

# Building the future we want

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In response to international agreements and the influence of environmental movements, Brazil has implemented measures to protect the Amazon rainforest including the regulation of logging and the pursuit of a ‘sustainable agricultural growth model’. This chapter examines whether Brazil is now on a pathway to sustainable development.

## The future of the Brazilian model of ‘sustainable agricultural growth’

**S**trong ruptures have marked the Brazilian model of agricultural development since independence. Sustainability has been a salient issue, especially since the Rio Earth Summit in 1992. For over twenty years, significant progress has been made on the environmental and social agendas. The significant decline in deforestation rates, the development of a diversified energy matrix, and the sharp decline in poverty rates are all undeniable achievements of public and private actors. However, do these advances allow one to say that Brazil is on the path of ‘sustainability’? Moreover, what does sustainable mean?

To provide some answers to these questions, we initially trace the major changes in the Brazilian development model. Then we discuss how Brazil took up the thorny issue of Amazon deforestation, through effective public action. In a third step, we analyse the consequences of the model of ‘sustainable agro-industrial growth’ implemented by Brazil, highlighting some key challenges it will have to face. We then show that this model cannot be taken for granted. Its ‘success’ is conditioned by tensions existing at the national level, between socio-environmental forces and the ‘ruralists’ who are pushing to develop Brazilian agribusiness; and at the international level between the Brazilian government and developed countries. Finally, we conclude by pointing out the limitations of this model and the transformations that seem necessary if Brazilian agriculture is to commit to the path of sustainable development.

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## Colonizing and developing the Amazon in the 20<sup>th</sup> century

Historically, agricultural development in Brazil has been largely based on policies aimed at occupying sparsely populated areas and promoting the exploitation of their rich natural resources. From the late 1930s, the ‘march to the west’ was the guideline of the Getulio Vargas government, leading to the boom in rubber cultivation in the Amazon. But it was really from the mid-1960s, under President Kubitschek that this strong desire to promote the settlement of the Brazilian backlands has materialized, the most striking symbol being the creation of the capital Brasília in the heart of the Cerrado.

Before the 1960s, the Brazilian Amazon was relatively well protected because of its isolation. The settlement of this vast inaccessible territory, which represents 40% of Brazil, was underdeveloped, and logging and agriculture was limited to the immediate vicinity of waterways. The project to colonize and develop the North, especially to consolidate Brazilian sovereignty over that territory led the government to implement a comprehensive plan for infrastructure construction. In 1958, the launch of the construction of the road connecting the port city of Belém to the new capital, Brasília, and that connecting Cuiabá, Porto Velho and Rio Branco in the Southern Amazon, as well as the construction of hydroelectric dams and finally the construction of regional airports, has gradually had the effect of opening up the Amazon forest area (KIRBY et al., 2006).

From the mid-1960s, the military government’s efforts to occupy the Amazon rainforest primarily for geostrategic reasons – an objective that was encapsulated by the famous slogan *‘Integrar para não entregar’* (integrate not to surrender) (DE MELLO and THERY, 2003) – took place through the deployment of economic instruments, such as subsidized loans or tax exemptions granted to investors, through the allocation of plots of 100 hectares to families with a temporary title of ownership, and through the construction of new infrastructure. In 1967, the city of Manaus, in the heart of the forest, was awarded the special tax status of ‘free zone’.

The colonization was organized by the National Institute of Colonization and Agrarian Reform (INCRA) that was created in 1970 as part of land reform, based on the slogan ‘a land without people for the people without land’, supported by the military regime until 1985 (ELOY et al., 2009). Colonization was therefore considered a conservative way to alleviate land concentration. It avoided land redistribution where concentration was high, and focused on the agricultural colonization of the sparsely populated Amazon rainforest (YOUNG, 1998).

This policy has had the effect of quickly attracting migrants, mostly landless peasants from the Northeast and smallholders from the South, who sold their lands due to the pressure from agricultural modernization and the spread of large-scale soybean plantations. Twenty years after its construction, two million settlers had settled along the Belem-Brasília highway (KIRBY et al., 2006). The INCRA reserved plots in the Amazon region for private agricultural projects for small poor farmers. But much of the spontaneous settlements occurred without any formal titles, which

led INCRA, from the mid-1990s, to increase the number of *assentamentos*<sup>1</sup> projects. Between 1994 and 2002, the number of families who received land from the state grew by just over 160,000 to over 750,000 in 2003 (FEARNSIDE, 2005).

In the early settlement movement, land clearings were made in small areas mainly around roads to establish subsistence crops. However, the occupation of the Amazon rainforest was quickly extended by the arrival of wealthier settlers who did not hesitate to occupy the land of the early settlers who lacked property titles, through widespread illegal practices known as *grilagem*.<sup>2</sup> Then, these new farmers slashed and burned large parcels of forest of more than one hundred hectares to convert it into pastures (NEPSTAD et al., 1999). A spontaneous colonization of land by large soybean farmers has also changed the landscape on the Amazon frontier. Between 1990 and 1999, the planted area increased by 129% in the northern part of Mato-Grosso state, exceeding 1.8 million hectares in 2000 in this region. This movement is particularly linked to land speculation on cheap Amazonian land. Some cities like Sinop and Alta Floresta emerged following this private settlement movement. Radical land-use change truly began in the 1970s (FEARNSIDE, 2005) and within three decades, an area of rainforest higher than the French metropolitan territory was gone.

From the 1990s, the low cost of land, the creation of new cultivars better adapted to soil and climatic conditions by the Brazilian Corporation of Agricultural Research (EMBRAPA<sup>3</sup>), and new financial incentives for the agribusiness sector were the basis for a new phase of large-scale soybean cultivation on the Amazonian pioneer front. The growing global demand and attractive prices pushed Brazilian farmers to seek cheap new land to extend this crop (NEPSTAD et al., 2006).

Generally, soybean farmers bought land previously cleared by small farmers, who moved to urban areas, or occupied forest areas to establish properties on unclaimed public lands (KIRBY et al., 2006).

This phase of recent colonization in the Brazilian Amazon, largely driven by growth in global markets, was nevertheless supported by public policy. The government plan *Avança Brasil* launched in the early 2000s has allocated over \$40 billion to strengthen and modernize the Amazon territory infrastructure (FEARNSIDE, 2002). This plan aimed to pave existing roads, to build new ones and to develop new energy sources such as gas exploitation and hydroelectric dams. The expansion of the road network has linked the ports of Amazonian rivers to major centres of agro-industrial production, including the complex of soybean production in the southern Amazon basin. Thus, for the Brazilian authorities, the colonization of the Amazon is no longer about occupying an empty territory, but rather to ensure that it becomes an engine for export-oriented farming and ranching.

1. Plots located on public lands or expropriated lands for the installation of family farmers.

2. Public lands and settlements were occupied illegally by new capitalized settlers who created fake ownership documents. The term *Grilagem* describes the common practice of printing fake title deeds and then putting them into a box of crickets for several weeks. This gives the papers an aged and genuine appearance.

3. EMBRAPA is the acronym for the *Empresa Brasileira de Pesquisa Agropecuária*, the Brazilian Corporation of Agricultural Research.

## Fighting deforestation in the Amazon over the last 20 years

Until the end of the military regime in 1985, conservation measures for the Amazon rainforest were mainly related to considerations of state control over the territory and the integration into the nation of large areas with low population densities. It was only after the emergence of democracy that true environmental measures have been implemented. These were closely related to the mobilization of Brazilian social movements and the activism of international environmental non-governmental organizations (NGOs), which together formed a broad coalition to fight against the advancing agricultural frontier in the Amazon.

The most emblematic example of the influence of this non-governmental coalition is the fight of the National Council of Rubber Tappers under the leadership of Chico Mendes (SMOUTS, 2001). The movement became famous worldwide for its struggle against ranchers who acquired large tracts of forest that were traditionally occupied by rubber tappers. Mendes's murder in 1988 raised a huge wave of protest around the world. The mobilization of national and international NGOs led the Brazilian government to take measures to protect traditional and indigenous populations. Arguably, the most important of these measures was the creation of special status protected areas (extractive reserves, known as Reserva Extrativista or RESEX) where local communities can live and develop their traditional farming systems. RESEX are a particular type of agrarian reform designed to solve a set of problems related to land use, the reduction of social inequalities and environmental sustainability. They are part of the Brazilian 'socio-environmentalist' paradigm that promotes an alternative model of development (SANTILLI, 2005).

However, the main protective measure for the Amazon rainforest was the decision in 1996 to reform the 1965 Forest Code. Following the announcement of an all-time high deforestation record of 29,000 km<sup>2</sup> in 1995, President Fernando Henrique Cardoso increased the legal reserve (LR), which is the share of native vegetation that landowners must maintain on their properties, from 50% to 80% in Amazonia. This measure, however, was difficult to enforce and therefore had only a temporary effect on the rate of deforestation, which increased again to reach more than 27,000 km<sup>2</sup> in 2004.

From that date, the federal government has intensified its efforts to protect the Amazon rainforest through the Action Plan for Prevention and Control of Deforestation in the Amazon (PPCDAM). New forest conservation areas have been created, bringing the total protected area to two million square kilometres, or 46% of the Brazilian Amazon biome forest areas, which corresponds to more than 50% of the remaining forests (SOARES-FILHO et al., 2010). Meanwhile, the federal government has strengthened control measures, land regulation and punishment. There have been many police operations against environmental crimes, leading to the imprisonment of hundreds of people, including some IBAMA (Brazilian Institute for the Environment) officials, and the seizure of hundreds of thousands of cubic metres of illegally harvested timber.

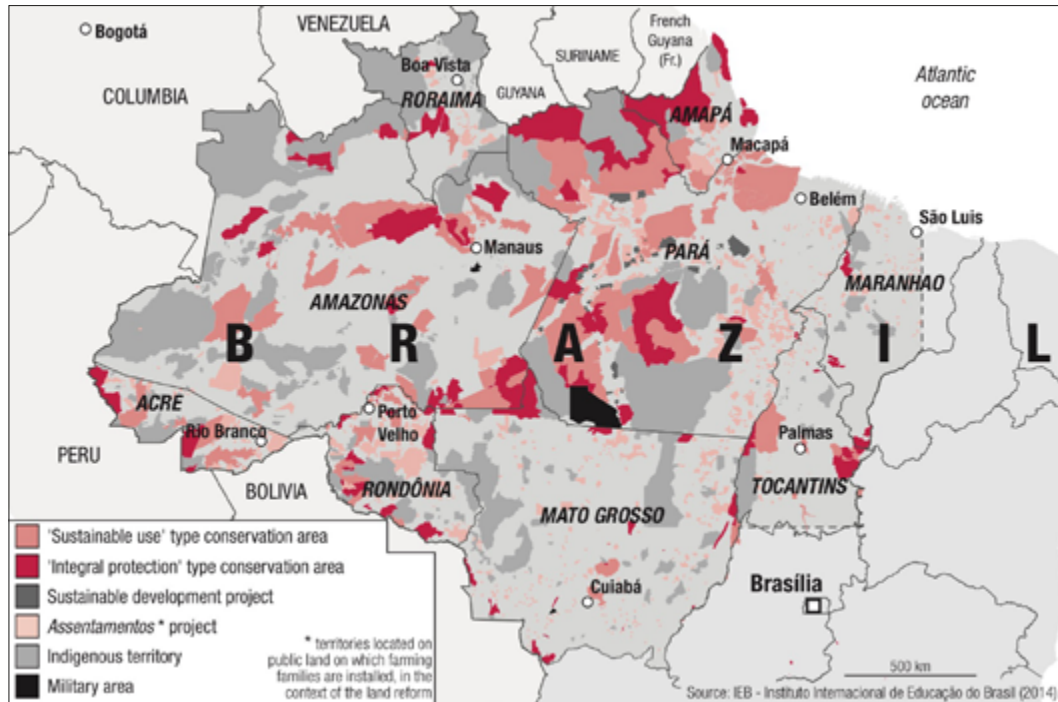
The involvement of NGOs has also contributed to the strengthening of public action for the preservation of the Amazon rainforest. The soybean sector was particularly targeted in the mid-2000s. Following actions of civil resistance, such as the blocking of the Cargill port in Santarem, in the Brazilian State of Pará, and the occupation of McDonald's restaurants in Europe, ecologists put pressure onto the Brazilian Association of Vegetable Oil Industries (ABIOVE) – which includes the major soybean exporter groups. On 24 July 2006, they announced a moratorium on the commercialization of soybean planted in deforested rainforest plots from October 2006 (GUÉNEAU, 2006).

A return to higher rates of deforestation between 2007 and 2008 led the federal government to strengthen its policy for the preservation of the Amazon rainforest. A second phase of the PPCDAM was launched. Due to advances in satellite communication techniques, which allow very accurate real-time data to be obtained on areas where forests are converted into pasture or crops, the government is now able to take action to control and sanction operators who do not comply with regulations.

In December 2007, President Lula issued a decree calling on the Ministry of the Environment to develop an annual list of municipalities most affected by deforestation in the Amazon and to impose public policy measures that focused on these areas. In 2008, the 36 worst hit municipalities were specifically covered by enhanced IBAMA control measures. These operations led to the closure of wood production units, the confiscation of production equipment (vehicles, etc.) and the seizure of 20,000 cubic metres of timber and 3,000 heads of cattle from illegal exploitations and farms on protected areas. In addition, the Federal Public Ministry of the State of Pará has arrested dozens of farmers and managers of processing and meat packing plants (ARIMA et al., 2014).

In addition to enforcement actions, the federal government has issued measures to restrict access to credit for the farmers in municipalities that are facing charges. One of the conditions necessary for the removal of a municipality from the deforestation blacklist is the requirement to prepare an environmental cadastre of agricultural plots that clearly indicates the areas of LRs and Permanent Preservation Areas (PPAs) where deforestation is prohibited because of their ecological value, such as pirarian areas and steep slopes. The government of the State of Pará, where producers were particularly affected by this measure, has developed a programme of 'green municipalities' (*municípios verdes*) to help affected municipalities to ensure compliance with legislation. Some NGOs have been involved in the programme through the provision of technical support to landowners to develop the environmental cadastre. The programme has had some success in a few municipalities, such as Paragominas where illegal deforestation has decreased by 80% between 2007 and 2010 (CARNEIRO, 2013), paving the way for its replication at a broader scale. However, according to some authors, the success of these credit-related measures must be put into perspective because the total amount of credit has risen sharply between 2007 and 2011 in the Amazon, while the number of credit agreements has remained constant (ARIMA et al., 2014).

**FIGURE 1 Land Use and Protection in Brazil**



Twenty years of public action against deforestation have created a mosaic of forest and agricultural statutes, each with specific characteristics in terms of conservation, farming methods or funding.

In addition to enforcement actions, the federal public prosecutors and leading environmental NGOs have increased their pressure on the main meat distribution chains. For example, Greenpeace launched a boycott of beef from ranches that do not respect the law (GREENPEACE, 2009). The federal Public Attorney Office has conditioned the withdrawal of lawsuits against slaughterhouses and meatpacking companies to an obligation to verify that their suppliers are not in contravention of the law.

Finally, in 2009 the federal government set a target of reducing annual Amazon deforestation by 80% by 2020, compared to a baseline historical average annual loss of 19,500 km<sup>2</sup> between 1996 and 2005. This target falls within the general framework of the international debate on reducing emissions from deforestation and forest degradation (REDD). As a major contributor to the loss of global forest, Brazil has been blacklisted for its major contribution to forest carbon emissions.

Between 2011 and 2012, 4,571 km<sup>2</sup> of the Amazon rainforest has been lost, which is in fact the lowest level since 1988, which was the year when systematic measurements of annual deforestation were started by the Brazilian Institute of Space Research (INPE) using remote sensing techniques. The deforestation reduction that

occurred between 2004 and 2007 is due in part to the overall decline in agricultural commodity prices, the correlation between the evolution of the loss of forests and the prices of beef and soybean being relatively strong (ARIMA et al., 2014). In contrast, during the next phase of reduced deforestation (2008-2012), this causal link is no longer seen, leading to the conclusion that the implemented public action measures have been effective (ARIMA et al, 2014; NEPSTAD et al, 2014).

After a temporary increase in the rate of deforestation between 2012 and 2013 (over 28% compared to the previous year), it seems to have started declining again (-18% between 2013 and 2014), although the latest estimates are tentative and controversial.<sup>4</sup> In addition, nearly a quarter of the forest area that has been lost since the late 1980s is currently in a reforestation phase. Ultimately, through the strengthening of public policies since 2004, Amazon deforestation appears to have reached its turning point, which suggests a forest transition now in its recovery phase.

### **The evolution of the agribusiness model and its consequences**

Brazil's efforts to fight against Amazon deforestation have had encouraging successes. However, Brazil will have to intensify its efforts in the fight against deforestation if it is to achieve the goal set out in the national plan of action against climate change. In terms of environmental effectiveness, the question for the future is that of sustainability and of the strengthening of actions undertaken since 2004 to bring an end to deforestation.

#### **THE IMPACT OF THE AMAZON FOREST PROTECTION POLICIES ON THE CERRADO BIODIVERSITY HOTSPOT**

To increase its supply of agricultural products without further extending its utilization of the Amazon rainforest, Brazil will have to rely on available land. However, the Cerrado, a vast area of wooded savannah in the centre of the country which has served for several years as a 'safety valve' to the deforestation restrictions in the Amazon (SAWYER, 2008), is becoming steadily more degraded and is increasingly the subject of national and international attention.

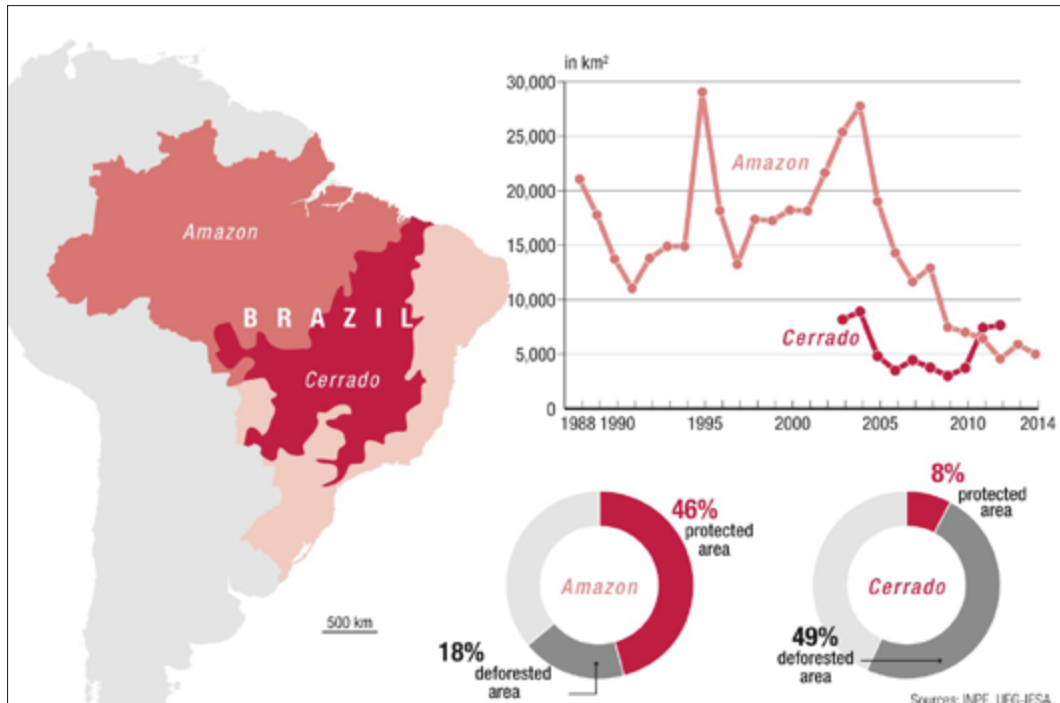
Conservation biologists consider the Cerrado biome to be one of the world's 34 biodiversity hotspots (MITTERMEIER et al., 1999). However, it has experienced profound changes related to the conversion of half of its original vegetation into agricultural monocultures, fast-growing tree plantations and pastures. (AUBERTIN and PINTON, 2013). While deforestation in the Amazon has been declining since 2004, it is growing in the Cerrado to the extent that since 2011 the loss through conversion of forest area in this biome is greater than the loss of Amazonian rainforest.

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4. Data collected by INPE are subject to certain adjustments, but these adjustments should not affect the results by more than 10%. These data are inconsistent with those collected by the NGO Imazon, which showed a deforestation increase of 9% using a different satellite data collection system



**FIGURE 2 Deforestation in the Brazilian Amazon and Cerrado**



While Amazon deforestation now seems to have reached a turning point, other agricultural pioneer fronts such as the Cerrado are currently undergoing significant forest conversion.

Half of the Cerrado biome has already been colonized by crops and pasture, well above the 18% of Amazon forest converted to other uses in relative terms. In addition, while protected areas cover about half of the Amazon, they represent only 8% of the Cerrado biome.

Like the Amazon a few years ago, the Cerrado is becoming an international issue<sup>5</sup>, especially since 2009 when Brazil pledged in Copenhagen to reduce the rate of deforestation of this biome by 40% by 2022, compared with the average deforestation over the period 1999-2005.

#### THE NECESSARY INTENSIFICATION OF LIVESTOCK FARMING

There is still a large area of land in Brazil that is available for agriculture, including abandoned or underutilized degraded pastures, which represent about 12 million hectares. According to some estimates, only a quarter of this available area would be needed to meet the demand for meat until 2022 with no further contribution to

5. <http://epoca.globo.com/colunas-e-blogs/blog-do-planeta/noticia/2014/10/bdesmatamento-do-cerradob-o-novo-vilao-ambiental-do-brasil.html>

deforestation (BARRETO and SILVA, 2013). However, this would require an adaptation of the technical model, particularly with respect to cattle breeding.

With a stocking rate of about one animal per hectare, livestock farming is considered to be the main cause of recent deforestation (WALKER et al., 2013) with about 210 million head of cattle at present (IBGE, 2014). Cattle ranching has colonized the largest areas of the Brazilian territory: pastures cover about 20% the country's area, while agriculture and forest plantations cover only 7%.

Indeed, the potential productivity gains are much greater in this sector than in highly mechanized agricultural sectors such as soybean. Livestock farming is still currently a predominantly extensive activity, which has developed historically through an unconstrained and under-regulated access to land, although this situation is changing gradually with the professionalization of the entire industry, upstream (genetic improvement, nutrition, safety...) and downstream (slaughter, preservation, processing, distribution...) (RUVIARO et al., 2014).

Some models show that the productivity of Brazilian pastures reaches only 32-34% of its potential. If this could be increased to 49-52%, it would be sufficient to meet the future demand (including both internal consumption and exports) for meat, agricultural products, plantations timber and biofuels at least until 2040, without the need for new conversions of natural areas (STRASSBURG et al., 2014).

For government, the challenge is therefore to show that it is possible to develop a competitive and intensive farming activity, which would no longer encroach on the forest. The intensification of livestock production is part of a strategy that shows the continued efforts of Brazil in the fight against climate change, but also in a strategy to respond to the requirements of certain markets.

Through the 'avoided deforestation' made possible by the intensification of livestock production, and through the recovery of degraded pastures, Brazil intends to continue its agro-exporter development model while responding to criticism from environmental NGOs. Some studies show that by 2030, targeted public policies focused on the livestock sector, through instruments such as taxes and subsidies, would enable significant reductions in CO<sub>2</sub> emissions (COHN et al., 2014).

#### THE FOCUS ON LARGE AND MEDIUM SIZED HOLDINGS: A PRAGMATIC OR RESTRICTIVE APPROACH?

The 'sustainable agro-industrial model' that the Brazilian government intends to promote is based on action that has focused primarily on large and medium-sized holdings. Such a focus may be relevant, insofar as these holdings are responsible for the bulk of the loss of Brazilian rainforest. Only about 12% of deforestation in the 2004-2011 period resulted from smallholders with less than 100 hectares (GODAR et al., 2014).

Subsequent to this strategy, the size of the forest polygons converted to agricultural uses had significantly decreased: according to INPE data, cleared plots of more than 25 hectares accounted for 70% of deforestation in 2003, compared to less than 30% in 2012. In other words, the rate of decline of deforestation has

been much faster in capitalized large rural holdings than in small ones. Thus, over time, areas where small land settlement projects predominated became the ones with the highest deforestation rates in the Brazilian Amazon (GODAR et al., 2014).

The future of small family farmers remains at present a subject that is rarely taken into account in Amazon development policies. However, these actors play a significant role in the implementation of a strategy for the sustainable development of the Amazon (POKORNY and PACHECO, 2014). Family farms are established according to a well-known procedure that involves burning the forest to plant food crops. However, the organic input to the soil derived from fire has a limited duration and the soil productivity decreases rapidly, which encourages farmers to convert these plots into pastures and to move on to new forest areas that they burn as before. Brazilian legislation authorizes the clearing of areas smaller than three hectares per year. Therefore, given that 460,000 small farmer families are present in the Amazon, this could have a major impact on deforestation. An agreement authorizing the transformation of one hectare of forest into farmland per family would involve the deforestation of 4,600 km<sup>2</sup>, an area that is larger than Brazil's unilateral commitment that it aims to achieve by 2020 as part of its fight against climate change (SIST et al., 2012). It is therefore necessary to consider these family farms in the region's strategies for sustainable development.

Technical models combining agriculture, livestock farming and forestry could be implemented to ensure the sustainability of smallholder agriculture (SIST et al., 2012). But it is also important to consider the changes in the balance between rural and urban that results from the gradual introduction of the sustainable agro-industrial model of growth in the Amazon. At present less than 30% of the population of the northern region live in rural areas, and migration from the countryside to cities is increasingly common, especially family farmers (LAPOLA et al., 2014). For the Brazilian government, sustainable urban development is also becoming a key issue, even in the remotest areas of the Amazon.

### **A model under domestic and international pressure**

There have been significant successes in the fight against deforestation. The continuing forest conservation efforts undertaken by successive governments for over a decade rest however on a very fragile balance of power, both internally and externally.

On the domestic front, the discussions seem to be turning in favour of the so-called 'ruralists' in Congress<sup>6</sup> who are gradually rolling out a set of environmental measures, while lobbying the government to strengthen its agribusiness development policy. Faced with the strong growth in domestic and international demand for Brazilian agricultural products (GARRETT et al., 2013) advocates of a 'hard' development

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6. The recent elections (2014) have strengthened the *Bancada ruralista*, a majority group of Congressmen that supports the agribusiness sector; some elected members of this group are part of the major Union boards and/or large farm owners and producers.

focused on production are indeed trying to remove a number of obstacles blocking the revival of agribusiness based on the under-regulated exploitation of the country's natural resources. The pressure they impose on the government is particularly strong in the context of the reduction in the growth rate currently plaguing Brazil.

Following the recent elections, the ruralist parliamentary front is more powerful than ever before, now representing the majority in Congress. There is a risk that the balance of power, which is already very much in favour of agricultural interests, could be shifted, leading to the challenging of the socio-environmental progress made so far. The Growth Acceleration Programme (PAC) initiated by President Dilma Rousseff will direct investment towards the construction of infrastructure (roads, ports, hydro-electric dams...) to facilitate the flow of Amazonian agro-industrial products to the south of the country and abroad. Pressures to reduce conservation areas and limit the rights of indigenous peoples are also increasing (ARIMA et al., 2014).

The reform of the 1965 Forest Code is also part of this ruralist pressure on the federal government. For several years, the ruralists sought to reduce the environmental constraints to agricultural development in the northern region of Brazil, in particular through a more flexible implementation of forest conservation public policies. Passed by Congress in 2012, the reform was initiated by the widespread non-compliance of the Forest Code, particularly with regard to the LR and PPAs.

Some observers point out that the Forest Code was so rarely respected that it became unworkable (NEPSTAD et al., 2014). The new Forest Code provides amnesty for landowners whose crimes predate 22 July 2008. In other words, deforestation in the LR and PPAs is now legalized provided that landowners commit to the regularization of their status register and to the restoration of degraded areas. This restoration can be considered as part of a compensation system, whereby landowners maintain more than the legally authorized percentages of forest cover<sup>7</sup> on other rural properties that they own. Through this reform, the government demonstrates its will to maintain the agro-exporter model, which satisfies the demands of reducing deforestation and CO<sub>2</sub> emissions by making the Forest Code more flexible.

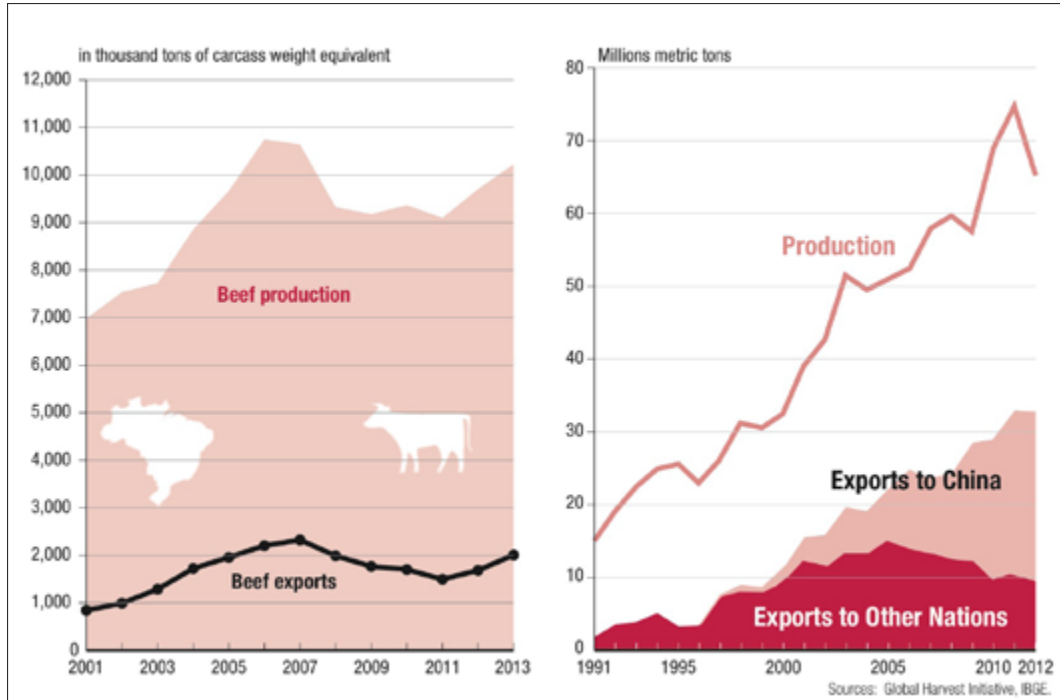
Environmental NGOs are particularly concerned about the potential environmental and social impacts of these developments, particularly with regard to the new Forest Code and major projects such as the Belo Monte hydroelectric dam in the heart of the Amazon.

Despite these objections, Brazil does not intend to allow NGOs and foreign governments to dictate its development model. Instead, its status as an emerging power puts it in a position of strength in multilateral discussions. The country aims to show that its development choices are sound, despite the uncertainties still surrounding its ability to further reduce deforestation. Brazil has also refused to sign the agreement reached in September in New York at the UN summit on climate that was

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7. The legislative provisions relating to the LR have also been made more flexible: in the Federated States which have more than 65% of the territory occupied by conservation units and/or indigenous territories, and in the municipalities (*municípios*) where these protected areas occupy 50% of the territory, the LR percentage may now be reduced from 80% to 50% by local authorities.

**FIGURE 3 Brazilian agriculture remains export-oriented**



Cattle rearing and soybean production are the two activities historically responsible for deforestation in Brazil. Both activities are strongly driven by exports, increasingly towards external markets that are more dynamic and less sensitive to environmental issues than Western markets.

adopted by more than 130 governments, businesses, civil society organizations and indigenous peoples, including some Amazonian state governments (Amapa, Amazonas and Acre). This agreement, which aims to halve deforestation by 2020 and then bring it to an end in 2030, has no binding commitment. It is a simple statement of intent, one that the Brazilian government has rejected on the grounds that it was not involved in the negotiations that led to the text of the agreement. This refusal also comes from the fact that the Brazilian legislation allows a certain level of deforestation on private property, as long as the LR thresholds are met (in the Amazon, 50% to 80%).

It is getting more difficult for international cooperation to influence the direction of Brazilian development. This is partly because Brazil no longer relies on international funding programmes that can be unlocked through devices like REDD that are negotiated in multilateral environmental agreements (AUBERTIN, 2012), but also because exports of Brazilian agricultural products are less dependent on European and North American countries, which are the most sensitive to environmental issues. This is particularly true for the Brazilian beef and soybean sectors, which have an

increasing number of opportunities in emerging countries (China for soybean, Russia and the Middle East for meat).

Finally, the ruralists are influential on matters of external intervention that they regard as similar to new forms of ‘green’ colonialism. This sovereignist position, which regularly enters the internal debate<sup>8</sup>, considers environmental NGOs as agents of Northern governments, trying to wrap the Amazon in cotton wool to limit growth opportunities for the supply of Brazilian agricultural products that compete directly with the subsidized agricultural products from rich countries. This is the sentiment expressed by MP Aldo Rebelo<sup>9</sup>, the rapporteur of the Parliamentary Committee that is examining the relevance of a forestry code reform (REBELO, 2010).

## Conclusion

Brazil has been subjected to a great deal of pressure regarding the Amazon, but today the public action that has been carried out for over a decade is often presented as a success story. Obviously, the strengthening of control policies has greatly reduced the loss of Amazonian forests over the last ten years. However, this is nuanced by the relocation of deforestation to the Cerrado.

The rise of the ruralists and the very unequal treatment of players is questioning Brazil’s ability to meet its medium and long-term commitments. In addition, the slowdown in economic growth leads to lower fiscal revenues dedicated to expensive operations to control illegal deforestation.

Despite these uncertainties, the return to deforestation levels close to those observed in 2004 seems unlikely. However, the consolidation and continued efforts made so far require real changes in strategy, particularly with regard to changing the practices of small-scale and poorly-capitalized rural actors. Public policy has so far mainly sought to accommodate a development model that is based on the growth of agribusiness, without fundamentally challenging this model.

Brazil’s transformation towards sustainable development also needs to be based on the sustainable use of its rich biodiversity and the valuation of ecosystem services, which has been demanded by Brazil’s social and environmental forces. ■

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8. In 1960 Arthur Cezar Ferreira Reis published *A Amazônia e a Cobiça Internacional* (Amazon and the international covetousness) and then various theses were later taken up by the ruralists, including *Mafia verde o ambientalismo ao Serviço do Governo Mundial* (Carrasco, 2006), published in 2001, and *Mafia Verde 2: ambientalismo, novo colonialismo* (Carrasco et al., 2005).

9. The discourse on sovereignty and development is based on broad ideological foundations that transcend political parties, which is demonstrated by the alliance between Aldo Rebelo, a member of the Brazilian Communist Party, and the conservative *Bancada ruralista*.

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