

## An Updated Version of the “Agrarian Brazil” Map<sup>1</sup>

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### Abstract

Cartographic representation is a language inseparable from geographical discourse, and maps are indispensable for understanding geographical phenomena, since space is the main object of geography. This article focuses on maps and the mapping process and is based on the agrarian question, critical map theory, and French Regional Geography. The objective of this article is to present an updated version of the map “Agrarian Brazil” and the main regional structures and dynamics of the Brazilian countryside, which were identified in the mapping process. The first version of the map “Agrarian Brazil” was released in 2008 and is available in the *Atlas of the Brazilian Agrarian Question*. The methodological procedures consisted of collecting and systematizing data from various sources, exhaustively mapping of various themes related to the Brazilian countryside, covering the period from 2006 (the penultimate Agricultural Census) to the year 2024, the selection of the most significant maps, and, finally, the construction of a synoptic map based on the French tradition of constructing *croquis* or map-models. The result of this work is a synoptic map that provides the reader with an overview of the main regional structures and dynamics of the Brazilian countryside today.

**Keywords:** Critical geographic cartography; agrarian question; land occupations; rural settlements; deforestation.

### Uma versão atualizada do mapa “Brasil Agrário”

### Resumo

A representação cartográfica é uma linguagem indissociável do discurso geográfico e os mapas são indispensáveis para a compreensão dos fenômenos geográficos, já que o espaço é o objeto principal da Geografia. Este artigo tem no mapa e no processo de mapeamento o seu centro e está alicerçado na questão agrária, na teoria crítica do mapa e na Geografia Regional francesa. O objetivo deste artigo é apresentar uma versão atualizada do mapa “Brasil Agrário” e as principais estruturas e dinâmicas regionais do campo brasileiro, as quais foram identificadas no processo de mapeamento. A primeira versão do mapa “Brasil Agrário” veio a público em 2008 e está disponível no *Atlas da Questão Agrária Brasileira*. Os procedimentos metodológicos constituíram no levantamento e sistematização de dados de várias fontes, no mapeamento exaustivo de diversos temas sobre o campo brasileiro, cujo período/data variam desde 2006 (penúltimo Censo Agropecuário) até o ano de 2024, na seleção dos mapas mais significativos e, por fim, na construção do mapa síntese baseado na tradição francesa de construção de *croquis* ou mapa-modelos. O resultado do trabalho é um mapa sinótico que permite ao leitor uma visão de conjunto das principais estruturas e dinâmicas regionais do campo brasileiro atual.

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**Palavras-chave:** Cartografia geográfica crítica; questão agrária; ocupações de terra; assentamentos rurais; desflorestamento.

## Une version mise à jour de la carte « Le Brésil Agraire »

### Résumé

La représentation cartographique est un langage indissociable du discours géographique et les cartes sont indispensables à la compréhension des phénomènes géographiques, puisque l'espace est l'objet principal de la géographie. Cet article est centré sur la carte et le processus de cartographie et s'appuie sur la question agraire, la théorie critique de la carte et la Géographie Régionale Française. L'objectif de cet article est de présenter une version actualisée de la carte « Brésil Agraire » et les principales structures et dynamiques régionales du monde rural brésilien, qui ont été identifiées au cours du processus de cartographie. La première version de la carte « Brésil Agraire » a été publiée en 2008 et est disponible dans l'Atlas de la question agraire brésilienne. Les procédures méthodologiques ont consisté à collecter et à systématiser des données provenant de diverses sources, à cartographier de manière exhaustive divers thèmes relatifs au monde rural brésilien, dont la période/date varie de 2006 (avant-dernier recensement agricole) à 2024, la sélection des cartes les plus significatives et, enfin, la construction d'une carte synthèse basée sur la tradition française de construction de croquis ou de cartes-modèles. Le résultat de ce travail est une carte synthèse qui offre au lecteur une vue d'ensemble des principales structures et dynamiques régionales du monde rural brésilien actuel.

**Mots-clés:** Cartographie géographique critique; question agraire; occupations de terres; installations rurales; déforestation.

### Introduction

This work is guided by three perspectives: a) the persistence of the agrarian question in rural Brazil, with its multiple contradictions and tensions; b) the conception of the map through the lens of critical cartography, understanding it as an analytical and discursive instrument inseparable from geographical research and discourse, whose critical and conscious use is indispensable for interpreting the agrarian question, by nature a territorial problem; and

c) the influence of French Regional Geography, particularly the strand inaugurated by Roger Brunet. From these perspectives, we arrive at the objective of this article: to present an updated version of the “Agrarian Brazil” map and to discuss the main regional structures and dynamics currently characterizing rural Brazil, identified through the mapping process.

We understand *regional structure* as the strong and persistent geographical phenomena shaping the regional configuration of the area under study—phenomena that tend to endure over time and constitute essential elements for understanding the issue and the space analyzed, as well as its regionalizations. We understand *regional dynamics* as

those elements that change—what emerges, shifts, or moves—signaling ongoing transformations within the regional expression of the problem and of the space examined.

The persistence of the agrarian question in Brazil (Fernandes, 2005; Oliveira, 2007), which informs our reference frame, emphasizes the set of problems present in rural areas, particularly conflicts and violence, struggles for land, agrarian reform, agribusiness expansion, and the advance of the agricultural frontier with its social and environmental consequences. Given that this study involves a synthesis aimed at identifying the main regional structures and dynamics of contemporary rural Brazil, it was necessary to select certain dimensions—those we consider most relevant for understanding the current configuration of the Brazilian countryside. Thus, the need for selection is inherent to all scientific work.

The critical theory of the map (Girardi, 2008, 2011, 2024a) is grounded primarily in the works of John Bryan Harley, especially his seminal article “Deconstructing the Map” (Harley, 1989), in which the author proposes a reading of the nature of the map that conceives it as a language—a social construction. From a critical perspective, the map, like other social and scientific constructions, carries the subjectivity of its author; it becomes an instrument subordinated to the interpretive method of its maker. The main foundations and most recent developments of critical map theory are found in the works of Harley (1989, 2005), Crampton (2001), and Crampton and Krygier (2008).

French Geography has historically been shaped by Regional Geography, whose most notable founder is Paul Vidal de La Blache. Regional analysis emphasizes mapping, particularly synthetic or integrative mapping. In the late 1970s and early 1980s, the geographer Roger Brunet formulated graphic modeling, or *chorématique*, a theoretical-methodological proposal for regional geographical analysis that quickly gained prominence in French Geography and, according to Álvarez (1998), constitutes the new French Regional Geography. Our reference to contemporary French Regional Geography lies in the adoption of many of the principles and practices of *chorématique*. “The main objective of *chorématique* is to analyze the systems of forces resulting from the interaction between different actors in the production of geographic space” (Girardi, 2011, p. 11), and within this framework are situated regional structures and dynamics. The principal work by Brunet for understanding *chorématique* is the article “*La composition des modèles dans l’analyse spatiale*” (Brunet, 1980). Other works that present the foundations of *chorématique* include Brunet (1986, 2001), Ferras (1993), Théry (2004), and Girardi (2008, 2024a, 2024b). Brunet (1986, 2001), Ferras (1993), Théry (2004), and Girardi (2008, 2024a, 2024b).

Although *chorématique* ultimately results in the elaboration of graphic models, its principles of investigation and of (carto)graphic synthesis are closely aligned with another

tradition within French Geography: the *croquis*.<sup>2</sup> Roger Brunet himself, since his earliest works, made extensive use of croquis, which constitute the very origin of *chorématique* (Girardi, 2024b). In his work *Le croquis de géographie régionale et économique* (Brunet, 1962), the author is concerned with the elaboration of croquis within the context of Regional Geography. He writes:

Regional geography is the synthetic study of a portion of terrestrial space. Far from being an inventory, it is an investigation of how this space is organized and how human beings benefit from it. [...] (p. 12). The objective of the croquis is to describe the region: it must express its content, not only the elements that compose it, but also the way in which they interact. It must symbolize the complex. Its merits are considerable: it allows one to grasp, at a single glance, both the region's personality and its structure; and, when read in detail, it reveals all its nuances. (p. 14).

Brunet's most celebrated work is itself a croquis or model-map: the *banane bleue* ("blue banana"), the widely known cartographic representation of the "European Backbone," proposed by Brunet (1989, p. 79) and also presented in Brunet (1987, p. 57). This representation outlines the structures and dynamics of Western Europe in terms of its most developed, less developed, and developing regions, its economic challenges, centers of gravity, and, ultimately, its European megalopolis—extending from the United Kingdom, where it exhibited signs of weakening, centered on Germany, and stretching southward to Rome, where the Italian segment of the megalopolis was gaining increasing importance. The principles underlying the elaboration of such croquis are virtually the same as those of *chorématique*. Another example of a synoptic map that adheres to the methodological principles of the croquis is the map "Limites et menaces", included in the *Atlas du Brésil* (Théry; Mello-Théry, 2018, p. 109). The *croquis* remain an important tradition in French Geography, and the production of a croquis is a fundamental component of the Agrégation examination, which geography and history graduates must pass in order to teach in the French secondary education system. There are works dedicated exclusively to methodological guidance for the elaboration of croquis for these candidates, such as those by Lézy and Nonjon (1999), Alfré and Chabert (2019), and Loïzzo and Tiano (2021).

Finally, a warning to the reader is necessary: in this article, the map is an integral component of both the research process and the geographical discourse; it is the geographical text — the main contribution this article offers. The maps must be read in detail, compared with one another, confronted with textual descriptions, explanations, and analyses, questioned, and related to the "Agrarian Brazil" map, and, why not, the reader should

<sup>2</sup> One must not confuse the croquis of the French geographical tradition—complex, synoptic constructions—with the croquis as defined in Brazil, which are highly simplified graphic or cartographic representations. I suggest consulting the bibliography on the French croquis tradition cited in the text of this article.

imagine other possible maps. What we present here is one possible cartographic interpretation among several that could be produced. The reader’s active dialogue with the maps is fundamental to understanding this article. The maps constitute the core of the research, and this is the contribution we intend to make to the analysis of the Brazilian countryside.

## Methodological Procedures

The exhaustive mapping of simple maps, the creation of maps based on the principles of cartographic visualization<sup>3</sup>, and the construction of a model map constituted the backbone of the research method that led to this article. To produce Map 12, it was necessary to analyze roughly one hundred maps covering diverse themes related to rural Brazil. The first eleven maps presented in this article are those we believe most closely support the justification for demonstrating the regional structures and dynamics shown in Map 12, although they are not entirely sufficient—they are simply those possible within the page limits of an academic article. In general, these eleven maps can present to the reader the vast majority of the regional structures and dynamics represented in Map 12. It is important to emphasize that the methodology for producing croquis and chorématique does not focus on small details, but on the most salient expressions — those taken as the basis for identifying regional structures and dynamics. The reader should be aware that we prepared and interpreted many additional maps before selecting the eleven maps included in the article and before elaborating on Map 12. This was an exhaustive exercise in comparing multiple maps to identify structural and dynamic elements. All maps presented here will be available in the *Atlas da Questão Agrária Brasileira* (Atlas of the Brazilian Agrarian Question) (Girardi, 2025) ([www.atlasbrasilagrario.com.br](http://www.atlasbrasilagrario.com.br)).

To elaborate on the various maps, data were collected from multiple sources covering the period 2006–2024, with emphasis on the 2017 Agricultural Census and, to a lesser extent, the 2006 Agricultural Census, allowing for comparative analyses. These data were aggregated by microregion or municipality in an Excel spreadsheet and organized in the format required for mapping with the Philcarto software (Waniez, 2025). In Philcarto, a mapping exercise with several trials produced hundreds of maps, of which only a portion was considered important enough to be included in the final layout. Even though many of these “discarded” maps were not used, they were essential for supporting decisions, prompting

<sup>3</sup> “Cartographic visualization consists of discovering and generating new information through mapping. It results from the evolution of techniques for exploring information through digital mapping, which has made it possible to work more efficiently with large volumes of data.” (Girardi, 2008, p. 69). For further reading on cartographic visualization, see also: MacEachren and Ganter (1990), MacEachren (1992, 1994), and Slocum, McMaster, Kessler, and Howard (2009).

searches for additional data to be represented, compared, and analyzed. This process constitutes a research and discovery procedure through mapping: cartographic visualization.

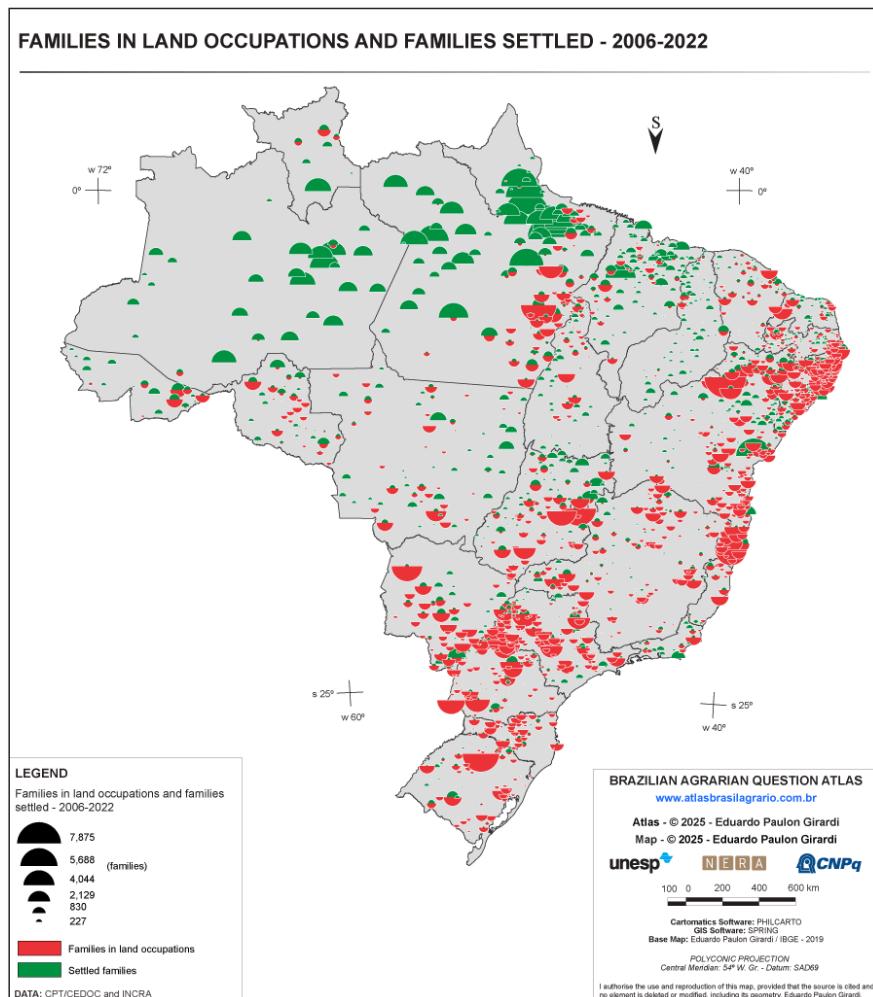
Finally, to construct Map 12, we revisited the first version of the “Agrarian Brazil” map, published in 2008 (Girardi, 2008). We compared the structures and dynamics represented in the original edition with those interpreted from the numerous new maps produced for this research, updating and incorporating new elements accordingly. The selection of colors, hatching patterns, shapes, orientation, and other graphic elements present in Map 12 posed a significant challenge. A map must be clear to its reader, and achieving such clarity comes at a cost to the cartographer. Not all regional structures and dynamics of rural Brazil are represented; instead, only those that, in our view, are most significant for understanding the Brazilian countryside are included.

## **Main Regional Dynamics and Structures of Rural Brazil**

### ***Land occupations and rural settlements***

One of the main structural features of rural Brazil is the territorial disconnection between land occupations and rural settlements. Between 2006 and 2022, 374,476 families participated in land occupations across Brazil, while 292,046 families were settled through agrarian reform programs. Whereas land occupations occur predominantly in the southeastern half of the country—where most of the Brazilian population is concentrated and where, consequently, most landless families are located—families are settled primarily in the northeastern half, especially in the Amazon region (Map 1). This mismatch results mainly from the high price of land in the regions where occupations take place, which makes expropriation—and thus the creation of rural settlements—more expensive under constitutional rules. Consequently, governments have treated the creation of settlements as a quantitative, rather than territorial, response to the issue of landless workers.

The large concentration of settlements in the Amazon stems from the presence of cheaper land for expropriation, the availability of public lands, and the recognition of small land claimants whose holdings are converted into settlement lots. Another reason is that the government includes, for statistical purposes, families living in extractive reserves—numerous in the Amazon—so that these populations may access agrarian reform resources. The mapping of data for the period 2006–2022 (Map 1) shows that this structure has persisted and has even worsened, as the families settled during this period are located almost exclusively in the central-northern Amazon. This is, therefore, a strong and enduring structure shaping rural Brazil, one that not only persists but becomes increasingly pronounced.

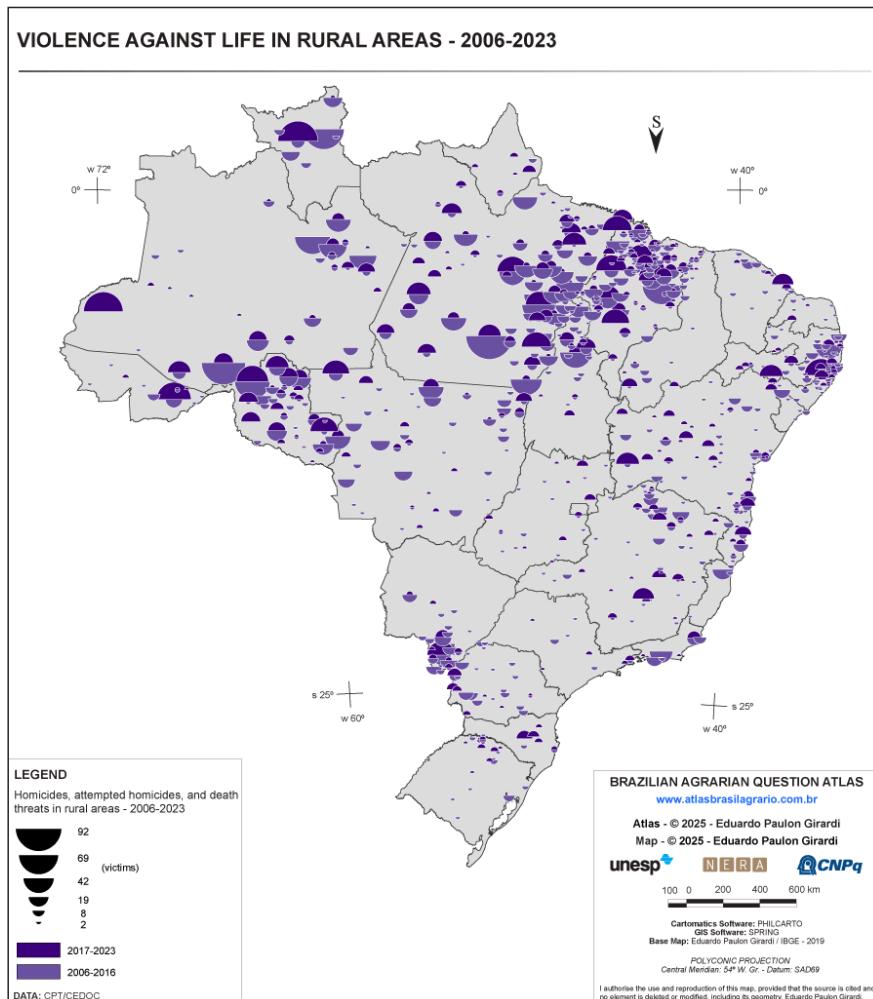
**Map 1: Families involved in land occupations and families settled – 2006-2022.**

### ***Violence Against Life in Rural areas***

Conflicts and violence in rural Brazil are intrinsically linked to the persistence of the agrarian question — a problem that has never been resolved through a broad and multidimensional agrarian reform. Violence is a defining characteristic of the Brazilian countryside and stems mainly from the impunity of perpetrators, the widespread land-tenure chaos that characterizes the country, and the existence of vast frontier areas undergoing expansion. In these frontier regions, there are already long-established peoples and communities, with or without formal land documentation. These areas also attract actors seeking to appropriate large tracts of land, legally or illegally, and, finally, they receive poor populations displaced from other regions. When the interests of these different groups collide, conflicts emerge — typically resulting in violence against property and persons. The victims tend to be the most vulnerable: traditional peoples and communities, Indigenous populations, and small farmers or land claimants. The Pastoral Land Commission (CPT) has

monitored such cases since the 1970s. There are various indicators of conflict and violence, but we focus here on the most severe, those representing violence against life: homicides, attempted homicides, and death threats. Between 2006 and 2023, according to CPT data, rural Brazil recorded 665 homicides, 1,009 attempted homicides, and 3,592 death threats.

**Map 2: Violence against life in rural Brazil – 2006-2023.**



Map 2 shows the concentration of violence against life in rural areas along Brazil's frontier region, with two well-defined clusters. The first encompasses southeastern Pará, northern Tocantins, and Maranhão — an old and well-known hotspot of rural violence. The second, smaller but more recent, is located in Rondônia and its surroundings — eastern Acre and southern Amazonas. Although it is clear that this is predominantly a frontier phenomenon, it is important to emphasize that such violence occurs throughout the country, albeit to a much lesser degree. Two smaller clusters also stand out: southern Mato Grosso do Sul, where land disputes between ranchers/land grabbers and Indigenous peoples

intensify, and western Paraíba and Pernambuco, where, as shown in Map 1, there is a strong concentration of land occupations led by socioterritorial movements.

### ***Deforestation and the agricultural frontier***

Deforestation occurs across the entire country and in all biomes; however, it is far more intense in the Amazon and the Cerrado. To visualize recent deforestation in the agricultural frontiers of the Amazon and MATOPIBA<sup>4</sup>, we produced Map 3 using data from INPE — Brazil’s National Institute for Space Research. Between 2008 and 2024, 13 million hectares were deforested in the Amazon and 16.1 million hectares in the Cerrado. The areas of highest deforestation in the Cerrado coincide precisely with the officially designated agricultural frontier: MATOPIBA.

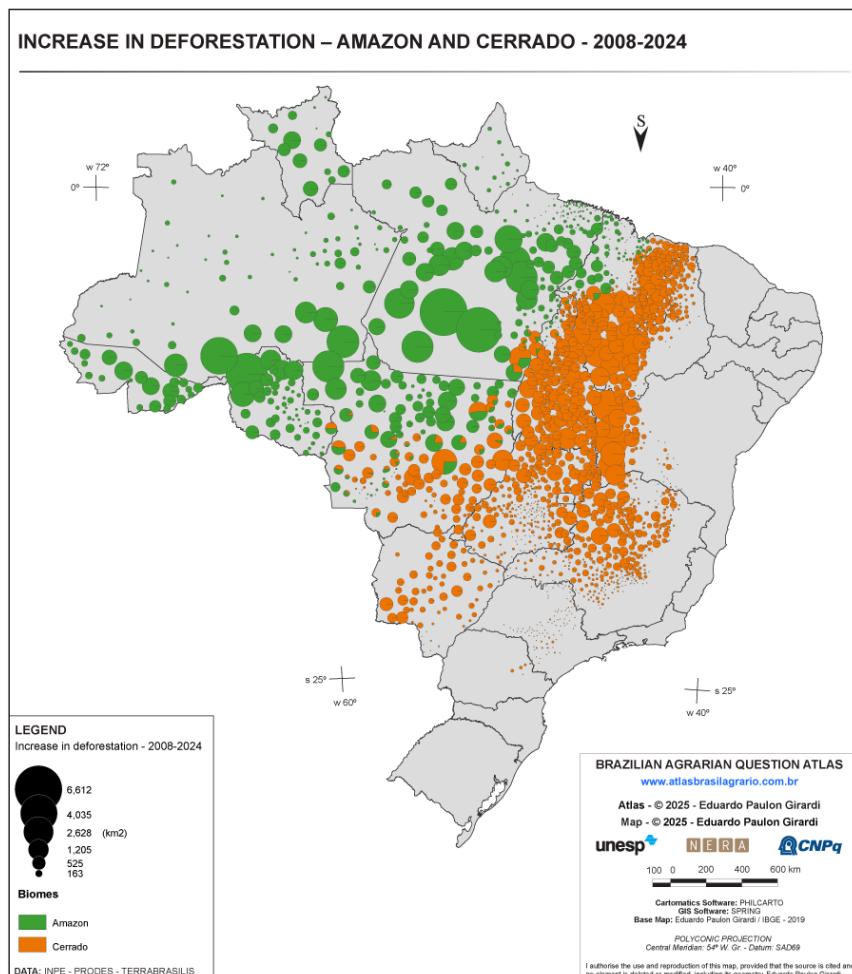
The establishment of ranches — that is, the legal or illegal appropriation of lands covered by native vegetation and their transformation into deforested areas for agriculture or traditional cattle ranching — is the central objective in both biomes. However, when Maps 3, 4, and 5 are examined together, an important distinction emerges: In the Amazon, the expansion of cattle herds into newly deforested areas plays the most significant role, characterizing the region primarily as a cattle frontier. In contrast, in the Cerrado, the main driver of deforestation is the expansion of grain and cotton agriculture. Comparing Maps 3 and 4 in the MATOPIBA region shows that establishing ranches is occurring much faster than the expansion of grain and cotton production. The entire MATOPIBA area exhibits intense deforestation, yet only western Bahia and southern Maranhão and Piauí constitute centers of high grain production. This pattern suggests a form of territorial anticipation: ranches are being established now in areas that are likely to be converted to grain and cotton cultivation in the future. Thus, although the agricultural frontier is a long-established structure in Brazil, the dynamics observed in MATOPIBA constitute a relatively new regional process within the Brazilian countryside.

Brazil’s cattle herd increased from 205.9 million to 238.6 million head between 2006 and 2023 — an increase of 32.7 million head, or 15.9%. However, this figure does not represent the total pressure exerted on frontier pastures, as shown in Map 4. A large portion of the Center-South — especially Rio Grande do Sul, Paraná, São Paulo, Mato Grosso do Sul, and the Triângulo Mineiro — lost cattle during this period, while the most significant increases occurred in Amazonian regions with the highest deforestation rates (Map 3), notably Rondônia and Acre, and to a lesser degree southwestern Pará and northeastern Mato Grosso. This is the primary trajectory of cattle movement during the period analyzed —

<sup>4</sup> MATOPIBA is a region of expanding grain and cotton agribusiness located in the northeast of the Cerrado biome, comprising the state of Tocantins and parts of the states of Maranhão, Piauí, and Bahia.

and one that is likely to continue. It represents a new regional dynamic nested within the already consolidated structure of cattle expansion into the Amazonian agricultural frontier.

**Map 3: Increase in deforestation – Amazon and Cerrado – 2008-2024.**

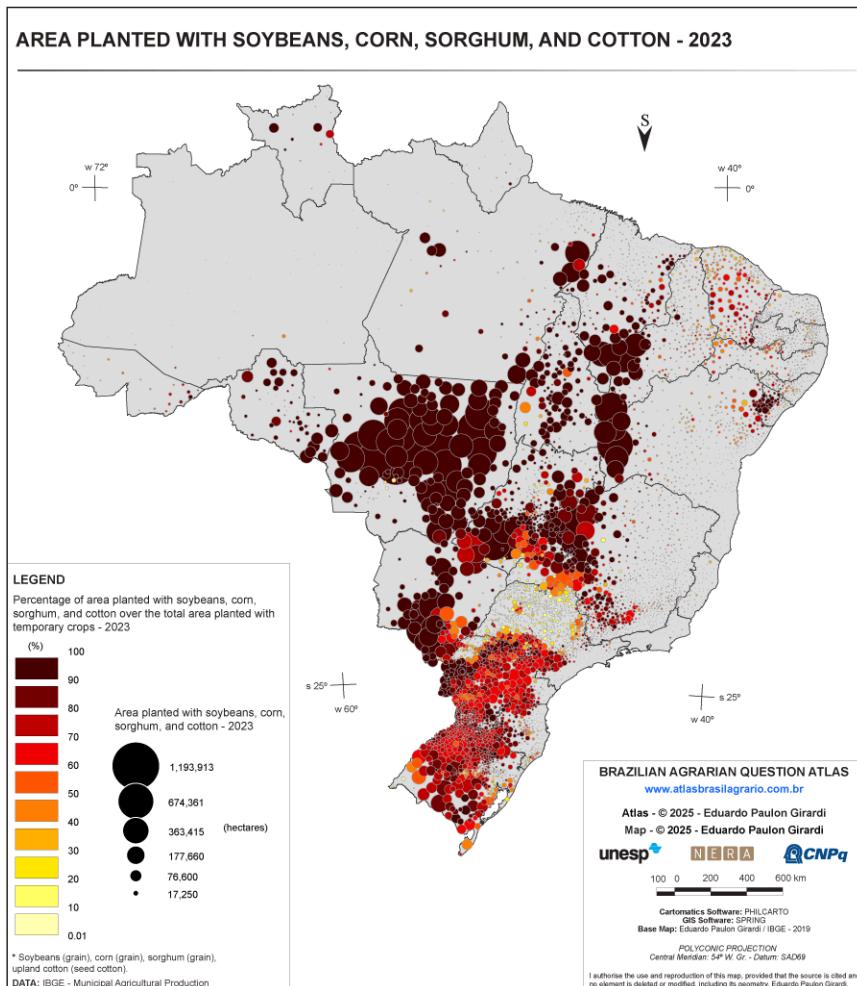


### ***The monopolization of land by agribusiness***

Over the past two decades, agribusiness has gained even greater strength in Brazil, exponentially expanding its production and continuously territorializing across the country (Sampaio; Girardi; Rossini, 2020). In 2023, Brazil cultivated 90.7 million hectares of temporary crops, of which: 44.4 million ha of soybeans; 22.5 million ha of corn; 10.1 million ha of sugarcane; 1.7 million ha of cotton, and; 1.3 million ha of sorghum. Together, these crops total 80.1 million hectares, representing 88.3% of all temporary crop land in the country. This demonstrates a clear territorial monopoly over agribusiness crops — a pattern that is likely to intensify in both magnitude and territorial reach. This constitutes an important regional structure for understanding agrarian Brazil. A caveat, however, must be made regarding corn. Although it is the second most important crop for agribusiness, corn

cultivation by family farmers for self-consumption, animal feed, and local sale is widespread. Nevertheless, when observing the evolution of corn-planted area between 2006 and 2017, there was a significant decline in production in the Northeast and South, and a strong increase in the Center-West and MATOPIBA. This indicates a loss of corn's relative importance in diversified family farming amid the accelerated expansion of monoculture agribusiness.

**Map 5: Area planted with soybeans, corn, sorghum, and cotton – 2023.**

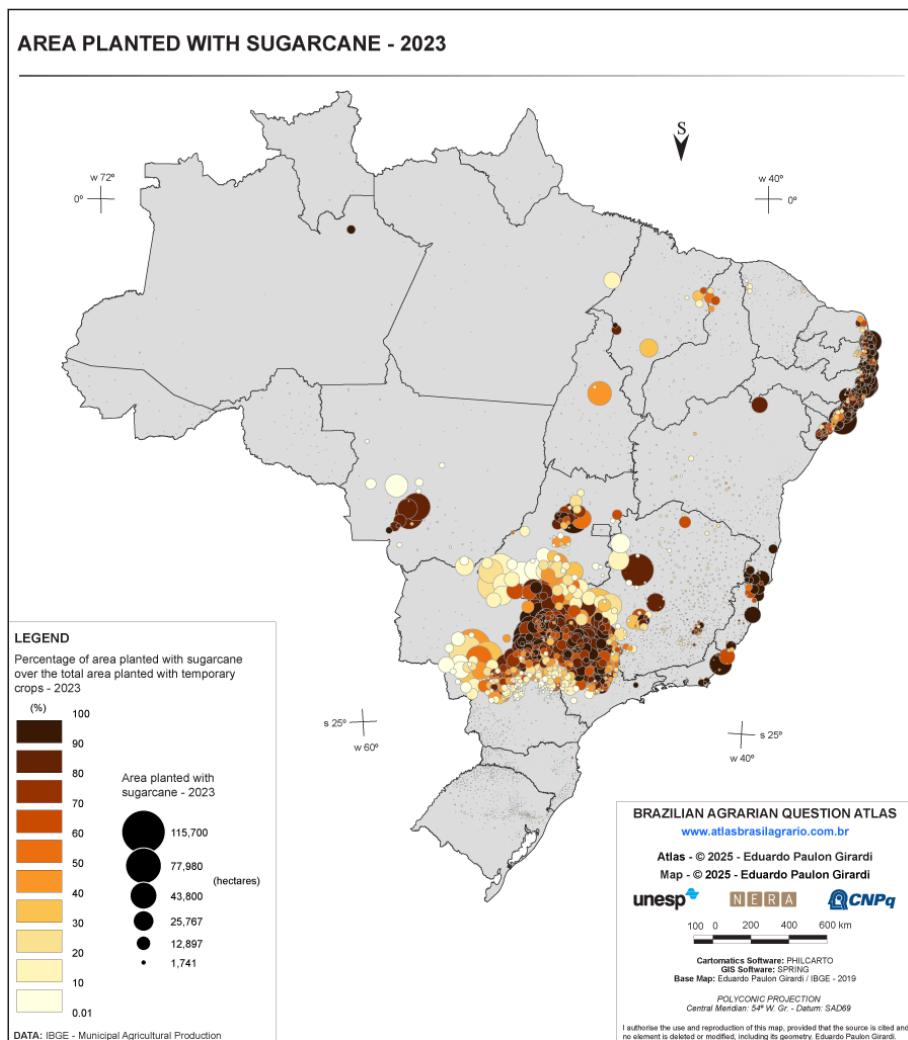


As shown in Map 5, soybean, corn, sorghum, and cotton production monopolize the Center-West and the main producing regions of MATOPIBA. In the South, these crops represent moderate proportions because the region has a high diversity of other crops that compete with these core agribusiness commodities, given its climate and agrarian structure that allow for diversified production. Another important analytical exercise is comparing Maps 5 and 6. Sugarcane has practically monopolized land in the state of São Paulo and, through spillover, its cultivation has expanded into the Triângulo Mineiro, southern Goiás, Mato Grosso do Sul, and northern Paraná. In these regions, sugarcane competes with the crops

shown in Map 5. It is evident that the principal center of sugarcane production is São Paulo and its surrounding areas.

However, it is also necessary to highlight the strong presence of sugarcane in the northeastern Zona da Mata, where it is a historical crop. Today, it occupies a coastal strip extending from Rio Grande do Norte to Sergipe, with sugarcane accounting for the vast majority of the temporary crops cultivated along this strip.

**Map 6: Area planted with sugarcane – 2023.**



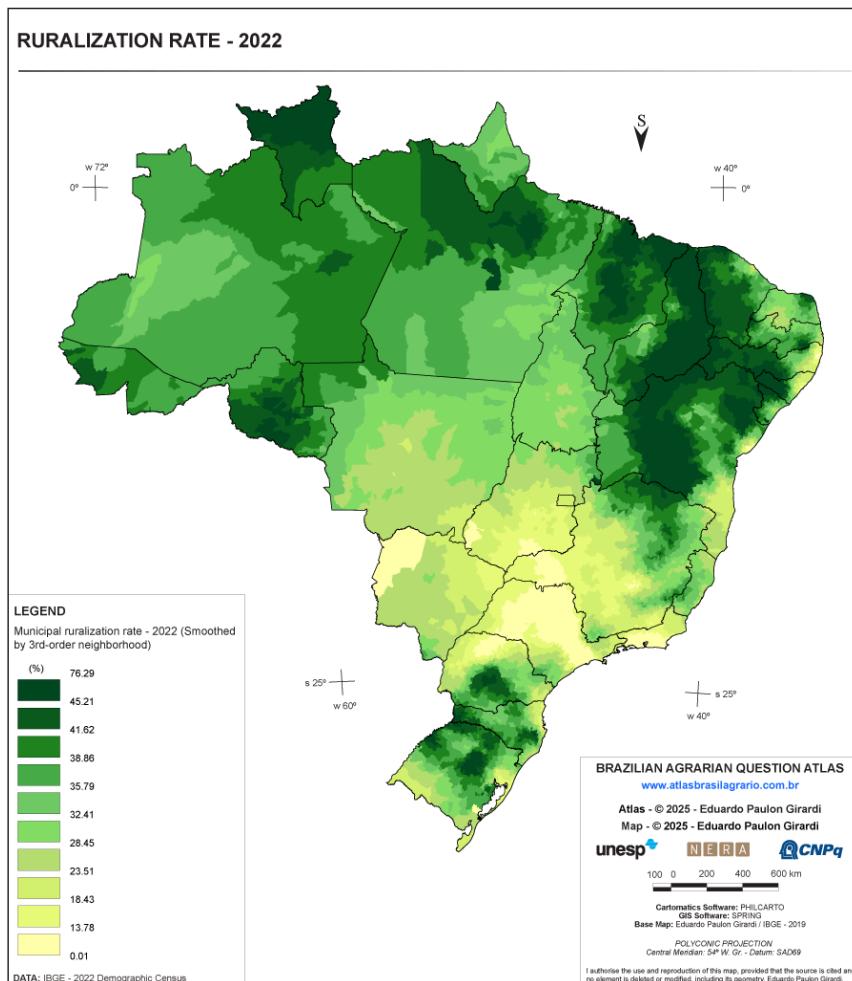
### **Population, family farming establishments, labor, technification, and production value**

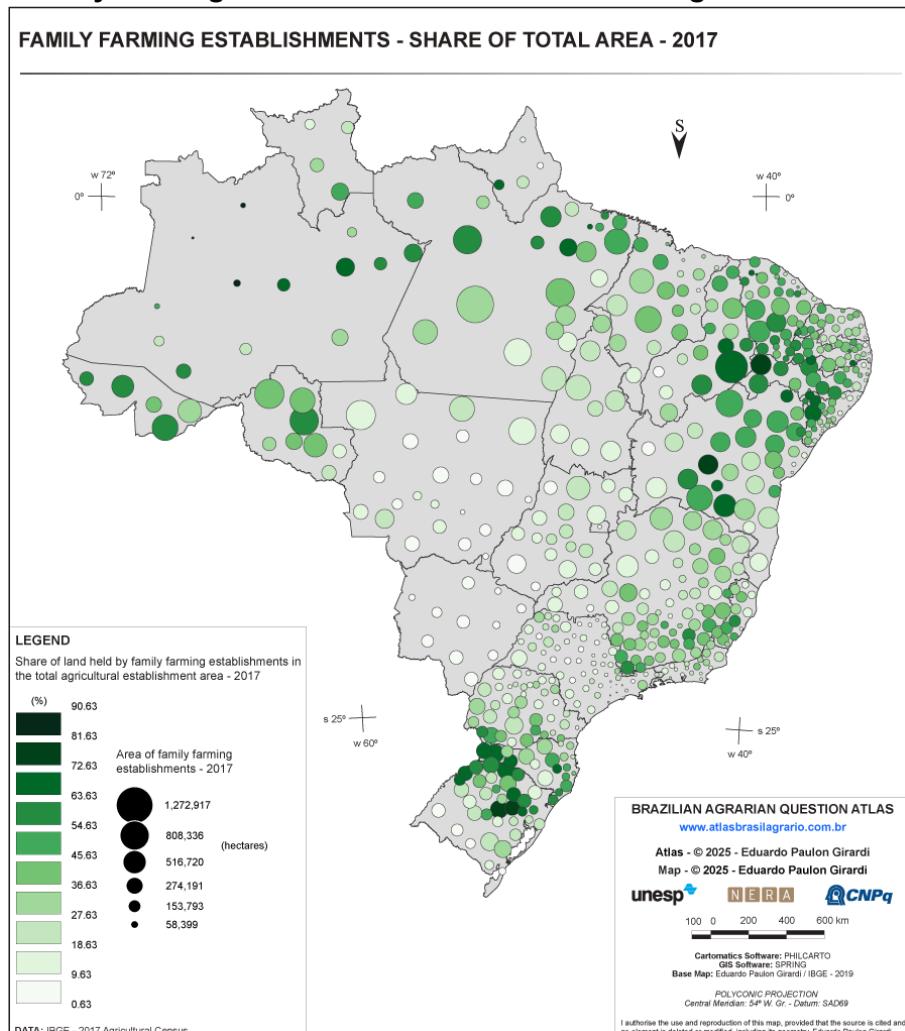
Brazil is among the countries with the highest urbanization rates. In 2010, the urbanization rate was 84.4%, and by 2022, the proportion of people living in cities had reached 87.4%. Even with a 12.3 million increase in the total population between 2010 and 2022, the rural population declined from 29.8 million in 2010 to 25.6 million in 2022 (a reduction of 4.2 million people living in rural areas). Although proportionally small, the rural

population remains significant in absolute numbers. Map 7 highlights the regions with the highest ruralization rates: the Northeast, the North, and the South. Map 7 directly corresponds to Map 8, as regions with higher ruralization rates also have a greater proportion of land held by family farming establishments. Taken together, the two maps delineate the most rural regions of the country — a strong and persistent regional structure within rural Brazil.

The total area occupied by agricultural establishments in Brazil increased by 17.6 million hectares between the two most recent Agricultural Censuses, 2006 and 2017. However, the area corresponding specifically to family farming establishments changed very little, rising from 80.1 million hectares in 2006 to 80.9 million hectares in 2017. As a share of the total agricultural establishment area, family farming declined from 24% to 23%.

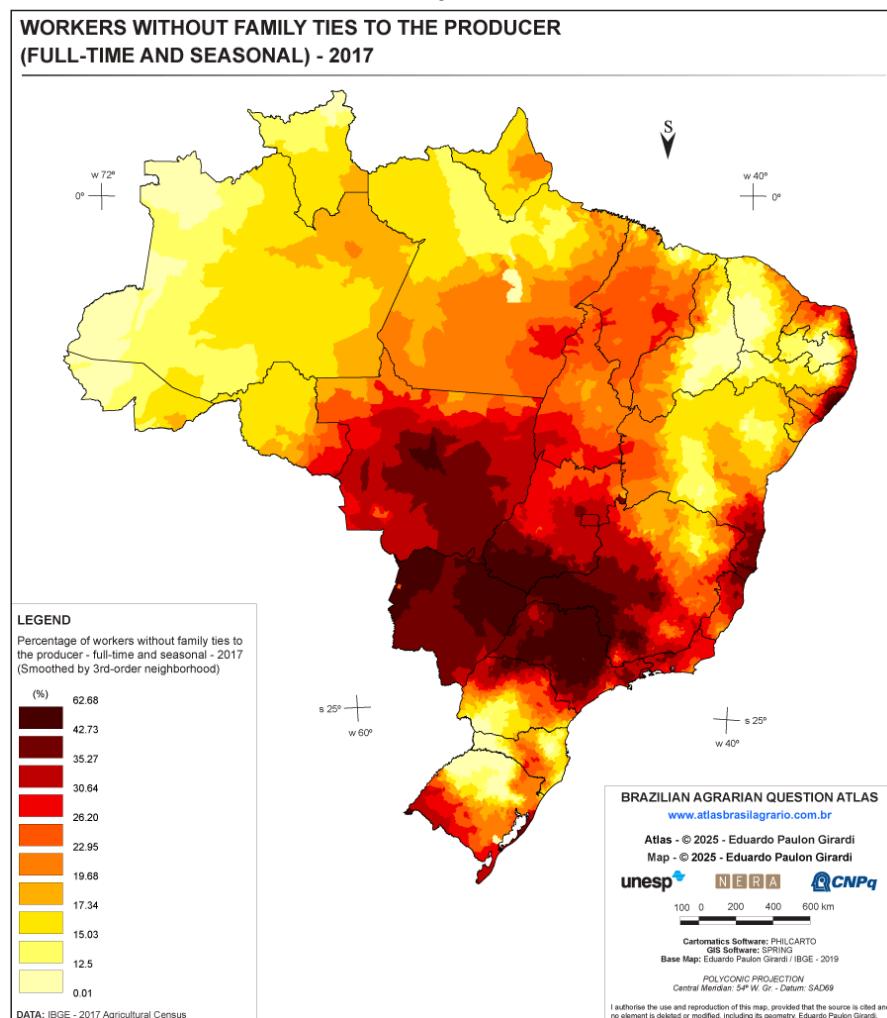
### Map 7: Ruralization rate – 2022.



**Map 8: Family farming establishments – share of total agricultural land – 2017.**

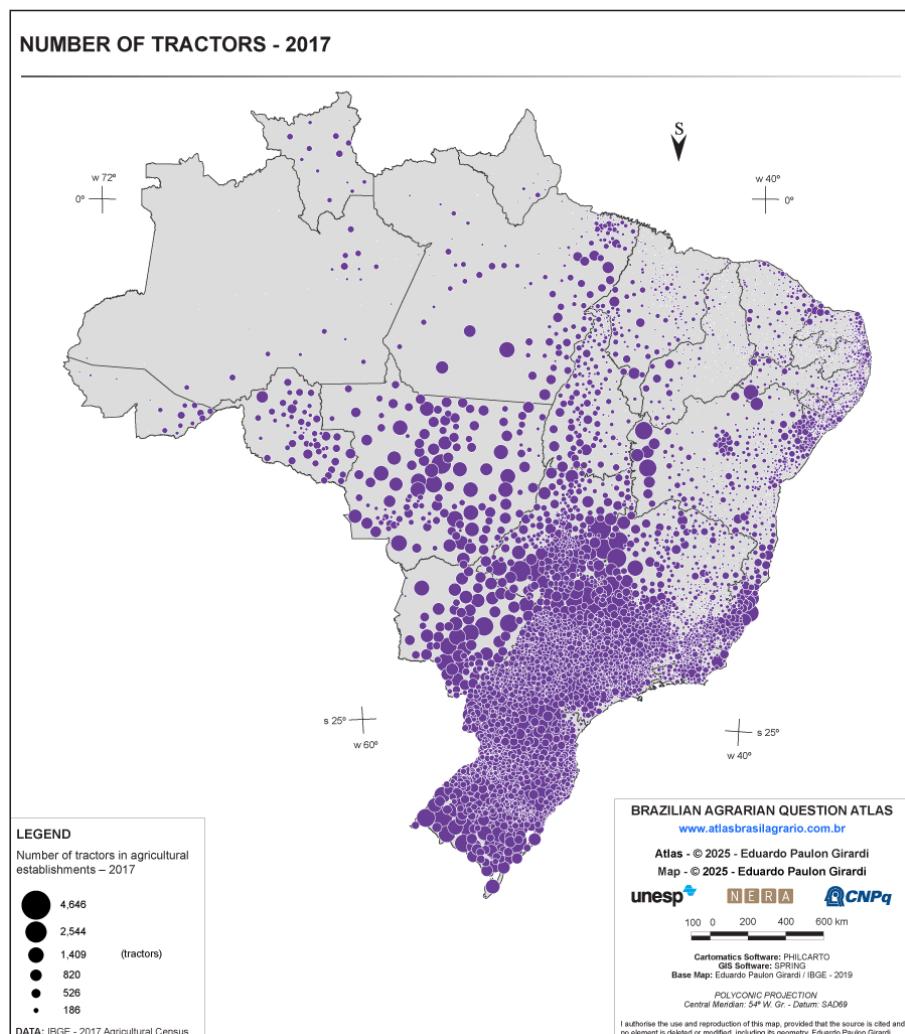
If Map 8 indicates where non-capitalist relations of production predominate—namely, regions with a strong presence of family farming establishments—Map 9 shows where capitalist relations of production prevail, using as an indicator the proportion of workers with no kinship ties to the producer, whether permanent or temporary. A large central area of the country stands out, comprising São Paulo, the Triângulo Mineiro, southern Goiás, Mato Grosso do Sul, and south-central Mato Grosso. This region was already identified in the first edition of the “Agrarian Brazil” map and remains an important regional structure.

**Map 9: Workers without kinship ties to the producer (permanent and temporary) – 2017.**

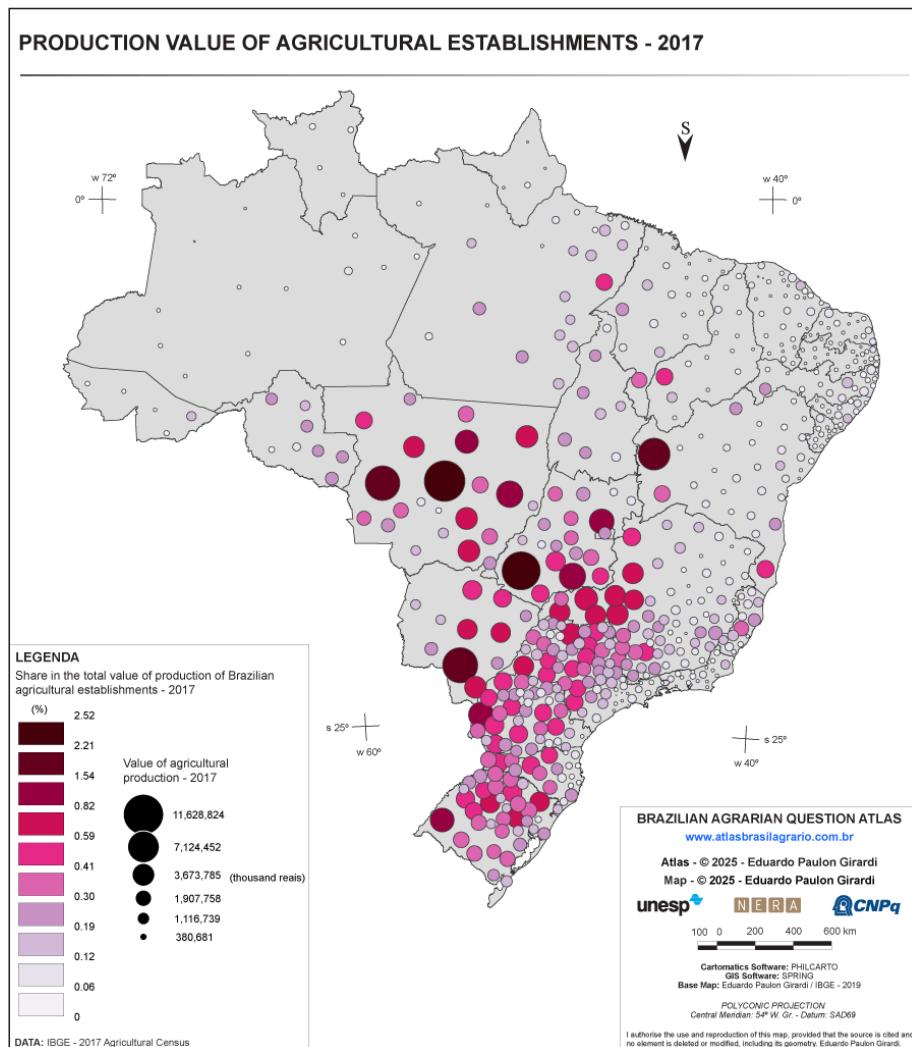


Maps 10 and 11 are closely related and reveal the concentration of modern agriculture in Brazil. Map 10 represents the most basic indicator of agricultural modernization — the number of tractors — from which it is possible to infer the presence of other modern agricultural technologies. Not surprisingly, Map 11 shows strong regional overlap with Map 10, as it represents the production value and the share of total value generated by agricultural establishments. Both maps exhibit a clear concentration of modern agriculture in the Center–South of Brazil, alongside a pronounced void in the Northeast and North.

Map 10: Number of tractors – 2017.



### Map 11: Production value of agricultural establishments – 2017.



### The New “Agrarian Brazil – 2025” Map

The 11 maps presented earlier help illustrate the process of constructing the “Agrarian Brazil – 2025” map. The legend of the map contains descriptive elements sufficient for readers to understand it. However, we list the legend items below to specify them in terms of regional structures and regional dynamics:

1 - The persistence of the territorial mismatch between land occupations and rural settlements (structure), with a recent emphasis on the settlement of families deeper inside the Amazon (dynamic).

2 - The persistence of the main hotspot of rural violence in southeastern Pará, northern Tocantins, and Maranhão (structure), along with the emergence of a new center of violence: Rondônia and its surroundings — eastern Acre and southern Amazonas (dynamic).

3 - The existence of a more preserved portion of the Amazon, specifically the northwestern half of the biome (structure), which, however, has recently been experiencing deforestation pressures, even if to a lesser extent (dynamic).

4 - A zone of high deforestation intensity in the Amazon, covering roughly 60% of the biome's southeastern portion (structure), which has been progressing significantly toward the northwest of the biome (dynamic).

5 - The intense deforestation of the Cerrado in the MATOPIBA region, except for western Bahia — where agribusiness territorialization occurred earlier, and deforestation is therefore consolidated — represents a relatively new regional dynamic of the Brazilian countryside.

6 - The march of cattle deeper into the Amazon (structure), with a recent intensification toward the southwestern part of the biome (dynamic).

7 - The presence of an arc that delineates the agricultural frontier in the Amazon, marking the conjunction between deforestation and cattle herd expansion (structure).

8 - The existence of zones dominated by agribusiness crops, especially soybeans and corn, and to a lesser extent cotton and sorghum (structure). These areas have undergone significant expansion since 2006 (dynamic).

9 - The centralization of sugarcane production in the state of São Paulo (structure), accompanied by strong expansion since 2003 within the state itself and by spillover into the Triângulo Mineiro, southern Goiás, Mato Grosso do Sul, and northern Paraná (dynamic).

10 - The existence of a zone where capitalist relations of production predominate, comprising the state of São Paulo, the Triângulo Mineiro, southern Goiás, Mato Grosso do Sul, and south-central Mato Grosso (structure).

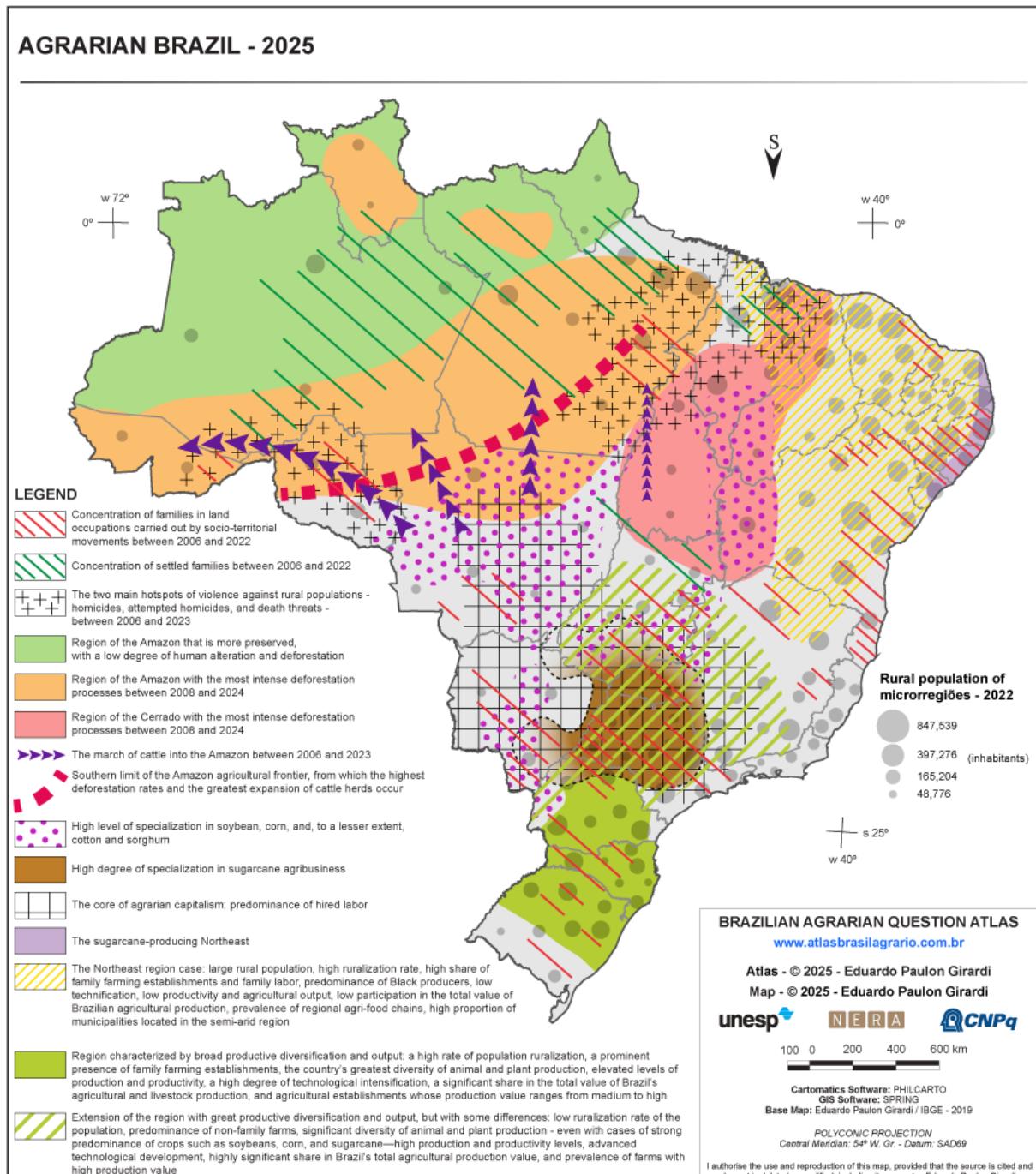
11 - The historical sugarcane zone of the Northeast, which persists to this day (structure).

12 - The case of the Northeast, with its specificities (structure): large rural population; high ruralization rate; high proportion of family farming establishments and family labor; predominance of Black producers; low levels of mechanization; low production and productivity; limited participation in the total value of national agricultural production; prevalence of crops tied to regional dietary systems; predominance of low-value agricultural establishments; and the fact that most municipalities are located in the semi-arid region.

13 - A large portion of southern Brazil, characterized as an area with the greatest productive diversity, high productivity, and significant contribution to the total value of agricultural production in the country (structure), which is connected to a second zone that also stands out — though to a lesser degree — for its productive diversity, productivity, and significant contribution to agricultural production values (structure). This second zone

comprises western Paraná, the state of São Paulo, southeastern Minas Gerais, and just over the southern half of Goiás. Since 2006, parts of these regions have undergone intensified specialization of production, particularly linked to agribusiness (dynamic).

**Map 12: Agrarian Brazil – 2025.**



## Conclusions

Regarding the structures and dynamics represented in the “Agrarian Brazil – 2025” map, several aspects raise particular concern for the persistence and worsening of the agrarian question in Brazil:

- a) The continued territorial mismatch between families participating in land occupations and those settled demonstrates the absence of agrarian reform in the regions where it is most needed.
- b) The persistence of the historical center of violence against rural populations and the emergence of a new hotspot in Rondônia and its neighboring regions.
- c) The ongoing advance of deforestation in the Amazon and the Cerrado.
- d) The persistence of agrarian and agricultural problems in the Northeast results in sustained social vulnerability in rural areas.
- e) The increasing territorial monopoly of agribusiness, which in some areas leads to reduced diversification of agricultural activities.

These regional structures and dynamics demonstrate that the agrarian question remains a critical issue in Brazil. If these rural problems are not addressed, both people and nature will continue to be victims of concentrated land appropriation and the exploitation of natural resources — a central element of Brazil’s agrarian question. This dynamic creates, on the one hand, immense fortunes built upon the criminal exploitation of land and nature, and, on the other, deepening poverty, since the accumulation of wealth in the countryside is rooted in the restriction of land access and the privatization of natural resources for the majority of those who live in rural areas.

With Map 12, we demonstrate the importance of employing more advanced, interpretative mapping methodologies rather than limiting ourselves to simple maps. Geographers should make more frequent and substantive use of the map — a geographical language par excellence. The mapping process, understood as an exercise inseparable from geographical research, should be adopted more widely, as mapping results can reveal new elements that cannot be perceived through other languages or methodological procedures.

Through the mappings presented here — the new “Agrarian Brazil” map and the numerous other maps produced throughout the research — we have further advanced the improvement and updating of the *Atlas da Questão Agrária Brasileira* ([www.atlasbrasilagario.com.br](http://www.atlasbrasilagario.com.br)), which is available online and whose maps are freely accessible. We invite readers to explore the *Atlas* and discover more about the cartography of the Brazilian agrarian question.

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## **Research data availability statement**

Regarding the availability of the research data, the author of the manuscript entitled “**An Updated Version of the “Agrarian Brazil” Map**” states that:

*The dataset supporting the results of this study is not publicly available.*

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