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SMALL BUSINESS NETWORKS AS A STRATEGY FOR THE DEVELOPMENT OF ORGANIC AGRICULTURE

REDES DE PEQUENAS EMPRESAS COMO ESTRATÉGIA PARA O DESENVOLVIMENTO DA AGRICULTURA ORGÂNICA

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Abstract

One possible strategy to be adopted by organic producers is to participate in a business network. The objective of this study is to describe a business network focused on organic production, showing its organizational structure and configuration, the characterization of the players involved in the network, and the relationships between these players. The approach used is qualitative and the case study was carried out in a small business network in the context of organic agriculture, located in the Southern Region of Brazil. This study contributes to understanding the organizational structure, configuration and characterization of the actors, as well as the relationships among these actors within the networks of farmers in the context of organic production, in order to collaborate with their development, as well as with the development of the region in which the network operates. The actors that make up the networks can be characterized as management, producers, consumers, traders, public institutions, partner organizations and advisory. With regard to the centrality of the actors in the researched network, the protagonism is with a non-governmental organization and the producers. The actors with only one connection are three, this shows that most actors relate to each other. The participation of public institutions in the network is small and actors who provide advisory services are elements with relevant influence.

Keywords: organic farming; small business networks; cooperation networks; network management.

Resumo

Uma estratégia possível a ser adotada por produtores orgânicos é participar de uma rede de empresas. O objetivo deste estudo consiste em descrever uma rede de empresas voltada à produção orgânica, evidenciando sua estrutura organizacional e configuração, a caracterização dos atores

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envolvidos na rede, e as relações entre esses atores. A abordagem utilizada é a qualitativa e o estudo de caso foi realizado em uma rede de pequenas empresas no contexto da agricultura orgânica, localizada na Região Sul do Brasil. Este estudo contribui para compreender a estrutura organizacional, a configuração, a caracterização dos atores, bem como as relações entre esses atores no âmbito de redes de agricultores no contexto da produção orgânica, de modo a colaborar com o seu desenvolvimento, bem como com o desenvolvimento da região na qual a rede atua. Os atores que compõem as redes podem ser caracterizados como gestão, produtores, consumidores, comerciantes, instituições públicas, organizações parceiras e de assessoria. Com relação à centralidade dos atores na rede pesquisada, o protagonismo fica com uma organização não governamental e os produtores. Os atores que apresentam apenas uma conexão são três, isso mostra que grande parte dos atores se relacionam mutuamente. A participação de instituições públicas na rede é pequena, e atores que fornecem serviços de assessoria são elementos com influência relevante.

Palavras-chave: Agricultura orgânica; Redes de pequenas empresas; Redes de cooperação; Gestão de redes.

Introduction

The organic producer deals with different challenges. On the one hand, the market demands variety and quality of products. On the other hand, there are the requirements to produce within the required standards in order to obtain certification. In addition, the producer needs to market his/her production, either through direct sales to the final consumer or through resellers.

The current scenario shows that people are prone to participate in different associative forms. Social networks are examples of it. In the network society, the increase of the connections between the people allowed the emergence of what is called shared economy (Chase, 2015). For Kennedy (2015), the shared economy is a form of intensification of social relations. While the capitalist economy is based on an individual, private and competitive logic, the collaborative economy is based on a perspective of group, cooperative and shared relations (Ramalho and Silva, 2016). In this context, collaborative consumption arises which consists of a way to accommodate needs and desires in a more sustainable and attractive way, with little burden for the individual (Botsman and Rogers, 2010).

Such thinking encourages small businesses to seek associative ways to improve the performance of their business. In the same direction, consumers are grouped in the search for collaborative consumption in order to increase the consumption experience. In this sense, consuming organic products directly from the producer makes it possible to know the origin of the food, the path that it has traveled until it is consumed. The consumption of organic products improves the quality of life of producers because they do not use inputs that harm health, increasing their remuneration, as organic production adds value to the product, as well as contributes to the preservation of the environment (CARDOSO, 2016).

Small producers and organic agriculture are two interlinked themes, but they need a third theme to ensure competitiveness, which is the theme of business networks. Part of the organic agriculture production comes from small farmers. One possible strategy to be adopted by these organic producers is to participate in a business network, as participating in a network can be an alternative to the survival of small businesses. In the view of Casarotto Filho (2010), small companies have difficulties or greater limitations to compete alone. Due to the limited resources, the growth of these organizations is slow, because rapid growth requires large investments.

For Casarotto Filho and Pires (2001), business networks constitute a group of companies interconnected by formal or business relationships, whether or not they can be circumscribed and a region. In the view of Balestrin and Verschoore (2008), the formation of a business cooperation network is based on certain elements, namely: common objectives, competitive gains, interaction between the members and management.

Given the growing demand for organic food (Arbos et al., 2010; Maxey, 2006; Trauger, 2009; Louden and Macrae, 2010; Demiryurek, 2010; Zanoli, Gambelli and Vairo,2012; Retamales, 2011), the development of small business networks in this context becomes relevant to promote and strengthen production, encompassing the three dimensions of sustainability pointed out by Zahm et al. (2008) – socio-territorial, economic and agro-ecological.

In the light of the above, this paper aims to describe a business networks focused on organic production, showing the organizational structure and configuration of this network, the characterization of the players involved in the network, and the relations between these players. The contribution of this study is aimed at understanding the configuration and functioning of farmers' networks in the context of organic production, in order to collaborate with their development, as well as with the region in which it carries out its activities.

In addition to this introduction, the theoretical reference for organic agriculture and business networks, the structure of this article includes the methods, results and discussions and, finally, the conclusions.

Literature review

Organic agriculture

Organic agriculture is based on improving soil fertility by a natural biological process which includes the use of organic matter, which is essential to plant health. This type of agriculture is totally against the use of soluble chemical fertilizers and genetically modified organisms. Organic agriculture presents a set of internationally and nationally accepted standards that are defined for production and commercialization of production. Currently, the name "organic agriculture" is used in countries of Anglo-Saxon, Germanic and Latin origin. It can be considered as synonymous with organic farming and encompasses the agricultural practices of biodynamic and natural agriculture (DAROLT, 2010). .

In Brazil, products originating in organic agriculture are called organic products. As of 2010, all Brazilian organic products, except those sold directly by family farmers at fairs, bear the seal of the Brazilian Organic Conformity Assessment System (SisOrg). For the name "organic" or "organic product" on the label, the product must contain a maximum of 5% of non-organic ingredients, which must be broken down (MINISTÉRIO DA AGRICULTURA, PECUÁRIA E ABASTECIMENTO, 2019a).

The concept of organic production system, for Zoldan and Mior (2012), covers the so-called ecological, biodynamic, natural, sustainable, regenerative, biological, agroecological and permaculture.

In Europe, government support for organic agriculture began in the late 1980s based on recognition of the broader environmental benefits of organic agriculture (Stolze and Lampkin, 2009). In Brazil, the support for this type of agriculture began later. In October 2013, the national plan for agroecology and organic production, called 'Brasil Ecológico', was launched. Its main mission is to articulate policies and actions to encourage organic food and agroecological development (PORTAL BRASIL, 2014). Said plan allocated 80% of the initial investment for agricultural credit through the National Program for Strengthening Family Agriculture (Pronaf) and the Agricultural and Livestock Plan, and 20% of the financial resources were allocated to specific actions, such as qualification and promotion of technical assistance and rural extension, development and availability of technological innovations and broadening access to institutional markets, such as the Food Acquisition Program (PAA) and the National School Feeding Program (PNAE) (PORTAL BRASIL, 2014). In a process of continuity and improvement of the first cycle of the Plan, Planapo 2016-2019 was launched, based on the same bases of broad participation by civil society. Planapo 2016-2019 articulates several Ministries, sectorial units and government entities around programs and actions that induce agroecological transition and organic and agroecological-based production. There are 194 initiatives, distributed in 30 goals and organized based on six strategic axes: Production; Use and Conservation of Natural Resources; Knowledge; Commercialization and Consumption; Land and Territory and Sociobiodiversity (BRASIL ECOLÓGICO, 2019).

In Brazil, the certification of organic products can be carried out through auditing or by participatory certification (Figure 1). Audit certification is done by specialized companies accredited by the Ministry of Agriculture, Livestock and Supply (MAPA). The inspection of organic producing properties is carried out by these companies, which assume responsibility for the use of the Brazilian seal. MAPA is responsible for supervising the work of such certifiers (MINISTÉRIO DA AGRICULTURA, PECUÁRIA E ABASTECIMENTO, 2019a).

On the other hand, participatory certification is carried out through Participatory Guarantee Systems (SPG). They are groups formed by producers, consumers, technicians and self-certifying researchers, that is, they establish procedures of verification of the norms of organic production of

those producers that compose the SPG. They need to be accredited in the MAPA that supervises their work. SPG products also receive the Brazilian seal (Figure 1), as they meet the legal requirements for certification (MINISTÉRIO DA AGRICULTURA, PECUÁRIA E ABASTECIMENTO, 2019a).

Participatory certification is an incentive for Brazilian organic producers, as this type of certification is responsible for 57% of certified producers. In the Southern Region of the 6407 certificates, 4254 (66%) have participatory certification. This is due to the work of the Ecovida Association for Participatory Certification, which is responsible for the certification of approximately 82% of participatory certifications (MAPA, 2019b).

In April / 2019 the National Register of Organic Producers (MAPA, 2019b) registered 18516 organic producers, of which 3430 were certified by the Ecovida Network, that is, 18.5% of registered producers.

Business networks

The theme of productive agglomerations presented different denominations in the works researched, namely: *clusters* (Porter, 1998); local production systems, local production systems and arrangements (CASSIOLATO and LASTRES, 2010); cooperation networks, business networks, business consortia (CASAROTTO FILHO and PIRES, 2001); agglomerations and local productive and innovative systems (CASSIOLATO and SZAPIRO, 2002); business networks (ZACARELLI *et al*., 2008); business cooperation networks (BALESTRIN and VERSCHOORE, 2008), and interorganizational networks (ROTH *et al*., 2012). In general, these terms are used to define a set of organizations that operate in a given sector, that are interdependent and have relationships with different degrees of depth. However, it is often difficult to delineate clear boundaries between different nomenclatures. For the purpose of this study, the term business networks will be used.

A study of these different definitions was made by Gonçalves, Leite and Silva (2012). For the authors, the literature uses several nomenclatures and classifications, either as a function of the way the arrangement is managed; or in the way it is organized; in accordance with which the members carry out their activities; in the way the flow of resources and information occurs; or in the degree of articulation and interaction; in the form of the organization of the production; and the strategies adopted.

Business cooperation networks can be defined as organizations composed of a group of companies that are formally related, with common objectives, with an unlimited lifetime, with a multiple scope of action and with a formal structure of their own. In them, each member maintains its legal individuality, participates directly in the decisions, and symmetrically shares with the others the benefits and gains achieved by collective efforts (BALESTRIN and VERSCHOORE, 2008).

Casarotto Filho and Pires (2001) note that small business networks promote regional development. The authors present two types of business networks. The top-down network which is characterized by the fact that smaller companies directly and indirectly supply their production to a parent company. In this case, the supplier is highly dependent on the parent company and has little or no flexibility or power in the network destinations. On the other hand, the flexible or horizontal network consists of small and medium-sized enterprises that meet in the formation of an organization with common objectives. All the activities of this consortium and its way of functioning make a group of small companies act as a large company. The business networks surveyed in this study are horizontal.

Among the business networks, there are those oriented to agriculture and organic production has been increasing in this type of organizational configuration (ARBOS, 2010; MAXEY, 2006; TRAUGER, 2009; LOUDEN and MACRAE, 2010; RETAMALES, 2011; LOBLEY *et al*., 2009).

Methods

This work consists of a multiple case study, since the questions in this research are focused on "what" and "how". The case study method is an empirical investigation that allows researchers to explore contemporary phenomena in depth and in their real-life contexts, such as, among other examples, organizational processes. Especially when the boundaries between phenomena and context are not clearly evident. Case studies are generalizable to theoretical propositions, as their goal is to expand and generalize theories (YIN, 2010).

For Cauchick Miguel and Sousa (2012), the number of cases to be studied must be defined in the planning phase of the study and for this they point out different strategies of selection of the cases to be adopted. In the light of the above, the study in question chose a case named by the authors as "revealing", since it represents one of the main networks one of the largest agricultural networks in Brazil and the largest in the southern region.

The business network studied works exclusively with organic production, is horizontal network and is called the Ecovida Network, more specifically the Núcleo Litoral Catarinense was studied. The study presents general information about the network, as well as deepens the analysis of a part of it, that is, one of its nuclei.

The players were classified according to the activity developed in the network and subsequently selected for data collection, in order to obtain the participation of different types of players in the research.

At Ecovida, 14 semi-structured interviews were carried out with different players from the Núcleo Litoral Catarinense (NLC). In order to raise the characterization of the producers and the products elaborated by them, a survey was carried out using questionnaires. The questionnaires were distributed to 96 certified producers of NLC, of which 43 were answered.

The interviews were recorded, transcribed and their contents were analyzed. The data of the questionnaires were tabulated, as well as the analysis of the documents. The categories of analysis were: organizational structure and configuration of the networks, characterization of the players involved in the networks, and relationships among these players.

NodeXL for Microsoft® Excel® was used to demonstrate the configuration and relationships among the network players. This tool was also applied in the study on analysis of business networks developed by De Rolt, Dias and Penha (2017).

Results

Organizational structure and configuration of the Ecovida Network

Ecovida began to take shape in 1989 with the appearance of the Feira Ecológica da Colméia in Porto Alegre / RS, Brazil. In 1998, from the need to gather forces and give greater political consistency to the agroecological movement of the family agriculture of the South of Brazil, the Ecovida Network of Agroecology was created. It emerges as a result of historical processes carried out by non-governmental organizations in building an alternative to the current model of agriculture characterized by the so-called Green Revolution. It is made up of people and organizations that aim to organize, strengthen and consolidate organic family farming. They are farmers, technicians, consumers and traders united in associations, cooperatives, NGOs and informal groups that constitute Regional Centers and together form the Ecovida Network of Agroecology.

A few years after the creation of the Ecovida Network, the Ecovida Association for Participative Certification was created specifically for the certification and availability of an organic producer seal. However, in view of the non-requirement of the seal for the local / regional marketing dynamics and the resistance of many members of the Ecovida Network to the use of the seal, the Ecovida Association, although constituted, remained several years without performing the activities for which was raised. Only in 2010, with the expected closure of the period to officialize issues related to the certification, the Association was retaken and constituted as OPAC (Participative Conformity Assessment Body), which is a condition for forming the Brazilian Organic Conformity Assessment System (ROVER , 2011).

Both the Ecovida Network and the Ecovida Participatory Certification Association are formed by groups and regional centers that seek to promote the exchange of information, credibility and products. The Association is considered an operational arm of the Ecovida Network, in order to implement the certification process. The nuclei (Figure 7) are formed by groups in a given geographic region, facilitating the exchange of information and participatory certification. Its importance, as well as the decentralized dynamics of decision making, shows the multidirectional and decentralizing condition of Ecovida.

The Association is headquartered in the city of Três Cachoeiras / RS, while the network has no headquarters.

The general coordination structured in collegiate form by representative members indicated in the states and coordinators of active working groups still composes the organizational structure of Ecovida. It is worth remembering that the nuclei are the main functional unit of the organization.

This is where the main decisions and organizational referrals of Ecovida take place. The structure of the network is horizontal and decentralized. In order for new members to join, both in the network and in the association, it is necessary to obtain the acceptance of the nucleus of the region where they are located. The person interested in joining seeks the group closest to his/her property in order to demonstrate the intention to participate in the network, usually a producer of the group sponsors him/her and the participant will attend the meetings of said group.

According to MAPA and the Center for Studies and Promotion of Group Agriculture (Cepagro), Ecovida is the largest geographic network in Brazil and one of the largest in Latin America. The regional nuclei are spread throughout the states of Santa Catarina, Paraná and Rio Grande do Sul, also covering some cities of the State of São Paulo.

Currently the network has 27 regional nuclei, covering about 352 municipalities (Figure 1). Its work gathers approximately 340 groups of farmers (covering about 4,500 families involved) and 20 NGOs. In all Ecovida's area of activity, more than 120 ecological free fairs and other forms of commercialization take place. It is formed by family farmers, technicians and consumers gathered in associations, cooperatives and informal groups, along with small agroindustries, traders and people committed to the development of agroecology. Not all nuclei have their own management performed by producers, most still rely on supportive institutions to perform management.

Figure 1: Location of the nuclei of the Ecovida Network

Source: Primary data

As explained above, the nuclei are the main functional unit of the Ecovida Network, which are composed of groups, which in turn bring together producers, agroindustries, consumers, public institutions and NGOs.

One of the nuclei that has its own management is is the Núcleo Litoral Catarinense (NLC). It is among the 10 nuclei of the State of Santa Catarina, formed by 14 groups, covering about 25 municipalities (Figure 2). There are 89 farmers and 7 agroindustries certified. The entire nucleus has 110 contributors, as there are productive units not yet certified and other members that are in the network, but do not wish to certify.

Figure 2: Geographical coverage of the NLC

Source: Primary data

The organizational structure of the NLC is composed of the functions of coordination, treasury and secretariat, each of which is occupied by one person. An ethics committee made up of adherents conducting the certification visits is also part of the structure. Rotation in both nucleus and group positions is suggested. Each group is responsible for organizing the activities of the group and participating in the bimonthly meetings of the nucleus.

The NLC's relationship with the entire network takes place through meetings. The participatory certification process requires frequent contact with the certification body (Ecovida Association) that is part of the network.

Characterization of the players of Ecovida

The Ecovida Network has a classification of the types of players that participate in the network, as shown in Table 1.

Table 1: Characterization of the players of Ecovida Network

Type of players	Description
Producers and producer groups	Farmers and breeders. Associations and cooperatives of organized producers
Consumers and their organizations	Consumers and consumer groups that buy products from time to time
Processors and traders of organic foods (micro-enterprises)	Agroindustries. Companies that market products from the network (small trades, marketers, box 721 at the Central of Supply of the State of Santa Catarina (Ceasa), Family Agriculture Marketing Laboratory (Lacaf)
Agroecology advisory organizations - NGOs, public institutions	Ministry of Agriculture, Livestock and Supply, non-governmental organizations for environmental protection and focused on agriculture, Federal University of Santa Catarina, prefectures, Agricultural Research Company and Rural Extension of Santa Catarina (Epagri), Center for Studies and Promotion of Agriculture Group (Cepagro)
People and organizations committed to agroecology	Representatives of the School Feeding Council, Food and Nutrition Security Council and State Commission of Organic Production, international cooperation
Management	The Ecovida Litoral Catarinense is formed by the functions of coordination, treasury and secretariat, being one person for each function. There are no employees hired and the functions are not remunerated. Other nuclei follow the same structure.

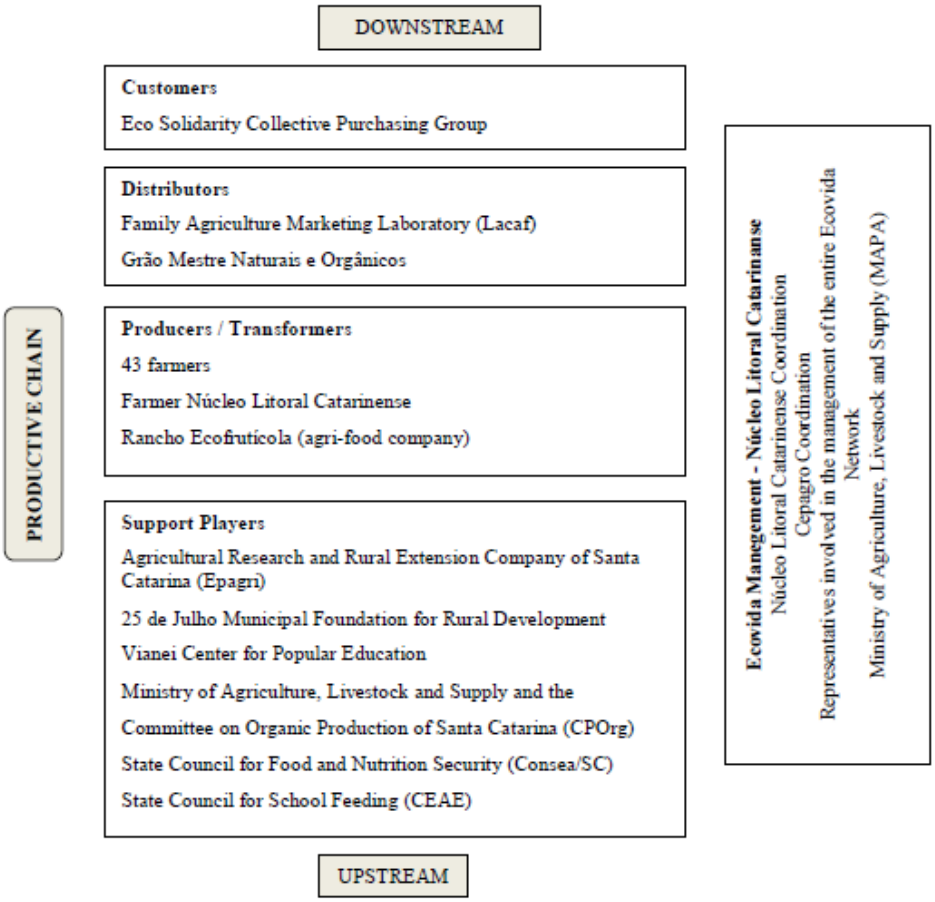
Source: Elaborete by the authors

Based on the surveyed players, it was possible to identify them from the idea of the productive chain (Figure 3). It is observed that the network has members ranging from the producer to the final customer. Support players are diverse and relevant to network performance. The

management of the nucleus and of the entire network, an NGO and the Ministry of Agriculture based the main actions of the network. The Center for Studies and Promotion of Group Agriculture (Cepagro) is a non-governmental organization whose proposal is to expand its activities in agroecology, acting in a participatory manner with the rural and urban communities in need, in order to carry out work oriented to popular organization. Until 2012, it was in charge of coordinating the Ecovida Network. However, it continues to participate in the network giving technical support to producers. The projects with public and private supporters, national or international, are elaborated considering the Federal University of Santa Catarina / Laboratory of Commercialization of Family Agriculture (Lacaf) as a partner in the actions and works developed, directly involving students and teachers.

From the analysis of the questionnaires in the survey carried out with the producers, it is generally observed that most farmers are men aged between 38 and 55 years; has training between elementary and high school; took a qualification course in the area; its properties are up to 20 hectares; it has two family workers to develop productive activities; does not process products on the property; participates in meetings between producers; participates in the execution of network actions; participates in decisions regarding network activities; makes decisions alone and uses network coordination to support your decision making; takes into account the customer's demand to produce; sells its production through sale on the property, fairs and sale to public institutions; makes purchases individually; delivers products with its own vehicle; uses production methods in addition to those recommended by the network; shares good production practices; performs quality control in production; performs planning for up to one year; uses its own financial resources; presented an increase or stability in sales; and fully agrees with the network's coordination actions.

Figure 3 - Players surveyed of Ecovida NLC



Source: Elaborete by the authors

The products elaborated by the NLC are:

- Fruits: banana, strawberry, pineapple, avocado, mulberry, plum, persimmon, fig, count's fruit, guava, graviola, jabuticaba, kiwi, orange, papaya, grape, passion fruit, peach, physalis,

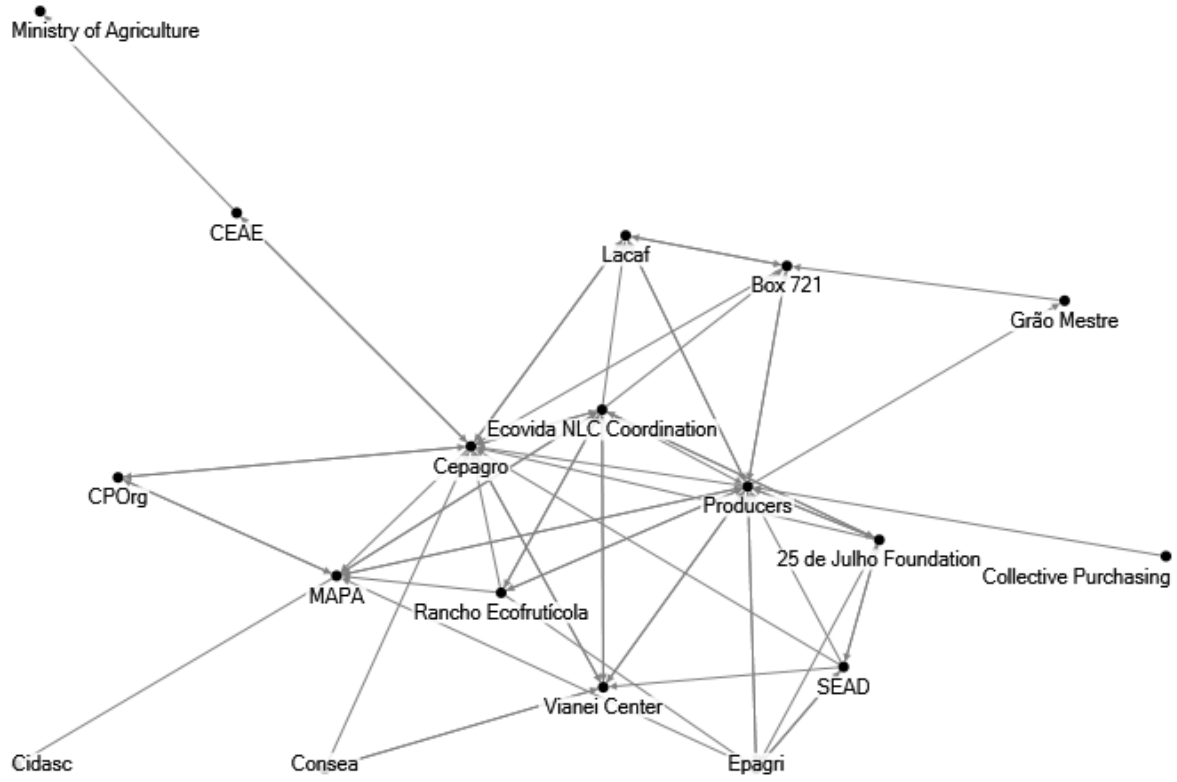
watermelon, carambola, citrus fruits, palm tree, pitanga, bacupari, butiá, grumixama, cabeludinha, cambucá and count's fruit.

- Vegetables and grains: vegetables in general, tomato, potatoes, cassava, cará, corn, pepper, green seasoning, beans, cut flowers, onion, corn, cará do ar, iacom potato, ginger, pupunha, eucalyptus, medicinal herbs and sugar cane.
- Processed products: milk, honey, eggs, cheese, aloe vera derivatives, cassava flour, brown sugar, pesto sauce, infusion, seasonings, açaí, biscuits, grape juice, wine, jellies and preserves.
- Services: educational activities

Relations between players of Ecovida NLC

The relationships among players of the networks surveyed can be observed in Figure 4.

Figure 4: Relations between players of Ecovida NLC



Source: Elaborete by the authors

Figure 4 related to Ecovida NLC, shows that Cepagro and producers are the most connected players in the network, both with 12 connections. NLC coordination comes in sequence with 8 connections and MAPA with 7. Centro Vianei, 25 de Julho Foundation, Agricultural Research and Extension Company of Santa Catarina (Epagri), Ecofrutícola Ranch, Box 721 and Special Secretariat of Family Agriculture and Agrarian Development (SEAD) have 5 connections. Lacaf has 4 connections. The other players have 2 (4 players) or one connection (3 players). The relations presented indicate that Cepagro is the great articulator of the network, that together with the producers lead the connections. Coordination has some degree of connection, but falls short of the two main players. Of the 18 players in network, 7 are peripheral because they have only two or one connection. The advisory organizations are elements with considerable influence since they characterize 8 players. Public institutions feature 5 players and non-governmental players comprise 7 players.

Conclusions

The objective of this study was to describe a business network focused on organic production, showing the organizational structure and configuration of the network, the characterization of the players involved in the network, and the relationships among these players. The results presented served this purpose.

Being in a network is a strategy adopted by different types of companies. For small companies, this strategy is relevant and can determine their survival in the market. This can be observed in networks focused on organic agriculture. The small isolated producer is more vulnerable. The network provides the farmer with support to solve everyday problems in his/her business, seeking to defend the collective interests of the participants, enabling the sharing of knowledge, and also developing certain social characteristics resulting from the participatory process. In this direction, this study contributed to understand the organizational structure, the configuration, the characterization of the players, the relationships among these players within the networks of farmers in the context of organic production, in order to collaborate with their development, as well as with the development of the region in which the network operates.

. In Brazil, the data on organic agriculture are the responsibility of the MAPA. However, the information is still scarce and restricted to the quantity of producers and to the planted area. Nothing is said about the organic market.

Regarding the organizational structure, in Ecovida, network management is a voluntary, unpaid work carried out by few people who divide their time between management and their activities as a producer. In many cases, the management of the groups is carried out by non-governmental organizations. The management does not receive public financial resources and it is the responsibility of the members of the network to bear all expenses related to the maintenance of the same.

The players that make up the networks can be characterized as management, producers, consumers, traders, public institutions, partner organizations and advisory services.

About to centrality of the players of the network surveyed, the protagonism is with an NGO (Cepagro) and the producers. There are three actors who have only one connection, this shows that most of the actors are mutually related.

The public institutions participating in the network is small, because there is no specific financial incentive for the organic producer. Non-governmental organizations are key players in advising and encouraging network activities.

Actors providing advisory organizations are elements with relevant influence. It is worth mentioning that the technical support offered to the producers of both networks is directed to groups, that is, actions that privilege individual producers are not carried out. It encourages the participation of the producer in the network, as well as the growth of the same. The researched network come from social movements composed by civil society. In this case, it is necessary to reflect on the extent to which the artificial creation of structures in networks, by the public power, can effectively institute cooperation, taking into account that this is voluntary and individual.

It is worth mentioning that participatory certification is an incentive for the Brazilian organic producer.

The limitations of this study are relative to the case study method, with respect to the constraints on using its results for other realities. In this direction, we sought analytical generalization, choosing a case that is revealing - representative of the field studied.

Finally, it is possible to indicate future researches with the intention of increasing the number of nuclei and clusters to be searched in Ecovida, as well as to study other networks of organic production.

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