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MUNICÍPIOS E COMUNIDADES RURAIS DA CHAPADA DO APODI – CE**

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ABSTRACT

The objective of this study is to understand how the process of Land and Environmental Governance has impacted the municipalities and rural communities of Limoeiro do Norte, Quixeré, and Tabuleiro do Norte, in the interior of the state of Ceará. This is a qualitative study, with bibliographic and documentary analysis based on consistent data from state public agencies, in addition to empirical participation aimed at understanding the reality of the investigated territory. The results show that the studied area is a stage for land disputes, involving—on opposing sides—the peasantry of Ceará and agricultural entrepreneurs, each group with its own productive purpose. In order to achieve harmony among the agricultural groups present in this locus, a fair distribution of land is necessary. In this context, the Agrarian Development Institute of Ceará (IDACE) plays a significant role in ensuring legitimate access to land for male and female peasant farmers in the state. Based on the data analyzed on the institution's official website, between 2015 and 2023, it was possible to identify 7,044 land regularization projects and programs, enabling the legal regularization and use of land by small farmers, in addition to 3,894 farmers who were granted land titles in the aforementioned municipalities. At the end of the research, it became evident that the investigated territory constitutes a space marked by disputes between different development projects, in which land governance and state action play a relevant role both in mediating conflicts and in guaranteeing territorial rights for peasant communities.

Keywords: Territory. Land and Socio-Environmental Justice. Public Policies.

RESUMO

O objetivo deste estudo é compreender como o processo de Governança Fundiária e Ambiental tem impactado os municípios e as comunidades rurais de Limoeiro do Norte, Quixeré e Tabuleiro do Norte, no interior do estado do Ceará. Trata-se de um estudo qualitativo, com análise bibliográfica e documental, a partir de dados consistentes pertencentes a órgãos públicos do estado, além da participação empírica para fins de compreensão da realidade do território investigado. Os resultados demonstram que o espaço investigado é palco de disputa por terras, protagonizando, ainda que em lados opostos, o campesinato cearense e o empresariado agrícola, cada grupo com a sua finalidade produtiva. Para que exista uma harmonia entre os grupos agrícolas presentes nesse lócus, se faz necessário a justa divisão de terras, nesse sentido, o Instituto de Desenvolvimento Agrário no Ceará (IDACE) possui expressiva participação no que compreende a garantia legítima por terra para os homens e as mulheres camponeses e camponesas cearenses. A partir dos dados analisados no site do respectivo órgão, entre os anos de 2015 e 2023, foi possível identificar 7.044 projetos e programas de regularização fundiária, possibilitando a regularização e usufruto das terras para os pequenos agricultores, além de 3.894 agricultores que foram titulados a terra apenas nos municípios supracitados. Ao final da pesquisa ficou evidenciado que o território investigado constitui um espaço marcado por disputas entre distintos projetos de desenvolvimento, nos quais a governança fundiária e a atuação estatal assumem papel relevante tanto na mediação dos conflitos quanto na garantia de direitos territoriais às comunidades camponesas.

Palavras-chave: Território. Justiça Fundiária e Socioambiental. Políticas Públicas.

INTRODUCTION

The agrarian issue in Ceará is constantly changing, marked by frequent disputes over territory. Amidst these conflicts, environmental challenges, and the search for new public solutions, the state government sometimes moves forward and sometimes holds back in protecting the land and its people. Therefore, this article aims to analyze how the state of Ceará manages land issues, focusing on the rural communities of Limoeiro do Norte, Quixeré, and Tabuleiro do Norte, in Chapada do Apodi.

This study explores 'Land Governance.' This concept means the set of laws, public policies, and farming practices designed for the semi-arid climate. Its goal is to manage how people interact with nature, promoting the sustainable use of resources and environmental protection. This process involves everyone from government and companies to local communities, all working together to make decisions about social and environmental issues.

Companies, social groups, and local communities are some of the actors that help make decisions about social and environmental issues. From this view, when we study how regions develop, we see that land disputes, government policies, and how institutions work are key elements. They define the development models that actually happen in a territory. Land governance, therefore, is a strategic part of organizing a region, as it influences how natural resources are shared and used by different groups in society.



In this regard, land ownership in Ceará has traditionally involved taking land through illegal occupation and 'land grabbing' of public areas. This study focuses on Chapada do Apodi, a region that has historically kept family-based farming as its main local activity.

In this area, two different development projects live side by side but also in conflict. On one side is the export model linked to agribusiness and global markets; on the other is a model based on peasant farming, which uses methods adapted to the dry climate and the life of rural communities. By looking at how the state of Ceará manages land and the environment, this research helps us understand how policies, institutions, and power influence the development of this territory.

While the agribusiness model focuses on large-scale farming and using natural resources, the peasant families of Chapada do Apodi have a long history of fighting for their land. They have high knowledge of farming and raising animals, but they also face the hard reality of being a subaltern groups. This means a lack of government support to stay in rural areas, limited education, social conflicts, and violence, all caused by the huge power gap between small and large producers.

Within this territory, there is both coexistence and conflict between distinct regional development projects: on one side, the agro-export model linked to agribusiness and global production chains; on the other, a model based on family and peasant farming, associated with productive practices adapted to the semi-arid environment and the social reproduction of rural communities. Thus, by analyzing the role of the state of Ceará in land and environmental governance, this research contributes to understanding how public policies, institutions, and power relations influence the trajectories of regional development in the studied territory.

In contrast to the agro-export model of neo-extractivism whose central objective is the exploitation of natural resources for large-scale monoculture production are the rural and peasant families of Chapada do Apodi, whose lived history includes the struggle for land in Brazil. As heirs to knowledge in land management and animal husbandry, they also inherit the difficult conditions of social reproduction of the "subaltern classes," characterized by a lack of public support for remaining in rural areas, limited access to education, socio-environmental conflicts, and both symbolic and material violence, all linked to the asymmetry between small and large producers, as highlighted by Almeida (2024).



Thus, the present research raises the following question: how has the process of land and environmental governance been carried out in the state of Ceará, specifically in the municipalities and rural communities of Limoeiro do Norte, Quixeré, and Tabuleiro do Norte?

“Subsequently, the developments of this study are presented, organized into the following sections: Theoretical Framework, Methodological Approach, Results and Discussion, Final Considerations, and References.”

THEORETICAL FRAMEWORK

ASPECTS OF LAND AND ENVIRONMENTAL GOVERNANCE

Based on Cosme (2022, p. 54), “the Brazilian countryside, throughout the country’s territorial formation, has been structurally marked by the persistence of the concentration of land possession, use, and ownership, materialized in the reproduction of large estates (*latifundia*) and smallholdings (*minifundia*) within its agrarian structure.” Thus, the process of land management in Brazil carries in its history the experimental failure of the hereditary captaincy system, which, in contrast to the successful outcome observed in Portugal, resulted in the division of land into plots known as *sesmarias* (Silva, 1996).

However, it is important to emphasize that the legal distribution of land had as its primary objective its productive occupation. If the land was not used for this purpose, it should be returned to the Crown, implying a form of land concession between the monarchy and the common people. Therefore, it is stated that “the *sesmarias* constitute the basic legal regime concerning land” (Nozoe, 2006, p. 588).

In the meantime, producers and beneficiaries of royal land grants began to appropriate land through possession, which did not necessarily represent legality. In other words, the gaps identified in royal land legislation enabled the usufruct of land plots; in this sense, land possession came to confirm full ownership for those who held it, marking the beginning of Brazil’s land tenure dynamics (Guedes; Reydon, 2012; Silva, 1996).

Divided between small and large producers, access to and possession of land led to unequal appropriation of land plots. Regarding large rural producers, they came to be recognized as *posseiros* (landholders by possession). From that point on, the Portuguese Crown perceived the need to reorganize land distribution in a way that would meet the needs of each producer (Silva, 1996).



Subsequently, following Brazil's Independence in 1822, the newly established Brazilian State implemented a new land policy aimed at controlling the occupation of land plots by both small and large producers (Guedes; Reydon, 2012).

Following this historical moment, the economy linked to land-based production had a mercantile orientation and grew increasingly stronger. However, it was only in 1850 that legal regulation regarding land was formally established through Law No. 601, known as the Land Law (*Lei de Terras*), which was regulated in 1856. According to Nozoe (2006, p. 589), "until the enactment of the Land Law in 1850, possession remained the sole means of private appropriation of public lands."

Thus, the Brazilian agrarian scenario in the 19th century largely dependent on coffee exports was influenced by guidance from Dom Pedro II, who recommended the division of rural areas into large estates for the establishment of farms. In this context, the only legal means of accessing land became purchase (Almeida, 2024).

Another important milestone of this regulatory period was the prohibition of the slave trade in Brazil, which had previously functioned as an economic source based on the exploitation of human labor. With the prohibition of this practice, the economy became increasingly oriented toward agriculture, which, in turn, could only be carried out by those who held legal ownership of land. This condition effectively prevented formerly enslaved individuals and foreigners from becoming landowners.

Still regarding the land issue, according to Fabiani (2018), there were no policies that favored or justified the distribution of land to Afro-descendants. On the contrary, the lack of legal recognition marked by the absence of formal documentation prevented Black populations from accessing land, while simultaneously facilitating the illegal activities of land grabbers.

During this period, *sesmarias* could no longer be allocated to producers, as such action would grant them land ownership. Thus, lands that did not yet have private owners were considered state property, and in order to acquire them, purchase had to be carried out through the public authorities of the time. Therefore, "in a country where possession represented not only the easiest means of land occupation, but also the fundamental means of subsistence for the landless free man, the possibility of the existence of small property was restricted, thereby preserving the latifundia-based land structure" (Gadelha, 1989, p. 162).

The gaps within the legal framework of land tenure began to be recognized, and within this context, forged documents emerged, guaranteeing land possession to those who were already engaged in productive agricultural activities on those lands. Thus, the practice of land appropriation through nonexistent or legally invalid documentation became recurrent and was progressively refined throughout the history of land occupation in Brazil.

According to Fonseca et al. (2016, p. 325), Brazil has a territory of 8.5 million km², making it the fifth largest country in the world, which attracts the attention of scholars who recognize the potential of its social, economic, and productive activities. For these authors, this is not only due to the considerable availability of productive land, but also to the way it is utilized, characterized as rational and planned, in accordance with agricultural practices considered appropriate in terms of land allocation, use, and occupation.

In this context, it is understood that there exists an organizational system composed of different dimensions such as political, social, and economic spheres whether public or private, which operate in coordination to manage lands designated for the production of raw materials in the country. This process generates inputs that can be supplied to both national and international markets. Therefore, this land management activity can be understood as Land Governance.

As highlighted by Weiss (2016), governance is the result of the close relationship between actors and institutions, whether in the public or private sphere, which come together to address common agendas, even when their interests diverge. Thus, actions developed within this sphere depend on the articulation among actors, institutions, arrangements, and decisions made. Therefore, “governance is the ability to transform governmental action into public action” (Weiss, 2016, p. 329).

According to Bellingieri (2017), theories of regional development, influenced by interventionist economic approaches, share the idea that the economic growth of a region is typically driven by a dominant productive activity. This activity plays a dynamic role, spreading its effects to other sectors of the economy and stimulating regional growth. Such a perspective is associated with a vertically driven model of development, often described as “top-down” or center-periphery, in which the initial impulse originates from external factors that enter the territory and begin to shape its development dynamics.

According to Etges and Degrandi (2013), in the second half of the 20th century, the theme of regional development gained prominence in Brazilian academic debate, especially among economists and geographers. Within this field, two main interpretations became established. The first emphasizes economic dynamics and argues that, with the expansion and predominance of capitalist relations of production, regional differences would tend to diminish, as the factors that originally gave rise to regions would lose their relevance.

In another direction, a second interpretation understands regional inequalities as an expression of the very dynamics of capitalism, marked by the concentration of wealth and investment in specific areas, thereby producing economic, social, and territorial asymmetries. While the first perspective tends to treat regional differences as obstacles to development, the second considers them as elements that can support development strategies based on local specificities. Historically, the economic perspective has predominated both in academic production and public policies, whereas the second approach has gained greater prominence since the 1990s, when the concept of region began to be revisited under new analytical perspectives (Etges; Degrandi, 2013).

Given this, moving from abstract and generalizing interpretative models toward analytical perspectives that seek to understand the meaning of specific territorial arrangements highlights the diversity that composes territory. In this shift, the dimension of particularity gains central importance, materializing through the concept of region. Regions are the result of historically constructed socio-spatial formations and express their own political, economic, social, cultural, and environmental characteristics. It is precisely in this regional specificity that the possibilities for regional development are grounded, since development dynamics do not manifest homogeneously across space, but are structured according to the conditions, potentialities, and limitations present in each territory over time and across different portions of the Earth's surface (Etges, 2022).

With regard to land governance, it is understood as a set of processes, rules, institutions, and practices that regulate the use, access, management, and distribution of land within a society. It encompasses how land rights are recognized, secured, and exercised, as well as how conflicts and disputes are resolved. Therefore, it is a collective process that requires balancing the interests of different stakeholders and seeking fair and sustainable solutions for both the environment and society. In this sense, the right to land is closely related to human rights (Gilbert, 2013).



According to Lacerda and Cândido (2013), the unrestrained use of natural resources and the exclusion of social and institutional actors from decision-making processes and from participation in the formulation of development strategies are factors that undermine good governance. In this regard, within the discussion of fair land distribution, land governance encompasses public policies such as agrarian reform, land regularization, environmental licensing, among others, which are responsible for ensuring guarantees for those who make use of land by right and tradition.

Another aspect identified in land governance concerns sustainable management and the way land and its resources are handled in order to promote economic development without harming the environment or local communities, as well as the resolution of conflicts through the existence of effective mechanisms to address land disputes in a fair and transparent manner.

In this context, regarding the territorial dispute between agribusiness and family farming in the state of Ceará—specifically in Chapada do Apodi—CE—transparency in decision-making and accountability of authorities and companies are essential to ensure that environmental policies are implemented effectively and fairly. However, with respect to the agribusiness operating in the area, there is evidence of ongoing land appropriation, large-scale use of agrochemicals, and local socio-environmental health impacts, as documented in studies conducted by researchers in the field of public health (Rigotto, 2011).

Therefore, effective land governance, when aligned with a model of regional development designed for diverse rural populations, contributes to the reduction of social and economic inequalities, to sustainable development, and to the promotion of socio-environmental justice, by ensuring that all stakeholders involved in land-related processes have their rights respected and their interests addressed in an equitable manner.

Cavalcanti (2004) argues that, from a legal standpoint, the country presents a progressive framework regarding environmental issues. However, according to Leme (2016), Brazil exhibits a patrimonialist culture in which public and private interests are often intertwined, resulting in corruption and the privileging of specific groups. In light of this, the present research seeks to examine the advances and contradictions observed in the land governance framework of Ceará, particularly in relation to socio-environmental issues within the context under investigation.

METHODOLOGICAL APPROACH

The definition of research instruments, as well as the delimitation of analytical parameters, was guided and grounded in the concepts and analytical categories discussed in the Theoretical Framework section. This approach ensures coherence between the adopted theoretical framework and the methodological choices made, contributing to the interpretative consistency of the data and the robustness of the results presented throughout the study.

Therefore, this study adopts a qualitative and exploratory approach, grounded in theories of land governance and regional development. The bibliographic research was conducted based on works by Almeida (2024), Freitas (2018), Fonseca (2016), among others. According to Gil (2002), bibliographic research enables the researcher to gain closer insight into the subject under study.

When developed based on previously published material primarily consisting of books, magazines, journal publications and scientific articles, newspapers, bulletins, monographs, dissertations, theses, cartographic materials, and internet sources it aims to place the researcher in direct contact with all material already written on the research topic (Prodanov; Freitas, 2013, p. 54).

Research was also conducted using the main academic search platforms in Brazil, such as the Brazilian Digital Library of Theses and Dissertations (BDTD) and the CAPES Theses and Dissertations Catalog (Coordination for the Improvement of Higher Education Personnel).

Regarding documentary research, Gil (2002, p. 46) emphasizes that “documentary research presents a number of advantages. First, it should be noted that documents constitute a rich and stable source of data.” The study considered data referring to the period from 2015 to 2023, according to records from IDACE (2025), from which it was possible to identify the central elements to be investigated, such as territorial disputes, state action, public policies for land regularization, and inequalities between small producers and local agribusiness.

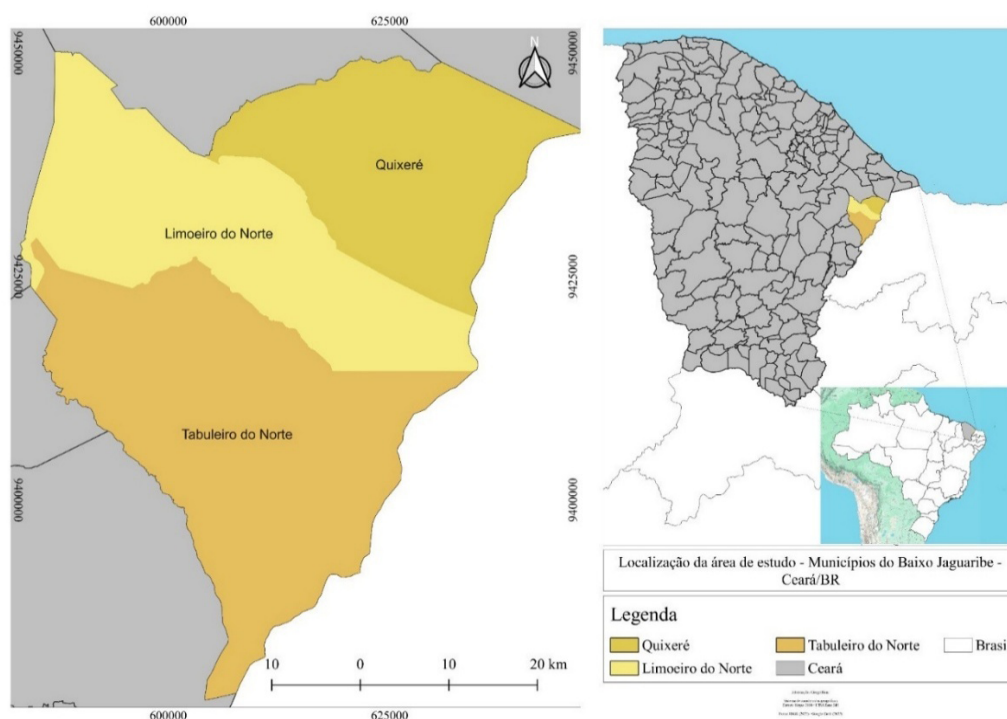
TERRITORIAL CHARACTERISTICS

The locus of investigation in this study refers to the municipalities of Limoeiro do Norte, Quixeré, and Tabuleiro do Norte, as well as the rural communities that comprise them, located in Chapada do Apodi – CE. This territorial extension is responsible for hosting the main public irrigated perimeter in the region, known as the Jaguaribe-Apodi Irrigated Perimeter (PIJA).



In the map (Map 01) below, it is possible to observe the geographic spatiality of the state, including its municipal divisions and the zonal connections between the aforementioned municipalities:

Map 01 | Map of the State of Ceará



Source: Prepared by the authors with technical assistance from Maria Miriam Barros Santos (2025).

The PIJA is located in Chapada do Apodi, in the portion belonging to the state of Ceará, more precisely in the municipality of Limoeiro do Norte, at coordinates 5°20' South latitude and 38°5' West longitude. Access to the irrigated perimeter can be made either via BR-116 to the city of Limoeiro do Norte or via CE-209 to the aforementioned irrigated perimeter (Ceará State Development Agency S.A., 2011).

The territory under study has attracted the attention of irrigated fruit-producing companies for decades due to its socio-spatial characteristics, which favor the production and commercialization of fruits for export. Consequently, disputes between small and large producers have become evident, whether over land or over legal conditions that enable rural populations to remain in the countryside. In this sense, the methodological approach adopted in this study followed technical paths capable of providing concrete answers to the questions raised.

RESULTS AND DISCUSSION

PEOPLE'S LANDS, LANDOWNERS' LANDS: RESEARCH FINDINGS

The history of large-scale agricultural production in Brazil is marked by the abundance of natural resources soil, water, plant species, sunlight, and favorable temperatures as well as by a large contingent of labor, at times enslaved and at other times precarious and exploited. In addition to these characteristics, it has consistently relied on state support, particularly in the form of tax exemptions that directly serve the interests of large agricultural producers.

With regard to the state of Ceará, the Institute for Research and Economic Strategy of Ceará (IPECE), in 2015, defined planning areas and their economic potential, making it possible to observe the state's tendency and intentionality concerning economic development. This movement can be characterized as reflecting trends of economic growth, given the predominance of wealth-concentrating activities.

As highlighted by Furtado (2000), development is related to historical and structural conditions that shape regional inequalities and is strongly influenced by how the state directs investments and public policies. In the case of Ceará, irrigation policies and the definition of planning regions demonstrate state action in promoting specific productive models, especially those linked to agricultural modernization and the expansion of agribusiness.

In this sense, it is noted that the planning regions are divided into 14 territories, distinguishing areas that were previously grouped under the macro-regional model, namely: Cariri, Central-South, Greater Fortaleza, East Coast, North Coast, West Coast/Curu Valley, Baturité Massif, Ibiapaba Highlands, Central Hinterland, Canindé Hinterland, Crateús Hinterland, Inhamuns Hinterland, Sobral Hinterland, and Jaguaribe Valley (IPECE, 2015).

Regarding the Jaguaribe Valley, the region is configured as a macro-region in the state of Ceará, subdivided into four micro-regions: Aracati Coast, Lower Jaguaribe, Middle Jaguaribe, and Serra do Pereiro. The Lower Jaguaribe, in turn, is composed of ten municipalities: Alto Santo, Ibicuitinga, Jaguaruana, Limoeiro do Norte, Morada Nova, Palhano, Quixeré, Russas, São João do Jaguaribe, and Tabuleiro do Norte (IPECE, 2016).



Still concerning the Jaguaribe Valley, since earlier times, this territory has been subject to invasions and environmental exploitation. According to Freitas (2018, p. 28), this macro-region of Ceará “has a historical role in the state, as it was the first territory reoccupied in the 17th century, constituting the main route of penetration for European invaders, primarily due to the Jaguaribe River, the largest in the state.”

Bombardi (2004) says that, the term territory emerges as an analytical category based on the relationship between space, time, and social relations. In this sense, the Jaguaribe Valley and Chapada do Apodi – CE have moved beyond the concept of mere space and are considered territories, particularly following the implementation of the National Irrigation Policy (1970), which promoted the establishment of Public Irrigated Perimeters in areas identified as having high potential for irrigated fruit production in Brazil.

According to Law No. 12,787/13 (Brazil, 2013), which establishes the framework for irrigated perimeters, the main objectives include encouraging the expansion of irrigated areas in the country, with a consequent increase in productivity and enhanced competitiveness of agribusiness. Freitas (2018, p. 103), analyzing a diagnostic report produced by the Ministry of National Integration in 2008, argues that the document presents a new policy model that eventually led to a new irrigation project, strengthening public-private partnerships with agribusiness acting as a central mediator.

The first irrigated perimeter in the Jaguaribe Valley was established in the municipality of Morada Nova in 1968, known as the Morada Nova Irrigated Perimeter (PIMN). Subsequently, the Tabuleiro de Russas project was created (in the municipality of Russas – CE), followed by the Jaguaribe-Apodi Irrigated Perimeter (PIJA) in Chapada do Apodi – CE (initially located in the municipalities of Quixeré and Limoeiro do Norte). As a result, these lands became targets of agricultural entrepreneurs by the late 1980s (Freitas, 2018).

Regarding PIJA, the Ceará State Development Agency (ADECE) highlights that “the irrigated perimeter began its implementation in 1987, and the administration, operation, and maintenance services of shared infrastructure started in 1989” (ADECE, 2011, p. 8). Limoeiro do Norte, Quixeré, and Tabuleiro do Norte are part of the municipalities within the Lower Jaguaribe micro-region and are among the main areas affected by agricultural policies geared toward agribusiness.



The study concerning the division of Ceará's regions was designed based on the economic activities present in each territorial grouping, regardless of similarities among them. The focus was placed on "considering indicators related to the structure of primary, industrial, and tertiary production" (IPECE, 2015, p. 7). Therefore, it is evident that this level of detail enabled both comprehensive and specific regional planning, allowing for the identification of each region's economic vocations (IPECE, 2015).

The areas selected for the implementation of irrigated perimeters were chosen based on factors that favored agricultural production. In this case, the lands of Chapada do Apodi demonstrated strong potential to attract various agricultural enterprises. Aspects such as climate, soil, topography, labor availability, and water resources were essential in this selection process, as noted by ADECE (2011, p. 8), which states that "topographic conditions are highly favorable for agricultural mechanization."

According to IPECE (2024), dividing the state of Ceará into planning regions made it possible to conduct a detailed and individualized assessment of each region's economic contribution through Gross Domestic Product (GDP) per capita. In this regard, a ranking presented by the institution in 2024 shows that the Jaguaribe Valley ranked fourth in 2021 among the main contributors to the state's GDP per capita.

Furthermore, based on data from the Agricultural Census (2017a), focusing on the specific spatial and productive characteristics of each municipality under study, it becomes evident that the analysis enters the field of land and environmental governance by providing information on productive areas and the legal conditions of producers regarding land tenure, considering that the territory is occupied both by small rural and peasant producers and by agricultural entrepreneurs.

In this context, regional development can be understood as a process involving the articulation between economic dynamics, public policies, and forms of territorial use. In the case of the Jaguaribe Valley, irrigation policies, state investments in water infrastructure, and the expansion of agribusiness constitute central elements in redefining regional productive dynamics, directly impacting the social organization of space and the forms of access to and use of land.



Thus, it is observed that the productive areas within the municipalities in question are recorded with defined territorial boundaries measured in hectares. Another factor is the corresponding number of establishments within this geographic area; however, this data source does not provide a breakdown or the actual number of hectares occupied by each establishment for production, which may indicate an unequal distribution of land among local producers.

Table 01 | Characteristics of Productive Areas in the State of Ceará

CHARACTERISTICS	LIMOEIRO DO NORTE	QUIXERÉ	TABULEIRO DO NORTE
Area of agricultural establishments	24.044 hectares	21.047 hectares	34.281 hectares
Number of agricultural establishments	1.888 establishments	628 establishments	1.597 establishments
LEGAL STATUS OF THE PRODUCER	LIMOEIRO DO NORTE	QUIXERÉ	TABULEIRO DO NORTE
Condominium, consortium, or union of persons	344 establishments	173 establishments	254 establishments
Individual producer	1.529 establishments	448 establishments	1.342 establishments
Corporation (S.A.) or Limited Liability Company (Ltd.)	13 establishments	7 establishments	1 establishments
Other status	2 establishments	X	X
TENURE STATUS OF THE PRODUCER (RELATION TO THE LAND)	LIMOEIRO DO NORTE	QUIXERÉ	TABULEIRO DO NORTE
Owner (including co-owners of collectively titled lands)	1.417 establishments	558 establishments	1.115 establishments
Concessionaire or settler awaiting definitive title	209 establishments	1 establishments	173 establishments
Tenant	56 establishments	38 establishments	45 establishments
Partner (a)	26 establishments	4 establishments	14 establishments
Bailee (Includes Sustainable Use Authorization)	85 establishments	23 establishments	236 establishments
Occupant (with just title or simple occupation)	90 establishments	4 establishments	2 establishments
Producer without land area	5 establishments	X	12 establishments

Source: Prepared by the authors (2025), based on the Agricultural Census (2017a).



Another point to be considered in this analysis concerns the conditions for accessing and using land under previously established legal frameworks, which enable rural producers to use land as their main source of income. Therefore, ensuring legal access to land means ensuring rural, family-based, and/or peasant agricultural production.

In this sense, it is observed that there are different classifications and categories that subdivide rural producers. Among these, individual producers and their establishments, in the three aforementioned municipalities, appear as the main agents operating under regulated conditions, as well as owners and co-owners of collectively titled lands, who are at the forefront in the legal classification regarding land use, as shown in the table above and in the data from the 2017 Agricultural Census.

The legal status of producers in relation to land, in practice, guarantees that these individuals can safely use the land associated with them in accordance with regulatory frameworks. It also enables producers to access agricultural, environmental, and social public policies that support their livelihoods and permanence in the semi-arid region.

Thus, agricultural establishments in rural areas of Limoeiro do Norte, Quixeré, and Tabuleiro do Norte have become part of the group of establishments that find legal guarantees for land access, especially when aligned with organizations aimed at securing the permanence of rural men and women on the land who are primarily responsible for the diversified production of food crops in Brazil.

Family farming stands out as the main mechanism supporting food distribution to the Brazilian population through the diversified production of food destined for the domestic market. In this context, Ceará and family based agricultural production make a significant contribution to this process, accounting for 39.6% of the state's economy and representing 75.5% of all agricultural establishments as family farming units (IPECE, 2022; IBGE, 2017b).

Regarding the production of diverse crops based on traditional agricultural models that do not rely on chemical inputs, grounded in the principles of Agroecology as a social practice of producing and living sustainably from the land, it can be stated that rural and peasant farmers in the Chapada do Apodi, through family farming, play an important role in both local and state economies.

Thus, regional development is not expressed solely through economic growth or increased agricultural productivity, but also through the territorial and social transformations resulting from the implementation of these policies. The simultaneous presence of large scale agricultural enterprises and small rural producers reveals that the territory constitutes a space of disputes, negotiations, and different strategies of social reproduction, highlighting the complexity of the development process in the semi arid region of Ceará.

The Agricultural Census (2017c), with regard to family based peasant agriculture in Ceará, presents definitive results up to that date on agricultural production linked to this social group. It highlights that 8,000 establishments were responsible for producing approximately 203,000 tons of bananas in permanent crops, in addition to other crops and livestock production. This confirms that rural men and women, despite facing land disputes, remain rooted in Ceará's lands through the cultivation of diverse food products. Thus, it is emphasized that a set of actions, public policies, documents, projects, and laws originating from state agencies are closely linked to land and environmental governance, taking into account the genesis of the socio environmental issues in the Lower Jaguaribe. These initiatives aim to minimize conflicts between small and large producers, seeking a "balance between the achievement of economic, social, and environmental objectives" (Weiss, 2016, p. 330).

Given the land related discussions in Ceará, the state maintained, until 1979, a public agency known as the Institute of Lands of Ceará (ITERCE), whose purpose was to implement agrarian policy in the state. However, with the implementation of the National Agrarian Reform Plan (PNRA), ITERCE was extinguished and replaced by the Institute for Agrarian Development of Ceará (IDACE), created in 1987 through Law No. 11,412, enacted on December 28, 1987 (IDACE, 1988).

Linked to the Secretariat for Agrarian Development of the Government of the State of Ceará, IDACE

[...] is responsible for planning and implementing the state's agrarian policy. Its main mission is to promote the organization of the land tenure structure, with emphasis on rural settlement and resettlement actions, as well as acting in the distribution of public lands, in accordance with current legislation (SDA, 2025, online).



In this sense, it is understood that the concentration of land ownership in the state of Ceará is a longstanding process, and that IDACE has an intrinsic relationship with the municipalities and rural communities of the Lower Jaguaribe, in an interrelated dynamic of active participation in agrarian and socio-environmental demands of the individuals who make up groups of peasants seeking historical redress within the framework of land governance in Ceará.

IDACE and the Secretariat for Agrarian Development (SDA) carry out several actions aimed at rural populations, with land tenure regularization serving as one of their main instruments. This process is an important mechanism for legal regulation, granting land ownership to those who, within the bounds of legality, seek the right to live and produce on public and/or reoccupied lands.

According to IDACE, in a report published on November 28, 2024, the state of Ceará, based on the activities of this agency, has been working to guarantee land ownership rights for farmers in Ceará. As of that date, approximately 82.11% of the state's public lands or rural properties had already been geocoded and registered, in addition to the issuance of around 129,000 land titles (IDACE, 2024).

The lands in question, popularly referred to as *public lands (terras devolutas)*, correspond to lands under government ownership that is, public assets that were not previously in use by the state and therefore had no defined purpose or function, later being allocated to rural farmers after an extensive registration process.

The aforementioned registration (geocadastré) was carried out through the survey, recording, and mapping of information related to rural properties and public lands, using technological tools such as the Global Positioning System (GPS), drones, satellite imagery, and Geographic Information Systems (GIS). These steps are essential to “ensure legal security, land organization, and the promotion of sustainable development in rural areas” (IDACE, 2024).

In this context, IDACE records, through documentary archives, the list of beneficiaries and landowners who obtained legal possession through land tenure regularization promoted by the institution between 2015 and 2023. Below, Table 02 presents the list of titled beneficiaries in the municipalities of Limoeiro do Norte, Quixeré, and Tabuleiro do Norte, which make up the Chapada do Apodi region in Ceará:



Table 02 | Number of Land Title Beneficiaries in the Municipalities of Limoeiro do Norte, Quixeré, and Tabuleiro do Norte, in the Chapada do Apodi – CE

MUNICIPALITY	LIST OF TITLED PROPERTIES
Limoeiro do Norte	1.605
Quixeré	1.114
Tabuleiro do Norte	1.175
TOTAL:	3.894

Source: Prepared by the authors, based on the IDACE website (2025).

According to the list of titled properties, a total of 3,894 properties-and, correspondingly, registered farmers were recorded up to the year 2023. Thus, it is emphasized that this group consists of men, women, and families who meet specific criteria regarding the legal use of land; that is, they are farmers who hold land tenure through legal means, whether they are residents of settlements or rural communities. However, the registration and the benefits derived from this process apply only to landowning farmers legally recognized as such.

Therefore, land titles constitute a legal instrument that guarantees rural and peasant families regulated security to use the land through agricultural practices that are part of their daily lives. These activities may serve as the main source of income or as a complementary activity to ensure family subsistence in rural areas. Additionally, land titles enable these individuals to access public policies through legal means, supporting their livelihoods and permanence in rural areas.

In Table 03 (Table 03), the quantitative data regarding programs and projects of land tenure regularization can also be observed for the same municipalities and rural communities of the Chapada do Apodi – CE:

Table 03 | Number of Land Tenure Regularization Programs and Projects in the Municipalities of Limoeiro do Norte, Quixeré, and Tabuleiro do Norte, in the Chapada do Apodi – CE

MUNICIPALITY	LAND REGULARIZATION PROGRAMS AND PROJECTS
Limoeiro do Norte	2.417
Quixeré	2.076
Tabuleiro do Norte	2.551
TOTAL:	7.044

Source: Prepared by the authors, based on the IDACE website (2025).

As can be observed in the table in question, IDACE reports, within the same time frame defined by the agency (2015 to 2023), a total of 7,044 land tenure regularization programs and projects (whether through simple possession/occupation or registered ownership/title), limited to the municipalities of Limoeiro do Norte, Quixeré, and Tabuleiro do Norte, and their respective communities.

This geographic focus is on chapada do apodi because these municipalities and rural communities are highly impacted by the expansion of agribusiness. while agribusiness takes over vast areas of land, peasants are confined to small plots, sometimes only their home gardens. moreover, these groups have been the most affected by multinational corporations from the 1990s to the present day.”

Another factor reinforcing this spatial delimitation is the role of IDACE in the investigated territory, which highlights the unequal distribution of land in the region while also seeking to mitigate this conflict through land tenure regularization policies, presenting itself as an essential instrument for securing peasants’ permanence on the land.

Thus, land tenure regularization programs and projects are initiatives aimed at legalizing lands already being used by small rural farmers and settled peasants. To achieve this, it is necessary to meet a set of criteria related both to the land and to its occupants. Therefore, aspects such as land location and use are taken into account so that legal mechanisms can ensure fair and appropriate allocation.

Nevertheless, it is important to note that the same source reports the continuous issuance of new land titles to farmers in the aforementioned municipalities and communities, including in 2024. This indicates that actual figures already exceed those recorded, highlighting the need for constant updating of such documents for purposes of registration, cataloging, and demonstrating the activities carried out by IDACE for rural and peasant farmers in Ceará (Costa-Casimiro, 2026).

This action represents a significant advancement in terms of human rights within the scope of land governance in Ceará, ensuring legal rights to rural property. It also guarantees that “with the document in hand and properly registered, rural producers can access rural credit, bank financing, technical assistance, as well as facilitate retirement processes and participate in programs supporting family farming” (IDACE, 2019).

Land-related and socio-environmental dynamics in the Lower Jaguaribe territory, which connect state and municipal institutions-as well as the land regularization records mentioned above have been developed over decades due to popular pressure supported by scientific research that demonstrates the asymmetry between small and large producers regarding land distribution, occupation, and regularization in the Chapada do Apodi – CE.

It is also important to emphasize the need for access to public policies capable of supporting peasants' permanence on land that is rightfully theirs, balancing and/or minimizing conflicts and impacts between family farmers and agribusiness entrepreneurs. In this regard, it is noted that “there is a significant contingent of Brazilian family farmers who remain on the margins of public policies related to production, such as credit and agricultural insurance, institutional markets, technical assistance, research, etc.” (Cazella, 2017, p. 72).

Government actions must be designed to address social demands. Both federal and state governments have procedures and instruments that support peasant struggles and socio-environmental agendas, such as the Food Acquisition Program (PAA), the National School Feeding Program (PNAE), the National Program for Strengthening Family Agriculture (PRONAF), Harvest Guarantee and Crop Benefit programs, as well as initiatives for the establishment of community seed banks and nurseries for native seeds and seedlings, among others.

Since they do not yet hold legal land ownership, families from the Zé Maria do Tomé Camp (AZMT), in Quixeré, are unable to benefit from public policies aimed at rural populations, even though they contribute significantly to the state's family-based agricultural production and commercialization. A portion of AZMT's production is distributed to various markets across Ceará. Nevertheless, as evidenced by records on IDACE's official website, the agency has been providing support to AZMT through meetings and land regularization projects aimed at transitioning the camp into an official settlement.

Regarding this transition, Cosme (2022) identified in a recent study that the state of Ceará reached a total of 415 federal rural settlements within four years, 16% of which are located in the Jaguaribe Valley. This represents an achievement for rural social movements in Ceará. However, among the municipalities that still lack rural settlements are Limoeiro do Norte and Quixeré. Therefore, the struggle for land legalization in the Chapada do Apodi continues, with the expectation that more rural and peasant families, including those from AZMT, will be included.



However, farmers in the Chapada do Apodi – CE, within the rural communities of Limoeiro, Quixeré, and Tabuleiro, who already have legally recognized land ownership, are able to benefit from public policies, safeguarded by the legal protections granted to them.

Thus, there exists an interrelationship in the Lower Jaguaribe territory between small and large producers, expressed through both diversified food production and monoculture systems. This relationship is marked by conflicts but also by achievements particularly when farmers obtain legal land titles and gain access to public policies designed for them. In this sense, it can be affirmed that resources linked to public policies generate numerous positive socioeconomic impacts for rural populations.

From this perspective, the territory assumes a central role in the analysis of regional development, as it is within it that power relations, land-use disputes, and the strategies of social reproduction of different actors are materialized. According to Santos (2006), territory should be understood as “used space,” resulting from historically constructed social relations and continuously reshaped by economic and political dynamics. Thus, in the Jaguaribe Valley and the Chapada do Apodi, the implementation of irrigated perimeters and the growing presence of agribusiness have reconfigured land use and productive relations, directly influencing the course of regional development.

In view of this, land governance encompasses both environmental and social dimensions, as it recognizes these as the foundation of human rights for rural populations. It contributes to the collective construction of knowledge and learning through a cyclical interrelationship between scientific knowledge and traditional wisdom, thereby advancing agrarian citizenship rights. In this sense, both land governance and public policies contribute “to the maintenance of family farming and the continuity of its productive activities” (Aquino; Vidal; Alves, 2021, p. 115).

Therefore, land and environmental governance, combined with public policies, actions, projects, social actors, and legal frameworks in the state of Ceará, function as interconnected instruments capable of exposing hegemonic structures that persist in employing agricultural practices that subject rural societies to conditions of oppression, dispossession, and displacement. At the same time, they are also capable of promoting the recovery of ancestral and traditional agricultural practices when land through legal instruments is returned to those who live from and on it, especially when combined with agrarian and environmental policies that foster better coexistence with the semi-arid environment.



FINAL CONSIDERATIONS

Based on the reflection and analysis of state actions developed in relation to land and environmental governance in the territory of Ceará, it was concluded that there are numerous initiatives carried out within the scope of agrarian and environmental public policies, as well as actions originating from organizations grounded in socio-environmental justice and land governance, despite the recurring conflicts between small and large local producers. Thus, the objective of this study—to analyze the role of the state of Ceará in land governance within the municipalities and rural communities of Limoeiro do Norte, Quixeré, and Tabuleiro do Norte—was achieved, as the research made it possible to identify how public policies and the actions of IDACE directly impact land tenure regularization, the legal security of rural families, and the territorial organization of the Lower Jaguaribe.

Public policies in Ceará that support the permanence of individuals in rural areas begin with the legal possession of land for agricultural production, which represents the main source of income for peasant families. This process is mediated by the Institute for Agrarian Development of Ceará (IDACE), responsible for land distribution and legalization in the state.

In this regard, several state-level public policies aimed at the production and commercialization of food derived from family farming—carried out by settled peasants or those with legally recognized land ownership—can be highlighted, such as the Food Acquisition Program (PAA), the National School Feeding Program (PNAE), the *Hora de Plantar* Project, and the National Program for Strengthening Family Agriculture (PRONAF), among others.

With regard to rural families in the municipalities that constitute the locus of this investigation, IDACE reports on its official website that, between 2015 and 2023, a total of 3,894 properties were titled and 7,044 land tenure regularization programs and projects were implemented. This quantitative data reflects the strong connection between this Ceará-based institution and the studied territory, demonstrating its role as an ally in the pursuit of peasant territorialization through land legalization.

The link between public policies and farming and environmental practices in Ceará, mainly for rural communities in Limoeiro do Norte, Quixeré, and Tabuleiro do Norte, is a strong step toward social and environmental justice. These policies provide land, legal, and environmental security for rural men and women, who seek historical redress in terms of land access in these municipalities.



Thus, since this territory is marked by disputes and unequal support between small and large local producers, these institutions and organizations must keep acting and updating their data. In fact, this is vital to show that the Jaguaribe territory is a source of life, sustained by family farming, which provides income for many rural families. In short, the analysis shows that the study reached its goal, clearly proving how land and environmental management in Ceará works in practice through laws, public policies, and the real impacts on the rural populations studied.

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