

An aerial photograph of a deforested landscape. The ground is covered in brown, dry vegetation and scattered tree stumps. A large herd of white cattle is grazing in the lower half of the image. In the background, a line of tall, thin, dead trees stands against a hazy sky. The overall tone is somber and highlights the impact of deforestation.

"INVISIBLE HANDS?"

European corporations and the
deforestation of the Amazon
and Cerrado biomes



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"INVISIBLE HANDS?"

European corporations and the deforestation of the Amazon and Cerrado biomes

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1 Introduction

1.1 THE LEGACY OF DESTRUCTION: UNDERSTANDING THE CRISIS IN AMAZON AND CERRADO REGIONS

Over the last three decades, Brazil's dependence on the export of commodities has not only oriented Brazilian governments' policies in search of a more robust GDP but also has been the primary cause of unprecedented rates of deforestation and over-exploitation of nature in the two richest biomes of Brazil: the Amazon¹ and the Cerrado² (savannah). Along with the Congo rainforest in Central Africa, the Amazon is a key ecosystem for global environmental health, as it influences climate change through its role as a carbon sink and storage mechanism, which affects weather patterns across South America and Africa (UN, 2019³). The Cerrado, in turn, has been considered the richest savannah in the world, with a vast biodiversity providing a significant contribution to waters that flow into the rivers of Brazil's hydrologic system⁴.

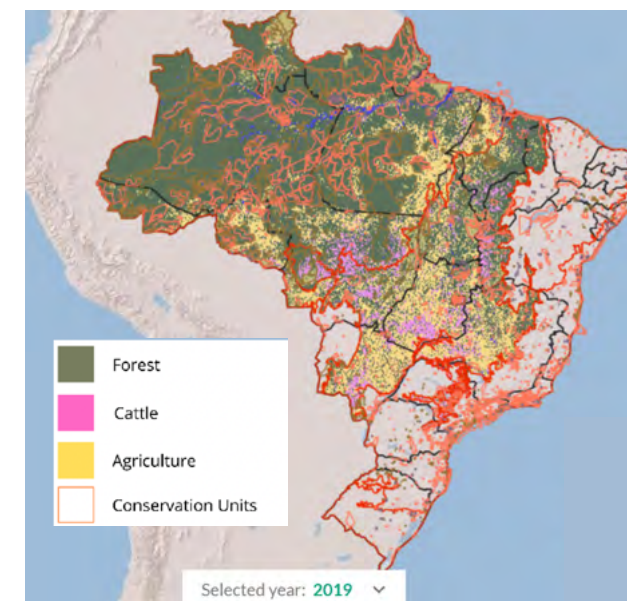
Beyond the extreme abundance of endemic and unique species, lavish water and a large biodiversity, the Amazon and Cerrado regions are the habitat of many traditional communities (i.e. Indigenous peoples, small farmers, riparian/riverine dwellers, babassu coconut breakers and Afro-descendant communities) who have been living for centuries in coexistence among a local economy and the sustainability of natural resources. During the past few decades, vast lands of these biomes have been threatened by many economic interests, posing a serious

and uncertain future for the conservation of nature spots and the lives of forest people. The irresponsible advance of the agro-industry in Northern areas of the country, which has relied on livestock and a large monoculture of profitable commodities (i.e. soybeans, meat, timber) is recognized as the main factor behind an environmental and social crisis not sufficiently known in Brazil nor abroad. Also, mining activities and illegal logging related to the commodity industries put pressure on the biomes' depredation.

At the beginning of the 2000s, an international outcry, combined with policy measures and market-interventions in supply-chains governance, curbed the deforestation rates in the Brazilian Amazon. The Soy Moratorium⁵, a voluntary zero-deforestation agreement signed in 2006 by soybean traders, was one of the measures taken. Today, current evidence points out that new frontiers of the commodity industry expansion put Brazil on a path of rampant deforestation, which risks the protection of the Amazon and Cerrado biomes, and could lead in the future to an irreversible degradation. After the Soy Moratorium in the region, the Cerrado was converted into large areas of croplands and cattle pastures. There is an estimate that considers that around 80% of the Cerrado's original vegetation has already been modified by the expansion of the agroindustry in the previous decades. In the Matopiba⁶ region, approximately 62% of the agricultural expansion replaced native Cerrado vegetation (Strassburg et al., 2014)⁷. In 2018, only 2.85% of the Cerrado was formally protected through areas managed by federal or state agencies, such as national parks and biological reserves. Also, 4.1% of the total area from the Cerrado is encompassed by Indigenous lands.

Brazil's success in reducing deforestation in the Amazon has undergone a tremendous setback that began with the reduction of the Forest Code in 2012. Since then, attempts to roll back conservation achievements have increasingly stimulated the rise of deforestation. Map 1, below, shows the current level of land use and deforestation across the Brazilian territory.

Map 1 Deforestation and land use in Amazon and Cerrado biomes



Source: Mapbiomas (2020).

The current national government, under the presidency of Jair Bolsonaro, has been dismantling the environmental state institutions and regulations. Major actions undertaken by his government include: a) the dissolution of the offices of the Secretaries of Climate Change and of the Environment under the Ministries of Environment and Foreign Affairs; b) transfer of the Forestry Service, responsible for Brazil's environmental registry of rural properties (CAR), to the Ministry of Agriculture; c) militarization of ICMBio's chief positions (Brazilian Institute for the Conservation Units); d) reduction from 96 to 23 members of the civil society participating in the National Council for the Environment (CONAMA); e) blocking through official objections international funding to local socio-environmental NGOs and changing regulation on the Amazon Fund⁸; f) leaving vacant or slow replacement of IBAMA's (the National Environmental Law enforcement Agency) superintendents in the 27 states of the union and other key positions with inexperienced nominees; g) dissolution of the board of advisors of the Amazon fund, triggering the suspension of approximately US\$ 1 billion in donations from Norway and Germany to socio-environmental projects in Amazonia; h) reduction of environmental field enforcement with a decrease of 37% in environmental fining by IBAMA in the Amazon; i) confrontation by

attempting to discredit deforestation estimates from INPE's monitoring system (the national space agency); j) Indigenous lands and the forestry services, which were originally operated by two national agencies (INCRA and FUNAI), were transferred to the Ministry of Agriculture, headed by one of the main former leaders from the 'ruralist bench' in Congress (RAJAO et al, 2020).

From Bolsonaro's perspective, 'the Brazilian environmental laws are some of the most restrictive in the world' and he has 'zero tolerance for environmental crimes', despite the recent forgiveness of deforestation and environmental fines. In 2019, however, widespread fires in Brazil devastated large portions of the Amazon rainforests, the majority of which were a result of a primitive and unsustainable practice of opening areas for livestock grazing. The number of fire spots identified in the Amazon region in August 2019 were the highest since 2010, and twice as high as the figures registered in the same period of the previous year.

In 2020 Brazil held municipal elections for mayors and local councilors nationwide. Among the candidates, there were 118 who had had environmental fines levied against them⁹. Moreover, while very few candidates approached the issue of food security in their campaigns, in the same year the federal government approved 46 new pesticides, of which many are prohibited in Europe.

In this new political and environmental reality, government ministries have proposed unproven and contradictory solutions for combating the forest fires, such as increasing the number of cattle, as they claim that the cattle breeding controls the vegetation which consequently could avoid large fires¹⁰. All these current facts reflect an atmosphere of impunity. The graphic below shows the relationship between the deforestation registered in Brazil and the decreasing number of fines issued by the federal agency responsible for environmental law enforcement since 2018:

Today, the Amazon and Cerrado regions are territories with political, economic, and environmental disputes. These disputes center on not only internal competition among the economic sectors that have been increasingly exploiting soybean, corn, beef, leather, timber, sugarcane, cotton and mineral resources but also on conflicts between large and medium agro-corporations (politically supported by Jair Bolsonaro's government) against the communities that live in the forest. Aggressions, eviction, and

¹ The Amazon region includes the Brazilian states of Acre, Amapá, Amazonas, Mato Grosso, Pará, Rondônia, Roraima, Tocantins and a portion of the State of Maranhão (west of 44° west long.). According to official data, it represents around 67% of the world tropical forests.

² The Cerrado biome is considered the second biggest biome from the South America, occupying an area of 2,036,448 km², and around 22% of the Brazilian territories of Goiás, Tocantins, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Bahia, Maranhão, Piauí, Rondônia, Paraná and São Paulo State are among those where the Cerrado biome is found. The Cerrado contains water springs, aquifers and groundwaters, and rivers from eight major basins in the country (Xingu, Tocantins, Araguaia, São Francisco, Parnaíba, Jequitinhonha, Paraná rivers; Guaraní and Urucui aquifers).

³ https://sustainabledevelopment.un.org/content/document/s/24797GSDR_report_2019.pdf

⁴ <https://www.nationalgeographicbrasil.com/natgeo-ilustra/cerrado#:~:text=%E2%80%9C9CO%20Cerrado%20%C3%A9%20o%20bioma,Mata%20Atl%C3%A2ntica%20e%20a%20Amazonia.>

⁵ <https://science.sciencemag.org/content/347/6220/377>

⁶ MMA, 2018. Website of Ministério do Meio Ambiente. Bioma Cerrado. <http://www.mma.gov.br/biomas/cerrado>

⁷ Available at: https://www.wwf.org.br/natureza_brasileira/areas_prioritarias/cerrado/manifestodocerrado/cerrado_conversion_zero/

⁸ <https://www.brasildefato.com.br/2019/07/17/politica-anti-ambiental-de-bolsonaro-ameaca-o-fundo-amazonia-entenda-os-riscos> ; <https://oglobo.globo.com/sociedade/governo-bolsonaro-tenta-mudar-fundo-amazonia-mas-noruega-alemanha-dizem-nao-23731725>

⁹ Available at: <https://apublica.org/2020/10/na-amazonia-118-politicos-com-multas-ambientais-concorrem-as-eleicoes/>

¹⁰ Available at: <https://www.bbc.com/portuguese/brasil-54199255>

displacements from traditional communities keep rising as a structural agrarian form of violence. Between 2015 and 2019, the ruralist bench was responsible for changing and proposing 111 laws restricting traditional community rights and 136 laws to loosen nature protection.¹¹ Vulnerable groups are struggling for the preservation of their territories against the strong opposing forces of agribusiness, extractive industries and financial agents focused on land speculation. The pandemic quarantine added a new challenge, as state agencies are also quarantined and the rights of several communities in Mato Grosso, Pará, Rondônia, and Maranhão¹² are being contravened.

11 MITIDIERO JUNIOR, M. A.; MARTINS, L. A.; MOIZES, B. C.. O Parlamento e o Executivo na luta contra a reforma agrária e a preservação da natureza. CONFLITOS NO CAMPO BRASIL, v. 1, p. 196-206, 2020.

12 <https://apublica.org/2020/01/centenas-de-familias-podem-ser-despejadas-em-mais-de-50-acampamentos-na-amazonia-em-2020>

1.2 WHY INVESTIGATING EUROPEAN CORPORATIONS?

While the national private sector has been driving a destructive process in both biomes (through many corporate capture mechanisms), their power is leveraged by the support of transnational corporations, which invest and import those commodities into global value chains. In 2008, the European Union was the second largest foreign driver of deforestation in Brazil and until 2006, it was even the largest. Before, in 2005, when the EU’s impact on deforestation in Brazil was highest, the bloc was responsible for 19% of all deforestation and 18% of all deforestation emissions there (Zell-Ziegler, 2017).

The commodities and the primary sector represent about 30% of the Brazilian GDP and was the only sector that was forecast to grow in 2020, with rates of 2%¹³. Transnational companies can finance commodity activities in many different ways. The most

13 Available at: <https://agenciabrasil.ebc.com.br/economia/noticia/2019-11/pib-do-agronegocio-cresce-mais-que-conjunto-da-economia-em-2019-e-2020>

common options are debt (corporate loans, including revolving credit facilities and project finance, bond holdings, underwriting of bond issuances) and equity financing (share issuances, shareholdings, underwriting of share issuances).

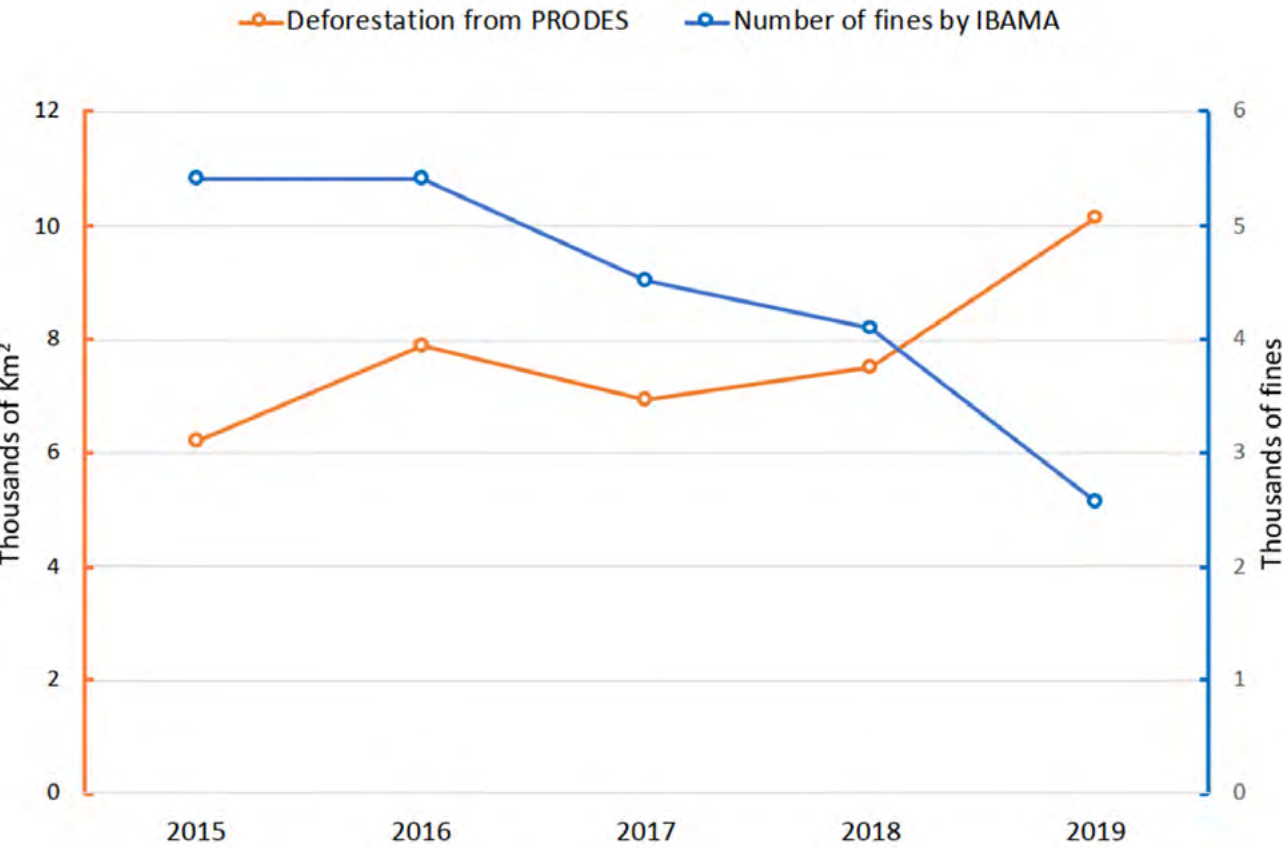
During the past few years, illegal deforestation provoked direct impacts on the operations of the companies involved in the commodity production chain, including financial institutions and other transnational firms that are part of the supply chain. In 2016, for example, Santander Bank was fined US\$15 million for providing financial support to crops cultivated on illegally deforested areas. Big grain trading firms, including Cargill and Bunge, were fined a total of US\$29 million after an investigation of IBAMA revealed that around 3,000 tons of grain produced by five grain trading houses were produced in areas off-limits to farming under environmental rules. Also, investors and asset management firms, such as Lord Rothschild, Jim Slater and Valiance Capital (an UK based asset manager) have been placed in the limelight of the commodity expansion in Brazil over fragile biomes, with involvement in conflicts related to green grabbing, illegal land acquisitions in public lands, or even using traditional communities’ lands for environmental compensation, “green” eolic and solar energy contracts, and land digitalization (FARIHEAD; LEACH, SCOONES, 2012; FLEXOR, LEITE, 2017;PROBST et al., 2020).

Even though the contradiction exists between the government discourse and the inconsistency of envi-

ronmental policies, the private sector sustains the investments on land and commodity chains in Brazil. The land market, the green market and the global agro-system allow foreign investors to site their capital into a location without having the ‘real’ knowledge of the local dynamics. In the age of the financialization of nature, most investors in international funds and indirect investors are unaware of local realities where their investments are allocated. When thinking about future capital projection/speculation (mainly in the mid/long term for land, mining and timber and short/midterm for soy and cattle), the investors may not have sufficient information regarding social and environmental impacts such as deforestation, excessive use of pesticides, water contamination and slave work.

In this sense, this report aims to provide a brief overview with a political, social, economic and environmental perspective of the crisis continuously experienced in the Amazon and Cerrado biomes and in which ways European companies are supporting the irresponsible advance of commodity production over fragile Brazilian biomes. The study explored the soybean, meat, and mining sectors. With that in mind, and considering the lack of systematization of the various aspects and information on these issues, this investigation aims to present recent data and problematize the corporate power of transnational companies, including financial firms and commodity traders, especially those from countries belonging to the European Union.

Graphic 1 Deforestation in Amazon and Cerrado Biomes and number of fines



Source: Rajão et al. (2020).

2

Soy

2.1 SOY PRODUCTION CHAIN IN THE AMAZON AND CERRADO REGION

Out of all commodities involving environmental risk, soy (crops and oil production) is the most negotiated in international markets. In 2016, three South American countries (Brazil, Argentina and Paraguay) were the origin of 50% of the soy produced globally, with combined growing regions corresponding to an area of approximately 56 million hectares. In 2018, the Brazilian trade soy volume was 117,887,685 tons (Trase, 2018)..

Three crops – soybean, sugarcane, and corn – occupy 70% of the agricultural area and represent over 60% of the country’s total value of agricultural production. Since 1997, soybean production alone has increased by 400% to reach a record 124 million tons in 2019/2020 (CONAB, 2020). The soybean chain constitutes an important component of Brazilian agribusiness exports and, the grain sales outweigh products made from soybeans, which suggest the specialization in products are less likely to generate added value, therefore increasing the level of external economic vulnerability¹⁴.

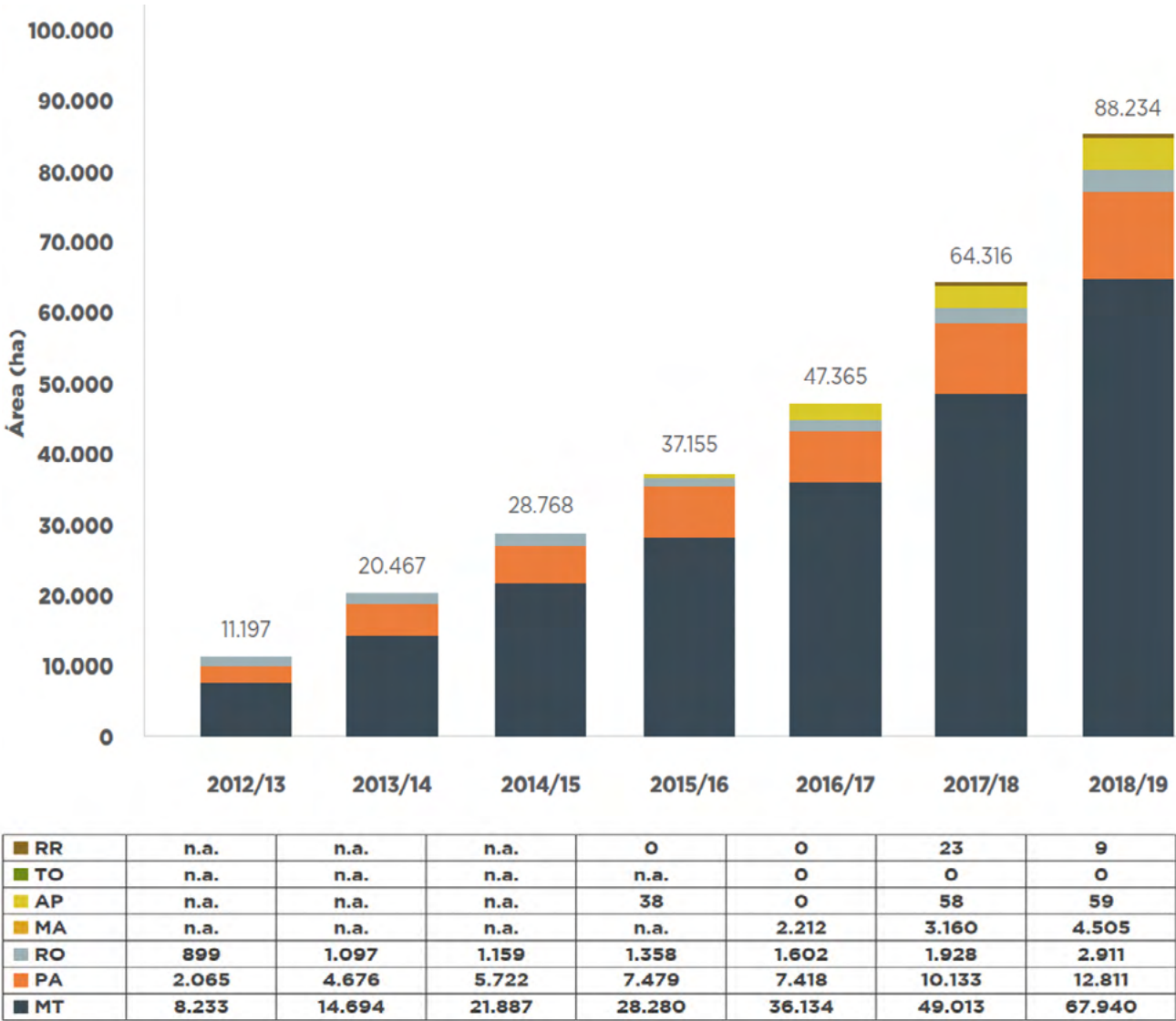
The soy crops in Brazil were initially planted in the Southern region, an area more adapted to the soy seed. After the 1970s and the Green Revolution, companies such as Sygenta and Pioneer invested in genetically modified seeds adapted to the Cerrado biome with the support of the Brazilian government through the Brazilian Agricultural Research Corporation¹⁵, also known as Embrapa, for a more efficient agriculture expansion. Regardless, soy production and the area’s expansion are also related to the past five years of deforestation, a period for agribusiness to productively incorporate the new commodity region. With the ‘successful’ domination of the savannahs, the expansion of agribusiness has been moving towards the Amazon biome since the 2000s.

When Brazilian and EU governors and companies cooperated under the Soy Moratorium, it was a significant commercial asset, as it was signed by 94% of the national soy producers in the Amazon and Cerrado biomes. The soy, free from deforestation, has opened the door to expand the Brazilian agribusiness market share. Between 2006 and 2016, deforestation has fallen by 86% in the 76 municipalities reached by the Moratorium, which produce 98% of the soybeans from the Amazon Biome, while the planted area increased by 170% in the same period¹⁶. With Brazilian President Dilma Rousseff’s impeachment in 2016, policy changes in Brazil and the EU, the flexibilization of environmental laws and the decrease of environmental fines, deforestation started to increase abruptly. In December of 2020, the president of the Brazilian Association of Soy Producers (Aprosoja Brasil) rejected an attempted moratorium for the Cerrado region. He demanded that the EU corporations respect Brazilian sovereignty¹⁷. Graph 2, below, presents the extent to which soy production has advanced over two Brazilian states (Mato Grosso and Pará) in the Amazon biome:

A study conducted in 2013 revealed that land use impact from agribusiness in South America represented the second overall environmental impact in monetary terms, with activities generating US\$354 billion of negative externalities on only \$16.6 billion of revenue (Trucost, 2013). Therefore, concerns on how agriculture sectors fail in producing enough revenue to cover the environmental damage produced by them raises a debate regarding corporate responsibility as it relates to the maintenance of ecosystems and to the impact on the lives of communities. Although half of the deforestation risk associated with Brazilian soy is linked to Chinese imports¹⁸, in absolute terms over the past few years European markets have been the drivers of higher deforestation risks (Escobar at al., 2020). According to Trase data, the Netherlands and Spain are the core destinations in the EU for soy related to deforestation in Brazil.

Regarding soy exports, it is worth noting that soy-related deforestation has been highly concentrated in the

Graph 2 Evolution of the soya area in disagreement with the moratory in the states of MT, PA, RO, MA, AP, TO and RR in THE YEARS 2012/13 TO 2018/19



n.a. = não avaliado.

Source Rajão et al. (2020).

Matopiba region, which covers part of the Amazon and Cerrado biomes. More recently, nearly 90% of the deforestation risk associated with Brazilian soy exportation has been centered in this region (Trase, 2019). Although 7% of the EU’s total soy imports from Brazil came from areas in states where the Amazon and Cerrado biomes are present, it accounted for 61% of the EU’s exposure to soy deforestation risk (Trase, 2020).

Approximately 41% (13.6 million tons) of the soy imported annually by the European Union is from Brazil. From this total imported, 69% is soy produced in the Amazon and Cerrado regions. Recent studies esti-

mate that around two million tons annually of illegally planted soy reached the European market during the past few years, with 500,000 tons having been produced in the Amazon region. This production has been responsible for the indirect emission of approximately 11.7 million metric tons of CO2 between 2009 and 2017. This is especially concerning in areas of biomes in risk. Producers on 45% of rural properties in the Amazon biome and 48% of farmlands in the Cerrado region, which supply soy and beef for exports, are not complying with the limits on deforestation laid out in Brazil’s Forest Code (Rajao et al 2020).

14 In 1996, the federal government created the Complementary Law no 87, also know as “Kandir Law”. The Kandir Law provides exemption from taxes on the exportation of primary products – as commodities – and services, creating an environment for low added value production. http://www.planalto.gov.br/ccivil_03/leis/lcp/lcp87.htm

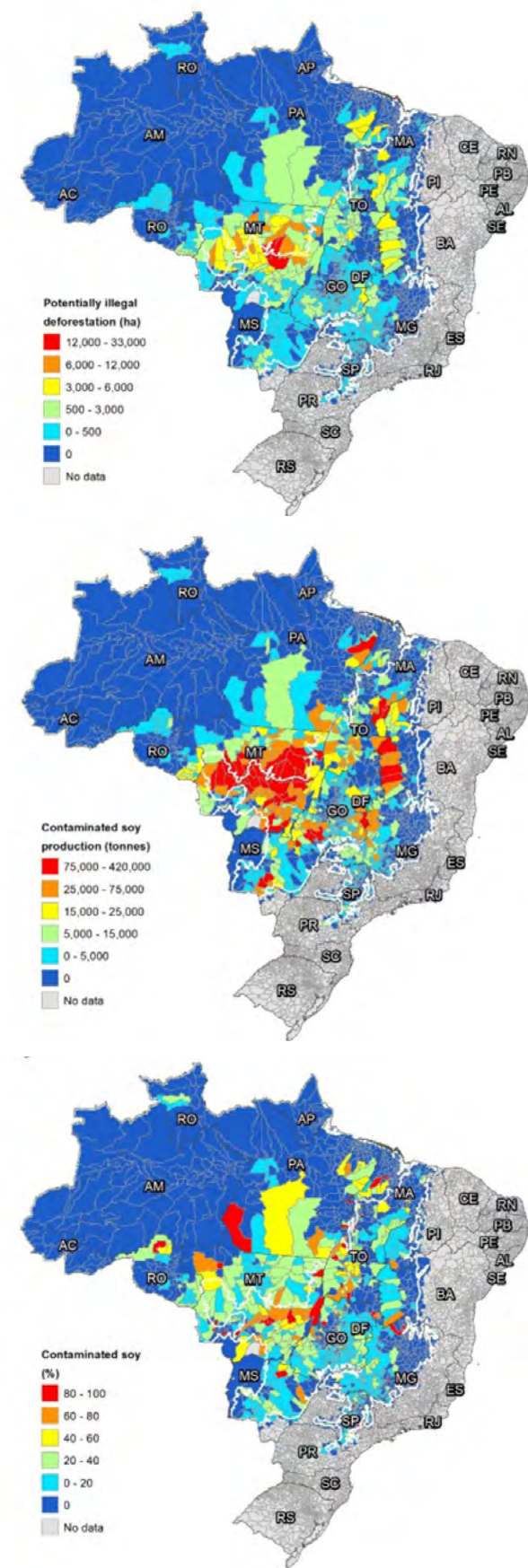
15 Embrapa is also related to the expansion of transgenic soy crops in Mozambique and Brazilian companies to the transgenic rice crops on Ghana.

16 Regardless the soy production and the area expansion are also related to the past 5 years of deforestation, period for the agribusiness to incorporate productively the new commodity area.

17 Available at: <https://www.canalrural.com.br/programas/informacao/mercado-e-cia/soja-abiove-moratoria-cerrado/>

18 More information available at: <https://www.tandfonline.com/doi/abs/10.1080/14747731.2017.1377374>

Map 2 Potentially illegal deforestation and deforestation-contaminated soy per municipality.



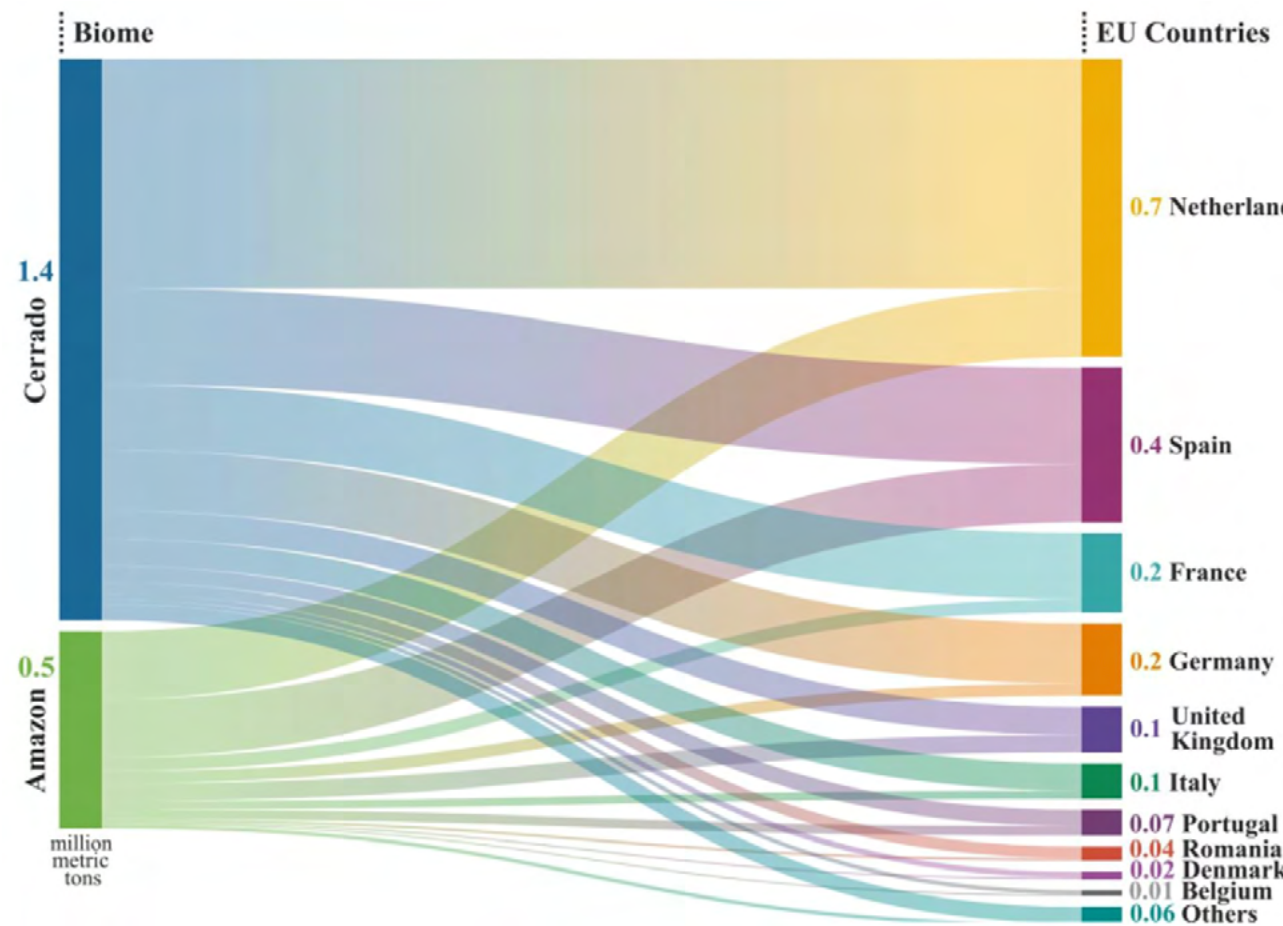
Source: Rajão et al. 2020.

The state of Mato Grosso, in the Center-West of Brazil, was responsible for 28% of the soy produced in the country in 2019. A large part of the production is located in areas near the Amazon biome within the state. Over 85% of the deforestation in Mato Grosso, between August 2018 and July 2019, was illegal (beyond the 20% that is permitted by the law).

Map 2 illustrates that some of the highest rates of deforestation in Brazil come from the state of Mato Grosso, with 16% concentrated in the state's Cerrado region and 31% in its Amazon region (Rajão et al., 2020; Trase, 2020). The region of Mato Grosso (MT) which appears in red on all three maps contains the municipalities of Lucas Verde, Sorriso and Sinop, the core agribusiness zone along BR163, the road that ends at port of Itaituba in Pará, on the Amazon river. The other hotspots of destruction in the Cerrado biome are the western region of the state of Bahia (BA), which includes the municipalities of Luis Eduardo Magalhães, Formosa do Rio Preto, Correntina and Barreiras, a core agribusiness zone since the 1980s, as well as the southern region of the state of Maranhão, in the area surrounding the municipality of Balsas. Since 2000, the state of Pará has been considered a new soy frontier, with farms and infrastructure for soy chain production being established across many municipalities and rural areas.

In these regions, some business activities, including the growing of large-scale soy crops, would not be viable without the support provided by powerful international financial institutions. However, the soy crops grown with hybrid seeds and agrochemicals are not lucrative in and of themselves. The profit rates are low, and the gains come from the large amount of tons of soy produced and from agriculture subsidies. For example, the costs for farming one acre of soy is around R\$3,000 (around 500 euros), producing on average three tons in the Cerrado biome (comparatively, the production per acre in the Amazon is less). Most of the cost of soybean production per hectare is related to the direct costs of farming, which are inputs (seeds, fertilizers and pesticides) sold by companies such as US-based Monsanto and Germany's Bayer, the Swiss/Chinese corporation Syngenta and DuPont, which, while based in the US, has multiple subsidiaries. Based on the Statement of Income for the Year (DRE) available by Conab for the period 2006-2019, the input supplier companies, even without being directly linked to planting/farming activity, concentrate the capital of the production chain. In 2019, the production costs of the technological package required to guarantee another crop of sterile GMO (genetically modified organisms) soy seed represented 69.58% of total soy production in Brazil for 2019 (R\$2029.94) in Tocantins, 56.96% (R\$1746.65) in Maranhão and 52.87% in Bahia (R\$1,584.08) (CONAB, 2020; LIMA, 2019).

Figure 1 Source and country destinations of soy potentially contaminated with potentially illegal deforestation. Estimated annual average between 2009 and 2017



Source: Trase (2020).

While some of the European financial institutions and companies have developed their own deforestation policies, the self-regulation of the private sector created a more devastating scenario, as these companies were not penalized when criteria are ignored. Seven European countries (Denmark, France, Germany, the Netherlands, Norway, the United Kingdom and Italy), which together in 2019 represented 22% of the Brazilian soy exports, signed the Amsterdam Declaration in 2015, which aims to promote the elimination of deforestation as a result of agricultural commodity production. However, while new zero-deforestation commitments have arisen during the last few years, only half of the soy exported from the Cerrado region in 2016 was covered by them. Hence, there are real risks that the Cerrado could suffer a larger forest devastation. Also, the majority of the zero-deforestation commitments signed by corporations have very little information on how these measures will be implemented in the production chain, and how progress will be monitored (Trase, 2018).

Concerning actors and dynamics, the soy production chain in Brazil has a complex structure. Brazil-

ian farmers may search for financial support from three different sources: commercial financial institutions (national or international banks or credit agencies, for instance), subsidized rural credit (disbursed through various programs via the Brazilian Development Bank) and barter from traders and input suppliers (indirect funding mechanism led by companies that produce seeds, fertilizers, pesticides and agricultural machines).

After the 2008 financial crisis,¹⁹ the new dynamics of the farmland market deepened the devastation of native areas. International investors have increasingly turned to a strategy of channeling capital to direct farmland purchases, and to territorial expansion of agribusiness (especially soy), in which land is also used as a financial asset. Due to the financial exploitation of lands, the price of Brazilian farmlands, especially in the Cerrado, increased exponentially in the last 10 years. Institutional investors, such as pen-

¹⁹ https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-85292017000200393

sion funds and private equity, real estate firms and agribusiness, operate a business model, producing land valorization by acquiring and clearing areas of native vegetation for farming, rather than basing its revenues on commodity production. Usually, many cases of land acquisition in rural areas of the Northern region of Brazil, recently used for soy croplands, are linked to illegal land grabbing, which provoke forced removals of traditional communities (Chain Reaction Research, 2017).

LandMatrix mapped²⁰ 314 foreign land contracts in Brazil, controlling 5,886,732 ha, or 9.8% of the country’s cultivated land. EU investors might be controlling 3,092,632 ha. Despite the territorial percentage still not being very expressive (0.6%), the control of foreign companies happens in many aspects of the soy chain, and not only regarding the controlling of land. Other aspects include: farming production; capitalization of income and land speculation as forms of capital appreciation; the creation of new farms, with capitalization via differential income and asset creation (purchase of land for investments in production, machinery), adding work for the purpose of future sale; and the land as merely a speculative form, via financial capital.

2.2 TRACING THE SOY CHAIN: THE PARTICIPATION OF EUROPEAN CORPORATE ACTORS

European corporate actors are involved in the Brazilian soybean chain in the Cerrado and Amazon regions through the farmland market investment funds, soy trading companies, trading companies’ direct financiers, and input suppliers.

The irresponsible agribusiness expansion in both biomes begins with land speculation, a more profitable business than agricultural production. Over the past 15 years, many land companies were created, fully concentrated on acquiring, selling, leasing and managing farmlands. In the Cerrado region, vast native areas, formally owned by the Federal Union (state) are illegally enclosed. This process usually results in a violent eviction of inhabitants (many of them from traditional communities or poor rural populations), as well as extensive clearing or deforesting. Lately, these farm areas are being sold to agribusiness corporations or to land companies, which may lease or sell the land.

At Matopiba, studies have revealed that pension funds from the United States and Europe play a key role in backing actors that operate on the ground, while financial institutions channel huge amounts of capital into this business and feed the harmful aspects of the soy production chain, including the practice of forest burning. Three European investment funds

Table 1 EU participation on TIAA funds

| Investment vehicles | Owner | Share | Country of origin |
|---------------------|---|-------|-------------------|
| TCGA II | AP2 Ag-land Investments KB (AP2) – Suécia | 25% | Sweden |
| | Stichting Pensioenfond ABP | 6.67% | Netherlands |
| TCGA I | Andra AP-Fonden (AP2) – Suécia | 32,5% | Sweden |
| | Ärztversorgung Westfalen-Lippe (AVWL) | 32,5% | Germany |

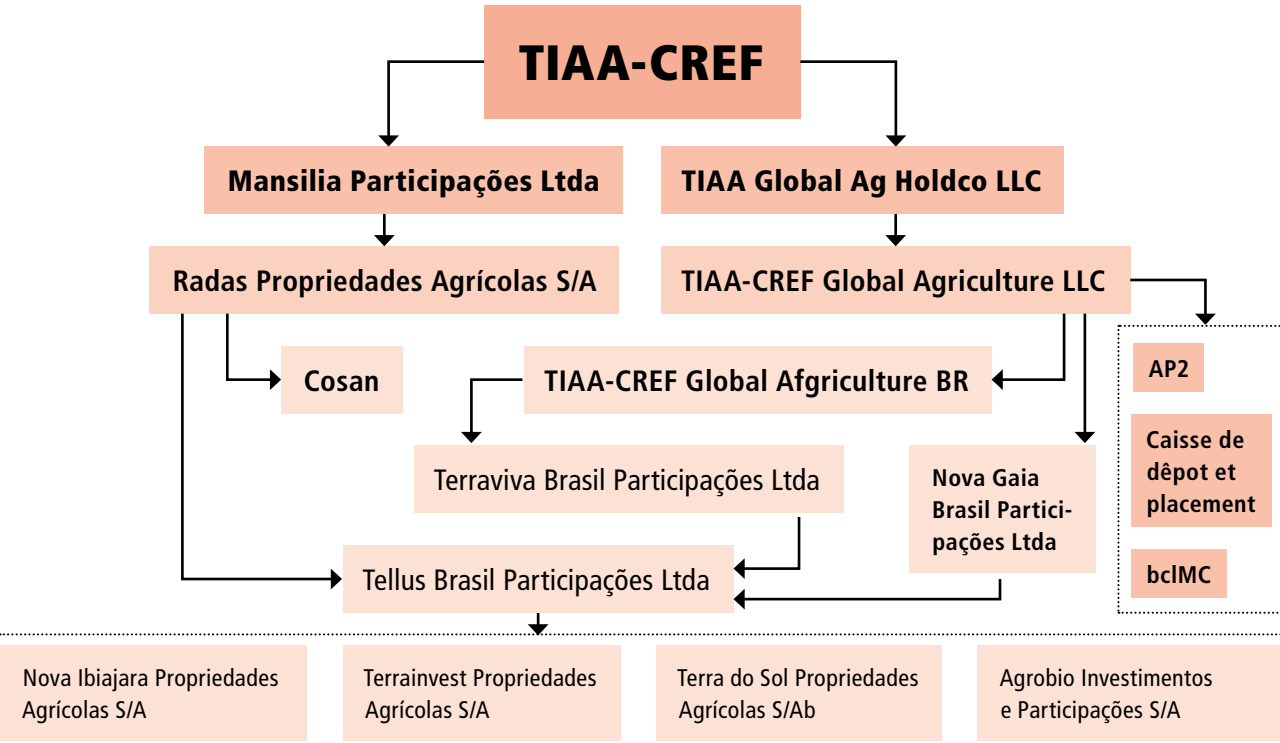
Source US Securities and Exchange Commission (December 2016)

contribute to the operation of land companies in the Cerrado region: the German Pension Fund (Ärztversorgung Westfalen-Lippe), the Dutch Pension Fund, The Netherlands’s Algemeen Burgerlijk Pensioenfond (ABP) and Sweden’s Andra AP-fonden (AP2) (the Second Swedish National Pension Fund). These pension funds invest in the TIAA-CREF Global Agriculture (TCGA I and TCGA II) investment funds managed by TIAA (Teachers Insurance and Annuity Association of America). TIAA is a private and non-profit pension fund, which is currently considered the largest investor in agricultural lands and the third-largest global commercial real estate manager. TCGA I was set up by TIAA in 2012 and today holds assets worth US\$2 billion across Brazil (Environmental Justice Atlas, 2020). In 2015, a second fund was launched, the TCGA II, worth US\$3 billion. The multiple capital constitutions of those funds’ companies make them difficult to understand, and have a clear subject or target related to the commodity chains. TIAA is an US fund, but Global Agriculture (TCGA I and TCGA II), a fund managed by TIAA, is formed by EU funds, especially TCGA I. The table below shows the total percentage of European funds investment participation in TCGA I and TCGA II:

From the investment groups mentioned in the table 1, some are in conflict with their own environmental and social governance policies, such as the AP2 (which declared the intention of achieving zero-deforestation in funds on farmland managed by the Nuveen, TIAA’s asset manager), and the Stichting Pensioenfond ABP, which signed the Cerrado Manifesto²¹.

21 The Cerrado Manifesto is a two-page document that puts the onus on soy and meat producers and traders, as well as other

Figure 2 Funds and companies related to TIAA-CREF



Most of the farmland owned by foreign companies in the Cerrado region are invested through TIAA. Beyond the TCGA I and TCGA II, TIAA also operates in the farmland market through firms such as ‘Radar Propriedades Agrícolas’ (a joint venture among a Brazilian company, Cosan²², and the Mansilia Participações, a company totally owned by TIAA) and the Tellus Brasil Participações, a national subsidiary focused on land acquisition, in which TIAA has a significant ownership (49%). A complex network of companies was created by TIAA in order to buy and invest in farmlands, escaping legal restrictions imposed by national laws on foreigners’ land property. Radar have around 555 properties, totaling 270,000 ha in Brazil, all of them in areas of the Amazon and Cerrado. National subsidiaries operate in specific areas. For example, Tellus is focused on land in the states of Maranhão, Bahia and Piauí; Cosan in the state of São Paulo; while Terra do Sol and Nova Ibiara operate in the state of Mato Grosso.

Another case in which European investments support the land speculation related to soybean production in fragile biomes regards SLC Agrícola’s activities in the Matopiba region. The share control of SLC

Agrícola is exercised by the SLC Group (owned by Schneider Logemann, a Brazilian family), with 51.03% of the shares. The Odey Asset Management LLP, a British investment management company and Kopernik Global Investors LLC, based in the US, owns 9.33% and 5.16% of SLC, respectively. Deutsche Bank obtained 6.28% of the SLC’s public offering on the stock exchange²³.

Between 2011 and 2017, SLC cleared more than 30,000 ha of native Cerrado vegetation to expand its farm complex. This high number is due to the low protection percentage in the Cerrado, which is around 20%-35% of the farmland, much lower compared to the 80% established in the agriculture areas in the Amazon biome²⁴. Currently, there is a broader awareness, including from big retail companies, of the need to be in advance of the Brazilian law; that is to say, protect higher percentages of native vegetation. In 2019, the SLC had R\$2.6 million in potential loss with an environmental judicial process moved by IBAMA, the federal agency for environmental protection. The main revenue source from the soy produced on SLC

23 Nascimento, R. C., Frederico, S., & Saweljew, Y. M. (2019). FINANCIAL CAPITAL AND LAND CONTROL: NEW RENTIERS ON THE BRAZILIAN AGRICULTURAL FRONTIER. REVISTA NERA, (50), 261-286.
24 Available at: <https://brasil.mongabay.com/2020/12/grilagem-no-cerrado-baiano-resvala-na-cargill-e-em-fundo-de-pensao-dos-eua/>

20 <https://landmatrix.org/data/?region=419>

farms, in 2019, came from three big soy traders: Cargill (25.7%), Amaggi-Louis Dreyfuss (20.3%) and Bunge (12.1%). In 2020 alone, SLC deforested 5,200 ha in the town of Formosa do Rio Preto, one of the top deforested municipalities in the Cerrado

Soy traders and direct financiers The soy production chain in Brazil is dominated by five large global trading corporations: ADM, Bunge, Cargill, Louis Dreyfus and the COFCO, which traded more than 50% of the soy exported from Brazil. Among the top 10 countries receiving soy exports from the Amazon and Cerrado are The Netherlands (36%), Spain (21%), Germany (10%) and France (10%) (Trase, 2020).

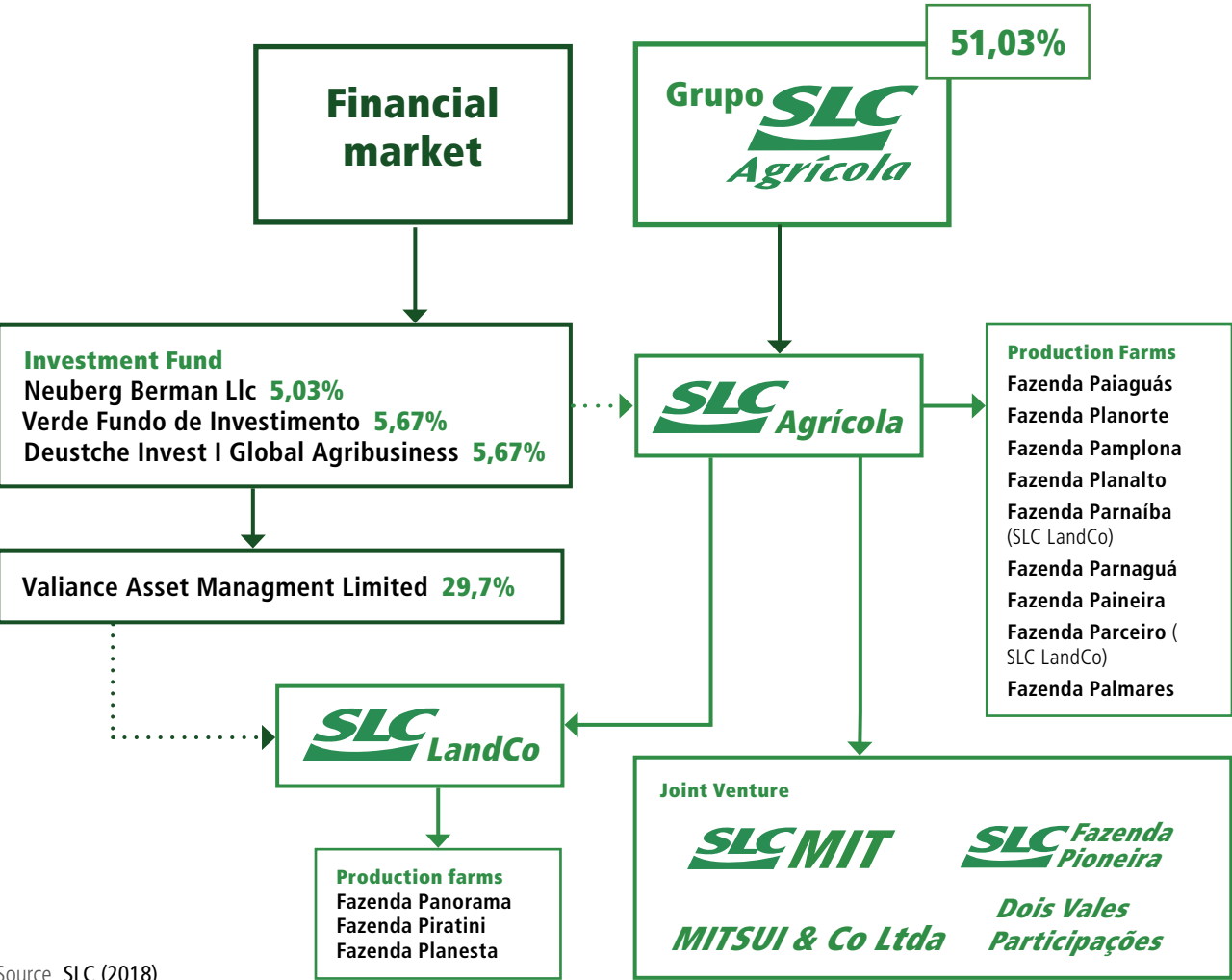
Trading companies are amongst those providing the main financial support to big national soy farmers in Brazil. Soy traders are directly backed by many financial institutions which are linked to them via equity (mainly shareholdings and private ownership) and debt (such as bonds, loans and revolving credit facilities). Financial institutions provide credit with

interest rates that may be negotiable or pre-established by the government. Currently it represents one-fourth of the total finance in regions with the largest soy production in Brazil (IPAM, 2019).

A comparison of the most powerful soy traders operating in Brazil, analyzing data on yearly legal and illegal deforestation produced/associated deforestation risk, showed that Bunge and Cargill are the topmost unsustainable companies in the sector²⁵, in the chain, and level of transparency. In the Cerrado region, evidence estimates that both companies have

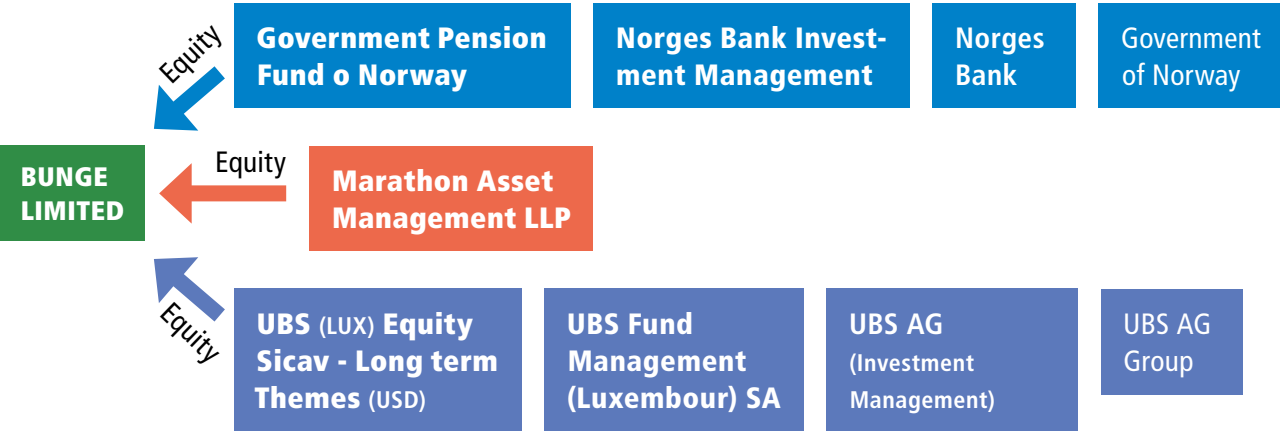
²⁵ The deforestation risk exposure is an indicator, used by Trase Earth, measured in hectares. It assesses a company's exposure to the deforestation risk associated with the commodity it is sourcing based on the region where it was produced on annual basis. Although it does not attribute responsibility to specific companies, it estimates the level of deforestation in which the soy traders are exposed in their supply chain. Data on precise sourcing patterns to individual farms are not publicly available See more at: <https://trase.finance/methodology>

Figure 3 SLC Agricola financial composition



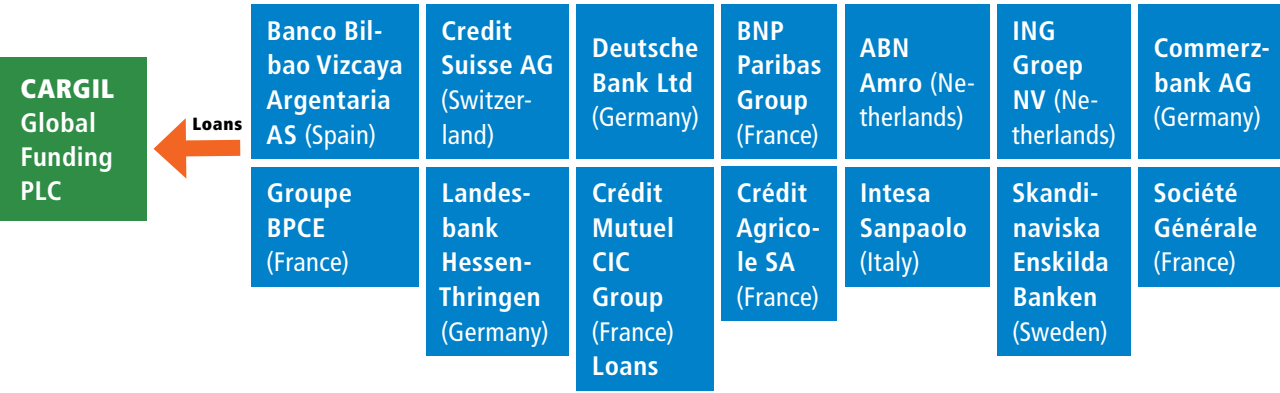
Source SLC (2018)

Figure 4 European investment at Bunge Limited (2018)



Elaborated by the author, based on Trase Finance (2020)

Figure 5 European direct investments (loans) to Cargill (2018)



Elaborated by the author, based on Trase Finance (2020).

Table 2 - Top 10 Owners of Bunge Ltd (2020)

| Stockholder | Share |
|---------------------------------|--------|
| T. Rowe Price Associates, Inc. | 11.30% |
| The Vanguard Group, Inc. | 8.99% |
| BlackRock Fund Advisors | 4.29% |
| Continental Grain Company Corp. | 2.82% |
| SSgA Funds Management, Inc. | 2.64% |
| Dimensional Fund Advisors LP | 2.26% |
| Moore Capital Management LP | 2.09% |
| Adage Capital Management LP | 2.08% |
| Millennium Management LLC | 1.57% |
| Marathon Asset Management LLP | 1.40% |

Source <https://money.cnn.com/quote/shareholders/shareholders.html?symb=BG&subView=institutional>

Table 3 - Top 10 Mutual Funds Holding Bunge Ltd

| Mutual Fund | Share |
|---|-------|
| T Rowe Price Mid Cap Value Fund | 4.29% |
| Vanguard Total Stock Market Index Fund | 2.69% |
| Vanguard Small Cap Index Fund | 2.27% |
| Vanguard Extended Market Index Fund | 1.40% |
| Vanguard Small Cap Value Index Fund | 1.36% |
| American Funds Income Fund of America | 1.03% |
| Government Pension Fund - Global | 0.98% |
| UBS (Lux) Equity SICAV - Long Term Themes | 0,95% |
| Fidelity Growth Company Fund | 0.63% |
| T Rowe Price Equity Income Fund | 0.52% |

Source <https://money.cnn.com/quote/shareholders/shareholders.html?symb=BG&subView=institutional>

significant connections with soy driven by deforestation (along with the suppliers), with Cargill producing 32,437 ha of deforestation (7,518 ha being illegal clearance), and Bunge, with close to 10,000 ha (1,402 ha being illegal) in the first half of 2020²⁶.

As already mentioned, foreign banks and investment funds are behind the financial power of soy trading companies that operate in Brazil, especially in the Matopiba region. The financial composition of Bunge and Cargill includes many connected financial corporations, with some of them being European, as shown in the figures below:

There are at least 3 Dutch banking groups, 6 insurance companies (Achmea, Aegon, Allianz, ASR, NN and Vivat) and 9 pensions funds (ABP, BPF Bouw, BPL Pensioen, Pensioenfond Detailhandel, Pensioenfond Horeca en Catering, Pensioenfond Vervoer, Pensioenfond Zorg en Welzijn, PME, PMT) supporting big soy producer companies through the provision of loans, underwriting services and other credits, as well as investments in the shares and bonds issued by these companies. Between 2015 and 2020, ABN Amro, ING and Robobank provided USD 5.817,47

million to the main soy traders that operate in the Cerrado region and linked to deforestation.

Furthermore, an analysis on the deforestation risk of the main global soy traders in the Cerrado and Amazon biome, which assess how much deforestation has been purchased in the chain, showed their key role on the unsustainable practices of soybean production (Figure 5). According to the analysis, in 2018, a French-Brazilian joint venture was considered the most tainted soy trader chain, behind Bunge: the Amaggi & LD, partnership between Amaggi and the Louis Dreyfus, that lately incorporated the Japanese Zen-Noh, launching the “ALZ Grãos” company.

After the entry of the Zen-Noh in the Louis Dreyfus and Amaggi’s joint venture, the risk of deforestation of the companies has increased substantially. The joint venture is the second largest exporter of soy (25%) in Formosa do Rio Preto, on Bahia State (along with Bunge), the third largest soy-producing municipality in Brazil in 2018. Cases of land grabbing were registered in the city, connected with ALZ Grãos, Bunge and Cargill, that own warehouses in a rural area linked to the Property Fazenda São José from the JJF Holding company, accused of leading two of the largest land grabbing incidents in Brazil and other illegal land acquisitions.

26 Ranking Soy Traders’ Performance on Deforestation. Mighty Earth, September 2020. Available at: <https://stories.mighty-earth.org/soy-trader-rankings/index.html>

The arc of destruction: logistic infrastructure at what cost?

The ongoing interest in consolidating a logistics route for grain exportation, added to the strong agriculture lobby pressure on easing the existing environmental rules have been pushing initiatives for investing and building a large infrastructure in the Amazon region. Although logistics infrastructure can represent a significant advance for the region’s socioeconomic development, it is extremely necessary to consider the fragilities and singularities of the Amazon biome, assessing the impacts generated by the construction and operation of new transport infrastructure. Arco Norte is a grain export route that runs from the state of Mato Grosso, in the Brazilian mid-west, to the Tapajós River, in the

state of Pará, and goes down the Amazon River to the Atlantic Ocean, where the transported grain is separated as exports of commodities to other countries. With seven port terminals, Arco Norte plays a key role in the future expansion of soy and corn exportation produced in Mato Grosso, the largest grain-producing state in Brazil. In 2017, shipments through the ports of Arco Norte grew 80% compared to a national average of 8.0% (Source: Antaq). In the Arco Norte region, the Ferrogrão railway is one of the most emblematic projects. It is an initiative originally conceived and executed by soy trading companies’ consortium (comprised by Amaggi, ADM, Bunge, Cargill, Dreyfus and EDLP) and was recently included in the government portfolio of the Program of Investment and Partnerships, as well as incorporated in the Na-

tional Logistic Plan (PNL 2018-2025). Between 2017 and 2018, the quality of the environmental impact studies and the public consultation proceedings related to the project were questioned twice by legal institutions. However, the Ferrogrão followed the cycle and public audiences were approved in July 2020. The concession for the railway is expected to be approved in 2021, with China being the most likely candidate for winning the construction contract. Among the European companies that have already demonstrated interest in the concession are the Spanish Acciola and Sacyr, and the Italian Impregilo. To ensure that the railway project will go ahead, the Brazilian government announced that it would make available up to R\$2.2 billion (US\$462 million) to the winning concession company for ‘non-manageable risks’.

ALZ Grãos has invested in soy storage, wholesale facilities and has share in the Tegram (Itaqui Port), at Maranhão State, through a consortium with the companies “Terminal Corredor Norte”, linked to the Japanese group Toyota Tsusho), “Glencore Serviços” (from the Glencore) and the “Corredor Logístico e Infraestrutura”.

The Tegram Port is located in São Luis Maranhão, where 4 companies have a long-term consortium,

and Glencore and AZL Grãos are two of them. On the storage and silos for the agribusiness in Amazon and Cerrado, ADM controls 62 silos 2.391.235 tons of grains; Amaggi 54 silos (6 AZL and 1 Amaggi and Louis Dreyfus only in Tegram) with a storage capacity of 2.697.600 tons grains and sugar cane; Bunge 80 silos (2.758.153 ha); Cargil 116 silos, 3.649.908 ha of storage capacity; Louis Dreyfus, 28 silos (1.649.942 tons) and Raizen/Shell with 49 silos (storage capacity of 575.860 ha).

Table 4 Loans from Dutch banks to soy traders (2015-2020, million USD)

| Bank Group | ABN Amro | ING | Rabo-bank | Total |
|------------------------|----------|----------|-----------|----------|
| Archer Daniels Midland | 104.81 | 104.81 | 104.81 | 314.43 |
| Bunge | 285.13 | 715.13 | 185.13 | 1,185.38 |
| Cargill | 782.10 | 1,012.48 | 983.59 | 2,778.18 |
| Louis Dreyfus Company | 562.69 | 356.83 | 619.96 | 1,539.48 |
| Total | 1,734.73 | 2,189.25 | 1,893.49 | 5,817.47 |

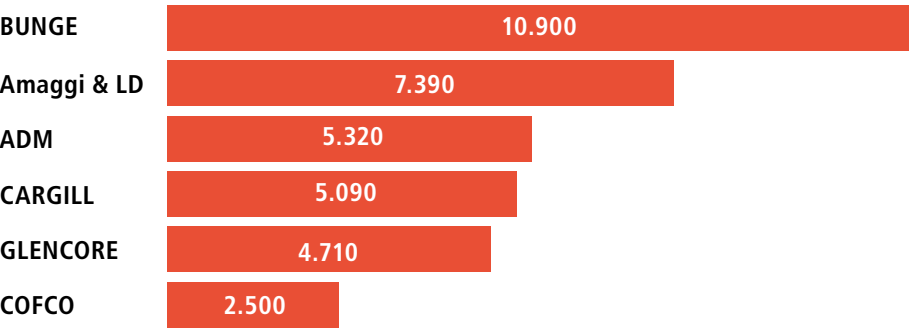
Source Elaborated by the author based on information from Van Gelder, J.W. and B. Kuepper (2020)

Table 5 Underwritings by Dutch banks in share and bonds issuances in soy traders (2015-2020, million USD)

| Bank Group | ABN Amro | ING | Rabo-bank | Total |
|------------------------|----------|--------|-----------|--------|
| Archer Daniels Midland | - | - | 77.55 | 77.55 |
| Bunge | 90.20 | 207.85 | 97.20 | 395.24 |
| Cargill | - | - | 83.33 | 83.33 |
| Louis Dreyfus Company | 75.00 | - | - | 75.00 |
| Total | 165.20 | 207.85 | 258.08 | 631.12 |

Source Elaborated by the author based on information from Van Gelder, J.W. and B. Kuepper (2020)

Figure 5 Estimated soy traders’ deforestation risk in Brazil (2020, in hectare)



Source Elaborated by the author, based on Trase Finance (2020)

Figure 6 Louis Dreyfus’s joint ventures (2018)

| Investment | Activity | Joint Venture | Ownership | Net value |
|--|---------------------------------------|--|-----------|-----------|
| Amaggi Louis Dreyfus Zen Noh Graos S.A | Grain and soya storage and processing | ALZ Grãos | 33% | 14 |
| Amaggi Louis Dreyfus Zen Noh Graos S.A | Logistics facilities | Terminal de Grãos do Maranhão (Tegram) | 33% | 14 |

Source https://www ldc.com/wp-content/uploads/LDC_AR2018_S-1.pdf

3 Meat, Cattle and destruction

3.1 Meat production chain in the Amazon and Cerrado region

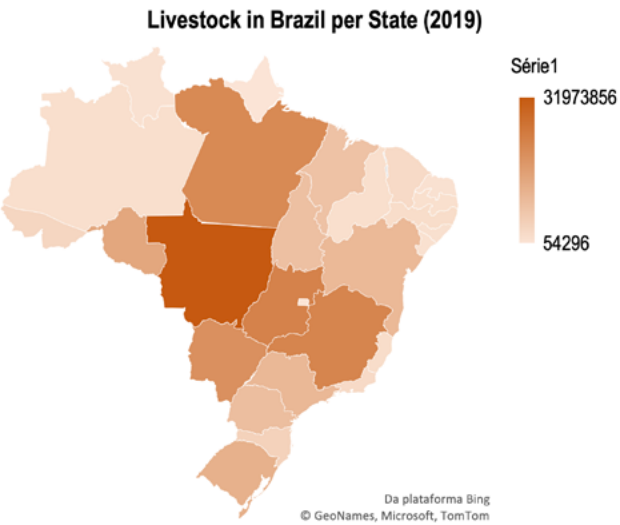
There are more cows than people in Brazil. And, as most people know, the great majority of the meat consumed and exported is industrially produced, coming from animals that are proven to have a much shorter life than those living in open spaces and who are usually fed with antibiotics and soy²⁷.

At the time this report was written in 2021, Brazil had 214,893,800 livestock, and the numbers continue to rise, primarily in the Amazon (states of Mato Grosso and Pará) and Cerrado (states of Minas Gerais and Goiás) biomes.

São Felix do Xingu, a municipality located in south-eastern Pará, is home to the most cattle in Brazil. Currently the cattle population stands at approximately 2.5 million cows. The city, which is twice the size of the Netherlands, has 128,000 inhabitants and recorded an 18% increase in the number of cows in the last decade, a proportion equaling 17 cows per resident.

27 Brazil is the largest producer of soy in the world (average of 90 million tons/year)

Map 4 Livestock in Brazil per State



Source PPM/IBGE (2021)AR2018_S-1.pdf

In 2019, São Felix do Xingu deforested 3,800 square kilometers of forest, according to data from Inpe²⁸. With a jump of 100% in relation to the previous year, the municipality alone accounts for one-third of the forest destruction in the entire Amazon biome in 2019.

It wasn't until the beginning of the 2000s that Brazil witnessed an increase in the meat processing sector. The growth in the industry has put Latin America on the map as the largest exporter of meat and poultry in the world. And although the consumption of dairy and meat, together, are responsible for 18.7% of the daily diet of a Brazilian person, most of the production is exported²⁹. In 2019 Brazil exported 1.84 million tons of beef, obtained revenues of US\$7.59 billion and consolidated itself as the largest world exporter of the product, according to the Brazilian Association of Meat Exporting Industries (Abiec)³⁰.

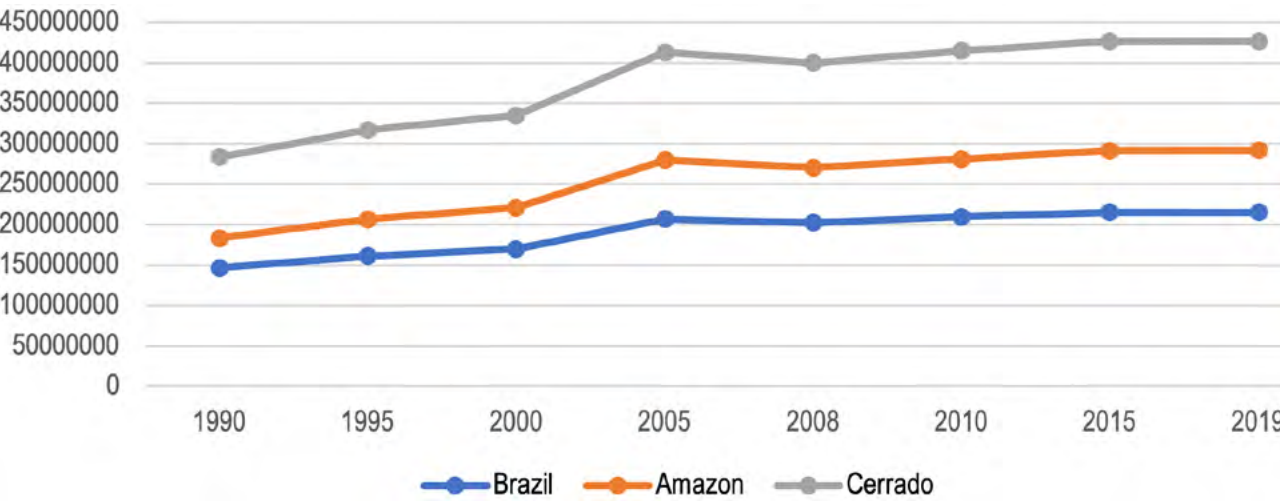
Although the meat sector has been run by big national corporations, it is financed by national and foreign capital with the European Union being the second most important buyer after China. In 2017, the EU bought 180,236 tons of Brazilian meat.

The export policy was very much encouraged by the National Government through the creation, in 2008, of a program to support 'national champions'. The National Bank for Economic and Social Development (BNDES) developed a series of subsidies³¹ to stimulate a few companies in specific sectors, such as meat processing, as a form of encouragement for their growth.

Meat processing companies such as JBS and Marfrig received R\$8.1 billion and R\$3.6 billion in subsidies and participated in their stock markets to become 'giants'. They are able to compete internationally in global chains, contributing 65% of the total amount of resources available.

28 http://terrabrasilis.dpi.inpe.br/app/dashboard/deforestation/biomes/legal_amazon/rates
29 Atlas da Carne
30 <http://abiec.com.br/publicacoes/beef-report-2020/>
31 <https://www.ft.com/content/c510368e-968e-11e4-922f-00144feabdc0>

Graph 5 Livestock in Brazil 1990-2019



Source PPM/IBGE (2021)AR2018_S-1.pdf

These subsidies helped companies to grow and buy new companies, as in the case of Marfrig, which became the third-largest producer of meat in the world, operating all around the globe. JBS became the number one producer of meat in the world and is among the ten largest food and beverage companies on the planet, selling US\$ 38.7 billion in 2012³² and having a daily capacity to slaughter 85,000 cows, 70,000 pigs and 12 million birds. As an exporter, JBS sourced from 1,324 municipalities, or 47% of the beef production municipalities in 2017(Trase, 2020).

Also supported by these subsidies is BRF, a poultry processing company which became one of the largest exporters in the world with two processing plants in Europe (Holland and England) and nine in Argentina. The subsidies program is said to end in 2020.

Today JBS is the second largest debtor to the Brazilian Social Security Ministry (R\$1.8 Billion) and financed political campaigns of more than 160 politicians who were related to the Agribusiness Group in Congress. It is important to notice the rise of the amount destined for the political campaigns: in 2002, JBS donated R\$200,000³³; in 2006 JBS donated R\$19.7 million³⁴; in 2010, R\$83 million³⁵; in 2014, R\$300 million³⁶.

32 Atlas da Carne
33 https://web.archive.org/web/20150518080304if_/http://www.brasilagro.com.br/conteudo/jbs-maior-doador-concentra-repasses-a-governistas.html#.VVmc0ej7Q2x
34 <https://www1.folha.uol.com.br/poder/2014/09/1519452-maior-doador-de-campanhas-concentra-repasses-a-governistas.shtml>
35 <https://www.hojeemdia.com.br/primeiro-plano/pol%C3%ADtica/estudo-mapeia-as-doa%C3%A7%C3%B5es-de-empresas-durante-as-elei%C3%A7%C3%B5es-1.277680>
36 <https://epocanegocios.globo.com/Brasil/noticia/2017/05/jbs->

The growth of these multinational companies, nevertheless, did not happen without an expensive price to be paid: the massive increase in the destruction of the Amazon and Cerrado biomes, along with the deplorable labor conditions to which their employees are subjected.

The terrible conditions of the meat production chain, for the cattle and humans who work in it, are nothing new. In the soy chain, the situation is similar: due to degrading work conditions, slave labor and land grabbing, Brazil is able to keep production costs low and export commodities at very low prices, producing the cheapest meat in the world in the Amazon. According to the documentary Carne e Osso, in the beginning of the 2010s there were 750,000 employees working in meat, poultry and pork processing plants in Brazil. In these plants, there was a 743% excess risk of wrist injuries and three times more chances of having mental illness, among other serious records. Those workers are exposed to a temperature five degrees lower than the minimum accepted by regulation and to conveyor belts running non-stop at a rapid speed. After a growing lobby effort from the union, in 2013 a new norm was created, NR 36, aiming to mitigate the temperature and the conveyor belts' speed problems, and reducing injuries that are a result of repetitive movements. However, many workers are still complaining that there is no auditing nor accountability and the problems faced remain³⁷.

-doou-mais-de-r-300-milhoes-campanhas-em-2014-aponta-fgv.html
37 <https://chainreactionresearch.com/report/brazilian-beef-supply-chain-under-pressure-amid-worsening-esg-impacts/>

Deplorable working conditions, deforestation, land-grabbing and flawed auditing

Deplorable working conditions, however, are not the only problem in the meat and poultry processing industries in Brazil. In 2009, the Brazilian Federal Public Ministry and the Brazilian Institute for Environment and Renewable Natural Resources (IBAMA) sued slaughterhouses in the northern state of Pará for buying cows from farms that have been embargoed and accused of illegal deforestation¹. In that same year, Greenpeace launched the report ‘Slaughtering the Amazon’², showing the connection between meat processing plants and illegal deforestation.

In order to escape legal trials, 63 slaughterhouses that, together, represent 70% of the total capacity of meat production, signed agreements with the Federal Public Ministry and Greenpeace compromising, from 2009, to buy cattle only from farms that are deforestation-free and are not listed with the Labor Ministry as using workers in a manner analogous to a slave workforce. Also, according to the Agreement, those farms should not be located in protected or Indigenous areas. The giants JBS, Marfrig and Minerva were among those companies.

It is important to mention here that if the terms of the agreements were indeed respected by all the ratifying companies the decrease in deforestation would be significant.

The performance and compliance of these companies with the agreements signed should be assessed by independent auditing companies. In the case of JBS and Marfrig, the Norwegian auditing company DNV-GL was chosen. According to the reports provided by the auditor in the past three years, both JBS and Marfrig were 100% compliant with the agreements³.

However, a study carried out by Global Witness⁴ showed that the assessments carried out by DNV-GL were flawed and due diligence was not followed as agreed. JBS, Marfrig and Minerva together represent 64% of the total Brazilian beef export and in 2017 alone they bought cattle from hundreds of illegal ranches with ties to ‘environmental crime, land-grabbing, illegal use of Indigenous lands and even violence’.

Global Witness, in partnership with Imazon, analyzed public documents from 2017 to 2019 that track cattle from birth in the state of Pará, as well as the permits issued by the state to assure the legality of deforestation. It is important to mention that all the documents used were public and available for review. They also used a state database to identify those ranches as well as satellite images to assure when deforestation took place (in this case, before or after the agreements had been signed).

The combination of these data showed that in 2017 alone JBS bought cattle from at least 177 ranches that contained illegal

deforestation and none of those cases were mentioned in the DNV-GL audit. In 2018, they bought from 231 ranches with illegal deforestation. Again, these are ranches from which JBS bought directly. When questioned, JBS responded they could not access the cattle transport permits, but they are public documents made available for all. When it regards indirect suppliers, the situation is even worse, since there is no monitoring.

According to the report, the Norwegian auditor DNV-GL also failed to spot a vast number of sourcings from deforested areas and in spite of all the problems related to the lack of monitoring of indirect suppliers, the auditing company still recommended the reduction of the sample size of analysis⁵.

Marfrig’s auditing presented similar concerns. Between 2017 and 2019, the slaughterhouse bought cattle from 89 ranches with 3,300 hectares of deforestation. All illegal. In addition, they bought from ranches that overlapped Indigenous lands and lands occupied by landless people. When questioned, Marfrig answered that ‘a lack of an official traceability system makes it difficult’⁶. However, as mentioned above, the tracing data are public and available.

1 <https://imazon.org.br/os-frigorificos-vao-ajudar-a-zerar-o-desmatamento-da-amazonia/>
2 <https://www.greenpeace.org/usa/research/slaughtering-the-amazon/>

3 <https://jbs.com.br/imprensa/releases/jbs-publica-relatorio-que-comprova-boas-praticas-na-compra-de-gado-do-bioma-amazonia/>
4 <https://www.globalwitness.org/en/campaigns/forests/beef-banks-and-brazilian-amazon/>

5 <https://documentcloud.adobe.com/link/review?uri=urn:aaid:scds:US:-0dbd9907-6796-4c17-a0e9-c27a-d8b6f88a#pageNum=1>
6 DNV-GL, Avaliação ao Atendimento do Compromisso Público da Pecuária na Amazônia, page 11, <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=19&ved=2ahUKEwis49SglNnkAhXPPsAKHZOSCsAQFjASegQICBAJ&url=https://www.marfrigbeef.com%2Fuploads%2Farquivos%2FCompromisso-em-relacao-ao-Bioma-Amazonia.pdf&usq=AOvVaw3nTfP2eaPX8BXqnXyVsMLI>



Cattle farm in Santa Fé municipality, north of Tocantins state.

3.2 TRACING THE MEAT CHAIN: THE PARTICIPATION OF EUROPEAN CORPORATE ACTORS

Beef supply chains are complex, as cattle can pass through several farms for rearing and fattening before reaching the slaughterhouse.

Through analysis of the data made available by Trase Finance it is possible to assess the direct risk exposure associated with the financing of commodity traders. An example is Minerva, one of Brazil’s big three meatpackers, where at least a third of their gross revenue is from its Brazilian beef exports that were linked to 10,900 ha of deforestation risk from the expansion of cattle pasture in 2017. Minerva’s shareholders (such as Morgan Stanley [4.94%], Vanguard [2.21%] and BlackRock [0.4%]), which include major global investors that currently have no deforestation commitments, as well as financial institutions who have publicly recognized deforestation risk as an issue, including BNP Paribas (2.26%), BNY Mellon, a signatory to the Soft Commodities Compact (0.78%), and Robeco (0.39%). Some of whom are more actively engaging in improving sustainability practices than others.

Cattle and soy fields are, together, the two greatest causes of the deforestation of different biomes, such as the Amazon and the Cerrado. In 2015, the land made available for cattle and soy reached more than 203 million acres. Fifty percent of the exported soy goes to Europe³⁸. A moratorium for the cultivation of soy approved in 2006 and implemented in 2008 estab-

38 <https://www.dw.com/pt-br/os-riscos-do-fim-da-moratoria-da-soja/a-51441547>

Table 7 Top 5 EU meat importers from Brazil

| Importer | Country | Volume |
|-----------------------------|-----------|---------------------|
| Weston Importers | UK | 217.306.848.363.381 |
| Parker Migliorini Intl Gmbh | Switeland | 886.262.309.236.373 |
| JBS Global UK | UK | 217.150.393.737.331 |
| Perfect Beef | Belgium | 183.897.796.179.154 |
| Merlo Ercole | Italy | 913.110.669.720.404 |

Source Trase (2020). It was not able to find information for the value of the importation for ach importer.

lishes the protection of 80% of the Amazonian biome but only 35% of the Cerrado. The moratorium is now at risk with the agribusiness lobby and private interests, and companies such as the ‘national giant’ JBS do not appear to be respecting it³⁹. One should remember that 2/3 of the soy cultivated in Brazil is located in the Cerrado and the deforestation threatens the extinction of species and plants. More than 10 million acres of the Cerrado can still be legally destroyed.

The companies that must be held responsible for this situation are those that buy Brazilian meat and soy. Aldi Süd and Rewe⁴⁰, in Germany, are among

39 <https://www.theguardian.com/environment/2020/jul/27/revealed-new-evidence-links-brazil-meat-giant-jbs-to-amazon-deforestation>
40 <https://www.rfi.fr/br/brasil/20200614-peti%C3%A7%C3%A3o-pede-boicote-de-supermercados-alem%C3%A3es-ao-brasil-por-desmatamento-da-amaz%C3%B4nia>

the European buyers of Brazilian meat. In the United Kingdom, Tesco has been pressured to stop buying Brazilian meat.

In 2014, governments, civil society and private companies approved the New York Declaration of Forests⁴¹, aiming for the voluntary reduction of global deforestation until 2020. The states of Pará, Amazonas and Acre are among the Brazilian endorsers and Deutsche Bank and Nestlé are among the European ones. However, Nestlé, and also Carrefour, are, according to Mighty Earth⁴², among those who have not yet stopped buying meat from JBS and Marfrig. In Germany, Aldi Süd and Rewe⁴³ are also on the list.

Another important actor in the deforestation chain is the Casino Group, a French multi-banner food retailer. Casino has a subsidiary, Grupo Pão de Açúcar (GPA), which was Brazil’s second-largest retailer in 2019, with a turnover of R\$61.5 billion. It employed 110,834 people, more than any retailer in Brazil. This represents about half of Casino’s global workforce.

The company operates a wide range of hypermarkets, supermarkets, convenience stores, discount stores and wholesale stores and is also active in non-food segments, including renewable energy production, real estate, financial services, data analytics, logistics, and e-commerce. Casino is mainly active in France (7,946 stores) and Latin America (3,225 stores in Brazil).

Casino’s subsidiary, GPA, has not published regular and detailed updates on the implementation of its 2016 beef-sourcing policy. Although GPA’s recently updated policy is more comprehensive than previous versions, it still lacks time-bound goals and specific time-lines. Casino and GPA face a significant legal risk due to allegations of non-compliance with French law. In September 2020, a coalition of organizations submitted a preliminary legal filing under the French Law on Duty of Vigilance, asking Casino to respect its legal obligations to take all necessary measures to exclude from its supply chain all beef linked to deforestation.

Suppliers to GPA with at least one meatpacking plant located within the Amazon biome, or suppliers that purchase livestock in the Amazon biome, are required to use the monitoring protocol of the Beef on Track (Boi na Linha) project. Imaflora created this project in 2019, with the support of the Federal Public Prosecution Service, to strengthen the social and environmental commitments of the beef production sector.

Those companies that buy meat are not the only actors in the deforestation chain. JBS, Marfrig and Minerva received more than R\$9 billion in investments and loans from European and non-European banks that signed environmental agreements including Deutsche Bank, Santander, BNP Paribas and HSBC. Unfortunately, ‘an absence of law in the EU makes them not required to do due diligence on deforestation’⁴⁴,

HSBC expressed its concerns with the connection between JBS and deforestation but recommended in the same document that investors ‘buy shares in




JBS’⁴⁵. The bank also underwrote almost \$1 billion in bonds for Minerva when the company failed to monitor its indirect suppliers, who were linked to illegal deforestation.

When questioned, Santander affirmed that Marfrig ‘was in compliance with the agreements’. Santander held, in April 2020, \$3 million in shares with Marfrig while BNP Paribas held \$3.2 million. Both banks are founding members of the Banking Environment Initiative that aimed for zero deforestation by 2020⁴⁶.

41 <https://www.nydfglobalplatform.org/>
42 <https://stories.mightyearth.org/amazonfires/index.html>
43 <https://www.rfi.fr/br/brasil/20200614-peti%C3%A7%C3%A3o-pede-boicote-de-supermercados-alem%C3%A3es-ao-brasil-por-desmatamento-da-amaz%C3%B4nia>

44 <https://www.globalwitness.org/en/campaigns/forests/beef-banks-and-brazilian-amazon/>
45 HSBC Global Research, JBS (JBSSÉ BZ), Buy: Catalysts abound, page 1
46 [http://climateinitiativesplatform.org/index.php/Banking_Environment_Initiative_\(BEI\)](http://climateinitiativesplatform.org/index.php/Banking_Environment_Initiative_(BEI))

Table 3 Investments and loans received by JBS, Mafrig and Minerva (2017-2019)

| INVESTMENTS AND LOANS RECEIVED BY THE THREE BEEF COMPANIES BETWEEN 2017 AND 2019 | | |
|---|---|---|
| Beef traders | Amount of Investments and loans received between 2017 and 2019 in USD | % share of finance by jurisdiction of origin (according to the headquarters of financier facilitating or providing the finance) |
|  | \$ 4,8 billion | Brazil - 59% US - 34% EU - 2% (excluding UK) UK - 1% Others - 1% (of which Canada accounted for 65%) |
|  | \$3,5 billion | Brazil - 45% EU - 14% (excluding UK) UK - 14% US - 12% Others - 14% (of which Japan accounted for 65%) |
|  | \$ 1,3 billion | Brazil - 45% US - 30% EU - 14% (excluding UK) UK - 9% Others - 1,5% (of which Switzerland accounted for 33%) |

Source Table extracted from Beef, Banks and the Brazilian Amazon study.¹

Cattle don’t need trees – Deforestation, forest risk commodities and illegal wood market

Illegal wood comes from indigenous lands and conservation units, from public areas, or from areas outside the management area located mainly in southern Amazonas, Rondônia and Roraima. The largest preserved portions of Amazonian forest in Brazil are located within the perimeter of Indigenous reserves. As Brazilian environmental agencies are increasingly losing their ability to monitor the illegal timber trade, Indigenous peoples end up playing a central role, organizing initiatives to monitor and combat deforestation within their areas. Their reserves are always being invaded, whether by loggers, land grabbers, rural producers or illegal miners. There are several countries to which illegal timber is destined: the United States, Germany, Spain, England, Portugal, France, Holland, Belgium, China, Thailand, Estonia, Lithuania, Italy, the Dominican Republic, Haiti, Puerto Rico, Taiwan, India and Mexico.

The first step in the fraud scheme is the occupation of (public) land by squatters. Land

grabbers take over the land by buying and selling false property documents.

In the Amazon, the roads used by logging have been created through once-pristine forests. Usually, deforestation is financed with money earned from the extraction of illegal timber and the sale of the noblest trees. After the extraction of the most valuable trees, that is, illegal wood (which has been done with increasing sophistication by the gangs, to escape satellite monitoring conducted by environmental agencies) the remaining vegetation is burned to transform the place into cattle pastures or, although rarer, into plantations.

Through bribes and false documents, the scheme is ‘legalized’. Some employees are involved in the fraud scheme, allowing loggers to remove timber from areas not authorized by the Forestry Document Issuing System (Sisdof).

In Brazil, the furniture sector, and the civil construction sector, especially in the Southeast and Southern regions, also consume illegal wood. According to an Imazon report, Brazil is the largest consumer of tropical wood in the world. The state of São Paulo alone consumes more than twice the tropical wood of France, the

main consumer among the countries of the European Union.

Amata S.A., one of the companies suspected of removing and selling illegal wood from the Amazon forest by the Federal Police, is based in São Paulo, and has part of the federal government concession to explore the National Forest (Flona) of Jamari, in Rondônia.

In Pará in early February 2020, Ibama’ issued, retroactive export licenses for five containers of supposedly illegal timber that were held in the United States, Belgium and Denmark. Ibama’s Normative Instruction 15 (2011), which establishes the procedures for the export of wood products and by-products of native species from natural or planted forests, states that the export of wood products of native origin ‘will depend on Ibama’s authorization at the place of export’, that is, the licenses issued by Ibama’s superintendent could only have been given before the cargoes left Brazil.

In the specific case of the retroactive license issued by the super-

1 Walter Mendes Magalhães Junior is a licensed police officer who was pointed out in October 2020 as superintendent of Ibama in Pará, although he never had any experience with environmental regulation.

1 <https://www.globalwitness.org/en/campaigns/forests/beef-banks-and-brazilian-amazon/>

intendent of Ibama in Pará, in early 2020, the wood belonged to Tradelink, a British company, based in London and with a Brazilian branch located in Ananindeua, in the region of Belém, in Pará. The company accumulated R\$5 million in fines from Ibama - of which it paid only R\$12,000. With the retroactive export authorization, Tradelink redeemed R\$795,000 in cargo.

The application for a retroactive license came from two associations. One of them was the Association of Wood Exporting Industries of Pará - Aimex - which brings together 23 companies in the sector that, according to Ibama, received a total R\$15.17 million in fines for deforestation between 2003 and 2018. Little is known about the second association.

The measure taken by the president of Ibama in February 2020 not only opens the way for illegal logging in Brazil but also shields countries that receive the product at the end of the chain in Europe, as it prevents these countries from being linked to illegal deforestation in the Amazon.

In addition to deforestation and the destruction of the envi-

ronment, there is a great increase in violence in forest regions. Activists and resistance movements are targets of violence, death threats and murders; there have been 28 murders and 44 attempted murders or threats since 2015 related to illegal deforestation.

The recent weakening of the monitoring of environmental crimes is one of the reasons for the failure of the authorities to contain violence. There is evidence that the perpetrators of the attacks were illegal land grabbers or loggers - a criminal network that, far from being adequately fought by the successive governments of Brazil, is now strengthened by the speech and actions of President Jair Bolsonaro.

Greenpeace investigated Valdelir, who owns two lumber companies that export wood: Industry, Trade and Export of Woods Cedro Arana Ltda Epp, located in Machadinho d'Oeste, in Rondônia, and Madeiras G.A. Indústria Comércio Import Exportação de Madeiras Ltda Epp, based in Colniza, Mato Grosso. According to information in the report, Madeiras G.A. sent thousands of cubic meters of logs to

Madeira Cedroarana.

Madeira Cedroarana has been acting as a sawmill and exporting wood since 2005. According to the Greenpeace report, between January 2016 and August 2017, the company exported Amazonian wood to Germany, France, Holland, Denmark, Italy, and Belgium.

Companies that continued to import cedroarana wood after 2017²:

- Negative consequences for indigenous populations due to loss of land
- Corruption and lack of transparency
- Illegal logging and deforestation
- Environmental pollution
- Possibility of destroying fish stocks
- Violent conflicts with landowners due to lack of dialogue
- Risks for environmental activists and journalists (even homicide in the most extreme cases)
- Violation of labor laws.

² https://www.greenpeace.org.br/hubfs/Relatorio_MadeiraManchada-DeSangue.pdf



Deforestation in São Raimundo das Mangabeiras , MA

4 Mining

4.1 MINING CHAIN IN THE AMAZON AND CERRADO REGION

Industrial mining is an essential activity in the capitalist economic model (RANJAN, 2019). In addition to being an intensive activity in the generation of direct and indirect jobs and tax collection, metallic and non-metallic materials obtained through the transformation of ores are present in almost every activity of modern life.

However, this strength and potential of mining activity has consequences and negative impacts on the environment, such as the permanent devastation of the forest and native vegetation and consequently the worsening of the wildlife crisis. Brazil is one of the largest holders and exporters of mineral resources in the world, with emphasis on the following: niobium, iron, bauxite, kaolin, copper, tin, nickel, manganese, chrome and gold (IBRAM, 2018)⁴⁷. Industrial mineral production contributed 1.4% of the country's GDP in 2018, generating more than 2.1 million formal jobs (IBRAM, 2019)⁴⁸.

In 2019 - with Brazil already under the Jair Bolsonaro government - profound changes were made in sensitive parts of federal legislation that liberated mining of mineral resources in the Legal Amazon. With 45.2% of its territory covered by protected areas, the Legal Amazon has become the scene of intense conflicts related to activities such as mining, logging, agriculture, power generation and infrastructure works. Since the 2018 campaign period, these changes have been a priority issue on the Federal Government's political-economic agenda. In this way, the legalization policy of this activity opens space for the approval, only in Indigenous lands, of 4,332⁴⁹ requests for mineral research - the first stage for the authorization of exploration.

Illegal deforestation and land grabbing are added to the scenario. These factors have driven the reduction,

change of category or complete disaffection of protected areas in the Amazon in recent decades, a phenomenon scientifically designated as Protected Area Downgrading, Downsizing and Degazettement⁵⁰.

The only federal authority with the power to prohibit or authorize any mineral activity in the national territory is the National Mining Agency (ANM). In November 2020, the ANM approved 58 requests⁵¹ for ore mining or mining on Indigenous lands in the Amazon, even though this practice is prohibited by national legislation⁵².

In that context, obtaining an environmental license for mineral exploration, regardless of the size of the project, would be the first step for any mining project in Brazil. ANM, which was formatted in 2018, took over the functions of the former National Department of Mineral Production (DNPM) with the main task of regulating the activity of the sector and assuring the 'rationality' of mineral exploration. However, what has happened is an immense expansion in the granting of authorizations for mineral 'research' in these areas defined as 'Indigenous lands', reversing a downward trend in recent years.

More than 90% of the authorized mining processes significantly overlap protected Indigenous areas under the domain of the Federal Government. In addition, satellite images and other spatial analyses indicate a 91% growth since the beginning of Bolsonaro's mandate⁵³. This was the first time since 2013 that an increase in mining activities had been registered. Before that, numbers had been falling year after year. Based on that and on historical data, one can affirm that mining has a direct negative impact on forests through its processing plants and other facilities related to extraction⁵⁴. In addition, the effort in build-

⁵⁰ <http://sigmine.dnpm.gov.br/webmap>

⁵¹ INFOAMAZONIA. Agência do governo autoriza 58 requerimentos minerários em terras indígenas da Amazônia. <https://infoamazonia.org/pt/2020/11/agencia-do-governo-autoriza-58-requerimentos-minerarios-em-terras-indigenas-da-amazonia/#!/map=20394&story=post-61489&loc=-4.742999099999971,-56.40030240000001,7>

⁵² WWF - Mineração na Amazônia Legal e Áreas Protegidas - Situação dos direitos minerários e sobreposições

⁵³ AGENCIA PUBLICA. A mineração em terra indígena com nome, sobrenome e CNPJ. In: Jornal EL PAÍS. Março 2020. Encontrado em: <https://brasil.elpais.com/brasil/2020-03-02/a-mineracao-em-terra-indigena-com-nome-sobrenome-e-cnpj.html>

⁵⁴ Sonter, L.J., Herrera, D., Barrett, D.J., Galford, G.L., Moran, C.J.,

ing infrastructure for access and transportation of minerals results in forest destruction.

According to today's legislation, mining within Indigenous lands requires authorization from Congress, which has effectively prevented all industrial mining within these locations so far, although less effective in preventing illegal small-scale mining activities. A deeper analysis of the environmental impact could have been made possible through the use of data provided by environmental organs, including the analysis of possible environmental licenses. However, the lack of transparency, centralization and updating of environmental licensing data makes it impossible to conduct a comprehensive study of the Legal Amazon.

In February 2020, Jair Bolsonaro sent bill no. 191/2020 to Congress, allowing small and large-scale mining projects on Indigenous lands and nullifying the veto power of Indigenous peoples over such projects, violating the Brazilian Constitution and international agreements enshrined by Brazilian law, such as the International Labor Organization (ILO) Convention 169. A few months later, President Jair Bolsonaro himself, together with Minister of Mines and Energy, Bento Albuquerque, launched the Mining and Development Program (PMD) in September 2020. This program was developed without any participation from organized civil society and reflected only the proposals coming from the associations that represented the large companies in the sector. The document was a copy-and-paste of documents released by the corporations to define the 110 final goals that appeared in the program such as the goal of regulating mining in Indigenous Lands, suggested by the Brazilian Association of Mineral Research Companies (ABPM).

Within four years, the expectation is to have at least eight Indigenous Lands made available for mining, according to the Ministry of Mines and Energy. Advocating its own case, ABPM is also requesting R\$200 million in tax incentives for mineral research in the next four years. In this case, for example, the PMD speaks only of 'promoting the adoption of financing mechanisms for research and mineral production activities'. It does not say how, nor how much. But ABPM's request makes it clear. On Indigenous lands, the PMD says only that it wants to 'promote the regulation of mining on Indigenous land'.

The public plan hides the actual data and objectives by listing only open goals. The document obtained via the Brazilian freedom of information act (in Portuguese called Lei de Acesso à Informação) clarifies several unclear points behind the PMD, opens the numbers to Brazilian society and details

the lobby behind the program made by Jair Bolsonaro and Bento Albuquerque. In total, 110 goals were announced for the coming years within the PMD without listing resources, without really detailing how it intends to reach each one and without clarifying the interests that shaped the ambitious PMD. The document accessed shows, however, that dozens of entities contributed decisively to the result, dictating the content adopted. In addition to ABPM, the federal government collected suggestions from private sector entities and internal government bodies at a meeting held on 3 August 2020.

The Brazilian Portland Cement Association, the Association of Mining Municipalities of Brazil (Amig), the Brazilian Ornamental Stone Industry Association (Abirochas), the Brazilian Association of Mineral Research Companies (ABPM), the Brazilian Association of Mineral Coal (ABCM), the Geological Survey of Brazil (CPRM) and the Special Secretariat for Productivity, Employment and Competitiveness (SEPEC) of the Ministry of Economy were among the corporations participating in this meeting.

According to the MME, in response to the Observatory, 'after the accurate and punctual analysis of the contributions offered to the PMD, the main objective of defining the guidelines for the Brazilian mineral sector were observed and maintained' for the coming years. According to the ministry, the master plan is 'in line with the main government policies, programs and goals, such as the Multi-Year Plan 2020-2023, the Strategic Plan of the Ministry of Mines and Energy and the Structural Axes defined by the Presidency's Secretariat for Strategic Affairs of the Republic'. This also includes the National Mining Plan 2030.

No social movement, civil society organization nor association representing communities affected by mining and Indigenous peoples were heard by the Ministry of Mines and Energy to define the master plan. No public consultation was made, except for a call stating that suggestions could be forwarded to an institutional email, which under no circumstances could be considered a public consultation.

The problem in the Ministry is structural. Its proximity to the mineral sector is obvious, and the participation of society is null. MME has historically been close to companies. The ministry understands that its function is not to regulate mining, but to expand and accelerate the greatest possible amount of exploration', says Milanez.⁵⁵ According to the researcher, the PMD looks more like a collection of initiatives without coordination, a

4.2 TRACING THE MINING CHAIN: THE PARTICIPATION OF EUROPEAN CORPORATE ACTORS

In 2019 Bogari e Akl Comércio Importação e Exportação Ltda led the requisition of land for mineral exploration on Indigenous lands. This company belongs to the plastic artist Sami Hassan Akl and until the beginning of 2020 it had placed seven orders for diamond mineral exploration on Indigenous Lands.

One of its subsidiaries, the Anglo American (UK) - Anglo American Níquel do Brasil, the largest nickel producer in the country, made six requests for exploration on Indigenous Lands in 2019.

Throughout this decade, there have been 46 applications on Indigenous Lands. The Anglo group also faces lawsuits related to environmental violations in Brazil. The company's iron ore arm is the subject of a public civil action by the Public Ministry of Minas Gerais due to the rupture of a pipeline in the municipality of Santo Antônio do Gama, in Minas Gerais. The Minas Gerais State MP also charged R\$400 million in court as compensation for collective moral and social damages to the communities impacted by the Minas-Rio Oil Pipeline - a case already addressed in our report.

The Minas Gerais Federal Public Ministry demanded the suspension of the operating licenses already granted to Anglo as well as the environmental licensing of the Minas-Rio project. Also in 2018 - before the Bolsonaro government - the company was charged a fine in the amount of R\$72.6 million for the two leaks that occurred in its Minas-Rio pipeline in March, which resulted in the pollution of the Santo Antônio do Grama region, in the state of Minas Gerais. The accidents released 947 tonnes of iron ore into the ar-

ea. After the accidents, Ibama's environmental licensing department immediately ordered the shutdown of the pipeline operation. The fines related to the first accident totaled R\$40.1 million, of which R\$12.5 million was levied for the contamination of public human health; R\$15 million for pollution in the river, which created the need to interrupt the collection and supply of water to the surrounding population; and an additional R\$12.5 million for the release of ore in violation of the legislation.

The impacts are incalculable⁵⁶: degradation of nature, consequences for the communities, impact on hunting, farming and fishing and risk of contamination of rivers by mercury.

Another subsidiary from Anglo, the English Anglo American Níquel, obtained 27 authorizations to prospect for copper sources in areas overlapping the Indigenous lands of the two states. One of these locations, on the Sawré Muybu, in southeastern Pará⁵⁷, where the Munduruku people live, was the main target.

Another infamous case involved Norsk Hydro, a bauxite and aluminum mining and refining company also known as 'Hydro'. The company has a revenue of US\$13 billion and its majority shareholder and controller is the government of Norway, with a 34.4% stake. Hydro was accused by the Brazilian public ministry of leaking toxic waste from basins of the Hydro Alunorte refinery.

⁵⁶ <https://mab.org.br/2018/03/12/anglo-american-e-novo-crime-da-minera-na-bacia-do-rio-doce-0/>

⁵⁷ <https://theintercept.com/2017/06/13/governo-esta-prestes-a-aprovar-projetos-a-favor-de-grilagem-e-outros-crimes-ambientais/>



Impacts on the river Casa that cuts the downtown of Santo Antonio do Gama, Minas Gerais state

and Soares-Filho, B.S. (2017). Mining drives extensive deforestation in the Brazilian Amazon. Nat. Commun. 8, 1013.

⁵⁵ <https://observatoriodaminerao.com.br/pressionado-governo-federal-considera-mineracao-atividade-essencial-e-se-torna-cumprimento-de-mineradoras/>

This operation, located in the municipality of Bacarena, in the state of Pará, near the Amazon River, is the largest aluminum refinery plant in the world. The company denied being responsible for any leaks, but argued that it was cooperating fully with the authorities. The contamination was discovered when heavy rains hit Barcarena. Reddish waters spread across the city. The preliminary analysis detected the presence of high levels of metals including aluminum and lead in the waters that supply the local riverside communities - in some cases, up to 35 times higher than recommended by Brazilian legislation. The situation worsened with the discovery of two clandestine channels in the refinery used to dump tailings.

Norsk Hydro was also accused of having a ‘clandestine pipeline to release untreated effluents’ into a set of springs on the Muripi River. The Norwegian mining giant initially denied the accusation, but later admitted it. The local population, which uses water near the springs for recreation, consumption and fishing, was affected by the pollution; in addition, soil in the area had been contaminated. The Norsk Hydro group admitted that Hydro Alunorte, its alumina refinery in the city of Barcarena, in Pará, which processes the raw material for aluminum, discharged untreated water into the Pará River.



Metals such as arsenic, lead and cadmium - effluents from Norsk Hydro - have been found in Barcarena (PA)

Trade Misinvoicing in the Mining Sector¹

In Brazil, the taxes on mineral products are basically the Corporate Income Tax (IRPJ), the Social Contribution on Net Income (CSLL), the Contribution to the Financing of Social Security (COFINS), the Integration Program Social and the Civil Servant Heritage Training Program (PIS / PASEP), and the Tax on Circulation of Goods and Transport / Communication Services (ICMS). Bearing in mind that most of the mineral extraction is exported, we will focus on taxes that are levied on the

export of mineral products.

PIS / PASEP, COFINS, ICMS taxes and, in addition, the Export Tax (IE) are immune to exports. That is, the mining companies do not pay anything from IE, ICMS, PIS / PASEP and COFINS on what they export. The IRPJ and CSLL, which is the tax on the profit of the mining companies, are left over.

One of the increasingly common practices, not only of large mining companies, is to open branches in other countries, especially the so-called “tax haven” countries. Thus, the export goes through intermediate stages of circulation (transfer, usually only “on paper”) between establishments of the same company (mining company), located in different countries. In fact, the most appropriate name for “tax haven”

countries would be “tax-criminal havens”, as they play a key role in the structure that allows large corporations to evade tax payments in the countries in which they operate.

It is estimated that under-invoicing in iron ore exports produced a leak of US \$ 39.1 billion between 2009 and 2015, an average loss of more than US \$ 5.6 billion per year². The under-invoiced amount was associated with a loss of tax revenue of US \$ 13.3 billion for the same period, which represents an average annual loss of US \$ 1.9 billion.

The Brazilian mining company Vale SA, used the artifice of “artificial transfers” of iron to a subsidiary in Switzerland, stopped

¹ <https://ijf.org.br/wp-content/uploads/2020/09/Resource-Extraction-in-Brazil-Trade-misinvoicing-in-the-mining-sector-Setor-de-mineracao-versao-EN-US-2019-06-19.pdf>

² <http://www.ihu.unisinos.br/570413-artificio-fiscal-de-mineradoras-leva-us-2-bilhoes-dos-cofres-de-minas>

| Flow | Manipulation | Illicit Motivation |
|---------|-----------------|---|
| Exports | Over-invoicing | • Using of subsidy schemes • Unreported repatriation of capitals (from abroad) |
| | Under-invoicing | • Using of subsidy schemes • Unreported repatriation of capitals (from abroad) • Misappropriation of illicit) unreported benefits • Offshore misappropriation of money from criminal activities • Evasion of capital controls (including those linked to the repatriation of capitals from the country to foreign countries • Evasion of foreign exchange controls • Evasion of customs tariffs |
| Imports | Over-invoicing | • Misappropriation of illicit) unreported benefits • Offshore misappropriation of money from criminal activities • Evasion of capital controls (including those linked to the repatriation of capitals from the country to foreign countries • Evasion of foreign exchange controls |
| | Under-invoicing | • Evasion of customs tariff • Unreported repatriation of capitals (from abroad) |

5 Social and environmental effects

With the agribusiness advance to produce commodities financed by EU companies and funds, the pressure and dispute regarding the use of land and the use of natural resources increases. The expansion of the soy production chain, mainly over the Amazon and Cerrado biomes, has caused deforestation, fires, contamination, silting and water extinction. Research by MapBiomas (2020) shows that the main aggressors of the Amazon Forest are the speculators who occupy public lands, which represent 75% of the land in this biome.

Public land policies and recognition of rural identities shows that the State acts as a contradictory agency; at the same time that it created policies for the recognition of traditional communities, it created land laws that do not guarantee their survival and favor the titling of land for the agricultural land market.

Indigenous peoples, peasants, riverine and riparian groups, Afro-Brazilians, fishermen from the Cerrado and the Amazon are fighting for the recognition of their traditional territories and facing the intensification of the process of land appropriation by national and foreign companies, especially after 2008.

CASE 1

Casino Group's beef supply chain in Brazil has links to four farms involved in illegal deforestation and their meat products are sold through Casino Group supermarkets across the country. On these farms, it

has been calculated that 4,497 hectares of deforestation for conversion to cattle pasture are linked to the beef supply chain of the group.

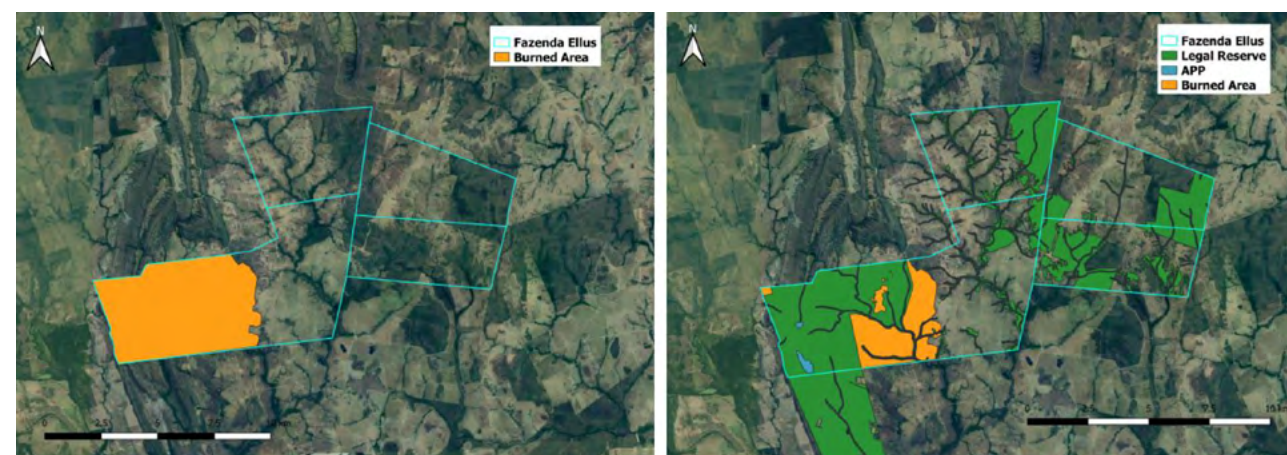
The meat from these farms, directly or indirectly connected with abattoirs that supply Casino Group, is sold as fresh meat in two stores, and is found in 54 meat products present in 10 stores. Besides this, one of the farms identified in Casino Group's supply chain was found to be responsible for the destruction of forest in the Arapytewa Indigenous reserve. The deforested area of this protected reserve more than quadrupled last year.⁵⁸

The investigation also revealed connections between abattoirs supplying Casino Group's stores and farms involved in deforestation as per the Mighty Earth's Rapid Response cattle reports. This is not the first time that Casino Group practices have been highlighted; in 2019 Chain Reaction Research found links between five high-risk abattoirs (identified by Imazon) and Casino Group⁵⁹. In 2020, Media-part found that at least one JBS plant supplying GPA/Casino was still destroying the Amazon rainforest.

Chain Reaction Research detailed the links between JBS in Araputanga and a deforested plot of land on the 'Fazenda Ellus' farm in the Amazon. Many animals were delivered from this farm to JBS' ab-

⁵⁸ http://envol-vert.org/wp-content/uploads/2020/07/Beef-Report_June-2020_Casino.pdf

⁵⁹ Groupe Casino, Éco-Responsable De La Déforestation / Beef Report June 2020.



Source Chain Reaction Research (2020)

attoir. According to Chain Reaction Research, this farm lost 6,120 acres of forest to fire in 2019, of which 4,848 were located within the Permanent Preservation Area (PPA).

According to the Brazilian Constitution (Sect II; art.7; part.I), these PPAs are supposed to be protected and managed by their owners.

CASE 2

The Land Pastoral Commission (CPT)⁶⁰, National Coordination of Articulation of Black Rural Quilombolas Communities (CONAQ)⁶¹ and Brazil Indigenous People Articulation (APIB)⁶² data reveals the commodity chain sector was not prepared to follow the guidelines of the World Health Organization (WHO) in facing the pandemic, spreading the virus throughout the countryside. The Regulation Order Number 19/2020 of the Ministries of Agriculture, Health and Economy, which provides for the prevention rules for the slaughterhouse industry, had little effect and the contamination cases did not decrease in the sector. The Brazilian Democratic Confederation of Industrial Workers of Food (CONTAC) estimates that at least 200,000 of the approximately 800,000 employees in the food sector have been infected, and between 25% and 50% of the food sector workers in the pork and beef production chains.

The Ministry of Work interdicted 11 slaughterhouses and has been investigating irregularities in another 213 places in 22 states after the abrupt COVID-19 contamination spread among the rural workers. JBS, the largest meat company in the world, had 700 employments sick in just one unit in Goiás, and 60% of the cases in São Miguel do Guaporé, Rondônia, were JBS workers. Two of them were quilombolas and

spread COVID-19 in their communities⁶³. In Mato Grosso, Indigenous Guarani, who work in a JBS unit in the city of Dourados, also transmitted COVID-19 throughout their territory⁶⁴. Because of the lack of COVID protocols, not caring for the workers' lives or public health, past corruption scandals, cattle production related to Amazon deforestation, some EU funds, such as Nordea Asset Management, stopped funding JBS⁶⁵. Despite that, JBS continues to control other meat subsidies companies in the EU.

According to the Association of Indigenous Peoples in Brazil, known as APIB, and the National Coordination for the Articulation between Quilombos, known as CONAQ, 146 different Indigenous nations and quilombos located in 15 states in Brazil were infected. The conditions of access to water in many traditional territories are a matter of concern, as it also hinders the hygiene conditions necessary to prevent the spread of the virus. Moreover, the access to health services are difficult and facilities could be more than 100 km away in some cases, i.e in the states of Amazon or Piauí; the majority of the traditional communities doesn't have public transportation or access to regular private transportation. For example, for residents of the communities located in Mirador Park, in Maranhão, the trip to the city of São Raimundo das Mangabeiras costs at least R\$150.00 (25 euros), which represents around 20% of a family's monthly income. From the communities of Salto and Assentamento Rio Preto, the cost to get to the city of Bom Jesus (Piauí), located 150 km away, averages between R\$500.00 and R\$600.00, which represents more than half of a family's monthly income⁶⁶.

⁶³ <https://www.cptnacional.org.br/publicacoes/noticias/geral/5312-nota-publica-cpt-denuncia-contaminacao-em-massa-por-covid-19-das-trabalhadoras-e-trabalhadores-do-setor-agroindustrial-e-outros-no-meio-rural>

⁶⁴ <https://apublica.org/2020/06/contaminacao-de-indigenas-em-dourados-partiu-de-frigorifico-da-jbs/>

⁶⁵ <https://www.theguardian.com/environment/2020/jul/28/investors-drop-brazil-meat-giant-jbs>

⁶⁶ Field work information's shared by Débora Lima in consultancy for Rede Social de Justiça e Direitos Humanos and FIAN International in 2019 and 2020.

⁶⁰ http://semcerrado.org.br/wp-content/uploads/2020/08/An%C3%A1lise_da_situa%C3%A7%C3%A3o_das_comunidades_do_Cerrado_31julho.pdf

⁶¹ <http://conaq.org.br/noticias/covid-19-boletim-epidemiologico/>

⁶² <https://emergenciaindigena.apiboficial.org/>

6 Conclusions

As the report showed, European corporates are still stimulating the production of commodities connected with deforestation in Brazilian biomes. Voluntary certification for sustainable production, assigned by European companies has proven to not be a solution. In the case of the soy, the monoculture-based soy cultivation model added to certified purchases based on credits (instead of physical supplies) still allow production chain linked to unsustainable growing practices (Van Gelder, JW, B. Kuemper, 2020)

Other important finding is the role played by many European financial institutions, including the bank institutions, insurance companies and pension funds, which enable irresponsible production of cattle ranching and soy cultivation, through direct financing companies, farms and the land market. According to the information collected by this report, over the last years, these European corporations did not have an appropriate approach to prevent directly or indirectly involvement with the practice of deforestation, aggression to traditional communities, etc. As a rule, the territories of the 'erased' peoples, identified as demographic 'voids' or private properties, are precisely in the priority areas for the expansion and investment of agribusiness.

The most important issues related to the land and to social, economic and environmental issues are:

- Land appropriation: the distribution of the rural land properties in Brazil exposes a scenario of high land concentration and income. According to the 2017 Agricultural Census, establishments of more than 1000 ha account for 1% of the total and were distributed in 47.5% of the total area in the national territory. A land asset in which the price appreciation has far exceeded the rate of inflation in recent decades. The productive, financial and speculative interest in acquiring and leasing large tracts of land

was linked to the growing demand for agricultural products, the detachment of financial capital for the commodities market, and public policy operating consistently in the expansion of commodities. The income of the agricultural sector in the last two decades has risen by around 134.1%, at an average annual growth rate of 6.7%. The logic of land concentration allows the agrarian elite to stock a significant portion of agricultural wealth.

- Dependent equity relations associated with international financial capital and multinational commodity conglomerates: global control of national agricultural commodities, with a transnational dimension with speculative-financial gains from oligopoly, and the corresponding financial infrastructure and the complementary speculative system of derivatives.

- Fund Land tenure regularization of land grabbing, raising public land to private status, without having to comply with the constitutional principles of property. The advantage of this is that the ownership of the land represents an opportunity of profitability to the financial capital, that is, the financial logic transforming the land property into a speculation opportunity, besides the capture of the land and capital rents for commodity purpose.

- Agricultural sustainability in the context of contemporary financial globalization when sustainable commodities have become a class of financial assets, and mostly roundtables and sustainable aspects have been disrespected.

7 Recommendations

In face of this context, it is urgent to implement effective law enforcement, building more ambitious goals for deforestation reduction (including from the perspective of all private sector involved in the commodities chains that operates in fragile biomes), and to provide more attention in strict protection areas and the installation of a good real time deforestation detection system.

European countries whose businesses import, finance, or invest in forest-risk commodities should:

- Introduce legislation requiring businesses, including finance, to identify, prevent, mitigate, and report on deforestation risk and forest-related human rights risks.
- Ensure that trade negotiations with Brazil do not increase the pressure on Brazil's forests by promoting trade in soy, meat, mining and other commodities linked to the deforestation of the Amazon and Cerrado biomes.
- support efforts to improve technical assistance, training and environmental education for commodity farmers.

The financial actors, importers and traders' companies should:

- Immediately suspend any services, financing, or contracts with companies identified in previous NGO, Commodity Certification and Roundtable reports, and in court processes that are related to illegal deforestation, land conflicts and illegal agrochemical use until, at a minimum, the conditions are in place to undertake basic Due diligence on the part of the companies, including full supply chain transparency.
- Transparency regarding trade data and financial composition of the companies in reports or public sources.
- Investigate and report on whether they have legally misled their shareholders or clients as to their due diligence processes, including any potential exposure to handling the proceeds of crime.
- Call for Brazilian state authorities to ensure that publicly available and independent data that tracks the lifecycle of cattle, such as cattle transport permits, are easily accessible, as well as data regarding the soy chain production and the mining activities and their regional impacts.
- Provide financial incentives and credit options that support the recovery of degraded pastures and the adoption of moderate intensification prac-

tices and other land-use intensification strategies, such as crop-livestock-forest integration.

- Promote more streamlined processes for the application for and allocation of credit and other finance for sustainable practices..

The Brazilian government should:

- Reverse the recent defunding of forest enforcement and protection agencies and fully implement Brazil's Forest Code.
- Endorse laws that control the use of pesticides and agrochemicals.
- Stop fines forgiveness for deforestation and illegal use of pesticides.
- Create more rigid mechanisms and inspections for commodity land use, especially regarding environmental and labor conditions.
- Ensure the rights of Indigenous and traditional communities in accordance with the United Nations Declaration on the Rights of Indigenous Peoples and Convention 169 of the International Labor Organization.
- Increase transparency of data regarding the transportation of cattle (Guia de Transporte Animal, or GTA). Disclosing more information on the movement of cattle will help support efforts aimed at expanding monitoring and traceability to indirect suppliers in the supply chain.
- Create policies and incentives focused on the adoption of nationwide traceability and monitoring systems, leveling the playing field in the Brazilian cattle, soy and mining sectors.
- Support efforts to improve technical public assistance, training and environmental education for commodity farmers.

Considering the high level of soy and beef exported to EU linked to illegal deforestation (around 20% to soy and 17% to beef) and the potential increase it would reach if the EU-Mercosur agreement will be ratified by the EU Parliament as well as by the Brazilian congress, the renegotiation of issues concerning to trade, and environmental and social provisions should be re-open. New rounds incentivizing Brazil to enforce its laws and improve its regulatory frameworks to protect forests and human rights should be considered. This new round of negotiations, additionally, could offer a new opportunity for rigorous, broad and open consultations with civil society of potentially affected areas, in particular those related to the Amazon and Cerrado region, the most affected biomes under the last 10 years.

ENVIRONMENTAL AND SOCIAL CRISIS IN THE AMAZON AND CERRADO BIOMES

Bolsonaro government loosened or extinguished environmental protection norms

Irresponsible commodity production

Affected communities and threatened biomes

BOLSONARO'S GOVERNMENT

Attack on indigenous peoples

in bed with European corporations

Corrupt congressman in corporate pockets

Anglo American. Norsk Hydro ASA

Environmental disasters

SOY

"Brazilian soy exported to the European Union has a relatively higher level of deforestation compared to other countries"

Land market

Investment Funds
Deutsche Invest I Global Agribusiness

TIAA-CREF

TCGA I and II (TIAA)

Banks

Asset manager companies

Insurance companies

EQUITIES
LOANS
BONDS

Mutual funds

Pension funds

Investment funds

Archer Daniels Midland

Cargill

Bunge

Louis Dreyfus

BARTER
TRADING

National farmers

SANTANDER

BNP PARIBAS

HSBC

INVESTMENT FUNDS

LOANS AND INVESTMENTS
Summing up MORE THAN \$10 BILLION.
BETWEEN 2017 AND 2019

CATTLE GIANTS
including those
WITH EUROPEAN SHARES

ILLEGAL DEFORESTATION

EUROPEAN MEAT IMPORTERS

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