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COOPERATIVISM AS AN INSERTION STRATEGY OF AGRARIAN REFORM SETTLERS INTO DYNAMIC MARKETS: THE CASE OF COPERTERRA

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ABSTRACT:

This study aims to analyze the role of social organization in the insertion of agrarian reform settlers of the city of Tupanciretã into dynamic markets of the milk production chain. To achieve this, a study was conducted in the cooperative Cooperativa Regional da Reforma Agrária Mãe Terra (Coperterra). The main results showed that Coperterra is inserted into dynamic markets and that dairy farming fits the reality of small-scale farms, since it provides a monthly income and risks of seasonality of production can be mitigated with proper planning and organization of animal feed. Moreover, this activity enables farmers to have time to focus on producing other food, which ensures diversification of their properties. Notably, 10% of the milk produced is industrialized and sold to institutional markets.

Key words: Agrarian reform. Milk. Dynamic markets. Institucional markets. Cooperative.

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INTRODUCTION

The rising increase in food consumption has motivated various activities to guarantee food security. Christoplos (2010) reported that the demand for food will double by 2050. However, it is well known that small-scale farmers have been pushed out of the market. This is due to limitations imposed by the main commodity market on family farms, that is, a squeeze on the production conditions of farmers that has led to decapitalization and economic unfeasibility, which Cochrane (1958 apud Röling, 2007) called Agricultural Treadmill. This phenomenon has impacted the increase in rural exodus and poverty.

Family farming is responsible for guaranteeing a good part of food security in Brazil and has been an important food supplier for the domestic market. According to BIGS (Brazilian Institute of Geography and Statistics), family farming is responsible for 87% of cassava production, 70% of bean production, 59% of pig stock, 58% of milk, 50% of poultry stock, 46% of corn, 38% of coffee, 34% of rice, 30% of beef cattle, and 21% of wheat (BIGS, 2009). In addition, family farms account for over 74% of the personnel employed in the field and 10% of the Gross Domestic Product (GDP) (MDA, 2011).

Thus, in a context of increasing food demand in which family farms have great relevance to production, despite being pushed out of the system, it is important to adopt measures that allow family farms to remain in the field and produce more. This may help in two contemporary problems: food security and rural poverty.

Therefore, market-oriented agriculture has been put forward as an important advance because, as discussed by Christoplos (2010), there are opportunities in both local and distant markets, either through greater aggregate value or increased volume in commodities. The author also reported that small (poor) producers are excluded from the market due to difficulties in maintaining quality standards, scale, and punctual delivery.

Ramirez et al. (2007) suggested that associative work is an essential condition for families from poor and marginalized rural territories to be able to successfully connect to dynamic markets. The connotation of dynamic markets is not only observed in informal and rural space for business. On the contrary, local markets with high degrees of informality can also result in dynamic market spaces for poor and marginalized regions (RAMIREZ et al., 2007).

In the case of family farms, in view of the lack of resources and proper structure, cooperativism has proved to be efficient in making viable food processing units. As far as settlement cooperatives are concerned, Scopinho and Martins (2003) stated that cooperation is a tool of political and social struggle, insofar as it contributes to the economic survival of settlers, increases labor productivity, rationalizes use of natural and human resources, and boosts product competitiveness in the market.

Therefore, intermediate economic structures, such as cooperatives, reduce risks and aggregates value to rural producers who, in many cases, are not in favorable relationship conditions with these concentrated markets.

This is the case of milk production. Given the increase in producers and high concentration in the industrial sector, milk cooperatives have become a promising alternative that give better bargaining power to the producers as well as increase production value.

In the case of Rio Grande do Sul State (RS), dairy farming is one of the main activities carried out by family farms. This activity is present in 48% of establishments classified as family economy, in addition to accounting for 85% of milk production in the state (BIGS, 2009).

The importance of this activity to family farms is financially manifested, since it is a

source of monthly income that greatly contributes to the cash flow of the property. In the productive field, the peculiarity of technological systems adopted by most producers allows their perfect adaptation to different production factors and the organization logic and management of the family production unit. In the social field, it has potential to establish itself in almost all rural properties, which ensures the creation of numerous jobs and generates income (FERRARI et al., 2004).

It is worth mentioning that, of all the production chains in the agricultural sector, dairy prodcution was the one that has grown the most in recent years. After half a century of few changes, which is largely due to strong government intervention in the dairy market, the dairy production chain has been undergoing significant changes in all segments, from production to consumption (GOMES; PONCHIO, 2005).

The dynamics of dairy production is also present in rural settlements, which makes settled farmers seek alternatives for marketing and increasing product value.

This reality is present in the municipality of Tupanciretã (RS), which has been historically characterized by the presence of large livestock farms, although this scenario has changed. As a result of the crisis in animal production, the productive matrix of the city migrated to grain production, which made the municipality the largest soybean producer in the state (BIGS, 2011a), with part of its land destined for the Agrarian Reform. This gave rise to seventeen settlements that currently exist in the area, which consist of approximately 700 families and increased family production and the economic and social dynamics of the municipality.

According to Nunes and Balem (2003), the Agrarian Reform settlements of Tupanciretã have shown a clear orientation for the market and essentially a single product: soybean. The main alternative for this dominant option has been dairy cattle breeding, which is an activity largely fomented by social movements and resulted in the founding of a cooperative focused on collecting and commercializing milk: *Cooperativa Regional da Reforma Agrária Mãe Terra Ltda* (Coperterra).

In this context, the present study proposes to analyze the role of Coperterra in integrating agrarian reform settlers of the municipality of Tupanciretã (RS) into the dynamic markets of the milk production chain. This is relevant since it is believed that producer organizations, such as Coperterra, assist in food production, keeping people in the countryside and reducing rural poverty in the context of agrarian reform, as indicated by Scopinho (2007).

MARKET-ORIENTED AGRICULTURE

The worldwide expansion of farmland has declined considerably in the past 20 years. At the same time, the population of the world is expected to reach nearly 9 billion people by 2050. Therefore, global food production will have to double during this period (SWANSON, RAJALAHTI, 2010).

Poole (2006) reported that globalization implies a number of changes in economic and social factors, and these changes generate concrete business opportunities for the rural milieu of developing countries, whether by means of (opposing) tendencies of differentiation or specialization. The author also points out that the barriers posed by globalization to access to markets can be overcome by better organization of the supply chain in order to obtain scale and acquire the technical knowledge required to operate in such markets. In this context, it is likely that many commodities and local and regional products offer more opportunities.

According to Ferris, Mundy, and Best (2009), the markets are dynamic as consumer

preferences constantly change and become more and more demanding in terms of quality and production methods of agri-food products. In addition, changes in production practices of part of the country or changes in the policies of another country that produce the same product may affect the demand and price of local products.

To meet the challenge of maintaining the competitiveness of their products, farmers must look for ways to become more efficient in production and marketing while reducing costs. Alternatively, they can add value to their products by changing the quality or way the product is presented. This makes it possible to more effectively meet customer needs and, consequently, obtain a higher price (FERRIS; MUNDY; BEST, 2009).

One concrete possibility to obtain gains in the market is to use association strategies. Livato and Benedicto (2010) analyzed the supply chain management in the supermarket sector and reported that network formation is a characteristic of competitive markets, in which cooperation actions with the establishment of partners to eliminate phases of intermediation within the distribution channels are an important mechanism in gaining competitive advantages for small and medium-sized retailers.

Wilkinson (2003) considered that a wide range of strategies for inserting family agriculture into the agro-food system is necessary, such as in the commodity market, which undergoes forms of collective action, and taking advantage of market opportunities for organic products or regional (craft) valorization. According to Mior (2003), the strategies present in the horizontal networks that involve adaptating technology to local conditions, proximity and niche market, diversification of productive organization, among others, reveal the way in which producers increase participation in the market.

According to Desjardins (2010), rural areas must attract income that is generated in urban areas. To achieve this, production must be market oriented. One example is products differentiated as from geographic origin, organic, and fair trade, which are products directed to urban areas, usually to the higher classes.

In this regard, Goodman (2004) highlighted the quality turn movement, which is a shift from the currently dominant pattern of agri-food consumption. Although the productivist model of consumption and mass production is still dominant, there are already consistent indications of an increasing demand for healthier and quality-differentiated foods as a result of increased consumer concern with health and food safety issues. In this manner, quality plays a key role in (re)establishing trust between consumers and food producers. With this, there is an appreciation of locally-produced food, organic and agroecological production, craft production, short food chains, and reconnection space between producers and consumers.

In this sense, Ferrari (2011) reported that there has been growing demand for local, regional or differentiated products at the expense of uniform and global consumption patterns. These homemade products, which are typical of a region, are linked to know-how and production and processing techniques and unique agroecological conditions. It is precisely these specific characteristics that differentiate products, since such actions constitute true human and social capital. These elements must be taken advantage of by family agriculture, since they offer new opportunities of consumption that incorporate new (or reincorporate historical) habits, identities, experiences, and regional cultural values.

This new economic dynamic can be seen as a form of resistance to the uprooting forces of globalization, allowing regions to find food niches that appeal to consumers not on the basis of price competitiveness, but in terms of their ecological, moral, and aesthetic values. There is, therefore, a consistent movement of change in relation to the prevalent pattern of agrifood con-

sumption in contemporary society, which goes from the industrial world to the domestic world in which quality conventions rooted in trust, tradition, and place support more differentiated, localized, and ecological products and forms of organization (GOODMAN, 2004).

On the other hand, Berdegué et al. (2008) highlighted the fundamental role of public policies in promoting and supporting productive transformation and institutional development in rural areas. The authors mentioned that priority attention must be given to inserting family agriculture into new domestic markets in order to revitalize agriculture in Latin America. A strategy to promote small and medium-sized family farming directed at new national markets should, among other things, develop and modernize national markets to more effectively meet the challenges and new demands of consumers and modern supply chains, such as better quality standards and certifications (BERDEGUÉ et al., 2008).

This is reinforced by the fact that, as mentioned by Ramirez et al. (2007), poor regions are able to participate in dynamic markets despite requiring strong external support. Thus, the importance of further working to guide farmers and facilitate their access to markets (including internationally) and improve competitiveness standard is clear, which also requires public investment.

Participation of family farms in dynamic markets, whether national or international, usually presents one common characteristic: differentiation of the product and/or production process. This implies innovations adopted by farmers to produce products with quality characteristics that are valued by consumers, such as a cultural attribute, social value, fair and ethical social relations, and respect for nature and indigenous traditions. This is a complex process, although it seems to offer a valuable opportunity for poor farmers who cannot compete on the basis of their fixed and financial assets (BERDEGUÉ et al., 2008).

Binotto et al. (2009) emphasized that cooperatives become a supporting means for rural producers and plays an important role in innovation by creating an environment with different moments of interaction and exposure to new technologies, whether through courses, field days, etc.

Oliveira and Silva (2012) reported that different associative formats, such as cooperatives, have been the alternatives by autonomous producers, workers, and families in urban and rural areas to enable production, provision of services, commercialization, among others. Initiatives of this nature constitute a new concept of innovation called social innovation.

Small-scale producers may find it difficult to enter markets due to their small-scale production and difficulty in accessing technical and financial assistance. This reinforces the importance of structures, such as cooperatives and associations, that can assist by providing technologies and information (KHERALLAH; KIRSTEN, 2002).

METHODOLOGICAL ASPECTS

This was an exploratory research, which, according to Gonçalves and Meirelles (2004), can be understood as an investigative process that leads to the diagnosis of the real or relevant problem, which is the cause of the effects previously presented. This type of research, according to Gil (2006), has the main objective of improving knowledge or discovering intuitions. Its planning is flexible and considers the variables related to the facts. It is the first stage of scientific research and does not aim to immediately solve the problem, but to understand and characterize it.

The research consisted of a case study with Coperterra as the object of analysis. For Yin (2010), a case study is a research method that investigates the phenomenon within its re-

al-life context, and the boundaries between the phenomenon and context are not clearly defined and in the situation where multiple sources of evidence are used.

Therefore, in order to reach the objective of analyzing the role of Coperterra in inserting the agrarian reform settlers of Tupanciretã into the dynamic markets of the milk production chain, data collection was divided into two parts.

The first part is characterized as the exploratory part of the study, in which an interview was conducted with the manager of the cooperative processing unit. It is worth mentioning that the dairy industry is owned by the Federal University of Santa Maria, and Coperterra has an agreement to use the manufacturing plant as well as the brand *UNI*.

The interview with the manager aimed to have a first contact with the reality of the cooperative, seeking to understand its history, difficulties, the context in which it is inserted in, as well as market information, commercialization, and profile of the members. This stage was the basis for the second part of the research, which sought to deepen the understanding of the historical and market aspects in the benefits that the cooperative offers its members, in addition to the role of extension/technical assistance for consolidating milk as a productive alternative in the region.

For this, two more in-depth interviews were carried out: one with the cooperative president and another with a farmer who is not part of cooperative management. Both individuals are settled farmers and were classified as qualified informants. Thus, three in-depth interviews were conducted and had an average duration of two hours. The interviews were recorded and later transcribed. In addition to the interviews, observation was employed since the interviews were conducted in three different environments that represent the whole of the cooperative universe: a rural property, the cooperative headquarters, and the processing industry.

The interviews were guided by a semi-structured script of questions elaborated previously from the categories to be investigated. The responses were analyzed in light of the technique of content analysis which, according to Bardin (1994), assists in objective and content systematization, indicating quantitatively or not the interference of knowledge related to these messages. For data analysis, we sought to describe and intersect the information collected in the interviews. Therefore, several excerpts from the interviews were transcribed in the results in order to allow a deeper understanding of the investigated situations.

It should be noted that, because it is an exploratory research that relied on eminently qualitative methods, the results found are restricted to the case studied and are not generalizable.

The municipality of Tupanciretã and context of the founding of Coperterra

Tupanciretã is located in the central-western region of Rio Grande do Sul State. According to BIGS (2011b), it had a population of 22,281 inhabitants in 2010, among which 4,261 people lived in rural areas. According to Michel (2009), 730 families lived in rural settlements. Based on the assumption that each family has an agricultural establishment, the settled families represent 54.6% of all agricultural establishments in Tupanciretã, which, according to BIGS (2011a), reached a total of 1,336 people in 2010. Notably, there were 247 units of settlers without definitive land titling in 2010 (BIGS, 2011b).

Tupanciretã stands out in Rio Grande do Sul for having one of the largest soybean production numbers in the state, as well as a large number of agrarian reform settlements. In terms of soybean, the municipality has a prominent role in production and productivity, given that in 2010 it was the largest producer in the state and obtained an average yield of 43 sacks per

hectare (BIGS, 2011b). A notable evolution in both planted area and yield can be observed by comparing the data of 2006 and 2010. The area planted with soybeans leaped from 134,500 hectares in 2006 to 140,000 in 2010, and yields went from 37.5 sacks/ha in 2006 to 43 sacks/ha in 2010 (BIGS, 2011b). On the other hand, seventeen settlement projects are installed in Tupanciretã, eleven being considered under the political coordination of the Landless Rural Workers' Movement (LRWM).

Data on milk production in the municipality have been evolving in recent years. Information from BIGS (2011c) reports an increase in the number of milking cows, milk quantity, and productivity. The herd increased from 4,200 animals in 2006 to 4,360 in 2010, an increase of 3.8% in 4 years. However, production increased more intensively, growing to 58.9% in the same period, which was from 11,113 thousand liters in 2006 to 17,658 thousand liters in 2010. This is explained by the productivity gain of 53.4% in the period.

Furthermore, the municipality underwent a change or even adaptation in relation to its agricultural activities. During the interview with the Coperterra president, he highlighted how the process of changing the productive matrix in Tupanciretã took place:

> There was a change in the municipality before it was totally livestock. This change came with the green revolution, back in the 1980s, when the green revolution broke out, even more so with no-till farming. This led farmers from cattle to soybean. Thus, the people started to open up fields and produce soybeans because *Tupã* is a very good region for soybeans, since it has sandy soil. Soybean began to spread very quickly in *Tupã* in the 1980s (Interviewee 2).

On the other hand, there was an intensification of agrarian reform in the municipality in the 1990s according to the cooperative president: "about five settlements arrived from 1995 to the early 2000s. Business exploded. Today, *Tupã* has 17 settlements that have 700 families, the city improved significantly after the settlements. "As a result, the need to diversify the production matrix was preponderant, since the soybean crop would not support the livelihoods of the numerous families that were based on plots varying from 12 to 20 hectares, as the president emphasizes: "noone survives by only planting soybean. There must be diversification."

In this context, milk was considered a viable alternative due to the experience of the settlers with dairy cattle and the fact that milk yields a monthly cash flow in the properties.

> We have people from various places of the state, several municipalities, from everywhere. People who were used to producing milk. So, milk production began to intensify, which is a monthly income that we have, that helps people afford their electricity, buy things for subsistence. People began to become organized and produce milk. It has to do with the people's culture, because *Tupã*'s culture is not milk production, but cattle. The families brought this culture, it comes from the cradle, from their mothers and fathers (Interviewee 2).

A cooperative member who was interviewed pointed out that entry into milk production was also due to the fact that the land that was destined for agrarian reform was basically made up of pasture: "it was all field, there were beef cattle before, so switching from beef cattle to cattle dairy cattle was easier" (Interviewee 3). In addition, milk is much safer in relation to climatic storms and production oscillations:

> In droughts, for example, cattle produce less milk, but when the rain returns, their milk begins to improve from one day to the next. This is not the case for soybean, if you produced this year you'll only reap next year, and if there is a drought, what will you eat? The soybean cycle is over, if it hails, you're in trouble. The dairy cattle may get leaner, roughed up, but when it starts raining they recover from one day to the next. Plus, silage

> and animal feed can be used (Interviewee 2).

In this context, producers began a process of social organization to spread milk production in the municipality, since the setbacks were felt early on in the activity.

> The difficulties came as production began, the outside firms that came to collect the milk began to pay very little because there was only one firm and it paid the price it wanted. Faced with this, we began to organize and decided to found a cooperative due to our needs (Interviewee 2).

Thus, it is possible to understand the context in which the analyzed experiment is inserted in.

The fouding of Coperterra and the profile of its members

As the municipality of Tupanciretã is a mecca of the agrarian reform, despite its main productive matrix being soybean, the LRWM as well as institutional policies of the Ministry of Agrarian Development (MAD) have encouraged production diversification in the agrarian reform plots and also in agriculture family in general, with food production being the main objective. Within this approach, the introduction (and expansion) of milk activities was the main strategy.

As milk production was consolidating, despite at a small scale, the first difficulties began to appear. The main one was marketing. According to Interviewee 1, "the companies did not want to make collection routes in settlements" and "the price paid was very low." To address these problems, 34 families from Tupanciretã came together to form Coperterra in the year 2002.

The difficulties continued, and according to Interviewee 1, "Coperterra initially had a truck borrowed from other cooperatives to collect milk." On the other hand, "in the first month of activity the price of milk doubled." Thus, the potential of the cooperative to enable milk production in the region was perceived. As highlighted in the interview, "Cooperterra structured the milk chain in Tupanciretã." This comment is reinforced by Interviewee 2:

> In the month before the cooperative was created, the farmers were selling milk at R$ 0.17 per liter. The month after the creation of the cooperative, the price was already at R$ 0.28 per liter. And soon after the company was already selling at R$ 0.45 per liter, since many producers were migrating to the cooperative.

Currently, the cooperative has about 360 members (from the agrarian reform and family farms), with "90% of the members being from settlements and the rest are small-scale producers of family farms" (Interviewee 2). In these families, the main income comes from milk, "75% of producers live basically from milk income" (Interviewee 2).

Coperterra collects about 700 liters of milk per month and, according to Interviewee 1, "among the LRWM cooperatives, this is the firm that collects the most milk in Rio Grande do Sul." Interviewee 2 highlighted the evolution of milk received from the cooperative: "in our first route, we collected 30 thousand liters of milk per month, then 40, 50, and today we have 700 thousand, ranging from 500 to 800 thousand liters per month."

It is clear that Coperterra plays an important role in increasing economic survival by providing higher monetary income for the settlers and improving the productive infrastructure, which, according to Scopinho (2007), is an important alternative to improve the living conditions of small-scale producers.

Throughout the present study, we also sought to identify the most common member profile in the cooperative, that is, what is most repeated. In the area, as already mentioned, the land modules of the Tupanciretã settlements range from 12 to 20 ha. As 90% of Coperterra mem-

bers are from the agrarian reform, it can be said that 90% of the members are in this area range.

The average dairy stock is 10 cows per farm of which 5 to 6 remain in lactation. Average production varies from 2000 to 2500 liters of milk per month per producer. In the case of the equipment, most of the cooperative members have mechanical milking machines as well as bulk expansion tanks for milk storage. It is worth noting that entry into the dairy industry did not result in total abandonment of soybean farming:

> Soybean farming still exists. Soybean production is quite strong. There are two things: soybean and milk. There are some who use half a lot for soybean, others are only in milk. It's just that, the milk producer plants soybeans as crop rotation. Soybean production is a consortium with milk production. Plant soybeans in summer so you can put pastures in the winter. You don't make money by planting soybean in small areas, so it is used as crop rotation. Those who plant corn, silage is made from 80% of the corn, and it becomes into milk (Interviewee 2).

Fontaneli et al. (2000) emphasized that the crop-livestock integration system presents the economic advantage of income diversification, resulting from plant and animal production in the same area, as well as increased income per area compared to non-integrated systems. In the case studied, the farmers' understanding was explicit that it would not be possible to survive with soybeans as their productive base, highlighting that the milk alternative was made possible by the founding of the cooperative, as highlighted by Interviewee 2:

> Today, we have settlements really far into the countryside, had it not been for Coperterra, the people would have abandoned everything. 90% of them abandoned soybeans, they only planted in the nooks, because before they had no alternative, people planted corn and beans there just to eat and the rest in soybeans, because there was no other option.

The importance of the cooperative is reinforced by the fact that companies generally "only enter the settlements when they have good roads, the producers were organized and producing three thousand liters or more per month" (Interviewee 2).

Moreover, we noticed the productive matrix of the associates was diversified. The main income comes from milk although several more products are produced, and the surplus is also marketed by the cooperative in institutional markets such as The School Lunch Program and Food Acquisition Program (FAP). Pereira and Lourenzani (2014) identified in their study the importance of FAP for the surplus of production and its impact on the income increase perceived by family farmers.

A farmer, when asked about what he produced in his property, said that "we only buy rice, salt, sugar, and coffee, we produce potatoes, beans, watermelons, tangerines, peaches, grapes, tomatoes, fish, pork, chicken" (Interviewee 3). The same interviewee also pointed out that 90% of family income comes from milk. Milk has the role of financing all the expenses of the property and family, and that the other foods produced make up an extra income that makes investments possible. It is worth remembering that farmers usually do not count production for self-consumption as income.

Moreover, Coperterra is not a milk-only cooperative. Interviewee 2 stated that "we work very hard in production diversification and the cooperative makes marketing possible."

> We insist a lot on food plantation. So much that we have a farmer's market here in the city. We also work with school meals, NSFP and FAP, everything to help diversify production. We do not want our members to be just in milk. We want them to have beans, manioc, vegetables, fruit... (Interviewee 2).

The cooperative president emphasized that almost all the food that is produced by the farmers can be commercialized by the cooperative, there is even a bakery in a settlement that already provides for the School Lunch Program.

> Today, we are trying to make the producer aware that one cannot live on just one thing, if he wants to live only on milk, to put 100% in pasture, he becomes a monoculture, then he has to buy everything in the city. If he has everything on his property, he consumes and sells the surplus.

It is important to emphasize that the price received for the food provided for the School Lunch Program is very well evaluated by the producers, since the price is defined based on three retail prices.

Marketing in Coperterra

In terms of milk marketing, Coperterra has two lines of action: bulk milk and industrialization, with about 10% being industrialized and 90% being directed *in natura* to other industries. For bulk milk commercialization, Coperterra has two industries that are partners, both located in Rio Grande do Sul, as Interviewee 2 points out: "We sell approximately 50% to each one. But, negotiations fluctuate. We always seek the best price to benefit the associate." It is important to remember that, given the scale gains made possible by the cooperative, the price received for bulk milk improved significantly when compared to the average price that was received separately by each producer.

In the case of industrialized production (10%), Coperterra has an agreement with the Federal University of Santa (UFSM), through the UFSM School of Dairy Products, where its products are processed and enables the commercialization of products under the *UNI* brand, which has already been consolidated in the region for more than 30 years. As a result of this agreement, the cooperative transfers 1.2% of its revenues to UFSM. The processed products are: pasteurized milk (whole and skimmed), yoghurt, milk drinks, cheese (*Minas* cheese and snack types), ricotta, dulce de leche, and ice cream. Notably, the first industrial unit of Cooperterra is being built in Tupanciretã and is in the completion phase.

The cooperative has two channels of production commercialization that are industrialized: institutional markets and retail. Institutional markets account for 90% of sales and consist of the supply of pasteurized milk, yoghurt, milk drink, cheese, dulce de leche, and ice cream for the Food Acquisition Program (FAP) and National School Feeding Program (NSFP). However, Interviewee 2 stated that "the flagship of school lunches today is yogurt and dairy drinks. And as demand varies, the industry produces more than one product or another."

According to MDS (2011), FAP facilitates the acquisition of food from family farms, free of bidding, at prices compatible with those practiced in regional markets. The program also contributes to the formation of strategic stocks and the supply of the institutional food market, which includes governmental purchase of foodstuffs destined to food actions undertaken by entities of the social assistance network; public food and nutrition facilities such as soup kitchens, community kitchens, and food banks and families in situations of social vulnerability.

The National School Feeding Program (NSFP) guarantees, through the transfer of financial resources, food for students of basic education (kindergarten, elementary school, high school, and youth and adult education) enrolled in public and philanthropic schools. The program budget for 2011 was R$ 3.1 billion and benefited 45.6 million students. Under Law 11.947, dat-

ed 16/6/2009, 30% of this amount (R$ 930 million) should be invested in the direct purchase of products from family agriculture (FNDE, 2011).

Coperterra is a unique cooperative linked to the Central Cooperative of Settlements of Rio Grande do Sul (CCSRGS), which represents 250 settlements and 11 thousand families in Rio Grande do Sul. This allows scale gains and access to more distant markets, such as the metropolitan region, where Coperterra is initiating food supply via PNAE.

The other commercialization route of industrialized products is retail, which consists of 10% of production. It is important to remember that the cooperative is registered in the Coordination of Inspection of Products of Animal Origin (CIPAO)[1]. Currently, retail is summarized in two locations in UFSM, being one in the main campus and the other downtown. It was perceived that the intention is to increasingly act in the institutional market, because according to Interviewee 2:

> School lunches are much better than putting produce into the market. For example, in school lunches, we sell milk at R$ 1.50, if you go to the market, you have competition with big companies and the price is R$ 0.95. There is no way to compete in retail (Interviewee 2).

It was also perceived that industrialized production is made possible by government purchases:

> Without these government programs, we would not survive. Imagine if you pay R$ 0.62 in milk to the producer, there is still all the industrialization and you sell for R $ 0.95 to the market. It's just not possible. We are limited, it is just a truck, we have no quantity (Interviewed 2).

When questioned about possible vulnerability due to the almost exclusive dependence of government purchases on industrialized production, Interviewee 2 said:

> Our idea is on top of the institutional market. We are expanding the industry to provide for this market. The demand exists. Family farming has DAP[2]. It is obligated to put 30% of school meals from family agriculture. There is the law. We have this resource. We work on the 30% (Interviewee 2).

Due to this market reserve, the cooperative is building its own dairy with a processing capacity of around 100 thousand liters of milk per month. This industry will join the Dairy School Plant that has the capacity to process up to 200 thousand liters of milk per month. The intention is to increase industrialization from the current 10% to 40% of the milk collected by the cooperative: "if we can sell 40% of our production at R $ 1.50, the producer will be greatly benefited" (Interviewee 2).

Although government procurement programs of family farms produce an important window of opportunity for the development of rural enterprises, Silva and Silva (2011) emphasized that the results achieved are still small in scale, both due to their budget and the difficulty that exists on the part of the organizations and municipalities to access their modalities. Among the challenges, the authors cite: poor infrastructure for production logistics; the need for processing and adding value to products; and lack of specialized technical assistance. The authors also highlighted that, although institutional markets are fundamental alternatives for the commercialization of agricultural products, it is necessary for enterprises to seek other possibilities of commercialization in order not to be held hostage to policies in which they do not have control as to their continuity, seeking to develop differentiated strategies of access to markets and articula-

1 CIPAO is an agency of the Secretariat of Agriculture, Livestock, and Agribusiness of Rio Grande do Sul responsible for the inspection of products of animal origin that are marketed within the state.

2 DAP: Declaration of Aptitude for NPSFF (National Program to Strengthen Family Farming). DAP is used as an instrument to identify the family farmer in accessing public policies.

tion of networks and partnerships, with the goal of achieving sustainability and autonomy (SILVA, SILVA, 2011).

Benefits provided by Coperterra to its members

When it comes to the benefits that the cooperative brought to the farmers, it is worth highlighting the viability of collective marketing of milk. "Today, the cooperative is the one that pays the best in Tupanciretã," says Interviewee 1. The cooperative also offers technical assistance for managing and feeding the herd, production process and genetics, in order to contribute to productivity gains, quality improvement, and cost reduction. For this, a veterinarian and an agricultural technician are available.

> The cooperative veterinarian assists all members with minimal cost. We charge only the medicine and material used. The agricultural technician also does insemination in the settlements closest to the city. And in the other settlements, everyone has a semen canister and a person who is qualified to perform insemination.

Furthermore, the cooperative began to use collection routes in which traditional companies did not, which enabled isolated farmers to participate in the market and add income to rural property. In addition, the cooperative facilitated the acquisition of bulk coolers through financing and organizing groups for collective use. This initiative, as well as the collection of bulk milk in up to 72 hours, are measures led by the cooperative that enabled improving product quality and the adequacy of producers to Normative Instruction 51 (IN 51)[3].

Coperterra also has an agricultural and livestock store that provides members with all the necessary inputs, tools, equipment, and veterinary drugs for productive activities. The cooperative also enables purchases to be deducted from the monthly payment of milk and in installments. Interviewee 2 points out that "the cooperative has the differential of delivering the animal feed to the producers, being that non-members do not have this benefit."

The maintenance of coolers and installation of milking machines are also performed by a cooperative employee with no labor costs. Additionally, there is a tractor with a forage harvester that makes silage at cost price for the members: "Today, the hourly cost of a tractor with a forage harvester is $ 150.00, and we charge R$ 60.00 to our associates" (Interviewee 2).

The cooperative also seeks to make food production feasible, in addition to milk: "we are enabling other production options to arise, if you do not like to produce milk, you have fish, honey, vegetables, and fruit. We are not only in milk, we are a production cooperative. If the producer wants to plant wheat, manioc, produce honey, we will sell it." This is important for members to diversify their production and ensure food security and income." Coperterra also organizes a weekly farmer's market in Tupanciretã in addition to a fish market on Easter week."

One benefit that was also pointed out by a farmer (Interviewee 3) is the voucher that the cooperative issues and is accepted as currency in local commerce. "If I need to fill the tank of my car, I'll go to the cooperative, I'll get the voucher, I'll go and fill it, if I need to go to the market, I'll get the voucher, and I'll go shopping. And it will only be deducted when you cash in the milk."

In addition to these direct benefits, Coperterra has a strong role in the community, helping in the search for better living and working conditions.

> We do a lot of social work. The cooperative has much to fight for basic infrastructure: roads, water, electricity. During droughts, we put the cooperative's truck to take water to

3 Normative Instruction No. 51 was published by the Ministry of Agriculture, Livestock, and Food Supply (MALF) with concern on food security of the consumer population and competitiveness of the national industry. The foundations of IN 51 are sanitation, hygiene, refrigeration, and animal nutrition (DÜRR, 2004).

> the people. Our requests at the city hall have importance. We participate in a monthly meeting at the city hall to discuss rural topic, and Coperterra is inserted.
> The quality of life of people today is very good. Almost everyone has electricity, running water, the houses are humble, but dignified, there is always money at the end of the month to pay for electricity, buy medicine, clothes for the kids. Most have cars, old, but they still have one. People have a line of credit at the bank, machinery, a simple tractor. The overall analysis is that the cooperative has helped people to have a good and dignified quality of life (Interviewee 2).

The cooperative also seeks resources through projects that improve its structure and competitiveness as well as productive efficiency of its members. Some examples include: an INCRA-funded project for the purchase of coolers; a project to plant 1 ha of tifton for each producer, which totals 360 ha. There is a project in progress through the National Economic and Social Development Bank (NESDB) of R$ 1.2 million in lost funds to pay for a milk cooling station, a 500-liter truck just to transport to the industries, and a truck for the farm shop. Moreover, the cooperative already counts on a fleet of four trucks to carry out milk collection routes.

In this manner, the benefits offered help to maintain the loyalty of cooperative members and role of the cooperative is quite visible.

> The are companies that come here and offer five cents more in the liter of milk, but we don't accept because we know that they only come later with the check in hand and that's it, and Coperterra doesn't do that, we have technical assistance there, there's the store, there's the valley, the tractor. When we went to found the cooperative, we knew we had to be conscious. We could even receive a little less than the other companies, but if we wanted to have something that was ours and be less exploited, have someone to defend us, we had to have the cooperative. That is why until today most farmers have not not left the cooperative. There have been farmers who left but later returned, they saw that it wasn't worth leaving (Interviewee 3).

This loyalty to the cooperative was also highlighted by the president of Coperterra: "the associate in general is loyal. He is aware that he owns the cooperative and that the cooperative is always a partner and offers other benefits. Companies are always offering more for milk, but most farmers don't leave. "(Interviewee 2).

In summary, when structuring the dairy chain in Tupanciretã, we verified that the cooperative made productive diversification possible in a region characterized by soybean monoculture, as well as becoming a central element of the economic dynamics of the territory. This contributes to the permanence of farmers settled on their lots, as the cooperative has made it possible to access formal food markets, especially milk, as well as aggregatng value in rural production. It is worth remembering that the cooperative also allows the commercialization of secondary activities of the properties, many of which women are responsible for, such as vegetables, baking, handicrafts, and fish. Family agriculture involves the participation of all family members in productive activity, although women's work is culturally often not recognized in family agriculture because it is considered light work and reproduction (ARRIAGADA, 1991). In family productive units that practice pluriactivity, women are key agents, combining both agricultural and non-agricultural activities, diversifying, and increasing the source of family income (SCOTT et al., 2012).

FINAL CONSIDERATIONS

In general, with this study, Coperterra was very important in promoting access to agri-food markets, in the case of dairy products, in agrarian reform settlements, and in family farms in the municipality of Tupanciretã. The cooperative was a structuring element of the milk production chain in the municipality, since it enabled the collection, commercialization, and industrialization of milk from families that were developing their farming activities based on soybean monoculture. In this way, the cooperative assisted in the segment of the governmental strategy (MDA) as well as of social movements (LRWM) to insert and expand food production in family farms and agrarian reform settlements.

Farmers were excluded from the market, since companies had restrictions in collecting milk from the settlements, as well as many milk routes being considered unfeasible. Thus, the effort to insert and expand dairy activity stopped at an obstacle, which was only overcome by founding Coperterra. From the cooperative, farmers were able to access dynamic markets, in this case, the dairy market. This is in agreement with the authors of this paper who report that there are opportunities for the excluded both in the commodity market as well as value value (BERDEGUÉ et al., 2008; DESJARDINS, 2010; GOODMAN, 2004; POOLE, 2006; RAMIREZ et al. al., 2007; SWANSON, RAJALAHTI, 2010; among others).

In the case of commercialization, the cooperative has two channels for milk production: *in natura* milk and industrialized products. In industrialized production, we can conclude that they are not in the dynamic markets, since commercialization is basically via institutional markets (PNAE and FAP). On the other hand, 90% of current production *in natura* is marketed in dynamic markets, as production is passed on to other industries. And in that case, milk is sold at market price. Price increases are due to the bargaining power that the cooperative began to have to negotiate larger quantities.

Thus, the cooperative is enabling insertion into dynamic markets, since producers are ensuring their survival with much of the commercialization of unprocessed milk being made in the conventional market. However, institutional markets provide greater gains, and the cooperative is turning its attention to expanding this market and, consequently, greater income aggregation to the associated producers.

Coperterra is inserted in dynamic markets and has demonstrated that milk activity is appropriate for the reality of small-scale agriculture and family farmers, since it provides a monthly income and the risks with the seasonality of production can be softened with proper planning and organized animal feeding. In addition, this activity allows farmers to have time to dedicate themselves to the production of other foods, which guarantees diversification of the property. According to one farmer (Interviewee 3), “we have the obligation of milking early in the day and at late afternoon, the rest of the day we have time to calmly produce other things.” The cooperative also helps circulate all the food production of its members, such as beans, manioc, tomatoes, vegetables, fruit, fish, bread, among others. Most of this production is also inserted into institutional markets.

Therefore, one can see that it is possible for family farms to survive in dynamic markets with milk production as their main activity. However, social organization, in this case in a cooperative, proved to be important in order to enable access to dynamic markets and reduce vulnerability of the producers interviewed who only provided milk for the industrial sector.

In the case of industrialization, it was perceived that the cooperative works with products similar to those of conventional dairy companies. Even with the aggregation of value, there

was no difference in industrialized products in relation to the others that are in the market. Thus, the cooperative does not work in the perspective defended by Goodman (2004), where quality conventions rooted in trust, tradition, and place support more differentiated, localized, and ecological products and forms of organization.

On the other hand, it is necessary to emphasize a certain difficulty of the cooperative in maintaining itself competitive in the market of industrialized milk, free from the protection of the State. Nevertheless, it has become clear that Coperterra is intensifying the industrialization strategy and that the focus is almost exclusively on the institutional market.

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