

# **Rural Credit and Regional Development: The Green Credit Lines of Pronaf in Rio Grande do Sul**

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## **Abstract**

Regional development takes into account factors internal to the region, such as economic growth, social and environmental development. Specifically, Rio Grande do Sul, despite its importance in national agricultural production, faces serious regional discrepancies. The state has two well-defined regions, the southern half, with large properties, cattle breeding and grain cultivation, and the northern half, with a strong presence of family farming and a varied range of economic activities. Considering that Rio Grande do Sul stands out as the Brazilian state that has accessed the most resources from the National Program to Strengthen Family Farming (PRONAF) in recent years, this study aims to analyze access to and distribution of resources from PRONAF's green lines between the regions of the state between 2015 and 2023. Methodologically, the research is characterized as quantitative, carried out through the collection and analysis of secondary data available in the Central Bank of Brazil's Rural Credit Data Matrix. The results show that resources from Pronaf's green lines were concentrated in the Serra Gaúcha region, with the municipalities of Antônio Prado, Ipê and Bento Gonçalves together accessing approximately 36% of the resources. The main products financed by the lines were tractors, grapes and machinery and implements. Access to Pronaf's green lines suggests a certain regional and productive targeting, which needs to be better publicized and distributed throughout the state, such as in regions with environmental emergencies, like the Gaucho Pampa.

**Keywords:** Family Farming. Regional Dynamics. Inequality.

### **Crédito rural e desenvolvimento regional: as Linhas Verdes do Pronaf no Rio Grande do Sul**

#### **Resumo**

O desenvolvimento regional considera os fatores internos à região, como o crescimento econômico, desenvolvimento social e ambiental. De forma específica, o Rio Grande do Sul, apesar da relevância na produção agropecuária nacional, enfrenta sérias discrepâncias regionais. O estado apresenta duas regiões bem delimitadas, a metade Sul, com grandes propriedades, criação de gado e cultivo de grãos e a metade Norte, com forte presença da agricultura familiar e uma gama variada de atividades econômicas. Ao considerar que o Rio Grande do Sul se destaca como o estado brasileiro que mais acessou os recursos do Programa Nacional de Fortalecimento da Agricultura Familiar (Pronaf), nos últimos anos, o presente estudo visa analisar o acesso e a distribuição dos recursos das linhas verdes do Pronaf entre as regiões do estado gaúcho, no período entre 2015 e 2023. Metodologicamente, a pesquisa se caracteriza como quantitativa, realizada mediante a coleta e análise de dados secundários, disponíveis na Matriz de Dados do Crédito Rural do Banco Central do Brasil. Os resultados mostram que os recursos das linhas verdes do Pronaf se concentraram na região da Serra Gaúcha, os municípios de Antônio Prado, Ipê e Bento Gonçalves, juntos, acessaram aproximadamente 36% dos recursos. Os principais produtos financiados pelas linhas foram tratores, uva e máquinas e implementos. O acesso às linhas verdes do Pronaf sugere certo direcionamento regional e produtivo, o qual precisa ser melhor divulgado e distribuído no estado, como em regiões com emergência ambiental, a exemplo do Pampa Gaúcho.

**Palavras-chave:** Agricultura Familiar. Dinâmica Regional. Desigualdade.

### **Crédito rural y desarrollo regional: las Líneas Verdes del Pronaf en Rio Grande do Sul**

#### **Resumen**

El desarrollo regional tiene en cuenta factores internos de la región, como el crecimiento económico y el desarrollo social y medioambiental. Concretamente, Rio Grande do Sul, a pesar de su importancia en la producción agrícola nacional, se enfrenta a graves discrepancias regionales. El estado tiene dos regiones bien definidas, la mitad sur, con latifundios, ganadería y cultivo de cereales, y la mitad norte, con una fuerte presencia de la agricultura familiar y una variada gama de actividades económicas. Considerando que Rio Grande do Sul se destaca como el estado brasileño que más ha accedido a los recursos del Programa Nacional de Fortalecimiento de la Agricultura Familiar (PRONAF) en los últimos años, este estudio tiene como objetivo analizar el acceso y la distribución de los recursos de las líneas verdes del PRONAF entre las regiones del estado entre 2015 y 2023. Metodológicamente, la investigación se caracteriza por ser cuantitativa, realizada mediante la recopilación y el análisis de datos secundarios disponibles en la Matriz de Datos de Crédito Rural del Banco Central de Brasil. Los resultados muestran que los recursos de las líneas verdes del Pronaf se concentraron en la región de Serra Gaúcha, con los municipios de Antônio Prado, Ipê y Bento Gonçalves accediendo juntos a aproximadamente el 36% de los recursos. Los principales productos financiados por las líneas fueron tractores, uvas y máquinas e implementos. El acceso a las líneas verdes del Pronaf sugiere una cierta focalización regional y productiva, que necesita ser mejor divulgada y distribuida en el Estado, como en regiones con emergencias ambientales, como la Pampa Gaúcha.

**Palabras clave:** Agricultura Familiar. Dinámica Regional. Desigualdad.

## 1 Introduction

Development is marked by a set of concepts that carry pragmatic ideas linked to planning theories, developmentalism, and the economic field (Pimenta, 2014). The desire to understand regional issues refers to theories that emerged from the 1960s onwards, as a counterpoint to location theories. Regional development gained prominence in Brazil during the second half of the twentieth century, especially among economists and geographers (Etges & Degrandi, 2013).

Regional development started considering even more the endogenous factors, in other words, interior to the region, through the validation of specific characteristics and its intangible capital. “The theory of regional development seeks to recognize the role of space, public policies and territories in the improvement of quality of life and the region’s economic progress (Ferrera de Lima, 2020, p.132). The development’s idea goes beyond policies of incentives or the mere increase in production and income; it must also encompass the well-being of a given population.

The emphasis on regional development is attached to the possibility of overcoming the injustices and inequalities of capital (Pimenta, 2014). As Celso Furtado stated, “whether we like it or not, Brazil’s major issues can only be diagnosed if one has a view of the country that takes into account the fundamental fracture of this regional inequality” (Furtado, 1981, p. 120). Thus, the promotion of regional development is tied to the construction of citizenship, with human development necessarily being the focus of action (Ferrera de Lima, 2020).

Theis (2020), when analyzing the perspective of regional development both nationally and internationally, highlights that Celso Furtado’s diagnosis about the regional issue in Brazil is that the economist revealed the nature of the unequal development process that controls the Brazilian economy, an underdeveloped, peripheral, and dependent economy. According to the author, Furtado emphasized the necessity to confront unequal regional development and reflect about the forces of backwardness.

As a field of study, regional development has the potential to guide the demand to formulate corresponding policies and plans, taking on the specific characteristics of the region, whether underdeveloped, stagnant or overpopulated (Oliveira, 2021). Regional development needs to be fomented by governmental policy in conjunction with civil society, in which planning is crucial to the propositions, considering aspects such as geographic specificity, imposition of population on natural resources, social structure and religious, psychological and cultural institutions (Furtado, 2009). In this regard, Theis et al. (2021) affirm that space is not neutral, it reflects human actions and relates to politics and regional planning.

Brazil is characterized as a country of continental dimensions, heterogeneous and deeply unequal. The most well-known representation of the issue of regional inequality dates to the decades between 1930 and 1950 and relates to the idea of the existence of “two Brazils”. The national territory was divided by a profound differentiation that separates most modern regions of southeast and south of most backward regions of the north and northeast (Grin et al., 2021). Regional differences

in the country increased with the industrialization process, which was concentrated in the southeast since the coffee-based economy, responsible for transformations, such as the rapid growth of major urban centers due to the phenomenon of rural exodus, driven by the decline of the coffee cycle (Rego & Marques, 2011).

The main regional economic axes in Brazil were the south, with livestock and its long tradition of supplying the domestic market. Northeast with sugar-based economic and cotton production, and the North with the rubber cycle in the Amazon (Holanda, 1995). However, work related issues, such as informal or lack of payment, in the North region, hindered the formation of an internal regional market; technical stagnation in the northeast was the main factor responsible for the region's low dynamism and productivity; and the lack of a self-sustaining industrial dynamic in the south prevented these regions from reaching the same level as the southeast (Cano, 1998). So, when synthetically capturing the reality of regional development in Brazil, this division, for many historical reasons, continues to be an intrinsic and structural mark of national regional development.

Particularly in the South region of Brazil, even with Rio Grande do Sul being considered as one of the most developed states in the country, in terms of participation in the national Gross Domestic Product (GDP), with 6,50%, ranking fourth, driven mainly by agriculture and livestock (IBGE, 2021). Also, in relation to the Human Development Index (HDI), with 0,77, in 2021, a level considered high and the fifth highest in the country (IBGE, 2024), regional analysis reveals that the state presents significant discrepancies and regional variances. The economic and social formation of Rio Grande do Sul shows two historically distinct regions: the Northern Half and the Southern Half.

The regional development process of the Northern Half of Rio Grande do Sul, which includes the macro-regions of the Northeast and the Metropolitan Region of Porto Alegre, reveals a society characterized by small and medium-sized properties forming the basis for the presence of industries and, consequently, for urban concentrations (Tillmann, Menezes & Fernandez, 2017). The demographic dynamics and agglomeration economy that emerged around the state capital are among the main factors driving expansion and diversification of the Northern Half. Moreover, industrial clusters and the high growth of per capita income tend to concentrate in the Serra (Mountains) region. According to Fochezatto and Céspedes (2023), business demographics in Rio Grande do Sul show that the highest survival rates are found in the state's Northeastern macro-region.

Regarding the context of regional inequalities, the Southern Half presents a scenario in which the productive structure is entirely different from that of the North. The issue of the "development lag" of the Southern Half of Rio Grande do Sul dates to the 1990s, when the thesis of a "backward" and "impoverished" region emerged, in contrast with the industrialized and developed North (Soares & Sassi, 2019). Predominantly agrarian, the region is considered underdeveloped, as it maintains its agropastoral base and an extremely concentrated land structure.

It is worth emphasizing that the division between the Northern and Southern Halves of Rio Grande do Sul does not correspond to a formal political-administrative boundary but results from historical, economic, and social constructions. According to Soares (1996), economic historiography identifies the late nineteenth and early twentieth centuries as the milestone of the relative decline of the Southern Half, in

contrast with the growing dynamism of the Northern region, linked to family-based colonization and industrialization. This differentiation gave rise to the so-called political and economic “geographism,” which contrasts two models of development: on the one hand, the Northern Half, marked by small and medium-sized properties, productive diversification, and later industrialization; and on the other, the Southern Half, characterized by large estates, extensive livestock farming, and low population density (Bandeira, 1994; Coronel, 2016). Territorial analyses by Verschoore Filho (2000) already indicated that the Southern Half encompassed 98 municipalities located south of the line connecting Palmares do Sul, in the East, to São Borja, in the West, corresponding to roughly half of the state’s territory but accounting, in 1998, for only 17% of Rio Grande do Sul’s GDP.

However, as observed by Soares (1996) and Hentz (2013), reducing the region to the notion of backwardness or poverty would be a simplification. The economic stagnation of the Southern Half does not imply an absence of wealth but rather a concentration of land and production that generated striking social inequalities. In fact, cattle ranchers, rice and soybean producers achieve high levels of income and quality of life, while a significant portion of the population faces unemployment, poverty, and lack of access to basic services (Alves, Silveira & Ferreira, 2007; Hentz, 2013). Thus, the so-called “poverty of the Southern Half” should be understood less as a homogeneous phenomenon and more as the result of a socio-economic structure of concentration, which benefits certain groups while excluding others. From this perspective, the North–South division does not merely express a territorial differentiation, but above all, the coexistence of distinct and unequal models of development within the same state.

Access to land, particularly those considered unproductive, was achieved through expropriation and transformation into rural settlements, enabling access for family farming households in conditions of socioeconomic vulnerability (Ferron & Troian, 2020). The weak dynamism of the Southern Half’s economy is limited by the low variety of agricultural and livestock products (Cargnin, 2014). On the other hand, since the advent of agricultural modernization, with the expansion of crops, especially soybeans, this process has posed a threat to the development of the Pampa Gaúcho (Maia & Troian, 2022).

With the expansion of modern agriculture, the Pampa Gaúcho has undergone numerous transformations that have exponentially affected its native grasslands. The problems resulting from the conventional agricultural production model<sup>1</sup> have led to changes in the territory, such as the conversion of natural environments into grain fields. This movement has produced negative effects in the rural landscape, materializing in environmental and cultural degradation as well as sociocultural issues (Netto & Vargas, 2019; Maia & Troian, 2020).

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<sup>1</sup> The term is used in contrast to other models, such as agroecological. It refers to the dominant pattern that has been consolidated mainly since the Green Revolution (1960s and 1970s). It is characterized by the intensive use of chemical inputs (synthetic fertilizers, pesticides, and herbicides), large-scale mechanization, intensive irrigation, and the adoption of improved or genetically modified seeds. Although it has contributed to increased food production, it is associated with significant socio-environmental impacts, such as soil degradation, water contamination, loss of biodiversity, and land concentration (Altieri, 2002).

As a countermovement to the spread of large-scale agriculture, the farming and livestock activities carried out by family farmers and ranchers hold the potential to reduce territorial damage due to their forms of land use and occupation. In this sense, these activities reveal a broader meaning in the relationship between land and people, as well as in the interrelations resulting from this process, in their very essence, they carry factors of territorial valorization through biodiversity protection techniques, which foster a new relationship between humans and nature, oriented toward quality of life and well-being (Maia, Troian & Maciel, 2024).

To enhance family farming production, Rio Grande do Sul stands out as the Brazilian state that, in the last decades, has most accessed resources from the National Program for Strengthening Family Agriculture (Pronaf), designed to provide subsidized agricultural credit to support this social category (Schneider, Cazella & Mattei, 2021; Fossá, Villwock & Matte, 2024). The significant level of access to credit in the state is due to its productive potential, the organizational capacity of rural producers in adhering to credit policy, and the capillarity of the banking system throughout the state, especially the Banco do Brasil and cooperatives (Cavinato & Capitani, 2023).

In this regard, it should be emphasized that rural credit is the main instrument of support for Brazilian agriculture and has been a decisive element in the process of the “painful” modernization (Graziano da Silva, 1982) of Brazilian agriculture. With the creation of the National Rural Credit System (SNCR) in 1965, rural credit was institutionalized as a public policy, providing resources to increase and expand the productive capacity of national producers (Delgado, 2012). The decades following the creation of the SNCR were marked by triple selectivity in terms of access to resources. Most of the resources were directed to large producers in the South and Southeast regions, dedicated to the production of agricultural commodities, especially those destined for international markets (Sorj, 1980).

According to Grisa and Schneider (2015), family farming has a long history of demands before the Brazilian State for a public policy suited its reality in terms of access to rural credit. Social movements found no room for dialogue with the federal government until the end of the military dictatorship, which lasted until 1985 (Mattei, 2015). The promulgation of the Federal Constitution in 1988 marked the participation of other social actors, and family farming began to occupy seats in participatory spaces within the Brazilian State (Grisa & Schneider, 2015).

Three factors were decisive for the creation, in the 1990s, of the first specific public policy for family farming: (i) the large-scale demonstrations of rural social organizations nationwide; (ii) the conceptual shift within academia regarding the role of family farming in the country’s development; and (iii) the FAO/INCRA joint study published in 1994, which established the guidelines and classifications of Brazilian family farming (Mattei, 2015; Grisa & Schneider, 2015). Initially, the Small Production Valorization Program (Provap) was established, being considered the embryo of Pronaf (Bianchini, 2015). In 1995, the National Family Farming Plan (Planaf) was created, which, alongside Provap, laid the groundwork for the establishment of the National Program for Strengthening Family Agriculture (Pronaf) (Fossá, 2021).

Pronaf was created in 1996 by then-President Fernando Henrique Cardoso, throughout Federal Decree 1.946/1996. The program marked a milestone in the Brazilian State’s intervention and attention to family farming (Schneider, Cazella &

Mattei, 2021). This is because the State created a specific public policy for this segment, which, in its initial design, went beyond rural financing to include participatory governance and support for improving the infrastructure of rural communities (Gazolla & Schneider, 2013). Pronaf has undergone several changes over the years, particularly from 2003 onward, to expand its target audience, adjust repayment deadlines, and reduce interest rates to better suit the reality of Brazilian family farming (Mattei, 2015)<sup>2</sup>.

From the 2003/2004 Crop Plan onward, new financing opportunities were introduced under the program, with new credit lines aimed at reaching specific segments of family farming and promoting ecologically and environmentally sustainable production (Fossá et al., 2023). Aquino, Gazolla & Schneider (2021) identified these lines as the “Green” lines and pointed to a certain optimism that they could expand opportunities for farmers interested in pursuing alternative paths to the technological model of Brazilian agricultural modernization. Nearly two decades later, however, virtually nothing has changed: Pronaf’s operations remain focused on a small number of crops—agricultural commodities integrated into agribusiness chains (Wesz Junior, 2021; Conterato, Bráz & Rodrigues, 2021; Toledo & Zonin, 2021; Fossá, Schervinski, Villwock & Matte, 2024). For Aquino, Gazolla & Schneider (2021), the operations of the Green credit lines yielded meager results in the 15 years following their implementation.

According to Weid (2006), the implementation of Pronaf’s Green credit lines lacks alignment between reality and the demands of sustainable production systems and the operational requirements of the banking system. Fossá, Tonezer & Badalotti (2018) and Fossá et al. (2023) highlight the limitations of these policies regarding access, both in terms of the number of contracts and the amount of resources obtained. Niederle & Wesz Junior (2022) argue that the Green credit lines fail to achieve better results due to Pronaf’s own path dependence. Fossá & Troian (2024) similarly argue that Pronaf follows the same logic and trajectory as the traditional lines of the SNCR. Aquino, Gazolla & Schneider (2021) stress that the banking system operating Pronaf does not treat the Green credit lines as a priority or strategic for the development of the segment. As a solution, they propose that the federal government establish a minimum allocation of resources that must mandatorily be directed to these Pronaf financing lines aimed at alternative and sustainable forms of agriculture.

Therefore, it is clear that numerous barriers and obstacles still hinder improvements in the performance of Pronaf’s Green credit lines. Fossá et al. (2023) emphasize the need to review banking system requirements as well as the organizational culture of these institutions. Furthermore, it is urgent to overcome the lack of knowledge and information among the target public for these lines. The overcoming from this scenario, combined with a significant increase in resources allocated to sustainable food production models, could broaden the number of

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<sup>2</sup> The 2024/2025 Family Farming Harvest Plan forecasts the availability of rural credit through Pronaf in the amount of R\$ 76 billion (Brazil, 2024). Additionally, it announces incentives for green credit lines, including R\$ 100 million in non-repayable funds, and a specific financing channel to support agroecological transition totaling R\$ 35 million. However, despite the potential access—yet to be confirmed—the allocated amount remains significantly restrictive and represents less than 0.20% of the program’s total (Brazil, 2024).

farming families willing to adopt this perspective. In addition, it could diversify production and guarantee greater and better market opportunities. Adjustments to the operational rules of the Green credit lines may contribute to strengthening the family farming sector and promoting actions aimed at regional development.

Indeed, to promote and encourage agroecological production systems, special credit lines were created, known as the Green credit lines, which have become an important credit policy for sustainable production (Lopes & Almasy Junior, 2023). These lines were designed to foster sustainable practices in agriculture and livestock, promoting the adoption of technologies and management practices that respect biodiversity and playing an important role in encouraging environmental conservation. The Green credit lines that are part of Pronaf are: (i) Agroecology; (ii) Forest; and (iii) Eco. Despite their innovative character, the implementation of these lines did not prevent unequal distribution and access to credit across different Brazilian regions. Traditional lines of the program continued to prevail, along with the concentration of resources, especially in the country's Southern Region (Fossá et al., 2023).

Considering the discrepancies in access to rural credit, the relevance of family farming in the regional economic landscape, and the importance of policies aimed at encouraging sustainable production, this study seeks to analyze the access to and distribution of Pronaf's Green line resources across the regions of Rio Grande do Sul between 2015 and 2023. Specifically, the research aims to identify access to Pronaf's Green credit lines in the municipalities of Rio Grande do Sul and to examine the goods and crops financed through credit. The text is organized into three sections, starting with this introduction. The following section presents the methodological approach of the research. Next, the study's results are discussed, and finally, the concluding remarks and references are presented.

## 2 Methodology

The study has a quantitative approach, carried out through the collection and analysis of secondary data, using the microdata of rural credit in Brazil. The quantitative approach seeks objective theories to examine relationships between variables (Creswell, 2021). The data used are available in the Rural Credit Data Matrix. They were collected from the official website of the Central Bank of Brazil, through the rural credit and Proagro microdata. The tables used contain information on contracted operations, both with public and private resources, covering the time series from 2015 to 2023. The chosen time frame is justified by the availability of data, which begins in 2015, and by the fact that data collection was carried out in March 2024. The information collected portrays both the number of contracts and the financial amounts accessed from the "green credit lines" of Pronaf for each agricultural year, considering the following subprograms present in the microdata: Pronaf Floresta, Pronaf Agroecologia, ABC+ (Recovery, Organic, No-Tillage, Integration, Forests, Environmental, Waste Management, Palm Oil).

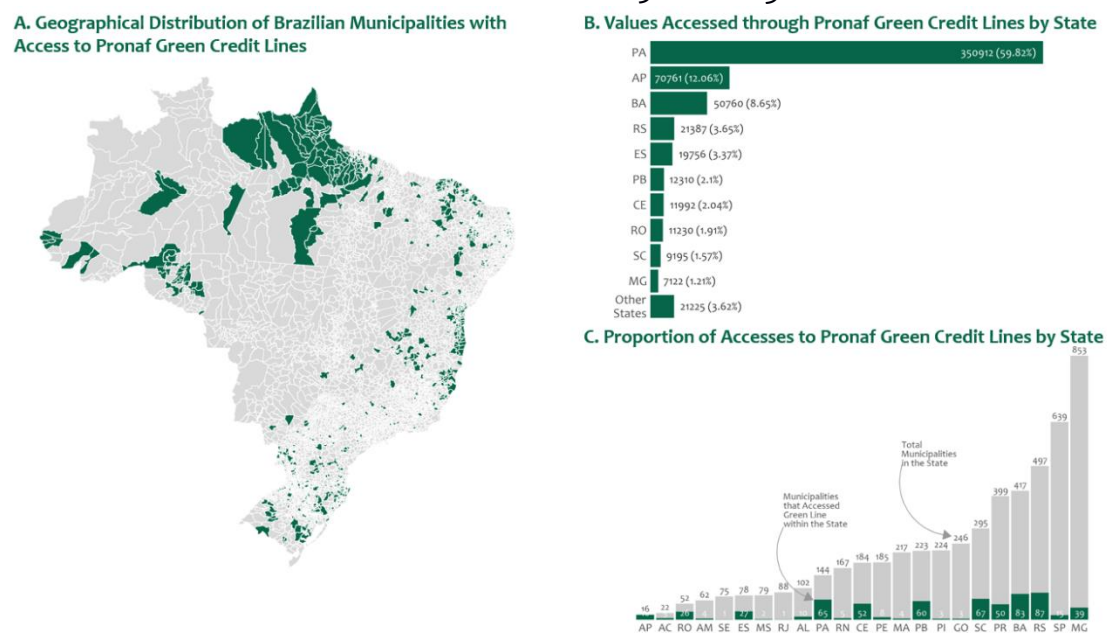
The financial credit amounts accessed in the Pronaf green credit lines reflect monetary values from March 2024 prices, deflated using the IGP-M index, according to Hoffmann's (2006) guidelines. The data were analyzed using the R programming

language, via the RStudio software, with the following packages: tidyverse, dbplyr, camcorder, ggtext, scales, ggrepel, showtext, sf, DBI, janitor. In addition, the SQL language, via PostgreSQL, was also used for the initial manipulation of microdata. The analysis involved building tables and charts summarizing the number of contracts and the financed amounts from Pronaf’s green credit lines, at both the aggregate level (Brazil) and the disaggregated level (municipalities and states).

### 3 The dynamic of Pronaf’s Green credit lines in the Gaúcho State

The result section begins by presenting the analysis of the Pronaf green credit lines, which include the following subprograms<sup>3</sup>: (i) Pronaf forest; (ii) Pronaf agroecology; and (iii) Pronaf ABC+. First, a national overview is presented (Figure 01), highlighting the geographical distribution of the regions and municipalities that most accessed the program, as well as the amount of resources obtained by state and the proportion of access among them. Next, the discussion focuses particularly on how the state of Rio Grande do Sul is positioned within this dynamic.

Figure 01. Geographical distribution of resources from the Pronaf green credit lines in Brazil between 2015 and 2023



Source: Prepared by the authors based on the dataset from the Central Bank of Brazil.

Figure 01 presents three graphics related to the access to Pronaf’s green credit lines in Brazil. Graphic A highlights the geographic distribution of access among Brazilian municipalities. It can be observed that there is a high concentration of municipalities in the north region, totalizing more than 71% of total access resource, followed by the northeast, as well as some specific areas in the south and southeast.

<sup>3</sup> The graphs shown below may display differences in values between the English and Portuguese texts as a result of the graphs having been translated using updated price deflator values, with only minimal differences between the versions.

In the north region, the state of Pará leads with 59,82% of the total amount accessed, a significant margin compared to the other states. Pará is the largest recipient both in terms of financial amounts and the geographical distribution of municipalities that access the Pronaf green credit lines, reflecting a significant local concentration of resources. Amapá ranks second in terms of resource volume, with 12.06%. Although this amount is considerably lower than Pará's, it still represents a significant share of the total. According to Fossá et al. (2022), this concentration is largely explained by Pronaf Floresta, which concentrates the majority of its operations in this federation unit.

Possible explanatory factors for this concentration in distribution may be related to large-scale environmental and sustainable management projects in the Amazon. Additionally, the strategic importance of environmental preservation and the development of sustainable productive activities in the region, such as the recovery of degraded areas, crop-livestock-forest integration (ILPF), and the focus on agroecological food production, represent important actions to promote sustainable rural development and justify the high volume of resources directed to the North, in an attempt to reconcile production with preservation.

In the Northeast Region, Bahia is the third most relevant state in terms of amounts accessed (8.65%). The concentration of municipalities with access in the North and West of the state highlights the program's importance for family farming areas in semi-arid regions. Furthermore, with a moderate share, in the South Region, the state of Rio Grande do Sul occupies the fourth position with 3.65%. The state's participation suggests that, even with a significant number of family farmers, the demand for large-scale financial resources is not as prevalent. It can be inferred that Pronaf green line resources in the South may be directed towards smaller-scale projects compared to the North Region, as well as incremental improvements in agricultural and livestock production.

Another element to consider concerns the diversification of agricultural production in the South, which tends to influence the type of requested financing. That is, livestock, dairy, vegetables, fruits and grain production are common in family farming in the region, and these activities may require more moderate financing compared to large-scale projects. This means that, although the projects are diverse, the credit volumes are smaller, resulting in lower total amounts accessed. In addition, the South Region is well known for its agricultural cooperatives, which tend to concentrate resources collectively, implying that, even if individual values are lower, credit allocation reaches a broader scope within the state.

Chart C presents the number of municipalities accessing the Pronaf green credit lines, compared to the total number of municipalities in each Brazilian state. The data reveal an unequal distribution among states. For example, Minas Gerais, despite being the state with the largest number of municipalities in Brazil (853), had only 39 municipalities accessing the subprograms. The state shows a proportion like that of São Paulo, with about 4.60% of municipalities accessing the program. In Rio Grande do Sul, out of 497 municipalities, 87 accessed the Pronaf green credit lines. Although this represents a higher absolute number, it still indicates relatively low penetration compared to the state's potential.

Rio Grande do Sul has its territory structured according to its land tenure system. One part is dominated by large cattle ranches, located in the Southwestern

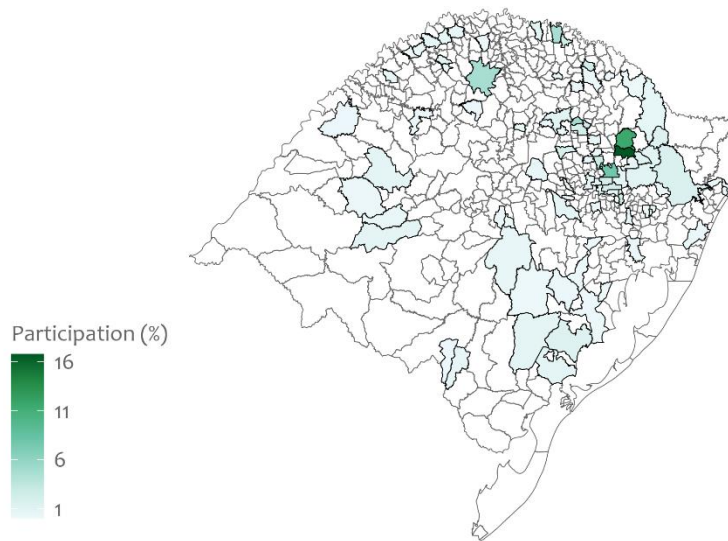
and Southeastern mesoregions, characterized by land concentration in large estates and production based on extensive livestock farming, rice cultivation, and soybeans, mainly. The other portion consists of small and medium-sized farms located in the mesoregions of the northern half of the state, historically settled by German and Italian immigrants. Originally, these regions were dominated by family farms with diversified production; however, today, they are modernized and specialized areas of agriculture in Rio Grande do Sul, with investments primarily oriented toward exports (Medeiros & Rodrigues, 2017).

According to Coronel, Alves & Silva (2007), low productivity in the southern half is aggravated by the lack of economic incentives<sup>4</sup>. In the primary sector, this is associated with limited crop diversification, a weak entrepreneurial spirit, technological innovation deficiencies, and most concerning, a culture of stagnation that hinders productive segments. The authors emphasize that the regional discrepancies between the northern and southern halves of the state reflect the challenges faced by livestock farming, an activity that historically defined the southern region. Moreover, factors such as soil inadequacy for different types of crops, the considerable distance from consumer centers, the lack of adequate transportation infrastructure, and excessive land concentration in large estates are determining elements for the limited diversification of agriculture in the region. Advancing in the analysis, Figure 02 below illustrates the participation of Rio Grande do Sul's municipalities in accessing the Pronaf green credit lines.

Figure 02. Participation of municipalities in Rio Grande do Sul in the Pronaf green credit lines between 2015 and 2023

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<sup>4</sup> This division does not correspond to a homogeneous or political-administrative boundary, but rather to a historical and analytical construct frequently used in regional economic studies. When referring to the Southern and Northern halves, there is a risk of obscuring the internal heterogeneities of each portion of the territory. As emphasized by Alves, Silveira, and Ferreira (2007) and Hentz (2013), although the Southern half is often associated with economic stagnation and poverty, it also includes highly dynamic sectors, such as cattle ranching and soybean and rice production. The same applies to the Northern half, where industrialized areas coexist with rural regions that exhibit fragile social indicators. Thus, the North-South dichotomy should be understood as an analytical tool, not as a description of uniform realities.



Source: Prepared by the authors based on the dataset from the Central Bank of Brazil.

The participation of municipalities is represented in different shades of green. The caption indicates that the darker the color, the higher the participation percentage. The intensity ranges from 1% to 16%. Municipalities with greater participation, highlighted in dark green, show high adherence to the Pronaf green credit lines, mainly concentrated in the Northwest region, the Serra Gaúcha, and some parts of the state's Southeast. A significant number of municipalities show low participation (lighter shades). The contrast in intensity suggests that, in many municipalities, the subprograms have not yet been implemented.

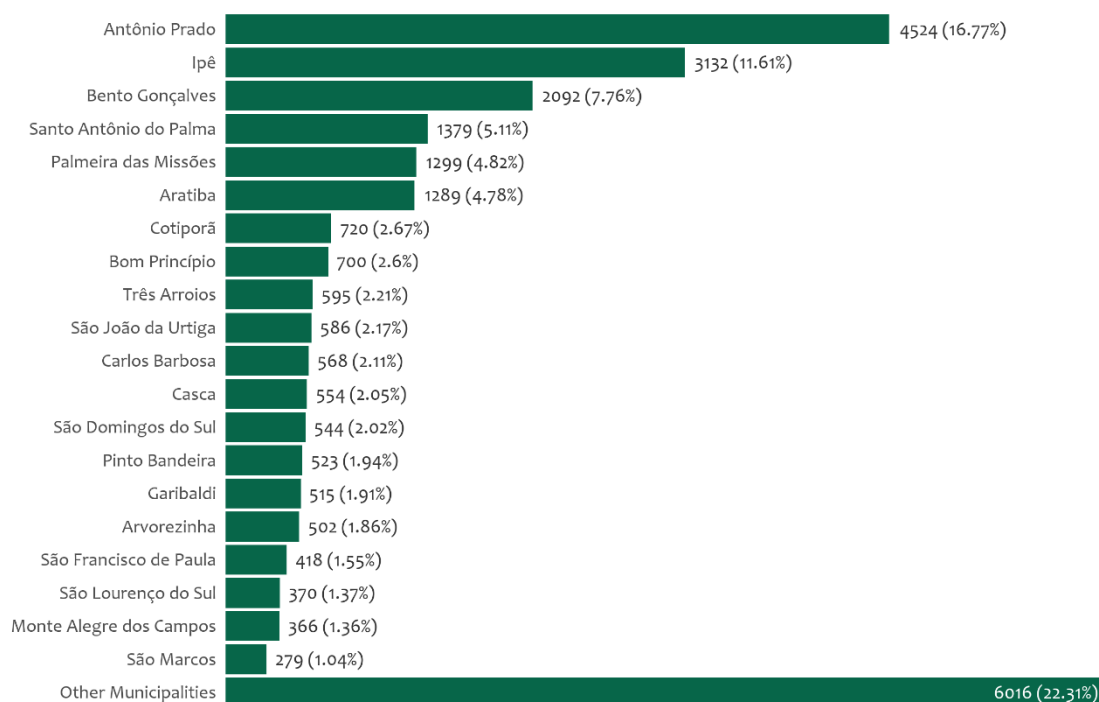
According to Fossá et al. (2023), the Pronaf green credit lines have aimed to finance productive techniques that minimize the impact of rural activities on the environment, while also enabling family farmers to better coexist with the biome in which their production units are located. Regarding natural ecosystems, Paludo and Costabeber (2012) highlight that the monoculture model has been responsible for the drastic loss of biodiversity in all biomes, promoting the disappearance of native species and the risk of extinction of plants and wildlife. Simplification also leads to growing ecological imbalances, disruption of food chains, and extreme artificialization of production areas. Furthermore, this agricultural model also contributes to food insecurity, since the main objective of production is financial.

For Silva & Souza (2024), one of the reasons to explain the unequal distribution of resources from the Pronaf green credit lines among regions, particularly Pronaf Agroecology lies in disparities in market dynamics, lack of knowledge about the subprograms, or even the heavy bureaucracy embedded in credit policies. Stoffel, Rambo & Eberhardt (2020) also observed some barriers to family farmers' access to the Pronaf line focused on agroecology, namely: (i) lack of awareness among potential beneficiaries regarding access procedures; (ii) difficulties

in meeting the requirements for access (especially concerning documentation); and (iii) fear of indebtedness, lack of dissemination, and lack of interest from financial institutions in the line.

Figure 03 below illustrates municipal access to Pronaf green line resources in Rio Grande do Sul, with accumulated values in millions of reais and the corresponding percentage of total resources. It is observed that Pronaf green line resources are concentrated in the Serra Gaúcha region. The municipality of Antônio Prado leads access, with R\$ 4.524 million (16.77% of the total). The municipalities of Ipê and Bento Gonçalves also stand out with significant amounts, receiving R\$ 3.132 million (11.61%) and R\$ 2.092 million (7.76%), respectively. Together, these three municipalities account for more than 36% of the resources accessed, that is, more than one-third of the total resources distributed in the state.

Figure 03. Access of municipalities in Rio Grande do Sul to Pronaf green credit lines between 2015 and 2023



\*Other Municipalities: São Marcos, Erval Grande, Caxias do Sul, Boa Vista do Sul, Marau, Coronel Pilar, Roca Sales, São Martinho, Cacequi, Pelotas, Canguçu, Santiago, Venâncio Aires, Farroupilha, Três Passos, Crissiumal, Portão, Vacaria, São Vendelino, Barão, Cachoeira do Sul, Candiota, Flores da Cunha, Barros Cassal, Lagoa dos Três Cantos, Mampituba, Araricá, Torres, Cândido Godói, São Vicente do Sul, Marques de Souza, Tenente Portela, Estação, Nova Hartz, Nova Bassano, Tapejara, São Francisco de Assis, Nicolau Vergueiro, Panambi, Água Santa, Santo Antônio das Missões, Paverama, Paraíso do Sul, Dom Feliciano, Entre-Ijuís, Porto Alegre, Encruzilhada do Sul, Osório, Sapiranga, Tupanci do Sul, Camargo, Horizontina, Esmeralda, Dom Pedro de Alcântara, Hulha Negra, Canela, Dois Lajeados, São Valério do Sul, Camaquã, Fagundes Varela, Santa Clara do Sul, Seberi, Sananduva, Sentinela do Sul, Tucunduva, São Jerônimo, Novo Cabrais e Tupandi.

Source: Prepared by the authors based on the dataset from the Central Bank of Brazil.

Other municipalities such as Santo Antônio do Palma (5,11%), Palmeira das Missões (4,82%) e Aratiba (4,78%) are on the line with significant amounts, which shows a moderate distribution of credits. The limited distribution shows that the resources are accessible to different regions, but there is still a concentration in the leading municipalities. A total of R\$ 6,016 millions (22,31%) was allocated to a group of 67 municipalities that are categorized as “other municipalities”, each with a participation inferior to 1%. This reflects a diffusion of resources across several areas, though with a smaller individual impact in each municipality. The combined value, however, is significant, showing that the Pronaf green credit lines are accessed by a considerable number of municipalities, even with lower intensity. The distribution of resources encompasses both larger and smaller municipalities.

Regarding the leading municipalities in accessing the Pronaf green credit lines, Antônio Prado is in the northeastern region of the state of Rio Grande do Sul, bordering Ipê to the north, it has an estimated population of 13,328 inhabitants and an HDI-M of 0.75 (IBGE, 2024a). The municipality has 1,036 agricultural establishments, of which 83.88% are characterized as family farming. In agricultural production, grapes are the most important crop, followed by peaches, plums, apples, persimmons, oranges, tangerines, lemons, figs, pears, guavas, and walnuts. The main temporary crops are garlic, onions, peanuts, sweet potatoes, potatoes, sugarcane, cassava, corn, beans, wheat, tomatoes, various vegetables, and legumes (IBGE, 2017).

According to Venturin (2023), Antônio Prado stands out as the setting for the first agroecological production experiences in Rio Grande do Sul and in Brazil. Agroecological production started around the first half of the 1980s, and from the first families of farmers emerged the Association of Ecological Farmers of Ipê and Antônio Prado (AECIA), the first association of ecological farmers in Serra Gaúcha and one of the first in Brazil. Currently, the municipality has 15 establishments certified for agroecological production. Agroecological products are sold in fairs, stores, and supermarkets in the region and in the state capital. Moreover, the development of ecological production in the municipality gave rise to fundamental socio-technical innovations for agroecological transition processes in the country, such as participatory certification, plant health control mixtures, biofertilizers, modifications in soil management, among others.

Along with Antônio Prado, Ipê also stands out among agroecological initiatives. A municipality in Serra Gaúcha with an estimated population of 5,496 inhabitants and an HDI-M of 0.72 (IBGE, 2024b), Ipê was granted the title of National Capital of Ecological Agriculture (Brasil, 2010). According to Oliveira, Silva, and Schneider (2010), the movement of family farmers toward a new way of farming began in Ipê, as families sought alternatives given the crisis of traditional activities. As Oliveira (2020, p. 347) notes, “for some, it represented a new economic opportunity. For others, the main motivation was related to the ‘fear of pesticides,’ or even concrete cases of intoxication linked to the use of agrochemicals.” As one can see, ecological agriculture became a viable and profitable alternative, with apple, peach, garlic, and onion production at its core.

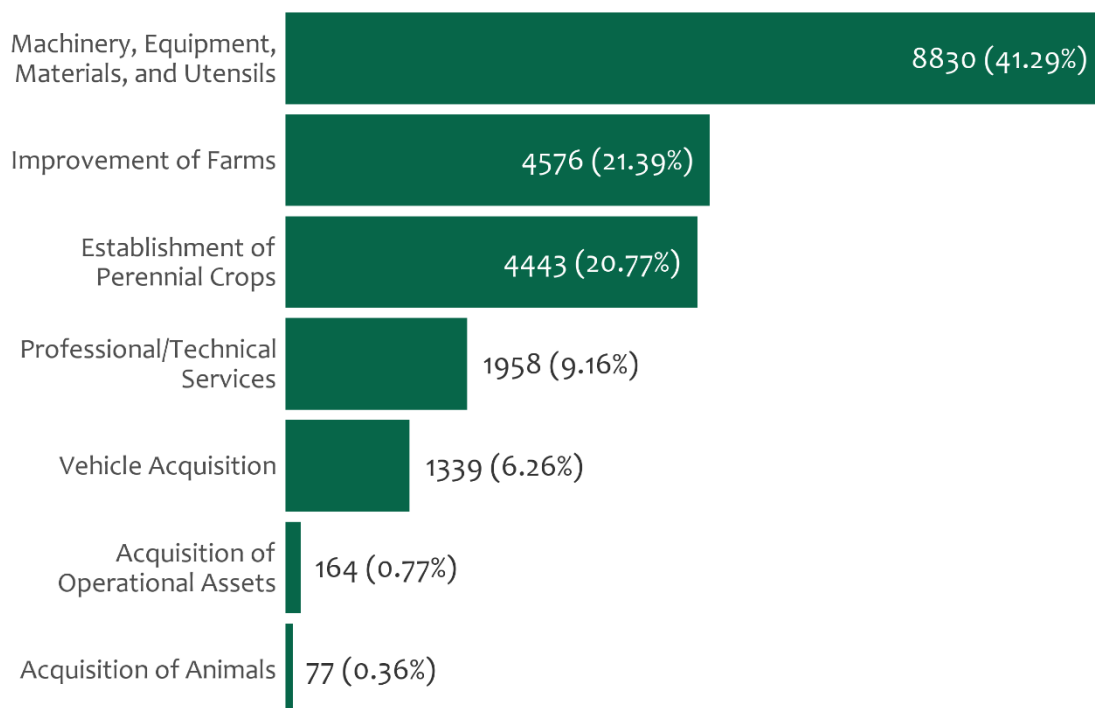
For Oliveira, Schneider & Marques (2017), Ipê and Antônio Prado represent one of the first cases of agricultural production “outside the mainstream” in Brazil, diverging from the dominant rules of the traditional productive model. In these municipalities, 85 families are organized into eight associations and two cooperatives

of ecological farmers that produce ecological food such as fruits, vegetables, grains, and processed goods. The authors identified nine agro-industries in Ipê and Antônio Prado, mainly producing grape derivatives (juices and wines) and tomato products (sauces and extracts). Another key organization in agroecological farming in these municipalities is the Ecological Center of Ipê, an NGO that, since the late 1980s, has been active in experimentation, training, and advisory services in ecological agriculture.

The municipality of Bento Gonçalves, in turn, has an estimated population of 127,775 inhabitants and an HDI-M of 0.77 (IBGE, 2024). It stands out for its production of grapes, juices, and fine wines, forming part of viticulture and wine tourism routes and ranking among the main destinations in Brazil (Trevisan et al., 2023). According to Mattia, Macke, and Sarate (2017), tourism in the municipality is symbolically and concretely defined by the values of its landscapes and by the traditions and customs of European migration, primarily Italian, which are regional and territorial values embedded in the formation of its tourist spaces.

The experiences of Ipê and Antônio Prado are highly representative in the analysis of agroecological production, as farming families have sought to construct and consolidate mechanisms to add value to agricultural products through small-scale agro-industrialization and the establishment of alternative marketing channels, thereby redesigning agroecosystems. This scenario reflects the intensity of credit access through the Pronaf green credit lines, which is rooted in the coordinated movement of local actors, the culture of sustainability, and the promotion of “clean” production and healthy food. The figure 04, below, details the mainly modalities of financing of Pronaf Green credit lines.

Figure 04. Credit modalities financed by the Pronaf green credit lines in Rio Grande do Sul between 2015 and 2023



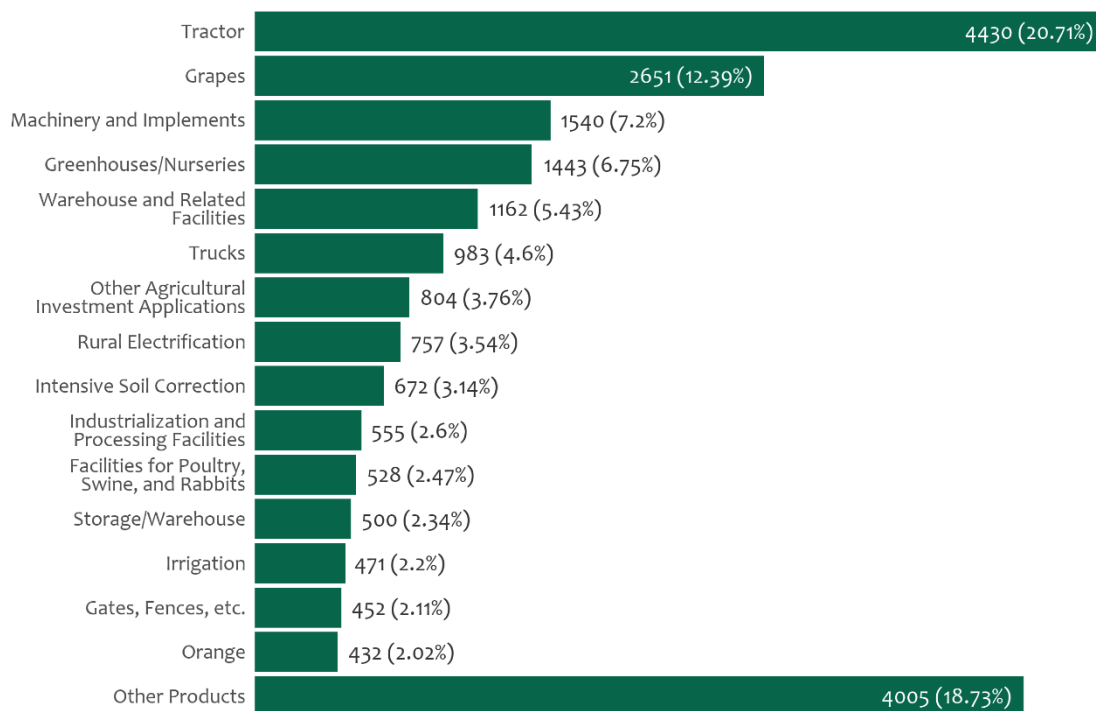
Source: Prepared by the authors based on the dataset from the Central Bank of Brazil.

In Rio Grande do Sul, most of the credit (41.29%) was allocated to machinery, equipment, materials, and Utensils, in a total of R\$ 8.830 million. This reflects the importance of mechanization and infrastructure in activities financed through the Pronaf green credit lines. Farm improvements received R\$ 4.576 million (21.39%), indicating a focus on enhancing agricultural practices and conditions of rural properties. The establishment of perennial crops ranks third, with R\$ 4.443 million (20.77%), suggesting strong incentives for the cultivation of long-term crops such as fruit trees or forest species.

Professional/technical services represent approximately R\$ 2 million (9.16%). This may include technical consultancy, advisory services in sustainable management, or agroecological planning. The acquisition of vehicles appears with R\$ 1.339 million (6.26%), possibly aimed at the transport of inputs, products, or machinery. The acquisition of operational assets (R\$ 164 thousand – 0.77%) and livestock acquisition (R\$ 77 thousand – 0.36%) represent smaller shares. The data indicate that resources are being primarily allocated to investments in machinery, rural infrastructure improvements, and the establishment of perennial crops, reinforcing the focus on the modernization of family farming, with an emphasis on mechanization, structural improvements, and long-term crops.

Schneider et al. (2020) discuss the effectiveness of Pronaf Agroecology as a public policy, in comparison with other financing modalities for agricultural production, highlighting the similarity of the agroecological financing model to traditional Pronaf mechanisms. The authors emphasize the improvement of some of the characteristics of Pronaf Agroecology, particularly regarding timeframes, which should be better suited to the reality of agroecological processes. They also point to the need for changes in the role of credit operators so that the program can be more broadly accessed and reach a greater number of beneficiaries. The figure 05, below, shows the products financed through the Pronaf green credit lines. The three main products financed are tractors (R\$ 4.40 million), grapes (R\$ 2.651 million), and machinery and implements (R\$ 1.540 million), which together account for more than 40% of the resources allocated.

Figure 05. Goods Financed through Pronaf Green in Rio Grande do Sul between 2015 and 2023

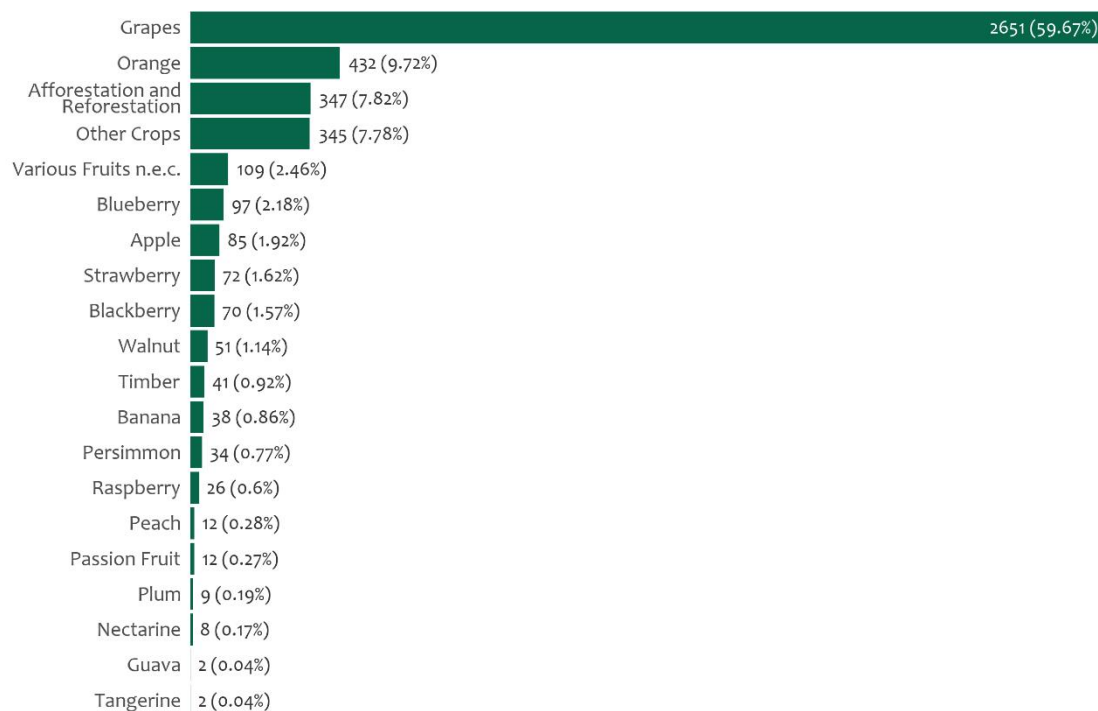


Source: Prepared by the authors based on the dataset from the Central Bank of Brazil.

Overall, the distribution of resources is relatively diversified, covering items ranging from tractors and agricultural machinery to greenhouses/nurseries, soil correction, and irrigation. However, the panorama shows that, by financing mostly tractors and machinery, the Pronaf green credit lines seem to be more strongly encouraging the modernization of agriculture rather than sustainable practices.

Aligned with the traditional credit lines, Troian and Machado (2020) argue that Pronaf is far from fulfilling its development purpose of reducing inequality in rural areas. In practice, Pronaf has been moving in the opposite direction, promoting modern agriculture and being primarily accessed by commodity producers in regions with selective advantages for capitalized farmers. Indeed, the authors also observed the regional concentration of credit and the limited access of family farmers living in poorer regions. Throughout its trajectory, Pronaf has contributed to increased specialization of agricultural activities and reduced diversification of basic food production, strengthening farmers integrated into markets (Gazolla & Schneider, 2013; Scapin & Troian, 2023). This trend can be extrapolated and is likely reproduced in the case of the Pronaf green credit lines, since the significant share of investments in machinery and equipment tends to be correlated with a more capital-intensive model of agriculture integrated into value chains. In figure 06, the financed food is presented, in the perennial crops' modality.

Figure 06. Perennial Crops Financed by Pronaf Green in Rio Grande do Sul between 2015 and 2023



Source: Prepared by the authors based on the dataset from the Central Bank of Brazil.

Grapes are the most financed product, with R\$ 2.651 million, representing 59,67% of total. The data presents high predominance of grape production within the scope of perennial crops financed, due to its economic importance for the Serra Gaúcha region, which stands out as wine and juice producers in Brazil. Oranges appear in second place but with a significant difference, accounting for only 9.72% of the total financed. This gap highlights how grape production dominates resource allocation for perennial crops.

There is a notable presence of several other less prominent products, such as blueberries, apples, strawberries, blackberries, walnuts, wood, bananas and others, all of which represent percentages below 2.50%. The values indicate that, although financed, these crops are less relevant within the overall credit allocation. The concentration is clearly centered on three products (grapes, oranges, and afforestation) which, together, represent more than 77% of the total financed, while the other products hold a very limited share. Thus, the financing of perennial crops through the Pronaf green credit lines is highly concentrated, with grapes as the absolute highlight, while a wide range of other products receives a significantly smaller portion of the total resources. This suggests a specific regional and productive orientation of the Program, while also reflecting the economic importance of certain crops over others.

#### 4 Final considerations

The promotion of development is aligned with overcoming injustices and inequalities in income, land, capital, and other resources. In Rio Grande do Sul, urgent actions and policies are required to reduce inequalities of region, access, and

opportunities. Historically, there has been a visible gap between the southern and northern halves of the state and, despite efforts present in regional initiatives, such as the Regional Development Councils (COREDES), inequality persists and tends to grow with the advance of agricultural modernization and the expansion of commodity production, such as soybean production and maintaining an extremely concentrated landholding structure.

In this sense, Pronaf, as a public policy, plays an important role in strengthening family farming, with different levels of regional action and intervention, reinforcing the need for policies that can expand access to credit in less dynamic and disadvantaged regions. Particularly noteworthy is the relevance of credit policies that foster family farming as a social category, reclaiming its role in food production and marketing in a more sustainable way and showing respect towards the environment, as the green credit lines were originally designed.

However, the dynamics of Pronaf green credit lines in Rio Grande do Sul reinforce regional inequality, as access during the period under analysis (2015–2023) is concentrated in the Serra Gaúcha region. In other words, the results demonstrate the limitation of Pronaf green credit lines in contributing to the regional development process by reducing socioeconomic disparities among regions, boosting local economies, and diversifying the state's production base.

The municipalities of Antônio Prado, Ipê, and Bento Gonçalves, recognized regionally, nationally, and internationally for their grape and wine production, agricultural cooperatives, and agroecological farming, accessed approximately 36% of the Pronaf green line resources for the entire state. In contrast, regions with large land areas and expanding grain production for export threaten the sustainability and characteristics of the Pampa Biome.

The use of Pronaf green line resources is highly concentrated in one region and in a single product. That is, in Rio Grande do Sul, most of the access to resources occurs in Serra Gaúcha to finance, improve, and modernize grape production. Moreover, in the period under review, most of the green line credit in Rio Grande do Sul was used to acquire machinery, equipment, materials, and tools, which raises the question of whether green credit lines truly foster innovation, agroecology, and sustainability, or if they are merely incremental actions, financing the same products, goods, and equipment as conventional production systems.

On the other hand, notwithstanding less relevance, 38 municipalities distributed across Rio Grande do Sul accessed green line resources. This may indicate that farmers throughout the state, to a lesser extent, are aware of and make use of sustainability-oriented credit lines. This scenario may point to sustainable productive alternatives to the hegemonic agricultural model in Rio Grande do Sul.

Finally, it is believed that further and more detailed studies are necessary to analyze the results of green credit in the daily lives of family farmers, in food production and marketing and regional development. Qualitative research is also relevant, involving the collection of primary data through interviews with farmers and development agents, such as Emater technicians, for example, to identify the profile of beneficiary farmers as well as the barriers and challenges in accessing the resources provided by Pronaf green credit lines.

## REFERENCES

- ALTIERI, M. A. **Agroecologia: bases científicas para uma agricultura sustentável**. 3. ed. São Paulo: Expressão Popular, 2002.
- ALVES, F. D.; SILVEIRA, V. C. P.; FERREIRA, E. R. Territorialização camponesa, identidade e reproduções sociais: os assentamentos rurais na metade sul do Rio Grande do Sul. **CAMPO-TERRITÓRIO: revista de geografia agrária**, Uberlândia, MG, v. 2, n. 4, p. 82-97, 2007.
- AQUINO, J. R.; GAZOLLA, M.; SCHNEIDER, S. Tentativas de inclusão da agricultura de base ecológica no Pronaf: do otimismo das linhas de crédito verde ao sonho frustrado do I PLANAPO. **Revista Grifos**, Chapecó, SC, v. 30, n. 51, p. 163-189, jan./abr. 2021. DOI: <https://doi.org/10.22295/grifos.v30i51.5548>.
- BANCO CENTRAL DO BRASIL. **Tabelas de Crédito Rural e Proagro**. Disponível em: <https://www.bcb.gov.br/estabilidadefinanceira/tabelas-credito-rural-proagro>. Acesso em: 10/03/2024.
- BANDEIRA, P. S. **As Raízes Históricas do Declínio da Região Sul**. Crescimento Econômico da Região Sul do RS. Causas e Perspectivas. Porto Alegre: Fundação de Economia e Estatística - Secretária do Planejamento e da Administração, p. 07-48, 1994.
- BRASIL. Decreto n. 1.946, de 28 de junho de 1996. Cria o Programa Nacional de Fortalecimento da Agricultura Familiar – PRONAF, e dá outras providências. In: **Diário Oficial [da] República Federativa do Brasil**, Brasília, DF, 28 jun. 1996.
- BRASIL. Lei n. 12.238, de 19 de maio de 2010. Confere ao Município de Ipê, no Estado do Rio Grande do Sul, o título de Capital Nacional da Agricultura Ecológica. In: **Diário Oficial [da] República Federativa do Brasil**, Brasília, DF, 19 mai. 2010.
- BRASIL. Ministério do Desenvolvimento Agrário e Agricultura Familiar. **Plano/Safra 2024/2025**. Brasília: MAPA, 2023. Disponível em: <https://www.gov.br/mda>. Acesso em: 26 out. 2024.
- CANO, W. **Desequilíbrios regionais e concentração industrial no Brasil**. Campinas: Unicamp, 1998.
- CARGNIN, A. P. Política nacional de desenvolvimento regional e repercussões no Rio Grande do Sul. **Mercator**, Fortaleza, CE, v. 13, p. 19-35, 2014.
- CAVINATO, N. R.; CAPITANI, D. H. D. Eficiência social das cooperativas de crédito rural no Brasil: uma análise sob a ótica regional. **Economia e Sociedade**, Campinas, SP, v. 32, n. 2, p. 429-455, 2023. DOI: <https://doi.org/10.1590/1982-3533.2023v32n2arto8>

CONTERATO, M. A.; BRÁZ, C. A.; RODRIGUES, S. R. A Commoditização do Pronaf e os desafios da agricultura familiar no Rio Grande do Sul. **Revista Grifos**, Chapecó, SC, v. 30, n. 51, p. 190-211, 2021. DOI: <https://doi.org/10.22295/grifos.v30i51.5578>

CORONEL, D. A. O modelo italiano de desenvolvimento: algumas proposições para a Metade Sul do Rio Grande do Sul. **Revista da FAE**, Curitiba, PR, v. 10, n. 2, p.17-27, 2007.

CORONEL, D. A.; ALVES, F. D.; SILVA, M. A. Notas sobre o processo de desenvolvimento da Metade Sul e Norte do Estado do Rio Grande do Sul: uma abordagem comparativa. **Perspectiva Econômica**. São Leopoldo, RS, v. 3, n. 2, p. 27-43, 2007.

CRESWELL, J. D. **Projetos de Pesquisa**. Porto Alegre: Penso, 2021.

DELGADO, G. C. **Do capital financeiro na agricultura à economia do agronegócio: mudanças cíclicas em meio século (1965-2012)**. Porto Alegre: Editora da UFRGS, 2012.

ETGES, V. E.; DEGRANDI, J. O. Desenvolvimento regional: a diversidade regional como potencialidade. **Revista Brasileira de Desenvolvimento Regional**, Blumenau, SC, v. 1, p. 85-94, 2013.

FERRERA DE LIMA, J. O desenvolvimento regional como fenômeno regional. In: SOUSA, C. M.; THEIS, I. M.; BARBOSA, J. M. L. (Eds.). **Celso Furtado: a esperança militante**, v. 3, p. 129-162, 2020.

FERRON, J.; TROIAN, A. O processo de implantação dos assentamentos rurais em Santana do Livramento (RS). **Revista Economia e Desenvolvimento**, Santa Maria, RS, v. 32, 2020.

FOCHEZATTO, A.; CÉSPEDES, C. H. R. Demografia de empresas no Rio Grande do Sul: uma análise das diferenças regionais no período 2006-2013. **Geosul**, Florianópolis, SC, v. 38, n. 88, p. 229-251, 2023.

FOSSÁ, J. L.; TONEZER, C.; BADALOTTI, R. M. As linhas alternativas do PRONAF em Santa Catarina: alcances e limites. **Acta Ambiental Catarinense**, Chapecó, SC, v. 15, n. 1/2, p. 40-56, 2018. DOI: <https://doi.org/10.24021/raac.v15i1/2.5053>.

FOSSÁ, J. L.; SCHERVINSKI VILLWOCK, A. P.; MATTE, A. Análise da distribuição do crédito rural entre as unidades da federação no período de 2013 a 2022. **Desenvolvimento em Questão**, Ijuí, RS, v. 22, n. 60, p. 1-22, 2024. DOI: <https://doi.org/10.21527/2237-6453.2024.60.14701>

FOSSÁ, J. L.; LUZ, A. A. da; RENK, A. A.; VILWOCK, A. P. S.; MATTE, A. (A falta de financiamento de crédito rural: reflexões a partir do PRONAF linhas “verdes”). **COLÓQUIO – Revista do Desenvolvimento Regional**, Taquara, RS, v. 20, n. 2, abr./jun. 2023.

FOSSÁ, J. L.; VILLWOCK, A. P. S.; MATTE, A. Análise da distribuição do crédito rural entre as unidades da federação no período de 2013 a 2022. **Desenvolvimento em Questão**, Ijuí, RS, ano 22, n. 60, 2024. DOI: <http://dx.doi.org/10.21527/2237-6453.2024.60.14701>

FOSSÁ, J. L.; TROIAN, A. Análise da distribuição do crédito rural nas regiões da Campanha e Fronteira Oeste do Rio Grande do Sul. **Revista Campo-Território**, Uberlândia, MG, v. 19, n. 55, p. 51-75, 2024. DOI: 10.14393/RCT195573102. Disponível em: <https://seer.ufu.br/index.php/campoterritorio/article/view/73102>. Acesso em: 17 ago. 2024.

FURTADO, C. **O Brasil pós “milagre”**. 4. ed. Rio de Janeiro: Paz e Terra, 1981.

FURTADO, C. **Desenvolvimento e subdesenvolvimento**. Rio de Janeiro: Contraponto: Centro internacional Celso Furtado, 2009.

GAZOLLA, M.; SCHNEIDER, S. Qual “fortalecimento” da agricultura familiar? Uma análise do Pronaf crédito de custeio e investimento no Rio Grande do Sul. **Revista de Economia e Sociologia Rural**, Brasília, DF, v. 51, p. 45-68, 2013.

GRAZIANO DA SILVA, J. **A modernização dolorosa: estrutura agrária, fronteira agrícola e trabalhadores rurais no Brasil**. Rio de Janeiro: Zahar, 1982.

GRIN, E. J. et al. O mapa regional das múltiplas desigualdades e do desenvolvimento humano no Brasil. **Cadernos Adenauer**, São Paulo, SP, n. 2, 99-122, 2021.

GRISA C.; SCHNEIDER, S. Três gerações de políticas públicas para a agricultura familiar e formas de interação entre sociedade e estado no Brasil. **RESR**, Piracicaba, SP, v. 52, Supl. 1, p. S125-S146, 2015.

HENTZ, A. C. G. **A Pobreza na metade sul do Rio Grande do Sul**. 72 f. 2013. Trabalho de Conclusão de Curso (Graduação em Ciências Econômicas). Faculdade de Ciências Econômicas. Universidade Federal do Rio Grande do Sul, Porto Alegre, 2013.

HOFFMANN, R. **Estatística para economistas**. 4. ed. São Paulo: Pioneira Thomson Learning, 2006.

HOLANDA, S. B. de. **Raízes do Brasil**. 26. ed. Rio de Janeiro: Companhia das Letras, 1995.

IBGE. Instituto Brasileiro de Geografia e Estatística. **SCR - Sistema de Contas Regionais**. 2021. Disponível em: <https://www.ibge.gov.br/estatisticas/economicas/contas-nacionais/9054-contas-regionais-do-brasil.html>. Acesso em: 27 set. 2024.

IBF. Instituto Brasileiro de Florestas. **Bioma Amazônico**. Disponível em: <https://www.ibflorestas.org.br/bioma-amazonico>. Acesso em 10 de out. 2024.

IBGE. Instituto Brasileiro de Geografia e Estatística. **IBGE Cidades: Antônio Prado**. 2017. Disponível em: <https://cidades.ibge.gov.br/https://cidades.ibge.gov.br/brasil/rs/antonio-prado/pesquisa/24/76693>. Resultados definitivos 2017. Acesso em: 06 out. 2024.

IBGE. Instituto Brasileiro de Geografia e Estatística. Cidades. **Índice de Desenvolvimento Humano 2021**. 2024. Disponível em: <https://cidades.ibge.gov.br/brasil/rs/pesquisa/37/30255?tipo=ranking>. Acesso em: 27 set. 2024.

IBGE. Instituto Brasileiro de Geografia e Estatística. **Panorama: Antônio Prado**. 2024a. Disponível em: <https://cidades.ibge.gov.br/brasil/rs/antonio-prado/panorama>. Acesso em: 07 out. 2024.

IBGE. Instituto Brasileiro de Geografia e Estatística. **Panorama: Ipê**. 2024b. Disponível em: <https://cidades.ibge.gov.br/brasil/rs/ipe/panorama>. Acesso em: 08 out. 2024.

IBGE. Instituto Brasileiro de Geografia e Estatística. **Panorama: Bento Gonçalves**. 2024c. Disponível em: <https://cidades.ibge.gov.br/brasil/rs/bento-goncalves/panorama>. Acesso em: 12 out. 2024.

LOPES, L. M. R. C de A.; ALMASSY JUNIOR, A. A. O financiamento da produção sustentável na agricultura familiar: uma análise do PRONAF no estado da Bahia. **Desenvolvimento Regional em Debate**, Canoinhas, SC, v. 13, p. 63-84, 2023.

MAIA, J. F.; TROIAN, A. O Pampa Gaúcho: fatores materiais e imateriais na consolidação do território. **Revista Grifos**, Chapecó, SC, v. 31, n. 57, p. 01-19, 2022. DOI: <http://dx.doi.org/10.22295/grifos.v31i57.6722>

MAIA, J. F.; TROIAN, A.; MACIEL, M. D. A.. A Imaterialidade do material: o Pampa Gaúcho na prática e no imaginário dos agricultores e pecuaristas familiares agroecológicos. **Revista Brasileira de Gestão e Desenvolvimento Regional**, Taubaté, SP, v. 20, n. 1, 2024. Doi: <https://doi.org/10.54399/rbgdr.v20i1.6819>

MATTEI, L. Políticas públicas de apoio à agricultura familiar: o caso recente do PRONAF no Brasil. **Raízes**, Campina Grande, PB, v. 35, n. 1, p. 1-15, jan./jun. 2015.

MATTIA, A. A.; MACKE, J.; SARATE, J. A. R. Enoturismo e Território: o caso do Vale dos Vinhedos (RS/Brasil). **Turismo: Visão e Ação**, Itajaí, SC, v. 19, n. 1, p. 52-78, 2017.

MEDEIROS, R. M. V.; LINDNER, M. (orgs.). **Dinâmica do espaço agrário: velhos e novos territórios – NEAG 10 anos**. Porto Alegre: Evangraf, 2017.

NETTO, T. A.; VARGAS, D. L. de. Territorialização da soja no contexto da agricultura familiar na fronteira Brasil/Uruguai. **Geosul**, Florianópolis, SC, v. 34, n. 71, p. 428-447, 2019.

NIEDERLE, P.; WESZ JUNIOR, V. A transição para sistemas alimentares sustentáveis e saudáveis por meio de políticas orientadas para uma gestão estratégica das práticas sociais. **Revista Raízes**, Campina Grande, PB, v. 42, n. especial, dez. 2022. DOI: <https://doi.org/10.37370/raizes.2022.v42.804>

OLIVEIRA, D. Inovação e transição agroecológica em Ipê e Antônio Prado/RS. **Estudos Sociedade e Agricultura**, Rio de Janeiro, RJ, v. 28, n. 2, p. 339-363, jun. 2020.

OLIVEIRA, D.; SILVA, M. K.; SCHNEIDER, S. A conquista da autonomia através dos mercados: como pequenos agricultores mudaram sua forma de produzir e comercializar a produção em Ipê (RS). **Antropolítica**, Niterói, RJ, n. 28, p. 249-282, 2010.

OLIVEIRA, D.; SCHNEIDER, S.; MARQUES, F. C. Contextualização e práticas criativas na agricultura ecológica de Ipê e Antônio Prado/RS: o biofertilizante Super Magro como objeto epistêmico. **Desenvolvimento e Meio Ambiente**, Curitiba, PR, v. 41, p. 83-104, ago. 2017.

OLIVEIRA, N. M. Revisitando algumas teorias do desenvolvimento regional. **Informe GEPEC**, Toledo, PR, v. 25, n.1, p. 203-219, jan./jun. 2021.

PALUDO, R.; COSTABEBER, J. A. Sistemas agroflorestais como estratégia de desenvolvimento rural em diferentes biomas brasileiros. **Revista Brasileira de Agroecologia**, Rio de Janeiro, RJ, v. 7, n. 2, p. 63-76, 2012.

PIMENTA, C. A. M. Tendências do desenvolvimento: elementos para reflexão sobre as dimensões sociais na contemporaneidade. **Revista Brasileira de Gestão e Desenvolvimento Regional**, Taubaté, SP, v. 10, n. 3, número especial, p. 44-66, set.2014.

REGO, J. M.; MARQUES, R. M (Orgs.). **Formação econômica do Brasil**. 2. ed. São Paulo: Editora Saraiva, 2011.

SCAPIN, B.; TROIAN, A. PRONAF e Território: O Crédito Rural na Agricultura Familiar da Quarta Colônia/RS. **Desenvolvimento em Questão**, Ijuí, RS, v. 21, n. 59, p.1-19, 2023. \DOI: <https://doi.org/10.21527/2237-6453.2023.59.13136>

SCHNEIDER, A. L. et al. Análise da funcionalidade do PRONAF Agroecologia em uma propriedade na região noroeste do Rio Grande do Sul. **Revista Brasileira de Agropecuária Sustentável**, Viçosa, MG, v. 10, n. 1, p. 164-174, 2020. DOI: <https://doi.org/10.21206/rbas.v10i1.9280>

SCHNEIDER, S.; CAZELLA, A. A.; MATTEI, L. F. Histórico, Caracterização e Dinâmica Recente do Pronaf: Programa Nacional de Fortalecimento da Agricultura Familiar. **Revista Grifos**, Chapecó, SC, v. 30, n. 51, p. 42-67, jan./abr. 2021. DOI: <https://doi.org/10.22295/grifos.v30i51.5660>

SILVA, M. A. B. da; SOUSA, E. P. de. Análise evolutiva do Pronaf Bioeconomia nas regiões brasileiras, 2018-2023. **Revista Estudo & Debate**, Lajeado, RS, v. 31, n. 2, 2024.

SOARES, P. R. R. “Décadence avec élégance”: uma crítica ao discurso da Metade Sul do Rio Grande do Sul. **Revista Ágora**, Santa Cruz do Sul, RS, v. 2, n. 1, p. 67-85, 1996.

SOARES, P. R. R.; SASSI, L. O. A RIDE Metade Sul do Rio Grande do Sul e as escalas do planejamento regional. **Boletim Geográfico do Rio Grande do Sul**, Porto Alegre, RS, n. 34, p. 124-134, 2019.

SORJ, B. **Estado e classes sociais, na agricultura brasileira**. Rio de Janeiro: Zahar, 1980.

STOFFEL, J.; RAMBO, A. G.; EBERHARDT, P. Condições de acesso à linha do Pronaf Agroecologia no Território da Cantuquiriguaçu/PR. **Revista do Desenvolvimento Regional**, Santa Cruz do Sul, RS, v. 25, n. 2, p. 809-831, 2020.

THEIS, I. M. et al. Regional development: construction of a knowledge field? **Revista Brasileira de Desenvolvimento Regional**, Taubaté, SP, v.18, n.1, p. 244-257, 2021.

THEIS, I. M. O que é desenvolvimento regional? Uma aproximação a partir da realidade brasileira. In: SOUSA, C. M.; THEIS, I. M.; BARBOSA, J. L. A. (Orgs.). **Celso Furtado: a esperança militante. Desafios**, v. 3, Campina Grande: EDUEPB, 2020,

TILLMANN, E. A.; MENEZES, G. R.; FERNANDEZ, R. N. Análise das diferenças regionais do estado do Rio Grande do Sul. **Revista Espacios**, Caracas, v. 38, n. 32, 2017.

TOLEDO, E.; ZONIN, V. O PRONAF: um vetor tendencial à concentração e seleção produtiva na agricultura familiar. **Revista Grifos**, Chapecó, SC, v. 30, p.141 –162, 2021. DOI: <https://doi.org/10.22295/grifos.v30i51.5371>

TREVISAN, T. et al. Avaliação dos indicadores de Sustentabilidade Ambiental dos empreendimentos de turismo no roteiro Caminhos de Pedra, Bento Gonçalves-RS, Brasil. **Rosa dos Ventos Turismo e Hospitalidade**, Caxias do Sul, RS, v. 15, n. 4, p.949-965, 2023. DOI: <http://dx.doi.org/10.18226/21789061.v15i4p949>

TROIAN, A.; MACHADO, E. T. L. O Programa Nacional de Fortalecimento da Agricultura Familiar no Brasil: análise da evolução e distribuição entre 1999 e 2017. **Desenvolvimento em Questão**, Ijuí, RS, v. 18, n. 50, 2020.

VILELA, L.; PEROZZO, L. **ipeadatar**: Interface for Ipea Data API. R package version 0.1.6. Disponível em: <https://cran.r-project.org/package=ipeadatar>. Acesso em: 10/03/2024.

VENTURIN, E. **Representações sociais dos jovens rurais acerca do trabalho na agricultura familiar e da vida no meio rural em Antônio Prado/RS**. 126 f. Dissertação (Mestrado em Desenvolvimento Rural). Faculdade de Ciências Econômicas. Universidade Federal do Rio Grande do Sul, Porto Alegre, 2023.

VERSCHOORE FILHO, J. R. de S. **Metade Sul**: uma análise das políticas públicas para o desenvolvimento regional no Rio Grande do Sul. 170 f. Dissertação (Mestrado em Administração Pública). Escola de Administração. Universidade Federal do Rio Grande do Sul, Porto Alegre, 2000.

WEID, J. M. von der. A transição agroecológica das políticas de crédito voltadas para a agricultura familiar. **Agriculturas**, São Paulo, SP, v. 3, n. 1, p. 1820, abr. 2006.

WESZ JUNIOR, V. J. O PRONAF pós-2014: intensificando a sua seletividade? **Revista Grifos**, Chapecó, SC, v. 30, n. 51, p. 89-113, 2021. DOI: <https://doi.org/10.22295/grifos.v30i51.5353>.

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