

**HISTORICAL GENESIS OF THE TERRITORIAL FORMATION OF THE
MUNICIPALITY OF PAU DOS FERROS/RN: A BRIEF SPATIAL ANALYSIS**

***GÊNESE HISTÓRICA DA FORMAÇÃO TERRITORIAL DO MUNICÍPIO DE PAU DOS
FERROS/RN: UMA BREVE ANÁLISE ESPACIAL***

***GÉNESIS HISTÓRICA DE LA FORMACIÓN TERRITORIAL DEL MUNICIPIO DE
PAU DOS FERROS/RN: UN BREVE ANÁLISIS ESPACIAL***



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ABSTRACT: The Brazilian territory has historically suffered numerous changes in its territorial order, resulting from political, social, economic, geographic, and cultural processes. Pau dos Ferros, a municipality located in the western portion of the State of Rio Grande do Norte, is in this context. Separated from the municipality of Portalegre by provincial resolution No 344/1856, Pau dos Ferros has been exerting great influence in the consolidation of the territorial formation of the Alto Oeste Potiguar region, as fourteen (14) new municipalities were created from its territory. The methodological framework of this study was based on bibliographic reviews, supported by the techniques of the Geographic Information System (GIS), which served as subsidies for the cartographic contribution of this research, contributing to the creation of temporal maps between the period 1872-2021, whose main purpose was to present the territorial involution that the municipality has suffered in the last 149 years, resulting from territorial dismemberments.

KEYWORDS: Geotechnologies. Territorial Involution. Municipality. Northeast Brazil.

RESUMO: O território brasileiro vem sofrendo, historicamente, inúmeras mudanças em seu ordenamento territorial, resultantes de processos políticos, sociais, econômicos, geográficos e culturais. Pau dos Ferros, município situado na porção oeste do Estado do Rio Grande do Norte, insere-se nesse contexto. Desmembrado do município de Portalegre pela Resolução Provincial n.º 344/1856, Pau dos Ferros vem exercendo grande influência na consolidação da formação territorial do Alto Oeste potiguar, pois, de seu território, foram criados quatorze (14) novos municípios. O arcabouço metodológico deste estudo foi embasado em revisões bibliográficas, tendo como suporte as técnicas do Sistema de Informação Geográfica (SIG), que serviram de subsídio para o aporte cartográfico da pesquisa, contribuindo para a elaboração de mapas temporais referentes ao período de 1872 a 2021, cuja principal finalidade foi apresentar a involução territorial que o município sofreu nos últimos 149 anos, decorrente dos desmembramentos territoriais.

PALAVRAS-CHAVE: Geotecnologias. Involução Territorial. Município. Nordeste Brasileiro.

RESUMEN: El territorio brasileño ha sufrido históricamente numerosos cambios en su orden territorial, resultantes de procesos políticos, sociales, económicos, geográficos y culturales. En este contexto se encuentra Pau dos Ferros, municipio ubicado en la porción occidental del Estado de Rio Grande do Norte. Separado del municipio de Portalegre por resolución provincial n.º 344/1856, Pau dos Ferros viene ejerciendo gran influencia en la consolidación de la formación territorial de la región del Alto Oeste Potiguar, ya que a partir de su territorio se crearon catorce (14) nuevos municipios. El marco metodológico de este estudio se basó en revisiones bibliográficas, apoyadas en las técnicas del Sistema de Información Geográfica (SIG), que sirvieron de subsidio para el aporte cartográfico de esta investigación, contribuyendo a la creación de mapas temporales entre el período 1872-2021, cuyo objetivo principal fue presentar la involución territorial que ha sufrido el municipio en los últimos 149 años, producto de desmembramientos territoriales.

PALABRAS CLAVE: Geotecnologías. Involución territorial. Municipio. Nordeste de Brasil.

Introduction

The present study aimed to investigate the historical genesis of the territorial formation of the municipality of Pau dos Ferros, located in the western region of the State of Rio Grande do Norte, using the principles of Cartography as its methodological framework, representing the process of cartographic involution. Existing cartographic sources were utilized, alongside the production of new materials developed through Geotechnologies, supported by a Geographic Information System (GIS). Within the GIS environment, transformations were analyzed regarding both the municipal territorial extent and its population context.

The process of cartographic involution highlighted in this study is explained by the various changes in the municipality's territorial organization, in which boundaries were repeatedly (re)delimited until reaching the current configuration, resulting in the loss of territories and, consequently, altering the administrative limits due to the reduction of Pau dos Ferros's territory (Menezes; Dias; Costa, 2003). Buscou-se, assim, reedificar historicamente como era a divisão político-administrativa de Pau dos Ferros a partir de 1872, dado inicial disponibilizado pelo Brazilian Institute of Geography and Statistics (IBGE).

In this perspective, the study aimed to demonstrate the reverse cartographic evolution of Pau dos Ferros, emphasizing the various changes in the municipality's administrative boundaries over the period from 1872 to 2021. The findings revealed the cartographic involution of the municipality, showing a reduction of 1,826.48 km² in territorial area over the past 149 years.

Development

Literature Review

Since the beginning of Brazil's colonial period, intense territorial dynamics have shaped spatial organization throughout the country (Guedes; Freitas, 2019). In this context, Brazil's territorial configuration has undergone, and continues to undergo, modifications in the delineation of municipal and state spheres, especially during the 20th century, when the State of Rio Grande do Norte experienced processes of territorial fragmentation, as well as changes in its political, cultural, and socioeconomic structure. Cascudo (1968) and Dantas (2008 [1922]) discuss the process of municipal genesis but do not emphasize the political and socioeconomic agents involved in the fragmentation of these territorial portions.

Around the 17th century, during the colonization of the interior of the Captaincy of Rio Grande—which would later become the State of Rio Grande do Norte—the occupation of the Potiguar hinterlands began, following the expulsion of the Dutch. Subsequently, large landholdings were established in these areas, which had been inhabited by the native indigenous populations (Teixeira, 2017).

In light of this perspective on the historical genesis of Rio Grande do Norte, studies have found that, from the 18th century onwards, traveling cowboys originating from the Recôncavo Baiano region followed routes into the backlands of the Northeast, including those of Rio Grande do Norte. It was through these routes that the cowboys dominated regions and established settlements based on livestock raising and cultivation (Barreto, 1987).

In this process, Teixeira (2017) asserts that, from the 18th century, the occupation of the Potiguar interior gained momentum. The population migrating to these areas concentrated along rivers, taking advantage of conditions favorable to activities such as cattle ranching and sugarcane cultivation; cattle farms were established near major rivers, such as the Apodi-Mossoró, during the settlement of these regions.

This period is characterized by the occupation and exploration of the hinterlands of the Captaincy of Rio Grande (as well as neighboring localities) and the formation of new spaces, marking the beginning of a new model of territorial organization based on the political-administrative system and the development of a non-native population (Teixeira, 2017, p. 7).

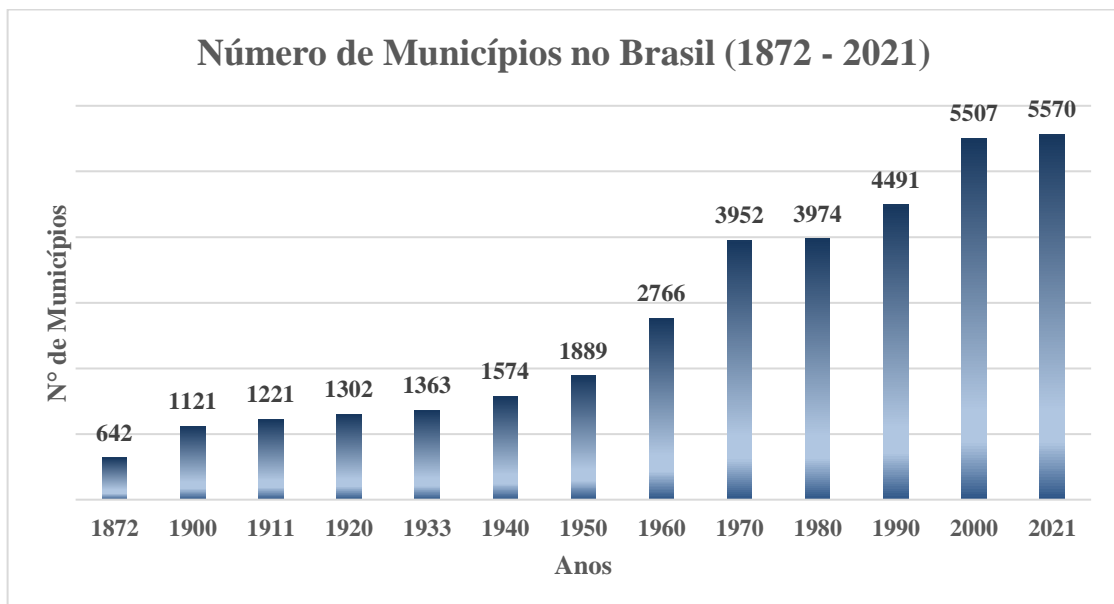
The aforementioned author further states that, during the colonial period, cattle ranching functioned as a determining factor for the socio-spatial formation of Rio Grande do Norte and for the emergence of new settlements, establishing itself as the primary economic activity of the Captaincy of Rio Grande. During this period, the municipality of Portalegre emerged, playing an important role in indigenous culture, with the district of Pau dos Ferros initially integrated into it. Later, in 1856, Pau dos Ferros was separated from the mountainous municipality, achieving emancipation. It is noteworthy that, until the early 20th century, cattle ranching remained an active economic activity in the interior of the state and contributed significantly to the formation of the identity of the Potiguar hinterlands.

The formation of Pau dos Ferros was closely linked to the routes traveled by cattle herders, serving as a shortcut and resting point along long and exhausting journeys (Barreto, 1987). In this sense, its emancipation brought changes both to the environment and to social relations, particularly concerning the sense of belonging among the municipality's residents over the years. Moreover, it is important to note that, following its separation, several districts,

such as Panatis (now Marcelino Vieira) and Joaquim Correia (now Encanto), located in its surroundings, became part of the municipality. However, during the 1950s and 1960s, the emancipation of these districts intensified, leading to their separation from Pau dos Ferros (IBGE, 2017).

The changes resulting from these separations and formations led to a new territorial configuration, a phenomenon observed throughout the country, as Brazil underwent multiple transformations in the structure of its municipal network. This process demonstrates the potential for extensive territorial fragmentation and the establishment of new local political administrations, highlighting a significant evolution over the past 149 years (IBGE, 2017) (Figure 1).

Figure 1 – Evolution of Brazilian municipalities from 1872 to 2021³



Source: Adapted from IBGE (2022).

Observing Figure 1, it can be seen that, in 1872, there were 642 municipalities in the country, a number that doubled in fifty years, reaching a total of 1,302 municipalities in 1920. By 1950, this figure had increased to 1,890 municipalities. Over the following twenty years, the number grew gradually, reaching 3,959 municipalities in 1970. From 1970 to the present day, there has been an increase of more than 70%, totaling 5,570 municipalities.

In this context, it is understood that, throughout the chronological implementation of municipalities in Brazil, significant changes are perceptible, particularly with regard to

³ Translation of the text: Number of Municipalities in Brazil (1972-2021).

governmental foundations, which are justified by the formation of today's states and municipalities. It is therefore understood that the creation of municipalities is linked to intense debates between citizens and state assemblies, and research has evidenced the connection between oligarchies that continue to influence the formation of the territory of Rio Grande do Norte, acting as modernizers in the process of occupying this area (Gomes, 2015; Barbosa, 2016).

To understand the formation of the territory of Rio Grande do Norte, it is necessary to comprehend the concept of territory, considered a notion related to the production of historical civilization, resulting from its social, economic, political, and environmental aspects. In this sense, Souza (1995, p. 78) reinforces the idea that territory is a demarcated area based on relations of dominion.

However, territory cannot be understood solely from a political perspective, as its constitution involves other components such as identity, economy, and geography; accordingly, it is described as having a transdisciplinary character, as stated by Cazzolato (2011, p. 65).

The word *territory*, from the Latin *territorium*, derives from the term *terra* and was used in the Roman legal system to designate a portion of land appropriated within the boundaries of a given political-administrative jurisdiction. In another sense, it refers to the analogy between *terra-territorium* and *terreo-terror* (which translates as “to terrorize the one who terrorizes”) (Haesbaert, 2009, p. 43, our translation).

Territory is often confused with other geographical concepts, such as *space*, a key concept in Geography. However, as Andrade (2004) asserts, territory should not be conflated with the concepts of *place* and *space*, as it is connected to the idea of dominion or management of an area. The concept of territory must be associated with power—both public and state power—as well as with the power of large corporations that extend their reach across vast territorial areas, often disregarding political boundaries.

In this regard, it is important to understand that space precedes territory. Raffestin (1993) corroborates this idea by asserting that territory is formed from space, as a result of an action undertaken by actors who, through appropriation of this space—either materially or symbolically—territorialize it. In this sense, Raffestin discusses territorialization as an individual characteristic of each territory, emphasizing that each unit possesses its own territoriality.

Haesbaert (2004, p. 13, our translation), reflecting on the concept of territory, states that:

The truth is that territory should not be viewed merely as an object in its materiality, nor as a simple analytical construct devised by the researcher. Just as it is not something given or inexorably present in our lives, it is also not a mere invention, whether as a tool of analysis for scholars or as part of the “geographical imagination” of individuals (Haesbaert, 2004, p. 13, our translation).

Souza (2000), on the other hand, asserts that territory originates within Political Geography. In this context, the author emphasizes that the first major figure in Political Geography, the German Friedrich Ratzel, reinforces the understanding that territory is ideologically linked to the State.

Within this framework, to understand the organization of the current territory of Pau dos Ferros, it was necessary, based on bibliographic surveys, to examine the processes of territorial formation and involution, aimed at highlighting the significance of the various political-administrative divisions of the municipality. In this regard, while acknowledging the diverse approaches to the concept of territory, the present study adopted the definition that territory constitutes a concrete space, grounded in the conceptions of authors such as Souza (1995; 2000) and Raffestin (1993), as an area constructed and delineated through relations of power.

Relating the study area to this historical context in the process of territorial formation, it is noteworthy that, since its establishment in 1856, Pau dos Ferros has experienced territorial losses. According to IBGE (2017), several districts and settlements that were once part of the municipality began to emancipate significantly between the 1950s and 1960s. This phenomenon can be explained by the political interests of local oligarchies, that is, municipal-level leaderships over a population segregated by political hegemonies, in which a small portion of people holds power over a given territory, contributing to political-administrative divisions and the increase of socio-spatial inequalities (Leal, 1976; Ribeiro; Santos Junior, 2005).

When discussing territorial formation, it is important to remember that a territory is constituted through processes of colonization of areas, often penetrated by small groups of high purchasing power, who establish relations of dominion over a specific portion of land. A prominent example is the former Captaincy of Rio Grande, today the State of Rio Grande do Norte, which was previously inhabited by various indigenous peoples who, following the arrival and penetration of the Portuguese Crown, became subordinated, progressively losing their territories and local identity (Teixeira, 2017).

Moraes (1999) asserts that colonization represents a conquest of a given territory. The author emphasizes three fundamental principles for the process of territorial formation: territory is a military/warfare construction; a legal construction; and an ideological construction. In this perspective, he notes that these principles do not necessarily occur sequentially.

Within this framework, it is necessary to highlight territorial changes, as well as the landscape perspective, which concerns the current spatial configuration. In this regard, Cartography was employed in this study as a tool to understand changes in the territorial boundaries of Pau dos Ferros. This observation was made possible through temporal data provided by the IBGE, spanning the period from 1872 to the present day.

Materials and Methods

Study Area

The municipality of Pau dos Ferros is located in the western portion of Rio Grande do Norte, approximately 400 km from the state capital, Natal, covering a total area of 259.96 km², equivalent to 0.52% of the state's surface (Figure 2). Its urban area is approximately 5 km² (Costa, 2010), with an estimated population of 30,600 people in 2020, resulting in a demographic density of 106.73 inhabitants/km², according to IBGE (2017).

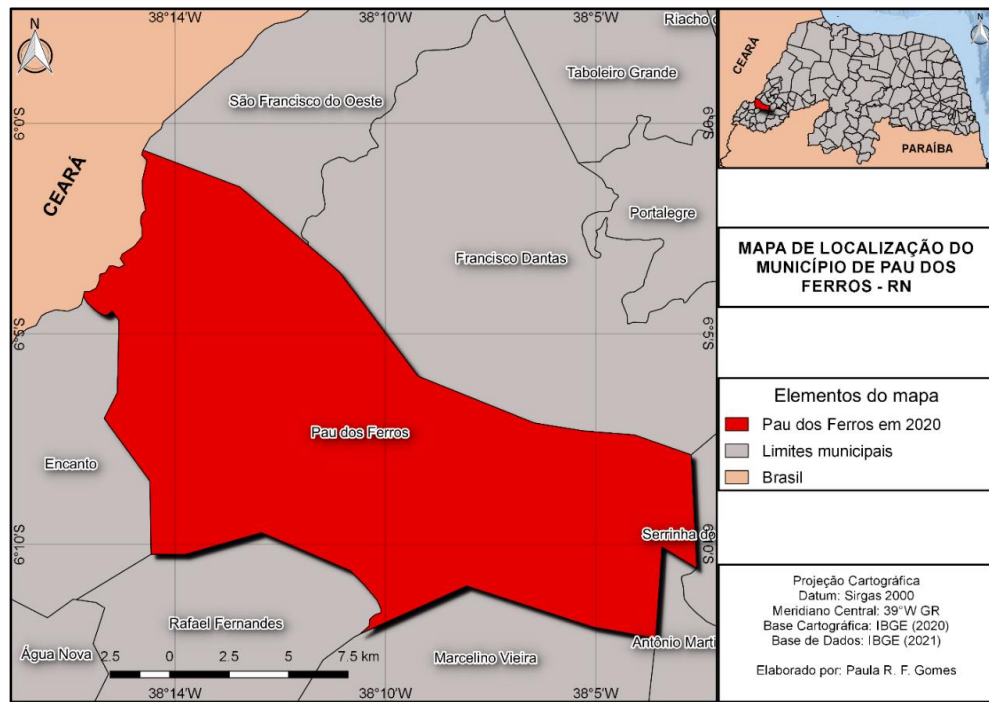
Methodological Procedures

Regarding the method, the hypothetical-deductive approach was employed, constituting an important component of scientific work and characterized by a set of techniques essential for the development of scientifically validated results (Prodanov; Freitas, 2013).

To identify the processes of cartographic involution, research was conducted in public institutions across different political spheres, analyzing programs, laws, and other documents that provided evidence of the expansion of territorial boundaries over the proposed years.

Bibliographic reviews of authors who address the concept of territory were carried out to understand the historical process of territorial configuration of the municipality of Pau dos Ferros (RN).

Figure 2 – Territorial boundaries of the municipality of Pau dos Ferros (RN)⁴



Source: IBGE (2020). Prepared by the authors (2023).

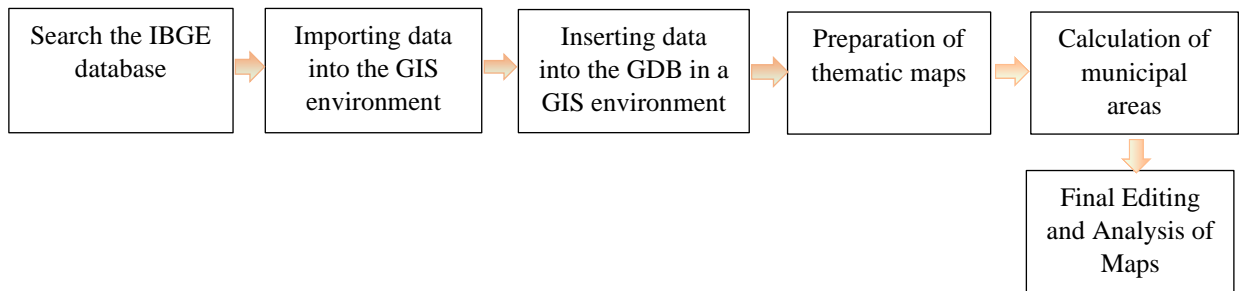
The descriptive methodology employed sought to highlight the relationships within the territory, aiming to analyze how the occupation of this area occurred, the fragmentation of the districts that comprised the municipality, and the current territorial delimitation.

The mapping of the study area was conducted using tools available in the QGIS software, which allowed for the preparation of historical and current maps of the municipality. It is important to note that the IBGE provides vector files documenting the temporal evolution of municipal boundaries from 1872 to the present, with a temporal interval of ten years.

To clarify the methodology applied in the preparation of the maps, the steps are summarized in the flowchart below (Figure 3):

⁴ Translation of map elements (top to bottom): Pau dos Ferros in 2020; Municipal boundaries; Brazil.

Figure 3 – Steps for the preparation of thematic maps and population data



Source: IBGE (2020). Prepared by the authors (2023).

The scale of analysis was at the municipal level, with a cartographic scale of 1:25,000 in shapefile format, as this is the scale provided by the referred agency. These data were stored in a GIS environment within a Geographic Database (GDB) and analyzed in such a way that it was possible to present a framework illustrating cartographic evolution/involution, as well as population data over time.

It is worth noting that the method of cartographic involution adopted in this study differs from the methodology provided by the IBGE, as the municipal grid data obtained from the agency do not include cartographic references prior to 1872. In this regard, the methodology applied in this research disregards alterations that occurred before the aforementioned year.

Results

Historical aspects of the formation of the Pau dos Ferros territory

Ferreira and Sampaio (2016) state that the municipality of Pau dos Ferros belonged to the jurisdiction of Portalegre. The so-called Vila de Portalegre was founded on December 8, 1761, encompassing the municipalities of Apodi, Caraúbas, and Janduís up to São Miguel in the west, bordering the state of Ceará (Cavalcante *et al.*, 2010).

According to Barreto (1987), Portalegre presented natural conditions that did not allow it to effectively administer Pau dos Ferros, given that the latter already possessed the conditions necessary for administrative autonomy.

The settlement of Pau dos Ferros, due to its topographical position and communication routes, had higher commercial activity, and its interactions with the more developed centers of Rio Grande do Norte and neighboring captaincies were more intense. Among the three parishes existing in the western part of the captaincy at the end of the 18th century—Apodi,

Portalegre, and Pau dos Ferros—the latter was the most populous and had the highest agricultural production. Therefore, it was reasonable that its inhabitants worked diligently and employed all available means to achieve political and administrative autonomy (Barreto, 1987, n.p., our translation).

According to Barreto (1987), on September 4, 1856, following a request by Deputy Benvenuto Vicente Fialho, the provincial president, Dr. Antônio Bernardo Passos, sanctioned Law No. 344, elevating the settlement of Pau dos Ferros to the status of *vila* and establishing the boundaries of the new municipality.

According to IBGE (2021), a series of changes occurred in the territorial boundaries of the municipality following its elevation to municipal status, officially installed on January 19, 1857. One of the first changes was the creation of the district of Vitória (currently Marcelino Vieira) under Municipal Law No. 05, dated September 2, 1902. In 1924, the district of Pau dos Ferros was elevated to the status of a city, and in 1933, the district of Vitória was dissolved.

Furthermore, according to IBGE (2021), in 1938 the district of Vitória was recreated and reattached to the municipality of Pau dos Ferros through State Decree No. 603, dated October 31, 1938, remaining in effect from 1939 to 1943. Subsequently, this district was renamed Panatis.

On December 23, 1948, the district of Riacho de Santana was created and annexed to the municipality of Pau dos Ferros, which, by 1950, comprised three districts: Pau dos Ferros, Panatis, and Riacho de Santana. It is important to highlight that the aforementioned municipalities had a larger territorial area than they do today, as over the years they also underwent processes of territorial changes (detachment of districts). Through State Law No. 909, enacted in 1953, the district of Panatis was elevated to the status of a municipality, under the name Marcelino Vieira (IBGE, 2021).

In 1953, the jurisdiction of Joaquim Correia was established and annexed to the municipality of Pau dos Ferros, by means of State Decree No. 55, dated December 21, 1953. On the same date, the district of Rafael Fernandes was also created and incorporated into the municipality. Thus, by 1955, Pau dos Ferros was composed of four districts: Pau dos Ferros, Joaquim Correia, Rafael Fernandes, and Riacho de Santana, a configuration that remained in place until 1960.

In the years 1962 and 1963, several districts were detached from the municipality of Pau dos Ferros: Riacho de Santana; Joaquim Correia, renamed Encanto; and Rafael Fernandes, respectively, all of which were elevated to the status of municipalities.

Cartographic involution of the territorial boundaries of Pau dos Ferros (1872–2020)

The territory of Pau dos Ferros has undergone significant changes from 1872 to the present. To illustrate this process, see Table 1 and Figures 4 A, B, C, D, E, F, and G.

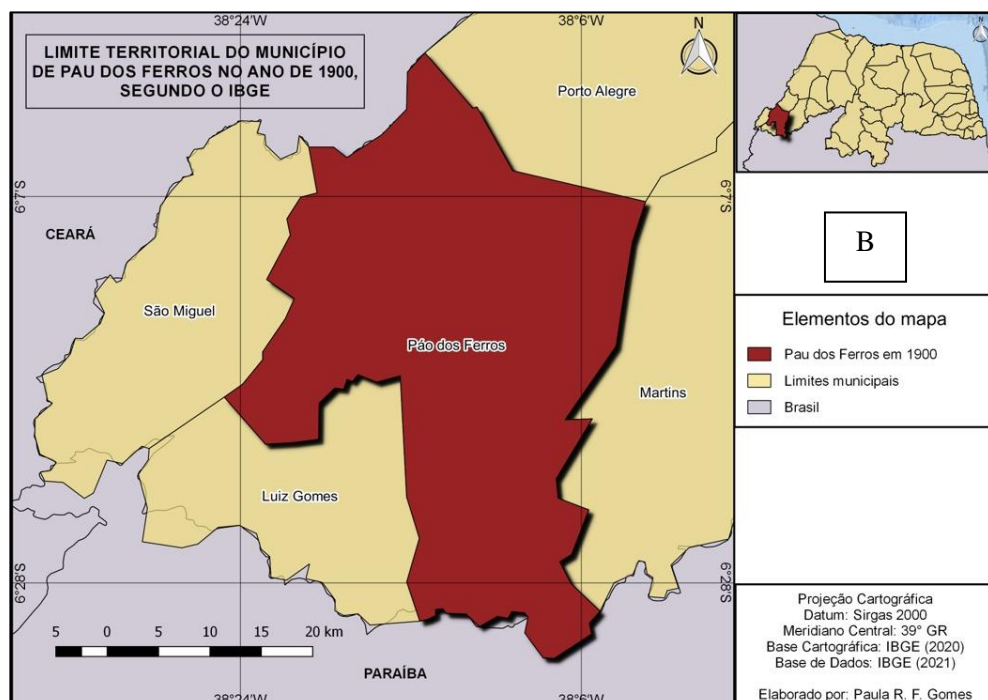
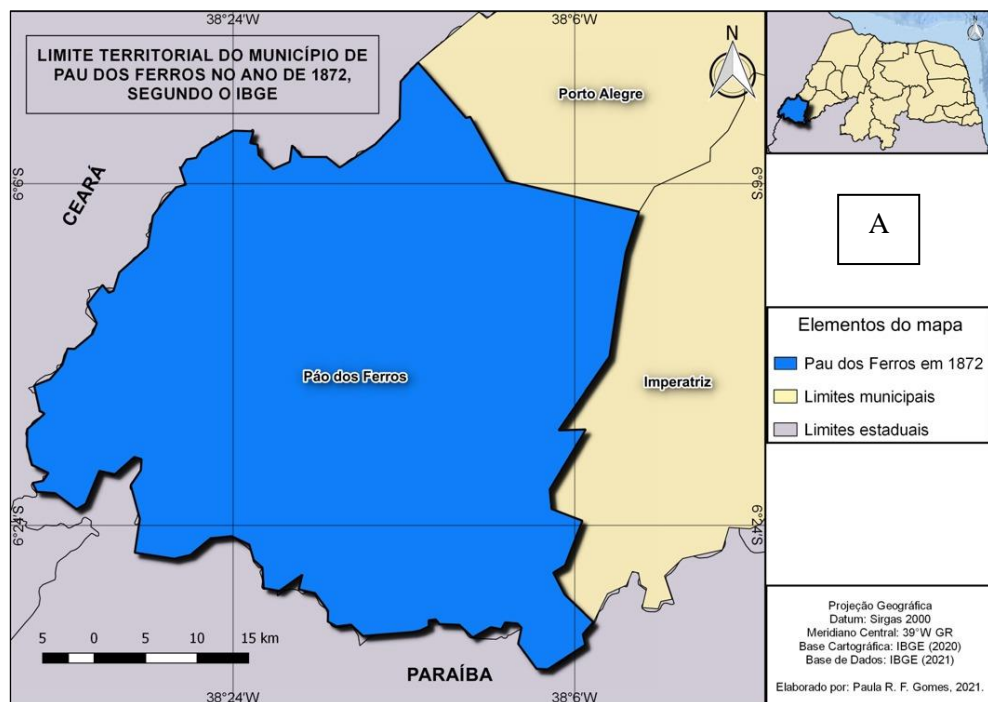
Table 1 – Territorial extent of Pau dos Ferros between 1872 and 2020, and the municipalities belonging to the territory of Alto Oeste Potiguar

YEAR	Number of municipalities	Municipal names	Area KM ²	Population
1872	15	Pau dos Ferros, Rafael Fernandes, Água Nova, Marcelino Vieira, Luís Gomes, Encanto, Tenente Ananias, Alexandria, Doutor Severiano, Riacho de Santana, São Miguel, Major Sales, José da Penha, Paraná e Coronel João Pessoa.	2,086.44	19,635
1900	8	Pau dos Ferros, Rafael Fernandes, Água Nova, Marcelino Vieira, Encanto, Riacho de Santana, Tenente Ananias e Alexandria.	1,204.87	5,827
1933	6	Pau dos Ferros, Rafael Fernandes, Água Nova, Marcelino Vieira, Encanto e Riacho de Santana.	996.24	-
1960	5	Pau dos Ferros, Rafael Fernandes, Água Nova, Encanto e Riacho de Santana.	671.95	16,678
1970	1	Pau dos Ferros	277.65	12,138
1991	1	Pau dos Ferros	277.65	20,827
2022	1	Pau dos Ferros	259.96	30,479

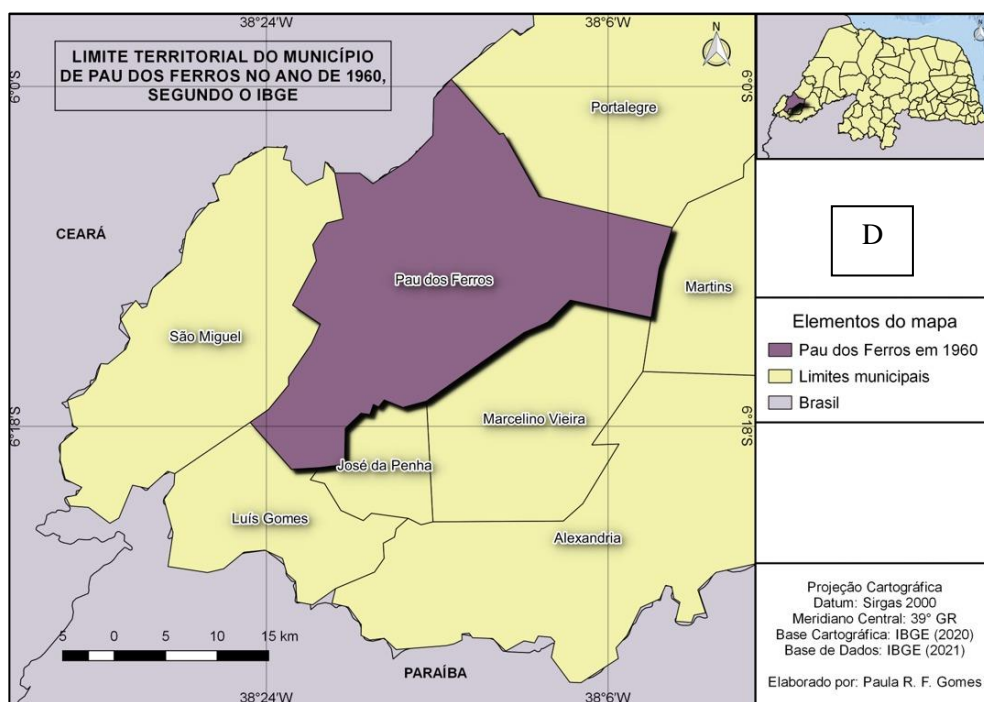
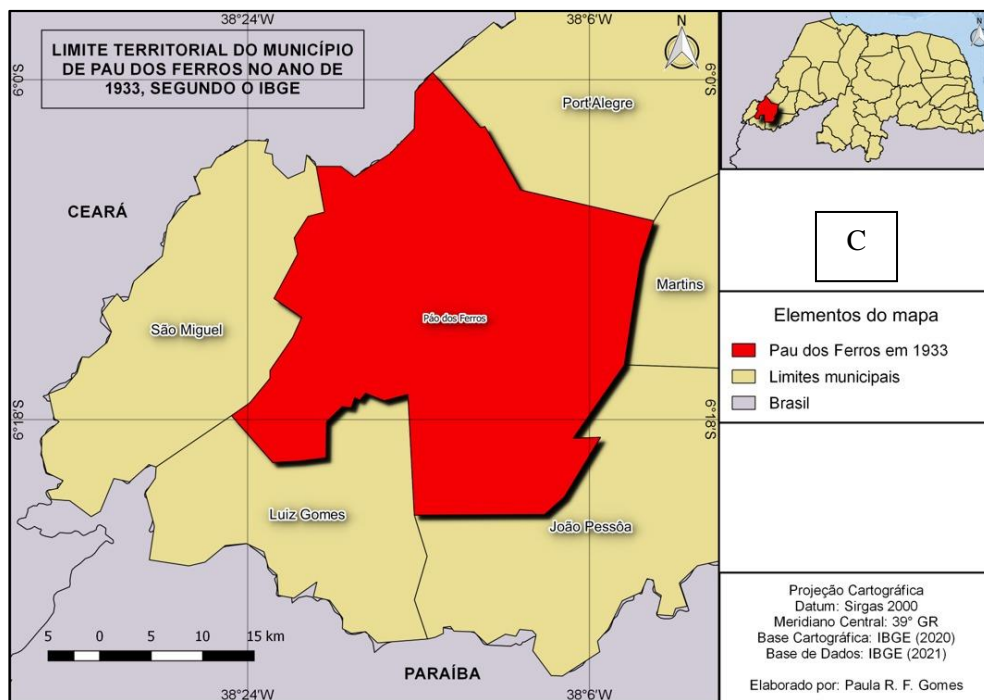
Source: Prepared by the authors.

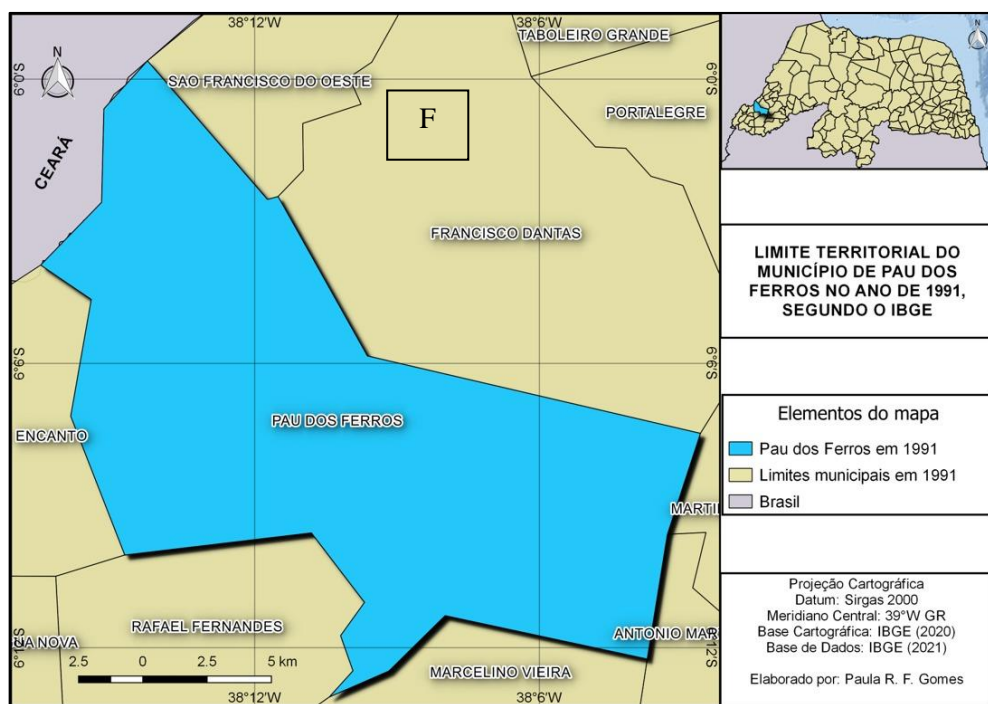
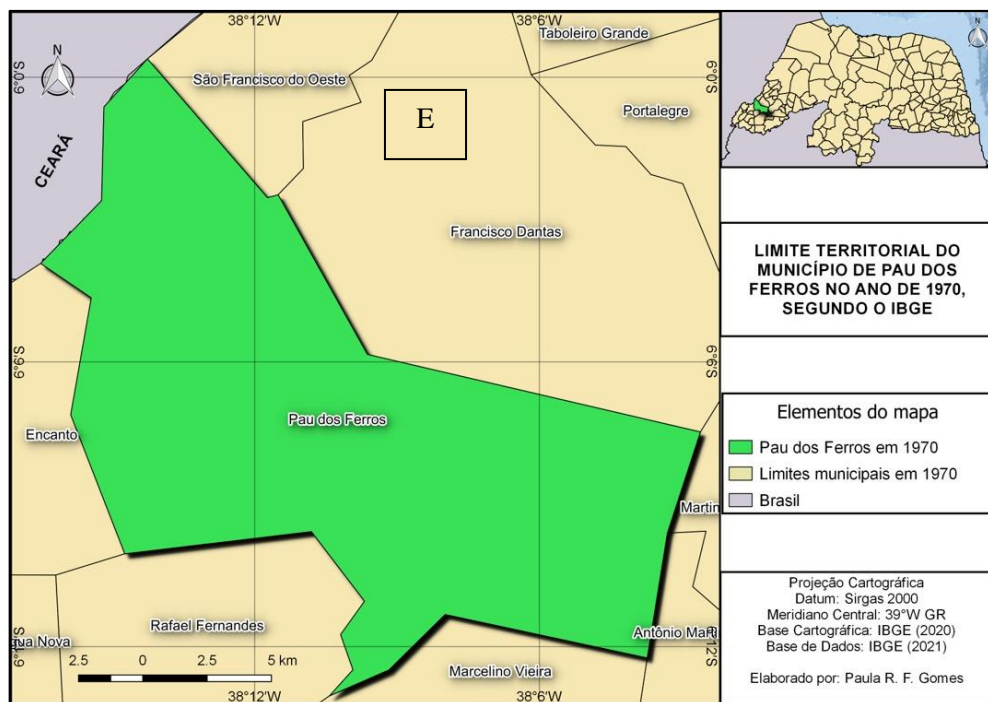
In Table 1, it can be observed that, in 1872, the municipality of Pau dos Ferros had an area of 2,086.44 km², which today corresponds to 15 municipalities belonging to the Alto Oeste Potiguar region. During this period, it is important to note that the municipality bordered the state of Paraíba to the south and the state of Ceará to the west. According to IBGE (2021), in 1872, Pau dos Ferros had a population of 19,635 inhabitants, the third largest in the state, surpassed only by Nova Cruz (20,939) and Natal (20,392).

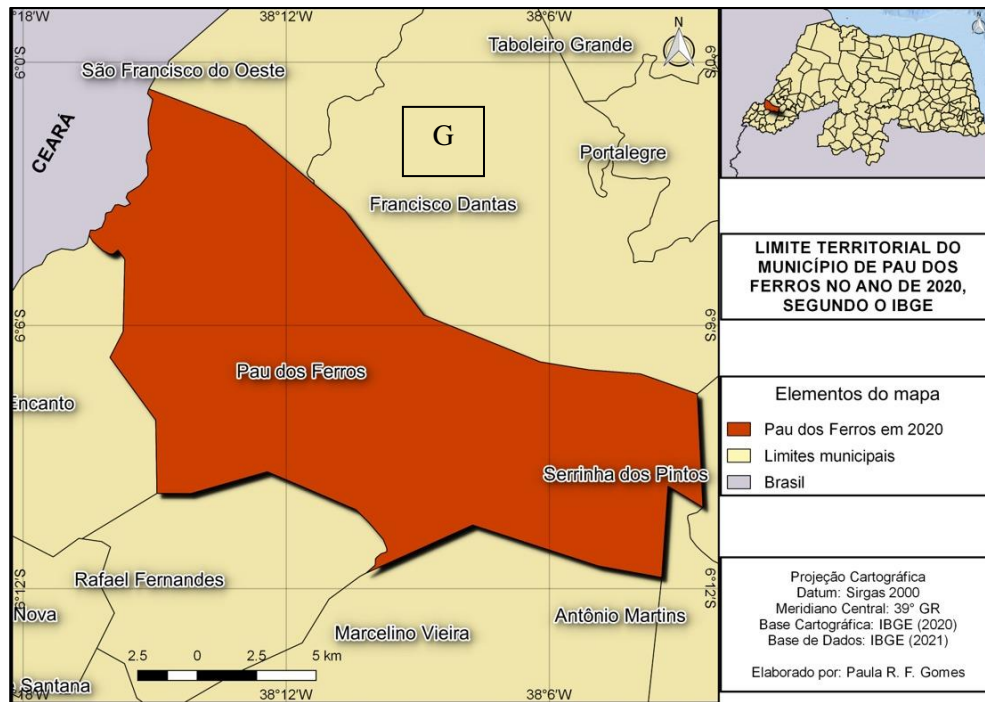
Figure 4 – A. Pau dos Ferros in 1872; B. Pau dos Ferros in 1900; C. Pau dos Ferros in 1933; D. Pau dos Ferros in 1960; E. Pau dos Ferros in 1970; F. Pau dos Ferros in 1991; G. Pau dos Ferros in 2020⁵



⁵ Translation of the beige color in all images: Municipal boundaries.







Source: Adapted from IBGE (2021).

Due to its topography, Pau dos Ferros offered favorable conditions to stimulate the expansion of the local commercial market, as well as communication networks. For these reasons, it was easier to maintain commercial relations with other areas of influence in Rio Grande do Norte (Barreto, 1987).

In 1859, a weekly market was created with the aim of advancing and boosting local trade. However, this economic activity was short-lived, and the reasons for its decline are not explained by the author. By 1868, discussions within the municipal council addressed the establishment of a new market, which was reestablished at the end of July of that year. In 1873, the weekly market of Luís Gomes was created, operating on Saturdays (Barreto, 1987).

The aforementioned author further emphasizes that Pau dos Ferros, due to its geographical location—situated at the center of the agricultural highlands and in proximity to the Apodi-Mossoró River—was well positioned for livestock raising and agricultural development. Nevertheless, in 1877, 21 years after its emancipation, the municipality faced a severe drought that lasted three years, ending in 1880. This event forced numerous families to leave their homes and migrate toward coastal regions, given the differentiated climatic conditions in those areas. Despite these adversities, many families remained in the territory, and by 1880, local trade had resumed normal operations.

During this period, livestock raising and crop cultivation were already present since the municipality's dismemberment, constituting major sources of wealth for the economy as well as for the formation of local cultural identity.

By 1900, the municipality of Pau dos Ferros had an area of 1,204.87 km², corresponding to the current eight municipalities shown in the table. This occurred because, according to Souza (2019), the municipalities of Luís Gomes (1890) and São Miguel (1876) had already been separated from Pau dos Ferros. For this reason, it is important to emphasize that, according to IBGE (2021), the population of Pau dos Ferros in 1900 was 5,827 inhabitants, representing a decline of 70.32% compared to 1872.

In 1933, no population data were provided, making it difficult to analyze population growth or decline in the municipality. However, regarding the number of municipalities, Alexandria (which included the area of Tenente Ananias) was separated in 1930, reducing Pau dos Ferros to six municipalities, with an area of 996.24 km².

In 1960, Pau dos Ferros had a territorial area of 671.95 km², corresponding to five current municipalities (Pau dos Ferros, Rafael Fernandes, Água Nova, Encanto, and Riacho de Santana), which had not yet been separated. During this period, Marcelino Vieira had already been elevated to the status of municipality in 1953. According to IBGE (2021), in 1950, the total population of the municipality was 17,517 inhabitants. In 1960, a decline of 4.8% was recorded, reducing the total to 16,678 inhabitants.

The population growth observed during this period, according to Souza (2019), stemmed from state intervention, as after 1960, small towns in the Northeast began to develop and played a more prominent role in regional dynamics. In Rio Grande do Norte, only a few cities stood out in this context, forming a verticalized urban network, and Pau dos Ferros was one of them, with the installation of regional public services.

From 1970 onward, all the current municipalities had been separated from the territorial limits of Pau dos Ferros. According to IBGE (2017), the municipality had an area of 277.65 km² and a population of 12,138 inhabitants. Compared to 1960, this represented a 27.2% reduction in population, possibly caused by the emancipation of Rafael Fernandes, Água Nova, Encanto, and Riacho de Santana. Nonetheless, during this period, according to Souza (2019), the municipality already housed important state and federal institutions within its territory.

In 1991, Pau dos Ferros still covered an area of 277.65 km² and recorded a significant population growth, rising from 12,138 inhabitants in 1970 to 20,827 inhabitants, representing

an increase of 71.58%. Another noteworthy change was the adjustment of the municipal boundary with Martins, which occurred in 1993 with the separation of Serrinha dos Pintos.

By 2020, the estimated population of Pau dos Ferros was 30,802 inhabitants, representing another considerable increase of approximately 47.89%. With technological advancements, IBGE updated its cartographic databases, providing a more precise representation of municipal boundaries across Brazil. For Pau dos Ferros, this resulted in a reduction of its territorial area to 259.96 km², compared to the 277.65 km² recorded until 1991, representing a 6.8% decrease in municipal territory.

Final Considerations

This study demonstrated that the territorial formation of the municipality of Pau dos Ferros has undergone major transformations over the past 149 years. These changes occurred as a result of the political emancipation of neighboring municipalities, particularly after 1930, culminating in the dismemberment of Rafael Fernandes in 1963.

The cartographic products developed highlight that the southernmost municipalities were the first to be separated, followed by others. This underscores the importance of cartography for representing and analyzing spatial phenomena, in this case, the process of territorial formation of the municipality.

Among the materials consulted, IBGE stood out as the institution providing the most reliable data on municipal territorial formation. Local data, such as books and historical documents, contained uncertain information and were therefore not used in this article, though they may be valuable for future studies on municipal territorial formation.

It is important to note that difficulties were encountered in obtaining local documents due to the COVID-19 pandemic, which prevented timely visits to local institutions during the research process. In this case, the study relied on IBGE data, as previously cited.

It is also necessary to emphasize the need for further discussion on IBGE's methodology for municipal territorial division, as more recent boundary adjustments suggest improvements in techniques and technological advances observed over the last 20 years.

The use of GIS should also be considered an essential tool in this study, both for the creation of thematic maps and for calculating territorial areas in square kilometers, which revealed the municipality's territorial reduction over the analyzed period. In addition to the territorial area, the comparative analysis with population data demonstrated how these changes

reshaped the demographic configuration, with Pau dos Ferros shifting from the third largest population in 1872 to the eighteenth largest today, according to IBGE (2021).

Therefore, this study is expected to serve as a research source and to encourage further exploration of the territorial formation process of the municipality, considering that this is a pioneering study in the region.

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