

# QUALITY OF FAMILY LIVES: PERCEPTION OF PNCF BENEFICIARIES IN NOVA XAVANTINA, MATO GROSSO, BRAZIL

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Recebido em: 06/06/2022 Aceito em: 08/08/2022.  
DOI: [10.5380/guaju.v%v%i%t.86164](https://doi.org/10.5380/guaju.v%v%i%t.86164)

## Abstract

*The present paper is derived from a doctoral study that focused on the family farmers of the Pé da Serra and Beira Rio settlements, located in the municipality of Nova Xavantina, Mato Grosso, Brazil. The study evaluated the perceptions of the farmers in terms of the changes or improvements in their quality of life following their settlement through the National Land Credit Program (PNCF) and the implications of these improvements for the social and economic reproduction of the individuals. The methods included a literature search, the acquisition of data from secondary sources, the application of questionnaires to 43 farmers and complementary interviews. The results showed that, in general, there were significant improvements in the quality of life of the families after obtaining land through the PNCF, not only in terms of the acquisition of consumer goods, but also in relation to aspects such as housing, purchasing power, recreation, security, and future prospects, as well as the development of an emotional link to the land. Other aspects that influence the quality of life of the families are still incipient, especially of the collective infrastructure necessary to improve productivity, social organization (based on the Beira Rio Association) and the relationship between this organization and the settler community, which is restricted almost exclusively to the initial development of the settlements.*

**Keywords:** *development, family farming, land credit, public policies.*

# ***Qualidade de vida das famílias: percepção dos beneficiários do PNCF em Nova Xavantina, Mato Grosso, Brasil***

## **Resumo**

Este artigo é resultado de uma pesquisa de doutorado, que objetiva investigar como os agricultores familiares do Assentamento Pé da Serra e Beira Rio, localizado no município de Nova Xavantina, Mato Grosso, Brasil, enxergam as mudanças / melhorias na qualidade de vida das famílias, ocorridos em função do acesso à terra pelo PNCF, e os reflexos diretos destes na reprodução social e econômica dos indivíduos. A metodologia utilizada inclui revisão bibliográfica, consulta a dados de fontes secundárias, aplicação de questionários a 43 agricultores e entrevistas. Os resultados mostraram que, em geral, houve melhorias significativas na qualidade de vida das famílias após o acesso à terra por meio do PNCF, não apenas em relação à aquisição de bens duráveis, mas também em relação a aspectos como moradia, poder aquisitivo, lazer, segurança e perspectivas futuras, além do sentimento de pertencer a um lugar / território. Outros aspectos que refletem na qualidade de vida das famílias são incipientes, principalmente no que diz respeito às infraestruturas coletivas de produção, formas de organização social (baseadas na Associação Beira Rio) e a interação dessa organização com a comunidade assentada, restrita apenas à formação inicial desses assentamentos.

**Palavras chaves:** desenvolvimento, agricultura familiar, crédito fundiário, desenvolvimento, políticas públicas.

## **1 Introduction**

In Brazil, the modernization of productive processes in the farming sector that began in the 1960s led to the exclusion of many different types of rural workers, while favoring major landowners. This resulted in the increasing concentration of land in the hands of a few individuals, which intensified disputes and reinforced the establishment of social movements supporting agrarian reform and other initiatives favoring a more egalitarian distribution of landholdings. The debate on the availability of land, which had the primary aim of reducing rural poverty, supported the implementation of public policies based on the distribution of properties, which intensified during the 1990s, with promising results in terms of the numbers of families settled and the total area of land earmarked for the establishment of rural settlements (GUEDES, 2010).

Official policies aimed at guaranteeing access to land, which supported the purchase of properties by the applicants, were established during the government of President Fernando Henrique Cardoso (FHC). These policies, which included the Land Bank and the Land Certification program, were adopted as a way of accelerating agrarian reform by eliminating much of the bureaucracy and the prolonged legal disputes typical of the expropriation of land for social purposes. These initiatives were eventually substituted by the National Land Credit Program (PNCF – *Programa Nacional de Crédito Fundiário*), which was established by decree number 4,892 of November 25th 2003 (BRASIL, 2003). The PNCF was spawned by the agrarian policy of the FHC government and was adopted by the government of President Luiz Inácio Lula da Silva as a complementary mechanism of the process of agrarian reform (MDA, 2014).

The debate over the implantation of rural settlements in Brazil has provoked controversies in relation to the economic effectiveness of initiatives of this type. On the one hand, there is the question of the size of the lots, and whether they will be able to support the social reproduction of the settled families, in terms of their access to markets and the correction of the limitations of the material and social infrastructure imposed by the social demands of the new order. On the other hand, some authors have argued that these projects are prone to a decrease in productivity, that is, low economic efficiency, which contradicts the legitimacy of the measures aimed at the deconcentration of land ownership in Brazil (STAEVIE, 2005).

However, most studies (BERGAMASCO; NORDER, 2003; FERRANTE, 2004; BELEDELLI, 2005) have pointed to the influence of the location of the settlements, describing the substantial changes that have occurred since their creation. The positive repercussions of the creation of rural settlements, including both the concession of land and the legalization of the land occupied by family farmers and rural workers, include the economic, political and social changes that impact the beneficiaries, which involve other actors and institutions, and enhance economic dynamics at the municipality level, including the diversification of agricultural produce, the expansion of the labor market and the consolidation of family farming practices (LEITE; ÁVILA, 2007).

The question of the quality of life in rural settlements, even when evaluated subjectively, has gained increasing importance, due to the need to analyze the improvements brought on by the occupation of the settlements. This analysis provides an empirical baseline

for the development of public policies that prioritize family farming and ensure a quality of life that satisfies the basic needs of the settler families.

The quality of life involves a complex of factors (RUEDA, 1997), which can be assessed through objective parameters, such as indicators, although the personal experience of the subject or social group may be at least as important. Oliveira (2010) recommends the assessment of the settlements from a broader perspective, including the more traditional approaches that focus on infrastructure and economic factors, such as income. Other aspects, such as health, education, the environment, social organization, technical assistance and credit, should also be considered in order to better comprehend the quality and sustainability of the settlements, and the success of public policies that promote more equitable access to land.

Few studies have analyzed in detail the repercussions of the PNCF on the daily life of the recipients of the credit (SILVA, 2012), and most are limited to a more general analysis of the program. This reflects the difficulties of obtaining reliable data on the situation of the families settled through the PNCF, in particular in the municipalities of the state of Mato Grosso. The present paper is derived from a doctoral study that focused on the family farmers of the Pé da Serra and Beira Rio settlements, located in the municipality of Nova Xavantina, Mato Grosso, Brazil. The study evaluated the perceptions of the farmers in terms of the changes or improvements in their quality of life following their settlement through the PNCF, and the implications of these improvements for the social and economic reproduction of the individuals.

## **2 Methodology**

The first phase of the present study was based on a literature search of the topics relevant to its objective, including an overview of Brazilian agrarian reform policies and the published data on the quality of life in rural settlements. The second phase of the study was fieldwork-based, with data being collected on the impacts of the PNCF and the quality of life of the participating families in the rural zone of the municipality of Nova Xavantina in the central Brazilian state of Mato Grosso. A number of different methods and procedures were used to study two rural settlements – Pé da Serra and Beira Rio.

The selection of the settlements for the present study was based on the fact that they were both created in 2009 by the National Land Credit Program (PNCF). This means

that the two settlements have a common history, which facilitates the comparison of the influence of the PNCF and the current status of the local communities.

The assessment of the quality of life of the farmers resident in these settlements was based on the approach of Barbosa (1996, p.150), who proposed that the quality of life is defined as the “sum of the objective and subjective conditions of being, which is expressed by the everyday reality of the individual as a consequence of the macro and micro socio-environmental transformations experienced by society”. This definition is supported by three axes: (i) satisfaction and access to basic needs, such as education, transport, employment, food security, healthcare, and adequate sanitation, as well as the quality of the access to these needs, including effective healthcare systems and schools that satisfy the needs of the population, an adequate public transport system and food and salaries consistent with the needs of the individual and their family; (ii) the availability of complementary features that are fundamental to the life of the individual, including culture, recreation, full sexual and personal relationships, family ties, interaction with nature and a satisfying working environment; and (iii) access to information and actions related to the life of the farmer, in particular, participation in politics, and involvement in collective causes local management activities (BARBOSA, 1996, p.150).

General aspects of the municipality of Nova Xavantina, in particular those related to the rural environment and family farming, were compiled from existing data, with specific visits being made to the settlements of Pé da Serra and Beira Rio, to describe the general characteristics of the environment and the residents. Secondary data were collected from institutions such as the Brazilian Institute for Geography and Statistics (IBGE), the Mato Grosso State Company for Rural Research and Technical Assistance (EMPAER), the Rural Workers Union, the Brazilian National Institute for Agrarian Reform (INCRA), Nova Xavantina City Hall (Agriculture Secretariat) and the Municipal Council for Sustainable Rural Development (CMDRS).

Data were collected using a specific questionnaire, which was applied to the family farmers of the two study settlements mentioned, with 17 individuals being interviewed in Beira Rio and 26 in Pé da Serra. The content of the questionnaire was directed at the description of the farmers and their circumstances, as well as the identification of the principal improvements in their quality of life following their move to the settlement. The number of farmers interviewed was defined according to the need to cover the diversity in the characteristics of the families and the community as a whole. Interviews were also

recorded with 10% of the farmers (depending on their degree of diversity), with the aim of collecting complementary information not obtained in detail using the questionnaire, which may provide important insights into the characteristics of the settlers. This information included details of the mobilization of the settlers and the chain of events that led to the implantation of the settlements.

The data obtained in the questionnaires were fed into a spreadsheet for the production of tables and graphs. The information from the secondary sources and the interviews were analyzed quantitatively and qualitatively, based on the theoretical framework outlined above.

### **3 Results and Discussion**

#### 3.1 Characteristics of the Pé da Serra and Beira Rio settlements

The Pé da Serra and Beira Rio settlements, which were the focus of the present study, are located in the Brazilian municipality of Nova Xavantina. These settlements were created in August, 2009, with resources provided by the National Land Credit Program (PNCF) through the coordination of 45 families linked to the Beira Rio Association, supported by the Rural Workers Union of Nova Xavantina. The Beira Rio (total area, 200 hectares) and Pé da Serra farms (total area 370 ha) were acquired with the support of the PNCF, and converted into the homonymous settlements. A total of 19 families were settled at Beira Rio and 26 at Pé da Serra. The settlements are linked by their affiliation with the Beira Rio Association, which headquarters is located in the communal area shared by the two settlements.

The lots in the Pé da Serra settlement each have an area of approximately 14.5 hectares, while at Beira Rio they are around 10.5 hectares, including the areas of permanent preservation and the legal reserve, which are allocated individually to each settler. Each family financed the occupation of their lot with the support of the PNCF, which provided credit of R\$40,000, which was available for the construction of the farmhouse, fencing, power supply (through the Light For All Program) and access roads, through the credit line of the Combatting Rural Poverty (CPR) program. The loan is payable in 20 years, beginning after a 3-year grace period, with annual payments of R\$ 2,650.00.

The collateral for individual credit is the value of the lot acquired by the recipient. "In the case of credit assigned for the acquisition of property through an individual contract,

that is, to a private individual, the collateral will apply only to the section of the property acquired individually by the recipient of the credit” (BRASIL, 2009, p.24).

### 3.2 Characteristics of the family farmers of the study settlements

The families resident in the Pé da Serra and Beira Rio settlements are all of rural origin, and had prior experience in the farming sector, which is one of the prerequisites for receiving credit through the PNCF (the exact criterion is a minimum of five years’ farming experience). In fact, most of the interviewees (38.5% at Pé da Serra and 47.1% at Beira Rio) had 11–20 years of farming experience. Less than 20% of the lot owners declared having worked previously as a farmer for only 5–10 years, while the remaining 42.3% at Pé de Serra and 35.3% at Beira Rio had more than 20 years of experience. As the present study was conducted in 2015, these individuals would have had at least 14 years of experience at the time the settlement was founded. In two cases from Pé da Serra, while the individuals were born in the rural zone, they had been employed in other sectors for a certain period, before returning to farming.

**Table 1:** Experience of the settlers in the farming sector.

Time (years)	Percentage of settlers from:	
	Pé da Serra	Beira Rio
5–10	19.2	17.6
11–20	38.5	47.1
21–30	26.9	29.4
> 30	15.4	5.9

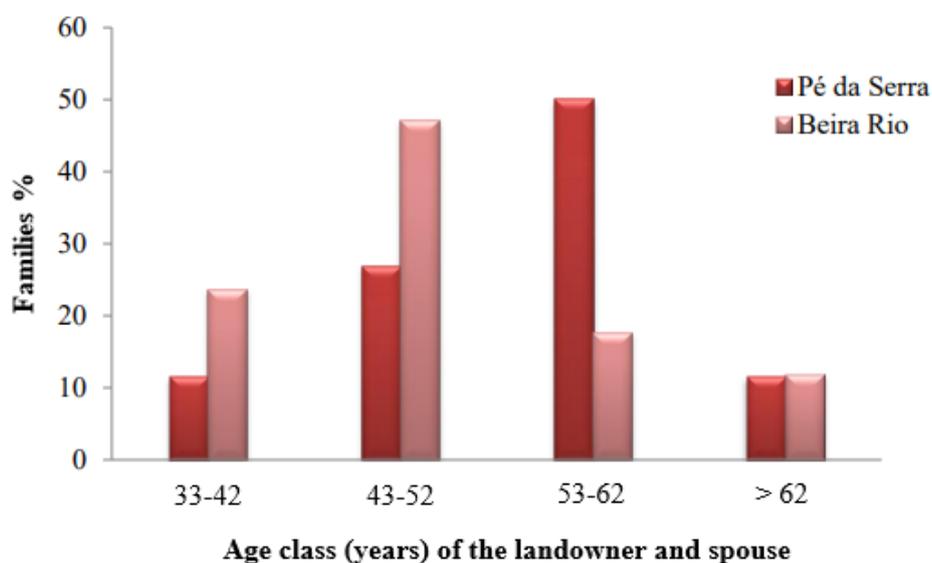
**Source:** Author’s study.

In most cases, the families had a history of migration and salaried employment, in either the urban or rural sectors, although in most cases, their lifestyle was very similar to that of rural families, in particular because of their origin, given that the settlers were all born and raised as farmers on properties they did not own. Between one and four settlers were resident on each lot in both settlements, with the majority of the families consisting only of a husband and wife. Five of the families from Pé da Serra had offspring, all minors, living with them in the settlement. These families were in the lower age range and had the largest numbers of members. In the families with grown-up offspring, these individuals

were not resident in the settlement, but had migrated to the city in search of employment opportunities.

The vast majority (88.4%) of the interviewees from Pé da Serra were between 33 and 62 years of age, and half (50%) were in the 53–62 year age class, while the other 11.5% were more than 62 years old. A similar scenario was recorded at Beira Rio, where 88.2% of the settlers are less than 62 years old, although in general they are much younger, with 47.1% of the landowners and their spouses in the 43–52 year age class.

**Figure 1:** Age classes of the landowners and their spouses on the lots surveyed in the present study in Nova Xavantina, Mato Grosso, Brazil.



**Source:** Author's study.

The ages of most of the settlers in both study settlements were consistent with the physical demands of farm work, which reflects the policy of the PNCF, to facilitate the access of young families to the land, although some settlers were much older, with certain potential consequences for the long-term persistence of the family in the settlement, from the perspective of PNCF policy. Coelho (2014, p. 237) stated that, in the varied experiences of the struggle for land, it is necessary to reflect on how “both men and women are denied access to *working land* or only have the opportunity to obtain this land when it is almost too late”.

In most cases, the farm work is the responsibility of the family members, although, in

some lots (four in the Pé da Serra settlement and two in Beira Rio), day workers are employed to assist with the farm work. None of the interviewees declared having any permanent employees, however. In the majority of lots (65.4% in Pé da Serra and 70.6% in Beira Rio), two family members are responsible for all the farm work.

In general, the family members responsible for the farm work are the couple or the father and a son. In 90% of the cases, the male head of the household was responsible for the farmstead, and, even when the women are involved in the farming activities on an equal footing with the men, they do not recognize the importance of their own efforts. In the social environment, the participation of the women in these activities is not considered to be work, but rather, providing the husband with assistance.

The vast majority of the settlers (92.4% from Pé da Serra and 94.1% from Beira Rio) have no more than an elementary school education, with the remainder (7.7% and 5.9%, respectively) having attended secondary school. Almost half of the settlers (46.2% at Pé de Serra and 47.1% at Beira Rio) that did not go to school are either illiterate or have only a rudimentary notion of how to read and write.

In a study in the municipality of Guaraniaçu, in the Brazilian state of Paraná, Bertolini *et al.* (2008) found that 52.38% of the participants did not graduate from elementary school, while 15.38% did graduate secondary school, which is typical of the education levels of these farmers. In a long-term study, however, Souza-Esquerdo, Bergamasco, and Oliveira (2013) observed that there has been a gradual increase in the education levels of farm settlers in recent years, in all regions of Brazil, and that access to adequate schools for their children is one of the first demands of settler families.

All of the children that live in the settlements are attending school and, in fact, many of them have already reached or even overtaken the level of education achieved by their parents. The lack of schools or any other educational opportunities in either the settlements themselves or the surrounding area forces the youngest settlers to travel to schools in the local urban centers, 5–15 km from their homes. This daily journey becomes increasingly difficult during the rainy season.

Sant'Ana and Costa (2004) recorded a similar scenario in the family farmers of the three municipalities of the São José do Rio Preto mesoregion, in the Brazilian state of São Paulo. This study found that, while the parents had limited schooling, there was a progressive increase in the education levels of the members of the families, down the generations. While most of the parents had reached no more than the fourth grade of elementary school, their

offspring had mostly graduated high school.

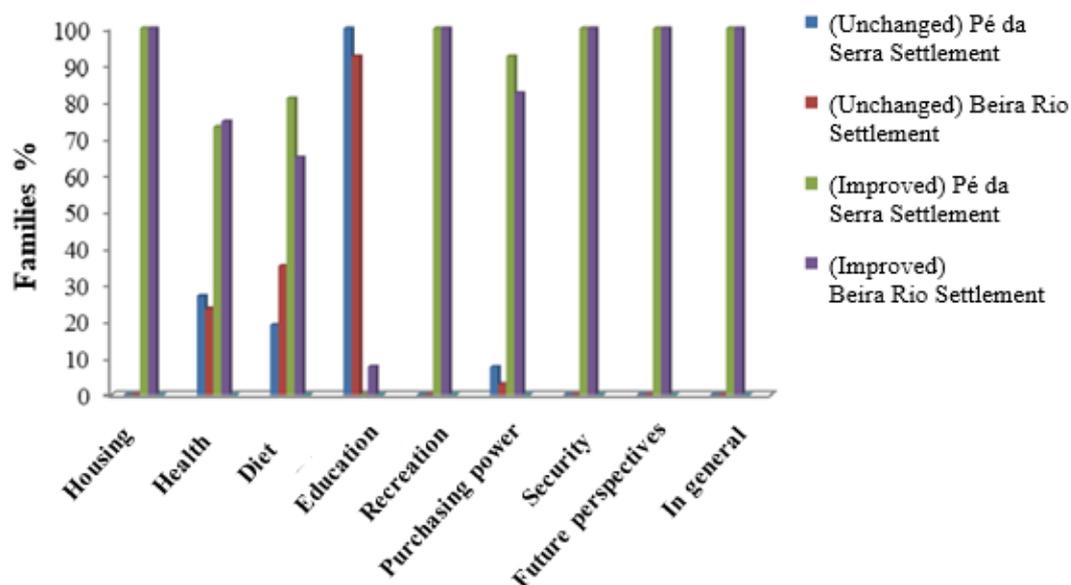
The income of the vast majority of the settler families does not exceed two Brazilian minimum wages. The principal sources of income are external work (including both farm work and non-farming activities) and government benefits, such as pensions. Given the need to supplement the family income, approximately 60% of the settlers have non-farming incomes from external activities, which are an important factor to ensure the continuity of the families on the lots. In eight of the families, at least one of the members has regular external employment in a range of different types of work, such as bricklayer, gas station attendant and day laborer, while other type of non-farming income cited in the interviews included pensions and the receipt of rent. The income of the other 40% of the farmsteads is derived exclusively from agricultural activities.

All the families surveyed in the present study (n = 43) have resided in the settlements for approximately five years, while the new recipients of PNCF credit have occupied their properties for less time. More settlers have abandoned their lots in the Pé da Serra settlement (nine in total) than in Beira Rio (four). Local residents reported that these cases were motivated primarily by the lack of productive investment, due to the inadequate application of the credit received by the settler, and health problems, which were more common in settlers of more advanced age, especially in terms of the demands of farm work.

### **3.3 Quality of life of the farmers**

The settlers were also asked whether and how their lives had improved following their acquisition of land through the PNCF, in terms of their housing, health, diet, education, recreation, purchasing power, security, and future perspectives. In the vast majority of cases, the responses indicated an improvement in living conditions, in particular, housing, security, recreation, purchasing power and future perspectives, with all the responses (100%) referring to an improvement (Figure 2). None of the responses referred to living conditions.

**Figure 2.** Perceptions of the residents of the Pé da Serra and Beira Rio settlements in Nova Xavantina, Mato Grosso (Brazil), which were financed by the PNCF, with regard to the evolution of their quality of life following their move to the settlement.



**Source:** Author's study.

Living conditions have improved considerably in both settlements, given that all the settlers now have brick houses financed by the Program (PNCF). Fifteen interviewees also mentioned the importance of not having to pay rent. "My living conditions have improved greatly. I used to pay rent in the city and I could barely get by on my wages ... now I'm paying for something that's going to be mine ... my own land ... with my own house" (M.S., 58 years old, settler from Pé da Serra).

The construction of the farmhouses resulted in major alterations in the structure and dynamics of the two settlements. The families now occupy the farmhouses, and the infrastructure (in particular, the residences) has improved the production of each lot significantly, which has greatly improved the living conditions of the families. The access to adequate housing is fundamental to the consolidation of other human rights, given their ample interdependence. Access to housing is essential for the social development of the individual, given that it guarantees improvements in living conditions and a greater freedom for self-determination (LIMA, 2012).

The settlers reported that their health had improved, due primarily to the location of their current home, given that the rural environment supports habits that are considered to

be “healthier”, in terms of both their diets and the quality of life, that is, “clean air”, “tranquility”, good neighbors, all of which contrasts with life in the city, and has a direct impact on the health and well-being of the individual. While the settlements are not visited by community doctors, have not been assigned a specific healthcare agent (it is necessary to travel to an urban center for healthcare service) and the farm work can be physically exhausting, the rural lifestyle provides conditions that support good health in the settlers.

This scenario is similar to that found by Scopinho (2010), who investigated the living conditions and health of the workers living in a rural settlement in the sugarcane producing region of Ribeirão Preto, in the Brazilian state of São Paulo. This study showed that the rural workers associate the question of diseases and healthcare, directly or indirectly, with the contrast between the rural and urban ways of life, in terms of the availability and quality of the work and diet of the individual, and their social and inter-individual relationships.

The settlers referred to improvements in the quality of the food produced, given the absence of pesticides, additives, and other chemical compounds that are applied normally to increase productivity and anticipate the reproductive cycle. In the rural zone of the municipality of Major Vieira, in the Brazilian state of Santa Catarina, Floriano (2009) investigated the factors considered to be indicators of the quality of life to the local farmers and found that diet predominated, being mentioned by 21 interviewees, followed by healthcare, which was cited by 17 interviewees.

Scopinho (2010) also emphasized the importance of the diet in the rural setting where, in addition to the greater quality and freshness of the foodstuffs, they are much cheaper in comparison with the city, where high prices prohibit the consumption of certain types of food. Urban consumers also face questions related to food production and processing, and the freshness of the produce available on the market.

Education was the one factor that received a predominance of neutral (no improvement) responses, given the lack of schools in the settlements, which forces the children to travel to the city to attend school. Many of these children have to walk long distances to catch the school bus and, in the rainy season, the roads are often impassable, which makes it difficult for the children to continue at school.

One of the residents of the Pé da Serra settlement, which is the most difficult to reach during the dry season, reported that some residents are cut off completely during the rainy season. Even so, many of the interviewees considered that access to education is easier now than when they were young.

It's difficult to move around in the rainy season ... the children don't go to school, some parents have to walk more than 10 km to take their children to the nearest bus stop ... it's difficult ... if we had a school here, it would be a lot easier for everyone ... but even so, the situation is still better than it used to be, because my children can go to school (N. M. F., 47 years old, settler from Pé da Serra).

Carvalho, L. (2013) observed a similar situation in rural settlements in the region of Andradina, in the Brazilian state of São Paulo, where logistic problems, the precarious roads and the need to get up in the early hours of the morning did not stop the settlers from going to school, to improve their education.

The principal recreational activity of the settler families is associated with visits to “prainha”, literally, the small beach (Figure 2), which is located in the communal area of the two settlements. The families take advantage of this meeting space at the weekend, and there are plans to develop rural tourism in the settlements, based on the sustainable exploitation of natural resources, which would provide the families with an additional source of income. The development of rural tourism would nevertheless depend on the agreement of all the settlers, given that the profits would need to be distributed equally among the residents, and that the activities would need to be planned in such a way as to ensure that the activities do not restrict the access of the local families to the “prainha”.

In terms of purchasing power, the interviewees confirmed that they had greater access to consumer goods following their settlement, which they were unable to purchase on their previous income. These goods include refrigerators, washing machines, freezers, televisions, and parabolic antennas, as well as private vehicles, such as motorcycles and, in some cases, cars.

Lima (2012) analyzed three groups – recipients and new recipients of the National Land Credit Program (PNCF), and non-recipients – and found that the two groups that received SIC funds from the PNCF obtained a much greater increase in their family income in comparison with the non-recipients. While the family income of the recipients increased 42.2%, on average, that of the new recipients increased 32%. By contrast, the income of the non-recipients increased by only 5.2%. This clear difference was attributed to the beneficial effects of the PNCF.

The improved security of the settlements is related primarily to their distance from the city, where crimes such as muggings, burglaries and assaults are much more frequent. The isolation of the settlements guarantees the security of the residents, as shown in the

words of one of the settlers – “There’s no stealing here ... it’s very safe here, we can sleep with the windows open, the only thing that enters is the insects, and it’s so peaceful here, this is priceless...” (A.C., 51 years old, settler from Beira Rio).

The future perspectives described by the settlers included the possibility of expanding the plantations, obtaining new credit, and implementing rural tourism. However, the lack of technical assistance and the almost complete absence of productive organizations and policies in the settlements has a negative impact on the perspectives of the families and the realization of their planned projects. “I’d like to increase my land ... plant more cassava, corn, vary my crops more, so that we have enough food, but there is no support ... the association exists only on paper, nobody worries about us ...” (V.S.O., 57 years old, settler from Beira Rio).

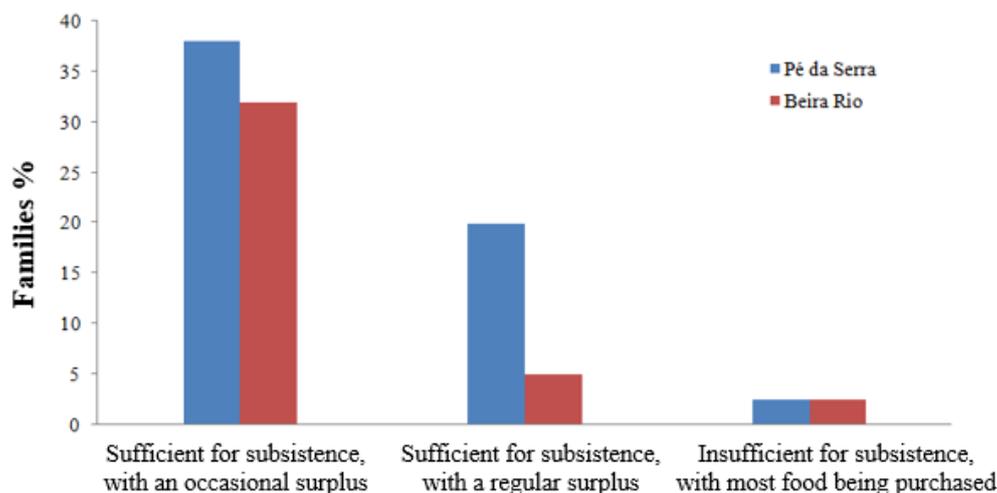
The farmers often referred to their organizations (the association and union) as though they weren’t part of them, as though the mobilization of initiatives and the adequate planning and implementation of activities were the sole responsibility of the leaders of these organizations. In particular, the Beira Rio Association is in urgent need of restructuring. In theory, this association should play a crucial role in the orientation of the farmers, as well as facilitating the resolution of specific problems, such as market access. The association should also be instrumental in the articulation of the contact between the community and other institutions that are of interest to the farmers, potentially contributing to improvements in the living conditions of their families.

When asked what hopes they had for the future of their children, none of the interviewees mentioned the possibility of remaining on the farmstead, to continue producing food. The vast majority of the offspring of working age live in the city, and the one individual that still lives in their parents’ residence works in the city. The parents invariably understand that their children do not intend to continue running the farmsteads. “[The children] are used to living in the city, I don’t think they will want to get involved with this” (M.S., 58 years old, settler from Pé da Serra)

Despite this, all the interviewees revealed that they intend to continue living and farming in the settlements. In a study of settlements financed by the PNCF, Spavorek *et al.* (2008) found a significant improvement in the quality of life of the families in comparison to their standing prior to the concession of the credit, in terms of practically all the items analyzed (living conditions, power grid, sanitation, garbage collection, telephones, computer access, refrigerators, television and private vehicles).

Figure 3 shows the perceptions of the families in terms of the productivity of their farmsteads. In most cases in both settlements (38% in Pé da Serra and 32% in Beira Rio), the families interviewed reported that productivity is sufficient only for the subsistence of the family, with only an occasional surplus being available for sale. By contrast, 20% of the families in the Pé da Serra settlement and 5% in Beira Rio reported that a major surplus is produced for sale, while the remaining families (2.5% in each settlement) revealed that productivity is low and that they need to purchase the majority of their food. The latter households are able to support themselves through non-farming incomes.

**Figure 3:** Perceptions of the farmers of the Pé da Serra and Beira Rio settlements on the productivity of their properties and the subsistence needs of their families.



**Source:** Author's study.

The total income of the farmer, which combines farming and non-farming income, guarantees improvements in the quality of life of the farmers, given that the production of the farmstead is not always sufficient to guarantee the subsistence of the families. Farming can be affected by a range of factors, such as seasonality, the perishability of the produce, and pests and diseases, which may all limit the production of a surplus for sale and the profitability of the process.

It is important to note that the production of food for subsistence is an important process to guarantee the continuity of the families on the farmsteads. Even when only a small marketable surplus is produced, Duval, Ferrante and Valencio (2008) emphasize that

subsistence becomes a prominent feature of the settler lifestyle, in particular for the social integration of the families and as a strategy for eliminating any risks to food security.

However, these findings do highlight one other problem, which has been highlighted by studies such as those of Alencar (2005) and Guedes (2010), who found that a majority of settlers are unable to produce enough food for their own families, let alone a surplus for the generation of the income necessary to pay off their debts. This problem is related primarily to the fact that, while the settlers are able to obtain a loan for the purchase of their land, they lack access to the resources necessary to invest in infrastructure, equipment and seed, which are contemplated by a different public program, Pronaf A.

Whatever the strategies adopted by the families to guarantee conditions favorable to the improvement of their quality of life, if it is not possible to share these benefits with other families through collective initiatives, social relationships and community integration may be damaged. Overall, the pressure applied by the settlements on the Beira Rio Association to provide access to new sources of funding or participate in new public programs is still incipient and is still limited to the PCNF.

The results of the present study indicate that the settlers are aware of the importance of collective efforts for the development of the settlement and the improvement of the quality of life for all the residents. However, while the land was purchased collectively, as mentioned by Sperry, Carvalho Junior, and Mercoiret (2003), the settlers do not consider collective work to be a potential strategy for the improvement of their quality of life, given their participation in an association founded on "determinist and instrumental logic". Vegro and Garcia Filho (1999) concluded that this logic is established based on the interests of the community, which ultimately limits the development of more consistent collective efforts.

Social interactions and collective practices reinforce the development of community life and are an important guarantee of the quality of life in rural settlements. The relationships established between friends and neighbors and the incentives for communal participation and organization all contribute to the improvement of the quality of life of the settler families, while reinforcing the integration of the settlement, the potential for future reorganization and the recognition of the settlers as farmers.

## 4 Conclusion

The results of the present study showed that the families of the two study settlements in Mato Grosso (Pé da Serra and Beira Rio) are of rural origin and had prior experience – in most cases, of between 11 and 20 years – in the farming sector. In most cases, the family history is dominated by migration and salaried employment, in either the rural or urban sectors. In both settlements, the farm work is predominantly family-based and is mainly undertaken by the resident couple. The ages of most of the settlers were consistent with the demands of the farm work. Most of the settlers have only limited schooling, although their offspring have invariably reached higher standards of education, reflecting a progressive improvement in this aspect of the families.

In general, the settlers reported significant improvements in the quality of life of their families following the acquisition of their land through the PNCF, not only in terms of the acquisition of consumer goods, but also in relation to questions such as their living conditions, purchasing power, recreation, security and future perspectives. This credit program has provided the opportunity for the settlers to establish roots on land they own, albeit with different meanings for different individuals, who may consider it to be the accomplishment of a dream or their hopes for the future, the construction of a collective identity or the quest for socio-economic status that guarantees greater autonomy for the families of the recipients of the credit provided by the PNCF.

Other aspects of the quality of life of the families, such as their participation in politics, local management, and collective causes, are still incipient, however. This is reflected primarily in the lack of collective infrastructure to support productivity and inadequate social organization, based on the Beira Rio Association and its interaction with the settler community. In fact, its actions were limited to the initial formation of the settlements, with little further involvement. While the settlers are aware of the importance of organizations and collective work for the development of the settlement and the potential improvement of their quality of life, they do not consider this to be a practical possibility, given the fact that the association was created with the specific purpose of acquiring land with resources provided by the PNCF. Given this, it would be necessary to restructure this organization to ensure its capacity to defend the present-day interests and demands of the community. This would require the associates to perceive collective initiatives as an integral component of their daily lives, which is still far from the reality of the settlements at the present time.

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