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EVIDENCE FROM THE 2017 AGRICULTURAL CENSUS

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Abstract

The Arinos Valley, Mato Grosso, has a strong presence of family farming that faces a series of challenges. Thus, the aim was to evaluate the profile of family farmers with data collection carried out through a survey of the 2017 Agricultural Census, municipalities of Juara, Novo Horizonte do Norte, Porto dos Gaúchos and Tabaporã. Although family farming dominates the rural landscape with 76.8% of establishments, the number of properties has been gradually decreasing, with a drop of 8.3% between 2006 and 2017. One of the main obstacles to the development is the lack of land titles, because without legal ownership, farmers cannot access rural credit and invest in their properties beyond the aging of the population and the migration of young people to cities. The main economic activity is cattle raising, accounting for a large part of the producers' income, a concentration that can make them vulnerable.

Keywords: Agrarian Systems; Small Rural Properties; Family Producers.

Resumo / Resumen

EVIDÊNCIAS DO CENSO AGROPECUÁRIO 2017

O Vale do Arinos, Mato Grosso, possui uma forte presença da agricultura familiar que enfrenta uma série de desafios. Deste modo, objetivou-se avaliar o perfil dos agricultores familiares com coleta de dados realizada por meio de levantamento do Censo Agropecuário 2017, municípios de Juara, Novo Horizonte do Norte, Porto dos Gaúchos e Tabaporã. Embora a agricultura familiar domine o panorama rural com 76,8% dos estabelecimentos, seu número vem diminuindo gradativamente, com queda de 8,3% entre 2006 e 2017. Um dos principais obstáculos ao desenvolvimento é a falta de titulação das terras, pois sem a posse legal, os agricultores não podem acessar o crédito rural e investir em suas propriedades, além do envelhecimento da população e a migração dos jovens para as cidades. A principal atividade econômica é a criação de bovinos, respondendo por grande parte da renda dos produtores, uma concentração que pode torná-los vulneráveis.

Palavras-chave: Sistemas Agrários; Pequenas Propriedades Rurais; Produtores Familiares.

EVIDENCIAS DEL CENSO AGROPECUARIO 2017

Vale do Arinos, Mato Grosso, tiene una fuerte presencia de agricultura familiar que enfrenta una serie de desafíos. De esta manera, el objetivo fue evaluar el perfil de los agricultores familiares con la recolección de datos realizada a través de una encuesta del Censo Agropecuario de 2017, en los municipios de Juara, Novo Horizonte do Norte, Porto dos Gaúchos y Tabaporã. Si bien la agricultura familiar domina el paisaje rural con el 76,8% de los establecimientos, su número ha ido disminuyendo paulatinamente, con una caída del 8,3% entre 2006 y 2017. Uno de los principales obstáculos al desarrollo es la falta de titulación de tierras, ya que sin propiedad legal, los agricultores no pueden acceder al crédito rural e invertir en sus propiedades, además del envejecimiento de la población y la migración de jóvenes a las ciudades. La principal actividad económica es la ganadería, que representa gran parte de los ingresos de los productores, concentración que puede hacerlos vulnerables.

Palabras-clave: Sistemas Agrarios; Pequeñas Propiedades Rurales; Productores Familiares.

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INTRODUCTION

Brazil, a country of vast dimensions, has implemented land distribution policies for family farmers across various governments, resulting in a significant increase in small producers. According to the 2017 Agricultural Census, there are 5,073,324 agricultural establishments, 3,897,408 of which are family farms and 1,175,916 are other formations (IBGE, 2017). The State of Mato Grosso, a significant producer of high-value commodities like soybeans, has received numerous Agrarian Reform Settlement Projects (PARA) in various regions. These projects coexist with corporate agriculture, each having distinct characteristics and specific demands.

Despite the land distribution process, Brazil is experiencing a decline in its rural population. Data from the IBGE indicates that between 2006 and 2017, there was a 2.0% decrease in the total number of workers in agriculture, particularly among younger producers (under 45 years old). This trend is especially noticeable in small rural properties (IBGE, 2017). Mato Grosso, similar to other federative units in the Midwest, has an economy primarily based on agribusiness. It is known for large-scale production of commodities such as soybeans, corn, cotton, meat, and cellulose, among others, typically produced on extensive properties (IBGE, 2017; MATO GROSSO, 2023). Agribusiness has driven the State's significant growth, fueled by corn, soybeans, and more recently, cotton and beef, resulting in the second-highest average economic growth in Brazil at 4.5% per year (MATO GROSSO, 2023).

The State has received numerous PARAs distributed across its regions, which are crucial for producing essential foods for the population, such as rice, beans, and milk, among others (COUTO, 2013). One of the regions involved in this process is the Vale do Arinos, which comprises the municipalities of Juara, Novo Horizonte do Norte, Porto dos Gaúchos, and Tabaporã. This area is in the northwest of the State, serving as a transition zone to the Amazon biome. The colonization style and productive activities of the settlers in this region are quite similar to those found in the Amazon, and these settlers come from various parts of Brazil, primarily from the southern region (SILVA, 2018).

The municipalities were established through the efforts of colonization companies, the oldest of which is Porto dos Gaúchos, founded in 1955 (Meyer, 2015). This area was granted municipal status by State Law No. 1945 on November 11, 1963, following its separation from the municipality of Diamantino (MATO GROSSO, 1993). The municipalities that emerged from Porto dos Gaúchos in subsequent years share several common characteristics (Meyer, 2015). Most notably, their economies are based mainly on logging, livestock, and agriculture. While some municipalities may have more developed urban areas, most of the population remains predominantly rural (IBGE, 2022).

Initially, the primary activity of the producers was small-scale farming. However, due to structural and logistical challenges, particularly the lack of roads, they began to explore other economic opportunities. They turned to logging, taking advantage of the abundant forests, and later, cattle raising, which was incentivized by tax breaks (PICOLI, 2006; MARTINS, 2009). This shift primarily benefited large landowners, who were able to secure tax incentives for establishing pastures and, subsequently, areas devoted to crops and agribusiness. This development attracted rural entrepreneurs to the region (COUTO, 2013).

Some smallholders faced challenges in their economic development, resulting in the abandonment of rural establishments due to difficulties in managing their properties. According to Silva (2018, p. 13), this situation is linked to structural issues within the settlements, particularly concerning education. As a result, "many families ended up moving to the city in search of better study conditions for their children." Lima et al. (2020) emphasize the aging of the rural population, a trend supported by data from IBGE (2017), which indicates that the largest proportion of agricultural producers is in the age group over 45 years, accounting for 72.7%. As a result, there has been a decline in the contribution of family farming to the overall number of agricultural establishments. In 2006, family farms represented 84.4% of all agrarian establishments, but by 2017, this figure had decreased to 76.8%, reflecting a reduction of 7.5% (IBGE, 2017).

Family farming, as described in the Atlas of the Brazilian Rural Space (IBGE, 2020), encompasses most rural productive units and plays a significant role in providing employment opportunities related to agricultural and rural activities. This production system is based on small social groups that make important contributions to food production, thereby ensuring food security for the Brazilian population (SAVOLDI & CUNHA, 2010).

To value this group, Law No. 11,326 was established on June 24, 2006, which outlined the guidelines for formulating the National Policy on Family Agriculture and Rural Family Enterprises (BRASIL, 2006). On May 31, 2017, Federal Decree No. 9,064 was published, regulating the previously mentioned law and establishing in Article 3 the criteria that classify the family farmer as follows: (I) possessing, in any capacity, an area of up to four fiscal modules; (II) Utilize at least half of the family workforce in the production process and income generation; (III) Ensure that at least half of the family income comes from the economic activities of their enterprise; and (IV) Maintain that the management of the enterprise is strictly family-based (BRASIL, 2017).

Given the significance of this group of farmers, this study aimed to assess the profile of family farmers in the Arinos Valley by analyzing the socioeconomic data of the producers.

METHODOLOGICAL PROCEDURES

STUDY AREA

The Vale do Arinos region (Figure 1), which is the focus of this study, features characteristics of transition between the Cerrado and Amazon biomes. This region includes the municipalities of Juara, Novo Horizonte do Norte, Porto dos Gaúchos, and Tabaporã.

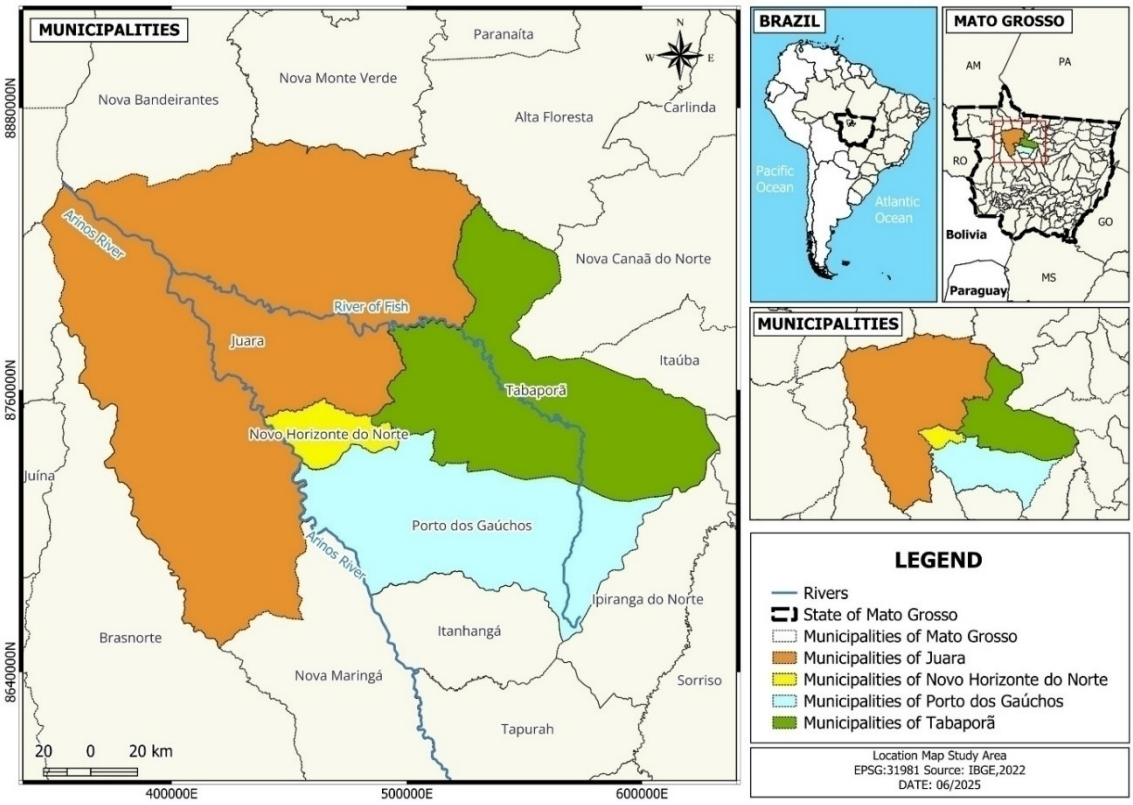

Figure 1 - Micro-region of Vale de Arinos, Mato Grosso. Source: The authors.

METHODOLOGICAL PROCEDURES

The article is defined by its objectives as an exploratory-descriptive study. It is considered exploratory because it aims to develop an understanding of the theme of family farming. At the same time, it takes on a descriptive nature by presenting the importance of this sector, based on the information gathered during the exploratory phase and referencing data from the Agricultural Census

(IBGE, 2006; 2017). For this study, we utilized documentary research and secondary data collected from IBGE. The data were gathered through telematic research (online), specifically from the Automatic Recovery System (SIDRA), which is a database containing indicators across environmental, social, demographic, and economic historical series (IBGE, 2006; 2017). The data collection aimed to analyze the socioeconomic profile of producers and, where possible, to compare information related to family farming in Mato Grosso and the municipalities within the Arinos Valley.

The data collection was organized and founded on the principles of qualitative research, which, as noted by Gil (2022), offers researchers a wealth of information from studies conducted by other authors. Fachim (2017) emphasizes that qualitative research guides the researcher in exploring specific themes, significantly enhancing the understanding of the subject and facilitating data analysis. This approach allows for a comprehensive view of the research from the perspectives of other scholars.

RESULTS AND DISCUSSION

In Mato Grosso, most rural establishments are family-owned farms; however, there has been a 7.2% decrease in their number, accompanied by an increase in non-family properties (see Table 1). In the Arinos Valley, the share of family farms also declined by 8.3%, while the percentage of non-family establishments rose. Notably, the municipalities of Juara and Novo Horizonte do Norte experienced growth in the number of family properties, whereas Porto dos Gaúchos and Tabaporã saw a decrease (see Table 1).

Agricultural Establishments		2006	%	2017	%
Mato Grosso	Non-Family	27.172	24.0	37.044	31.2
	Family	85.815	75.9	81.635	68.8
	Total	**112.987**	**100.0**	**118.679**	**100.0**
Vale do Arinos	Non-Family	705	21.8	992	30.1
	Family	2.526	78.2	2.301	69.9
	Total	**3.231**	**100.0**	**3.293**	**100.0**
Juara	Non-Family	419	34.6	540	32.0
	Family	793	65.4	1.149	68.0
	Total	**1.212**	**100.0**	**1.689**	**100.0**
Novo Horizonte do Norte	Non-Family	31	6.8	103	18.8
	Family	426	93.2	445	81.2
	Total	**457**	**100.0**	**548**	**100.0**
Porto dos Gaúchos	Non-Family	114	26.3	151	50.3
	Family	320	73,7	149	49.7
	Total	**434**	**100.0**	**300**	**100.0**
Tabaporã	Non-Family	141	12.5	198	26.2
	Family	987	87.5	558	73.8
	Total	**1.128**	**100.0**	**756**	**100.0**

Table 1 - Family and non-family agricultural establishments in the Vale do Arinos and its municipalities, Mato Grosso, 2006/2017. Source: IBGE (2006, 2017).

In the study region, the number of rural establishments increased slightly by 1.9% during the evaluated period. Non-family enterprises experienced significant growth of 40.7%, while family farming saw a decline of 8.9% (Table 1). According to Silva (2018), the rise in the number of non-family properties is due to the influx of agribusiness producers from various regions across the country. The 2017 Agricultural Census indicates that family properties dominate in Brazil, comprising 76.8% of all agricultural establishments, while non-family properties account for 23.2% (IBGE, 2017). These figures are highly relevant and illustrate that the field encompasses various aspects. It includes large-scale agribusiness focused on producing commodities for both domestic and foreign markets. Additionally, there are small producers and traditional agricultural systems that primarily produce for their own consumption and sell any surplus.

It is important to note that, despite the higher number of family-owned properties, they cover a smaller total area compared to non-family properties. Non-family properties account for 49.8 million hectares, which is 90.7% of the total (IBGE, 2017). This statistic highlights the concentration of land ownership in the hands of a few producers, a pattern observed throughout Brazil (ZENERATTI, 2021) and in Mato Grosso specifically (VIEIRA & FABRINI, 2024). Additionally, Cosme (2020) points out that there has been an increasing concentration of land ownership in Brazil in recent years.

Silva (2001), in his work O que é questão agrária (What is the land issue), takes a comprehensive approach to the topic and highlights several issues affecting the low-income rural population and the distribution of land, which discourage them from continuing their agricultural activities. One of the key issues is land concentration, where a small group of people owns large properties. This makes it difficult for many to access land, prompting them to seek better living conditions in cities. Additionally, poverty is another challenge that drives family farmers to leave rural areas. Many lack access to basic services, which increases their marginalization and contributes to the abandonment of their farms.

In the process of acquiring establishments, most properties are acquired through the purchase of land from private individuals. In this case, the farmer buys a plot and starts their activities. However, Tabaporã stands out, as it has a significant number of establishments derived from the PARA program (see Table 2). This situation highlights the limited involvement of the State and its policies in facilitating land acquisition for economically disadvantaged individuals, which is a common scenario in both Brazil and Mato Grosso (SILVA, 2001).

Form of acquisition	**Units with title deeds**						**Units without title deeds**
	Juara	**NHN**	**PG**	**Tb**	**Vale do Arinos**	**Mato Grosso**	**Mato Grosso**
Purchase from a private individual	798	295	116	305	1.514	44.956	1.576
Purchase with land credit (Bank)	34	4	-	1	39	1.380	481
Concession and indigenous land	7	6	-	6	19	1.594	421
Land titling – agrarian reform	-	36	1	243	280	10.479	4.965
Untitled possession	170	35	-	3	208	4.023	-
Quilombolas	-	-	-	-	-	46	1.011
Inheritance, donation or does not know	115	113	29	20	277	10.640	155
Adverse possession	2	1	-	2	5	241	225
Total	**1.126**	**490**	**146**	**580**	**2.342**	**72.801**	**8.834**

Table 2 - Main ways of obtaining land by family farmers, Vale do Arinos, Mato Grosso. *NHN = Novo Horizonte do Norte; PG = Porto dos Gauchos; Tb = Tabaporã. Source: IBGE (2017).

The Atlas of the Brazilian Rural Space (IBGE, 2020) indicates that family farmers primarily acquire their land through private purchases. This trend is also evident in Mato Grosso, where purchases made through land credit play a significant role in the acquisition process. Silva (2008) and Martins (2010) argue that private property is viewed as a commodity, which often means it is only accessible to a privileged group who can afford it. As a result, those with fewer financial resources are frequently unable to acquire property. Oliveira (1988) notes that the Land Statute (Law No. 4,504) of 1964, while addressing the potential for land redistribution through agrarian reform, has not been implemented and remains a utopia. Land concentration continues to be the norm, a situation evident in both Mato Grosso and throughout the rest of the country.

The process of acquiring land through adverse possession is not particularly prominent across Brazil, as shown in Table 2. It is more significant in the North and Northeast regions, whereas this method of land acquisition is less common in other parts of the country, such as Mato Grosso. This trend

suggests a growing reliance on formal land acquisition processes, such as purchase and sale (IBGE, 2020). There is a limited number of land acquisitions by quilombolas, which highlights the dominance of white producers in the region. This observation aligns with the findings of Vieira and Fabrini (2024), despite Mato Grosso being recognized for accommodating a significant number of quilombos (MULLER et al., 2015). This situation reinforces the claims made by Silva (2008) and Martins (2010) that private property is only accessible to those who can afford it, while marginalized groups, such as the quilombolas, face significant challenges in acquiring it.

The number of titles related to PARA represents the second-largest form of land acquisition. This number may actually be higher, as many possessions remain untitled (see Table 2). The lack of titles significantly hinders settlement development because ownership documentation provides access to rural credit. In the State, there were 72,801 titled family farming establishments and 8,834 untitled ones, with 2,342 located in the Vale do Arinos. Juara had the highest number of untitled possessions.

According to the National Institute of Colonization and Agrarian Reform (INCRA), a non-titled possession refers to land that is part of a Public Agrarian Reform Settlement (PARA) but lacks formal documentation of ownership for the resident. This means that although the individual occupies the land, they do not have an official document that recognizes their ownership. This situation can arise during the land regularization process, in which the responsible entity conducts verifications, evaluations, and legal procedures to issue property titles. While occupants have the right to use the land, they do not possess formal titles (MAPA, 2019). This process can be bureaucratic, presenting challenges, especially since many settlements are longstanding and their residents should have already received their ownership titles. This lack of formal ownership complicates efforts to maintain their presence in these occupied areas (SILVA, 2018).

The distribution of rural properties by PARA occurs through titles of ownership or concessions of use (BRASIL, 1993; SANTOS, 2019). However, the main clause of Article 189 of the Federal Constitution of 1988 states that these titles are non-negotiable for a period of ten years (BRASIL, 1988). Similarly, Law No. 8,629, enacted on February 25, 1993, specifies that the title of ownership will be granted under a resolutory condition. After a ten-year period, during which the settler works towards achieving economic independence, they will receive the definitive title to the property. However, the settler cannot freely dispose of the property until all installments owed to INCRA have been paid. If the settler defaults on these payments, the property will be returned to INCRA (BRASIL, 1993).

Age and sex		18-34	35-44	45-54	55-64	>65	Total
Juara	Men	107	159	218	238	204	**926**
	Women	27	44	65	48	39	**223**
	Total	**134**	**203**	**283**	**286**	**243**	**1.149**
Novo Horizonte do Norte	Men	25	46	103	121	96	**391**
	Women	3	10	18	9	14	**54**
	Total	**28**	**56**	**121**	**130**	**110**	**445**
Porto dos Gaúchos	Men	6	18	30	41	34	**129**
	Women	2	1	6	7	4	**20**
	Total	**8**	**19**	**36**	**48**	**38**	**149**
Tabaporã	Men	26	91	161	114	102	**494**
	Women	10	10	15	19	10	**64**
	Total	**36**	**101**	**176**	**133**	**112**	**558**
Vale do Arinos	Men	164	314	512	514	436	**1.940**
	Women	42	65	104	590	67	**361**
	Total	**206**	**379**	**616**	**1.104**	**503**	**2.301**

Table 3 - Age and gender of the family producer, Vale do Arinos, Mato Grosso, 2017. Source: IBGE (2017).

A notable observation in the Vale do Arinos is the significant predominance of male farmers (Table 3). This trend suggests a masculinization of the countryside and/or the marginalization of women, reflecting general patterns similar to those seen in various regions across Brazil (LIMA et al., 2020). The workforce composition shows a striking imbalance, with 81.3% male workers and only 18.6% female workers, a situation akin to that found in Mato Grosso (VIEIRA & FABRINI, 2024). The aging process

of the rural population is evident in the region, as shown in Table 3. Most farmers are between the ages of 45 and 64, a trend similar to that observed in Brazil, as noted by Brumer (2004). This situation is also reflected in certain regions of São Paulo (LIMA et al., 2020) and Mato Grosso (VIEIRA & FABRINI, 2024).

The productive work performed by women in this field is often reflected in much lower numbers compared to men (see Table 3). Brumer (2024) notes that this work is typically undervalued and is viewed more as support for men or families, characterizing it as an auxiliary task. This is the case even when women work as hard as their husbands, sometimes engaging in the same activities. In many instances, this contribution is seen as a natural extension of their roles as wives and mothers in family farming.

The data indicate that female invisibility persists in rural areas, particularly in social and economic relations. It seems that the work women do at home or in assisting their husbands and families is often undervalued and lacks a quantitative exchange price. According to Faria (2009), this invisibility further entrenches gender inequality in the countryside. The author argues that in rural settings, familial and community norms are closely linked to family dynamics and sexual morals, resulting in ingrained inequality within the family hierarchy, which is based on a division of labor along gender lines.

In family farming, Hirata and Kergoat (2007) highlight that there is often a gender based division of labor, where men typically take on the responsibility for productive farming activities and represent their families publicly. In contrast, women primarily handle domestic tasks. According to Boris (2014), this division is associated with the care and affection women provide to their families, which society often views as natural roles for women. As a result, the significance of their contributions is frequently overlooked.

Sabbato et al. (2009) note that recognizing women as leaders within families can be challenging due to deeply rooted patriarchal cultural norms. In this context, women are frequently relegated to the background, while family leadership tends to be automatically assigned to men, even if they are not the primary earners. The authors emphasize that women's leadership is often linked to circumstances of increased social and economic vulnerability. This connection arises from various factors, including limited access to land, credit, and productive resources, as well as the lower societal regard for female leadership.

In terms of literacy levels and skin color among family farmers (see Table 4), a significant majority —88.0%— can read and write. White farmers make up the largest group, accounting for 58.8% of the total. Among those who identified as white, 53.0% are literate. In contrast, literacy rates are lower among those who identified as black, with only 7.7% literate, and among those identifying as brown, with a literacy rate of 26.2%. Vieira and Fabrini (2024) have previously noted this trend for the State, suggesting that the Vale do Arinos serves as a microcosm of the broader situation in Mato Grosso.

Local	Education	White	Black	Yellow	Multiracial person	Indigenous	Total
Juara	Literate	607	82	6	318	1	1.014
	Illiterate	72	17	-	46	-	135
	Total	**679**	**99**	**6**	**364**	**1**	**1.149**
Novo Horizonte do Norte	Literate	219	41	1	106	-	367
	Illiterate	40	12	-	26	-	78
	Total	**259**	**53**	**1**	**132**	**-**	**445**
Porto dos Gaúchos	Literate	86	13	2	36	-	137
	Illiterate	1	4	-	7	-	12
	Total	**87**	**17**	**2**	**43**	**-**	**149**
Tabaporã	Literate	308	42	13	143	-	506
	Illiterate	21	10	-	20	1	52
	Total	**329**	**52**	**13**	**163**	**1**	**558**
Vale do Arinos	Literate	1.220	178	22	603	1	2.024
	Illiterate	134	43	-	99	1	277
	Total	**1.354**	**221**	**22**	**702**	**2**	**2.301**

Table 4 - Education and ethnicity of producers in the Vale do Arinos, Mato Grosso, 2017. Source: IBGE (2017).

It is important to emphasize that the results demonstrate the dominance of the education of white individuals over others. Meinerz and Ströher (2022) argue that the dominance of the hegemonic class is deeply embedded in history and significantly influences collective beliefs. This results in new generations inheriting both the symbolic and material privileges of their ancestors. These privileges include benefits such as land concessions, freedom of religious worship, and access to education and economic opportunities. Descendants of Black and Indigenous people often bear the stigma of their ancestors who were enslaved or marginalized due to European colonization, which excluded them from legal access to land, work, and education (MEINERZ & STRÖHER, 2022).

Historical advantages are perpetuated, creating ongoing inequalities in opportunities between white and non-white populations, as illustrated by economic and social statistics from the Arinos Valley. Muller et al. (2015) emphasize that there is limited information about the remaining quilombo communities and their land ownership in Mato Grosso. This indicates that these communities are often overlooked in discussions about land distribution and titling. History suggests that the opportunity to acquire land in Brazil is typically reserved for the hegemonic class, which is predominantly male and white (SABBATO et al., 2009). This trend can be observed in the Arinos Valley (see Table 4) as well as in Mato Grosso (VIEIRA & FABRINI, 2024).

In the Arinos Valley, a significant majority of farmers (73.7%) live on their properties, which is not surprising. However, the fact that 26.3% reside elsewhere is noteworthy. This suggests that some farmers may be seeking a more comfortable living environment with amenities found in urban areas, rather than investing in the residences on their properties. The proximity to cities can facilitate this process, and properties with this configuration must include activities that do not require a daily on-site presence, such as extensive animal husbandry.

Municipality	Establishment	Other location	Total
Juara	832	318	1.149
Novo Horizonte do Norte	367	78	448
Porto dos Gaúchos	95	54	149
Tabaporã	402	156	558
Vale do Arinos	1.696	606	2.302

Table 5 - Place of residence of family farmers, Vale do Arinos, Mato Grosso, 2017. Source: IBGE (2017).

The Atlas of the Brazilian Rural Space (IBGE, 2017) notes that between 2006 and 2017, Brazil experienced a 4.3 percentage point increase in rural absenteeism, where the producer does not live on the agricultural establishment. In 2006, the Southeast region had an absenteeism rate of 27.9%, which increased to 35.2% by 2017, reflecting a rise of 7.3%. In the North region, the percentage of producers residing on the establishment was 87.4% in 2006, dropping to 80.3% in 2017 (IBGE, 2017). This information indicates that even in areas with the highest number of resident producers, there is a tendency for them to be absent from their properties. This situation is likely related to a variety of factors, including access to education, among others that have already been mentioned.

In rural areas, electricity has driven innovation in work, production, and quality of life. It enhances communication, allows for the use of household appliances, and supports various forms of productive work. Additionally, electricity enables the storage of products and food, leading to increased productivity and profitability. In 2017, in Vale do Arinos, 23.9% of non-family farms had access to electricity, while 59.1% of family farms were connected to the electrical grid (Table 6).

Ribeiro and Santos (1994) state that supplying electricity is a social function of the State, which is delegated to concessionaires. However, certain groups of rural producers are often viewed as a less attractive market due to their characteristics, such as low income levels, geographic dispersion, and specific technical challenges. Several reasons make it challenging to serve these producers, particularly in isolated regions. As a result, they often pose an institutional dilemma for the government and concessionaires. They lack support from public policies and rural electrification programs, a situation evident in some municipalities.

Municipalities	Non-family			Family farming		
	Yes	No	Total	Yes	No	Total
Juara	396	144	540	915	234	1.149
Novo Horizonte do Norte	97	6	103	428	17	445
Porto dos Gaúchos	132	19	151	119	30	149
Tabaporã	161	37	198	484	74	558
Total	**786**	**206**	**992**	**1.946**	**355**	**2.301**

Table 6 - Existence of electricity in family farming properties, Vale do Arinos, Mato Grosso, 2017. Source: IBGE (2017).

Access to electricity is crucial in rural areas for enhancing economic efficiency and promoting social integration. However, challenges such as spatial dispersion lead to higher implementation costs and lower consumption, which pose significant problems for service providers (JERONYMO & GUERRA, 2018). Throughout the twentieth century, several rural electrification programs were implemented, including PROLUZ (I and II), Luz da Terra, Luz no Campo, and the Luz Para Todos Program. These initiatives aimed to expand access to electricity, but they were unable to reach all families interested in the service. This situation can occur in both family and non-family production groups. However, low-income family producers may have certain advantages, as seen in the Arinos Valley. That said, this is not the typical situation found in most settlements, according to reports by Bergamasco (1997).

The primary agricultural activity in the Arinos Valley is beef cattle breeding, as shown in Table 7. Although there are some temporary crops, they are cultivated on a small scale. These include fruit species such as pineapple, as well as rice, sugar cane, cassava, and corn. However, there are no permanent plantations for crops like citrus (IBGE, 2017). The dominance of beef cattle breeding has also been noted in other areas of family farming within the State (VIEIRA & FABRINI, 2024), suggesting that the Arinos Valley reflects the State's overall trend, as the region is a significant producer of meat (IBGE, 2017).

	2006					2017				
	N	**Catle**	**Horses**	**Pigs**	**Poultry**	**N**	**Catle**	**Horses**	**Pigs**	**Poultry**
Juara	649	93.575	5.139	4.115	30.993	1.085	130.610	2.251	4.018	43.907
NHN	387	28.833	869	1.820	23.801	434	32.921	571	1.260	18.841
PG	218	20.632	1.084	1.278	12.162	137	15.566	151	1.143	5.127
Tabaporã	423	31.948	1.689	2.002	11.993	503	32.279	626	3.000	25.858
Total	**1.677**	**174.988**	**8.781**	**9.215**	**78.949**	**2.159**	**211.376**	**3.599**	**9.421**	**93.733**

Table 7 - Types of breeding activities developed in the areas of family farming, Vale do Arinos, Mato Grosso, 2006-2017. *N = Number of establishments; NHN = Novo Horizonte do Norte; PG = Porto dos Gaúchos. Source: IBGE (2006, 2017).

Between 2006 and 2017, the number of establishments engaged in animal breeding increased by 28.7%, rising from 1,677 to 2,159. During the same period, cattle herds saw a significant growth, climbing from 174,988 animals in 2006 to 211,376 animals in 2017, a rise of 20.8%. Additionally, poultry breeding also experienced positive growth, showing an increase of 18.7%. The number of pigs remained stable, showing a modest increase of 2.2%. In contrast, there was a significant decrease in the number of horses, with a reduction of 59.0% (see Table 7). This decline in the equine population is noteworthy, especially considering that horses are traditionally used as work animals on livestock farms, and the number of cattle in the Arinos Valley has actually increased. This change suggests a new management approach where the presence of many horses is no longer as important as the care and attention given to cattle.

Mato Grosso is recognized for having one of the largest cattle herds in Brazil, and Juara boasts one of the largest herds in the State (IBGE, 2017). Consequently, the increase in cattle production in the

Arinos Valley aligns with the state trend of growing herds and a rising contribution to Mato Grosso's economic matrix (VIEIRA & FABRINI, 2024). Picolotto (2015) notes that family farming in the State is heavily based on livestock and represents an organizational model centered on family businesses. This approach offers social, economic, and environmental advantages compared to the traditional employer model.

CONCLUSION

The analysis of the socioeconomic profile reveals significant transformations in family farming in the Vale do Arinos. Despite a decline compared to previous censuses, family farming still constitutes the majority of rural establishments in the region. This study demonstrates that family farming is essential for food security, job creation in rural areas, and the stimulation of the local economy.

The data reveals significant difficulties and challenges facing producers, including the aging population of farmers, a decrease in the relative share of family farming as agribusiness advances, and the ongoing concentration of land ownership. In some municipalities, such as Juara and Novo Horizonte do Norte, there has been an increase in the number of family farms. In contrast, areas like Tabaporã and Porto dos Gaúchos are experiencing a decline in family establishments. These differences highlight the need for specific attention to the varying local dynamics.

The process of acquiring land, primarily through purchase, underscores the unequal access to land in the Vale do Arinos region, particularly for historically marginalized groups such as the quilombolas. This evidence highlights the necessity for public policies that ensure the conditions required for the sustainability and empowerment of family farming.

Finally, the study emphasizes the significance of family farming, not just as a means of production but also as a way of life that preserves knowledge, culture, and sustainability in rural areas. Supporting and enhancing this sector is crucial for achieving social justice and environmental balance in the Vale do Arinos region of Mato Grosso and across the entire country.

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DATA AVAILABILITY

Not applicable.

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