities production still lingers, it is estimated that 82 million hectares of pasture land in the country are degraded or poorly used[4]. This represents 70% of Brazil's 117 million hectares of pasture land - an area larger than Turkey.

This use of open areas translates into a huge potential for a rural production with environmental and economic gains, revenue and employment generation. The increase in agricultural productivity associated with the better use of lands, restoration of degraded areas and sustainable crop growing practices would lead the country to greater agricultural yields without deforestation of a single new hectare.

In order to connect legislation compliance opportunities with an increased agricultural productivity in rural areas, for example, investments can be made such as binding the granting of rural credits to the compliance of rural properties with environmental requirements. Such transformations strongly depend on the implementation of the Forest Code.

Other relevant aspects are the opportunities created through the restoration of forest liabilities and all the service and market chains they may generate. There will be tens of million hectares of land to be restored. Brazil's INDC[5] indicates a target of 12 million hectares. The promotion of degraded area restoration, in addition to its potential economic benefits, should strengthen the creation of wildlife corridors connecting intact and remaining areas that are currently fragmented and disconnected.

In order to operationalize opportunities for compliance with the Forest Code in association with an increased agricultural productivity, some induction mechanisms such as credit granting should be revised. It is important that the credit granted for production be linked (in the same package) to the credit granted to environmental regularization, and that this should be considered an investment and not a cost incurred.

For instance, banks and other agencies could offer differentiated credit lines for producers who maintain native vegetation areas in their lands in excess of the minimum area required by the forest law. Seals and certificates could acquire market attractiveness when granted to regions or production chains that fully comply with the Forest Code, significantly reducing the transaction costs of traditional certification systems.

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Productive and forest landscape in the state of Mato Grosso.

MARKET

Given the growing demands by buyers and consumers of commodities, food and other items for legal and sustainable production and marketing practices, the actual compliance with the Forest Code shall contribute to ensure a regular environmental standing of agricultural productions.

3 The Environmental Reserve Quota (CRA) is one mechanism of the Forest Code that can be used by those who deforested their Legal Reserves in excess of the legally allowable before July 2008. These landowners and land possessors can buy CRAs from properties with a surplus of native vegetation according to Forest Code rules, adjusting their own environmental situation. CRAs also reward those who have preserved their areas of native vegetation, encouraging further maintenance of these areas. The transactions are made through marketable securities traded on a commodity exchange or through asset liquidation and registration systems.

4 Manuel Claudio M. Macedo, Ademir Hugo Zimmer, Armindo Neivo Kichel, Roberto Giolo de Almeida, Alexandre Romeiro de Araújo . Degradação de pastagens, alternativas de recuperação e renovação e formas de mitigação [Pastulands degradation, alternatives for recuperation and renovation, and mitigation options]. Campo Grande – MS: EMBRAPA Gado de Corte. Disponível em: http://ainfo.cnptia.embrapa.br/digital/bitstream/item/95462/1/Degradacao-pastagens-alternativas-recuperacao-M-Macedo-Scot.pdf

5 The Intended Nationally Determined Contributions (INDCs) are a tool created by the United Nations Framework Convention on Climate Change (UNFCCC) through which countries present their targets and actions for reducing Greenhouse Gas Emissions and adapting to climate change.

Therefore, it is essential that companies consider the implementation of the Forest Code as one of the minimum criteria for purchasing cattle and crop outputs from Brazilian suppliers. Both the industry and retailers will thus be able to guarantee that their processes fully comply with forest, environmental and social legislations, as well as with best practices throughout all of their production chains.

The Forest Code would assure commercial agents and foreign governments of the lawfulness of their trade and would constitute the first steps towards sustainability for exporting Brazil's commodities and other rural products without shunning from complying with international commitments and certifications of productive sustainability.

Thus, the effective application of the Forest Law may become the competitiveness differential for both domestic and international markets, to be required and valued by financial institutions, exporters, carrier and storage companies, wholesalers and retailers.

For all these reasons, companies and governments must both be responsible for demanding compliance with Forest Code requirements. This reduces, in fact, the risks for companies that rely solely on the application of governmental command and control methods to verify legal compliance. On the other hand, this demand from consumers and financers contribute with governments to implement the law. The implementation of the Forest Code is a huge challenge. It is therefore essential that all sectors fulfill their respective roles in this process.

CLIMATE

Since the 1980s, with the expansion of production boundaries based on the strengthening of agricultural practices brought about with the Green Revolution[6], the Amazon and the Cerrado lost, together, 170 million hectares of native vegetation[7], an area similar to the size of Libya. Between 2009 and 2012, there was a 156% increase in Cerrado losses associated with the reduction of deforestation in the Amazon, with new technologies for the production of commodities and with the high demand for soy and meat from China, India, Russia and other markets.

In a scenario of historical and uncontrolled losses of native vegetation, lack of water resources and global climate change, the preservation and restoration of forests, savannas and other natural formations must be a top priority for governments, private sector, civil society entities and society in general.

Restoration of native vegetation is one of the most important instruments related to the application of the Forest Code. Studies point to between 20 and 22 million hectares of native vegetation to be restored[8]all over the country – an area bigger than the United Kingdom. This total is half of what should be restored according to the former forest legislation enforced until 2012.

Paulo Brando/IPAM

Tower to monitor the flux of CO2 in the municipality of Querência, Mato Grosso.

The agenda is part of Brazil's contributions to a new global agreement to fight the effects of climate change. It should be agreed upon in Paris (France) during the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change.

If achieved, the official target of restoring 15 million hectares of degraded pasture land and of restoring 12 million hectares of native vegetation until 2030[9] will contribute to reduce the greenhouse gas emissions and global warming. In addition, it may boost an economy based on the production of native species seeds and seedlings, and on the restoration of native vegetation at a national scale.

However, it is only through the effective and qualified implementation of the Rural Environmental Registry and of Environmental Restoration Programs that na-

6 This refers to the creation and dissemination of new seeds, technologies and agricultural practices based on monoculture fields and the use of fertilizers for the agricultural production in less developed countries from the 1960s and 1970s onwards.

7 Data from the Ministry of Environment (2014) and the Action Plan for the Prevention and Control of Deforestation in Cerrado (PPCerrado, 2010). Available at: http://www.mma.gov.br/florestas/controle-e-prevenção-do-desmatamento/plano-de-ação-para-cerrado-–-ppcerrado.

8 Britaldo Soares-Filho et al. (2014).

9 Brazil's INDC, available online at: http://www4.unfccc.int/submissions/INDC/Published%20Documents/Brazil/1/BRAZIL%20iNDC%20english%20FINAL.pdf .

tive vegetation remnant areas and areas to be restored shall be clearly known. This will depend on acknowledging the economic and social value of preserved and restored areas, on the articulation of different sectors in society, and on tax and economic incentives for compliance with the forest legislation. This is extremely important for a country that generates 60% of its carbon dioxide emissions (CO_2)[10] from deforestation and forest fires associated with the expansion of agriculture and cattle raising. This is now Brazil's primary CO_2 emission source.

It is fundamental to acknowledge that the implementation of Brazil's INDC depends largely on the Forest Code implementation. As mentioned in the first section, the effective implementation of the Forest Code can: (i) conserve about 87 billion tons of CO_2 in Permanent Preservation Areas and Legal Reserves, (ii) remove from the atmosphere a not estimated quantity of CO_2, but equivalent to the restoration of 20 to 22 million hectares of forest liabilities, and (iii) implement economic incentives and mechanisms capable to avoid the emission of about 18 billion tons of CO_2 stocked in areas that can be legally deforested.

According to the latest Emissions Gap Report[11] by the United Nations Environment Programme, "the emissions gap between what the full implementation of the unconditional INDCs contribute and the least-cost emission level for a pathway to stay below 2 °C, is estimated to be 14 billion tons of CO_{2eq} in 2030". The mere and effective implementation of economic incentives and mechanisms created by the Brazilian Forest Code to compensate the conservation of areas that can be legally deforested can avoid the emission of about 18 billion tons of CO_2[12], comparable to what all countries need to reduce in emissions level in 2030 in order to fill the global gap.

COMPLIANCE WITH **THE FOREST CODE**

OPPORTUNITIES

- Support Brazil's undertakings and targets for the global climate agreement to be negotiated and approved during the Paris Climate Conference (France)
- Reduction of illegal deforestation, restoration of degraded areas and stimulus to production models such as the Crop-Livestock-Forest integration
- Global and national trade partners and consumers will have access to environmentally regulated commodities production and market chains
- Promotion of sustainability through international cooperation in the production chains of agricultural commodities
- Restoration of an estimated 20 to 22 million hectares of native vegetation associated with biodiversity conservation and ecosystem services
- Potential creation of wildlife corridors between protected areas through the promotion of forest restoration in rural estate properties with deficit of native vegetation
- Development and application of political and technical innovations for expanding environmental regularization in rural production
- Contribution for the conservation of water resources that are fundamental for generating energy, supplying cities and cattle and crop productions.

CHALLENGES

- Reduce delays in the application and regulation of the new forest legislation by the Federal Government and States
- Speed up the structuring and integration of the National System of Rural Environmental Registry – Sicar
- Expand capacities and partnership building by state and municipal governments for the implementation and validation of the Rural Environmental Registry and restoration of environmental liabilities in real estate properties
- Establishing greater dialogue and cooperation among the Executive, Legislative and Judicial branches for the implementation of the law
- Investments in infrastructure and human resource training for compliance with the legislation
- Ensure comprehensive public transparency in regards to information on implementation of the law, especially on the Rural Environmental Registry and the Environmental regularization programs
- Introduction of economic incentives for compliance with the legislation, especially in areas with higher deforestation pressure

10 http://seeg.eco.br/meta-de-reducao-de-emissoes-para-2020-deve-ser-cumprida/

11 Available at: http://uneplive.unep.org/media/docs/theme/13/EGR_2015_ES_English_Embargoed.pdf

12 Soares-Filho et al. (2014).


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