desenvolvimento em QUESTÃO

RELATIONS AND INFLUENCES BETWEEN ORGANIC MARKET ACTORS IN THE SOUTHERN REGION OF BRAZIL: A Multilevel Perspective Analysis of the Conventionalization-Bifurcation Process

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ABSTRACT

The organic markets from all around the world are changing fast. An example is the proliferation of standards and the entrance of new actors in the organic market, as the processors. In this paper, organic farmers, agro industries, retailers, consumers, and rural extension agents were consulted through qualitative research methods to better understand these changes and to assess the conventionalization-bifurcation process of organic markets in the Southern Region of Brazil. The relations and influences that exist between these actors were identified and analyzed. The theoretical-methodological approach used in this study comes from the Multilevel Perspective. This approach sustains that a novelty, like organic farming, can produce radical or incremental changes in a socio-technical regime, as the dominant agro-food regime, while connections between both are built. We observed that these relations and influences are of three main types: outsourcing and elongation of supply chains; restrictions in the commercialization of the farmer's production; and the consequences, adjustments and commercial conditions established through contracts with retail chains besides commercialization in alternative networks. Through these findings, we identified a bifurcation in the organic markets where some actors demonstrate practices similar to agrifood dominant regime. In this process, the regime is changing, but so are the alternative networks. It indicates that once again the alternative agriculture is capable of reaffirmation by some ways.

Keywords: organic market conventionalization; bifurcation; relations; influences.

RELAÇÕES E INFLUÊNCIAS ENTRE ATORES DO MERCADO ORGÂNICO NA REGIÃO SUL DO BRASIL: UMA ANÁLISE EM PERSPECTIVA MULTINÍVEL DO PROCESSO DE CONVENCIONALIZAÇÃO-BIFURCAÇÃO

RESUMO

Os mercados de orgânicos de todo o Planeta estão mudando rápido. Um exemplo é a proliferação de normas e a entrada de novos atores, como as agroindústrias processadoras. Neste artigo, agricultores orgânicos, agroindústrias, varejistas, consumidores e agentes de extensão rural foram consultados, por meio de uma pesquisa com técnicas da metodologia qualitativa, para melhor compreender estas mudanças e avaliar o processo de convencionalização-bifurcação dos mercados de orgânicos na região Meridional do Brasil. As relações e influências existentes entre estes atores foram identificadas e analisadas. O enfoque teórico-metodológico utilizado nesta investigação é o da Perspectiva Multinível. Esta perspectiva sustenta que novidades (como a agricultura orgânica) podem produzir mudanças radicais ou incrementais no regime sociotécnico (como o regime agroalimentar dominante), enquanto conexões entre ambos, novidade e regime, são construídas. Nós observamos que estas relações e influências são de três tipos principais: terceirização e alongamento da cadeia; restrições na comercialização da produção dos agricultores; e consequências, ajustamentos e condições comerciais estabelecidas em contratos com redes varejistas. Por meio destes achados, identifica-se uma bifurcação nos mercados de orgânicos, onde alguns atores demonstram práticas similares às do regime agroalimentar dominante. Neste processo, o regime está mudando, mas também as redes alternativas. Isso mostra que, de alguma forma, a agricultura alternativa é capaz de se reafirmar.

Palavras-chave: convencionalização dos mercados de orgânicos; bifurcação; relações; influências.

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INTRODUCTION

Organic farming is a way of producing differentiated quality foods which also contributes to the ecosystems maintenance and social justice. These attributes are combined to expand the organic market. Related to this expansion, arises a heterogeneous and comprehensive transformation process of organic farming and its markets, process that is denominated by organic conventionalization-bifurcation, which is the main theme of this article. The main characteristic of conventionalization-bifurcation is the loss of some of the mainly attributes of organic farming such as self-sufficiency in inputs, product diversification and adaptation of cultivated varieties to local microclimates (BUCK; GETZ; GUTHMAN, 1997; GUTHMAN, 2004; DARNHOFER *et al.,* 2010; ABREU; LAMINE; BELLON, 2009; HALL; MOGYOROBY, 2001; REHBER; VURAL; TURHAN, 2018; CONSTANCE; CHAI; LARA, 2015, 2014; MOUNT, 2012).

The process refers to a style of agriculture that in practice is partially unrelated to the organic farming principles[4], although these are expressed in the discourse of the actors (NIEDERLE, 2014). This process is also constituted by the actions of more capitalized actors of the dominant agro-food system in the emerging organic market (GOODMAN, 2003).

The conventionalization and bifurcation are two different hypotheses. According to Constance, Chai and Lara (2014), the conventionalization hypotheses is that all organic farmers become conventionalized or suffer the consequences of conventionalization[5]. On the other side, the bifurcation hypothesis says that some farmers become conventionalized, but others do not. Rehber, Vural and Turham (2018) reviewing the bifurcation hypotheses, argued that organic farmers stay divided between deep organics, those following the principles of organic farming, and shallow organics, those that are conventionalized.

The conventionalization process is linked to an annual expansion of about 25% between 2015 and 2019 in the organic markets in Brazil (MAPA, 2019; ORGANICSNET, 2015). The continuous and expressive increase in organic markets has attracted the interest of many actors that constitute the dominant agro-food system (FRIEDMAN, 2005; McMICHAEL, 2009) who are attentive to new market tendencies.

Viegas, Rover and Medeiros (2017) mentioned that a current characteristic of the organic markets is the loss of autonomy by farmers. “More autonomy” provides a farmer the ability to participate in decisions of commercial processes, changing chains according their interests. According to Constance, Chai and Lara (2015), conventionalization is the organic farming practice that follows the inputs substitution paradigm[6]. It happened in the European Union after the definition of the new standards. In the United States, the organics rules stimulated the entry of big farmers in organic agriculture[7]. Petit and Aubry (2016), pointed out that the conventionalization debates should permit to integrate regional diversity. Different conventionalization expressions

[4] The organic farming principles are: justice, precaution, ecology and health (IFOAM, 2005).

[5] Organic farming has adapted to conventional agriculture, so its expansion is possible.

[6] Acoording Lamine and Bellon (2009. p. 104), inputs substitution paradigm “defines organic farming as the ban of certain inputs and/or the recommendation of others (list of eligible inputs to “fight against” pests and diseases, although with biological methods)”. On the other hand, the system redesign paradigm “defines it through more qualitative and global principles such as crop rotation or means to overcome sanitary problems.”

[7] In Brazil, the definition of a standard happened in 2003, with the creation of the Lei de Orgânicos n° 10.831.

are connected to the regional variation. The farming conventionalization can be explained through local and agronomic restrictions (BASTIAN; WAQUIL, 2020).

Investigations on this subject are of great relevance; however, the majority of the research has focused on only one category of actors in the organic markets — the farmers. The organic conventionalization-bifurcation process includes a wider group of food market actors (SEIDEL; HECKELEI; LAKNER, 2019). Besides farmers, agro industries and retailers also take part in this process (CONSTANCE; CHAI; LARA, 2015). Thus, in order to demonstrate in a reliable way how the conventionalization-bifurcation process occurs, it is necessary to include other organic markets actors in investigations. Additionally, it must express the capacity of some actors to influence the performance of others, with whom they interact.

These changes in the organic markets open up room for the re-significance of the organics and change values and domains connected to food products with this quality. In order to sustain these changes, new rules and arrangements are made. According to the Multilevel Perspective, these new rules, arrangements, redefinitions, and value changes, can be characterized as innovations with the potential to provoke transgressions in the agro-food system (GEELS, 2004; WISKERKE, 2003; GEELS; SCHOT, 2007).

In this sense, observing the organic market conventionalization-bifurcation process, the article goal is to better understand some of the relations and influences that actors, such as farmers, agro industries and retailers, have on each other and to assess the conventionalization-bifurcation process of organic markets according the Multilevel Perspective. The Multilevel Perspective is used to comprehend the transitions that these relations and influences provoke on the dominant socio-technical food regime. The research was carried out in the Southern Region of Brazil in five states: Rio Grande do Sul, Santa Catarina, Parana, Minas Gerais and São Paulo.

This study is justified by the wider scale approach it offers to a process that up to date has been researched in a segmented way. Many studies argued that further research is necessary on this subject. According to Seidel, Heckelei and Lakner (2019), new studies are needed to formulate new theories. To Constance, Chai and Lara (2015), there are different nomenclature on bifurcation (pure versus pragmatic; agribusiness versus lifestyle; for example) and on conventionalization magnitude since it is a dominant process on organic agriculture (GUTHMAN, 2004) until it reports mixed supporting to conventionalization (HALL; MAGYOROBY, 2001) and new researches are required to conclude and contribute about these heterogeneity. Petit and Aubry (2016) pointed out the mixed conclusions. Data are lacking because it is an ongoing process. Thus, our study is theoretically and methodologically oriented using the Multilevel Perspective (MLP) (GEELS, 2004; WISKERKE, 2003; GEELS; SHOT, 2007) and through qualitative methodology techniques such as field research reports, participant observation and semi-structured interviews.

The article is divided into six sections. Following this introduction, we describe the Multilevel Perspective, which is the theoretical approach used later in the discussion and data analysis. The third section presents the methods used in data collection and analysis, the geographic coverage and the variables used. The fourth section presents the results and some analysis. The fifth section presents the analysis and interpretation according to the Multilevel Perspective. Last, some final considerations and implications are presented.

MULTILEVEL PERSPECTIVE – MLP

The conventionalization-bifurcation process indicates that organic farming is adopting some of the characteristics of the agro-food dominant systems. In this way, the MLP approach can help understand this process. In a most recent look at the MLP, Geels and Schot (2007) present a new representation of the socio-technical regime and the level of each actor, which will be discussed later, highlighting the three levels of the socio-technical system: the micro-level technological niche, the meso-level socio-technical regime, and the macro-level landscape. All three levels represent a system.

According to Geels (2004), technological innovation is one of the means by which a system innovation occurs, in at least two different ways. The first is constituted by three steps, namely: the emergence of a new technology; the diffusion of this technology; and the replacement of the old technology by the new one. It should be noted that aside from the technological substitutions, other changes need to happen in order for the system innovation to occur: "user practices; regulations; industrial chain infrastructure, and cultural significances" (GEELS, 2004, p. 20). According to Geels, a second form of system innovation is called coevolution, which is characterized by the coexistence of two technologies, an old and a new one.

Along those lines, Elzen *et al.* (2012), emphasize that the process of changing the socio-technical regime, that is, a transition or innovation of the system, is marked by the learning of how links can be formed between the niche and the regime. This link is referred to as anchorage. The more it is learned, the better the niche is anchored to the regime. Anchorage can become stronger through time, as niche actors learn to create and enhance niche-regime connections.

The results of the anchorage process, according to the authors, would be that small parts of the regime begin to work in accordance with the novelties, which arise at the micro level, niche technology, and that some consumers would buy the resulting products. The authors understand that at this stage, development and the existing system are continually influencing each other. They emphasize that the novelty is not constant.

There are few investigations about how relationships and anchorages occur between the niche and regime actors (ELZEN; LEEUWIS; van MIERLO, 2008; SMITH, 2007). For Smith (2007), dichotomy separation between the niche and the regime presented in the first texts about the MLP can, in practice, be difficult to stipulate. According to Smith, the niche can be selectively appropriated by the regime. Selections of niche sections influence the niche development. In this sense, the novelty can be changed. In the organic farming sector, we can see the anchorage through the institutionalization that result in certification, research, practice of organic agriculture along with increase in demand (REHBER; VURAL; TURHAN, 2018).

Elzen, Leeuwis, and van Mierlo (2008) define an anchorage as a link between the niche and the regime, which can produce ample changes. The types of anchorages are defined based on the dimensions of the innovation. In this sense, there are technological, network and institutional anchors. The first occurs when one section of the new artifacts, practices or concepts becomes clear to the actors and can be connected under the new configurations to other artifacts and configurations, producing an innovation in the system. The second anchoring is when a large group of actors accept a concept or technology. In this case, a good anchorage is defined by the network expansion and the involvement of the regime's actors in niche activities, which

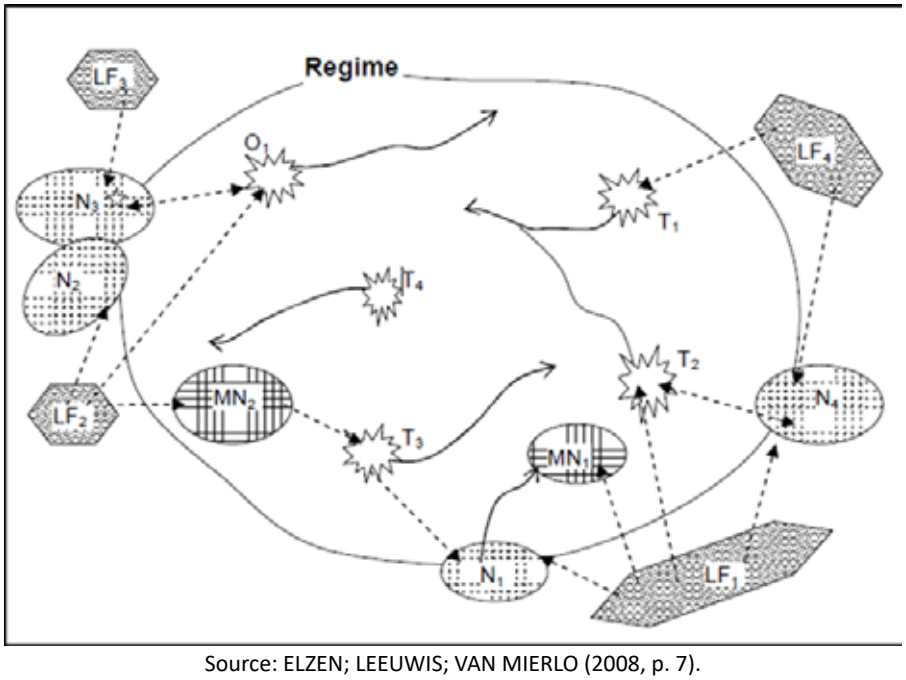
strengthen coalitions, intensify contacts and changes, and even formalize the network. The last anchorage is related to a large extension of changes in a sociological way, changes in formal and informal rules, behaviors and actors interrelations. This coalition conceives institutional changes in the cognitive or interpretative, normative or regulative, and economic scope. Aside from defining the level to which actors belong, Elzen, Leeuwis, and van Mierlo highlight the type of anchorage as one of the most difficult aspects to identify during the system innovation process.

The anchorages can be "interlinked and logically connected" (ELZEN; LEEUWIS; van MIERLO, 2008, p. 9), in which a recent episode of anchorages can permit a subsequent anchorage to occur. However, the anchorages do not happen in an intentional or premeditated manner. They require strong links between the actors and novelties. These links can occur according to some patterns in translation, opportunity, internalizing external pressures and various anchorage alignments.

Elzen, Leeuwis and van Mierlo (2008), present the idea that overlapping can occur between the niche and the regime. The authors point out that for an innovation or novelty to provoke change in the regime, it is necessary to translate these innovations and novelties. While the novelties are translated, the system can influence the niche and vice versa. The influences between levels occur from the action of people who translate, represent or give representation to what occurs in other levels. According to interactive actors perspectives, it can be difficult to identify at what level each one belongs in the system. Elzen, Leeuwis and van Mierlo point out that the actors or hybrid institutions, which can be both in the niche and in the regime, play an important role in creating the anchorage between the niche and the regime. The activities undertaken by these actors occur in the overlapping areas between the levels.

Based on this acute look at the limits and interrelations between the niche and the regime, the authors proposed a new MLP representation, in which niches and regimes overlap until a certain point where the niches, regimes, and landscapes are not ordered hierarchically (Figure 1).

Figure 1 – Multilevel process in systems innovation



Source: ELZEN; LEEUWIS; VAN MIERLO (2008, p. 7).

In this figure, the landscapes factors (LF_1 – LF_4) are sketched in the hexagons. There are oval shaped niches (N_1 – N_4) that overlap the regime to a certain extent, establishing connections through techniques or actors, which function in both the niche and the system. At the same time, some niches overlap each other, besides being overlapped by the regime. Landscapes have their conception of action amplified on the regime and the niche to the point that it provokes tension (T_1 – T_4) and creates opportunities (O_1) in the regime, which are expressed as stars in the image. In this new MLP representation, a niche can transform into a market niche (MN_1 – MN_2), when it can survive as a subsection of the regime and operate without protection. As a subsection, the market niche acts internally in the regime.

Elzen, Leeuwis and van Mierlo (2008) point out that is it difficult to foresee if the anchorage between the niche and the regime, which occurs through adopting novelties and innovations, will produce changes in the system. System innovations are understood to be a transition or creation of a new regime. The authors demonstrated that there were cases of innovations that were intended to be incremental and that unfolded in innovations of the system, and novelties of radical character that resulted in incremental innovations to the regime. Our research shows the intrinsic tendencies of the incorporation process of organic agriculture in the regime, seizing organic farming's potential to innovate.

According to Brandenburg (2002), during the last decades, organic farming in Brazil has passed through three different phases. In the beginning, it was just an alternative to the agricultural modernization. In a second moment, when the industrial environmental issues started, an institutionalization of organic farming occurred and there was a consequent rise in the productivity and farmers and customer demand. State drawn actions to promote sustainability and started to control the organic production. With the demand rises and crises in the industrialized agrifood conventional system, the organic goods started to be submitted to the conventional commercialization rules and standards. In this third moment, some cooperatives arose to make feasible the associated commercialization. While an association is created to move on a social proposal, a cooperative is created to an economic finality.

If we use the MLP to understand the recent changes, we can say that when organic farming was an alternative to the mainstream conventional agriculture, it was a technological niche. The products and activities management was local, emerging from regime socio-technical rules (WISKERKE, 2003). However, organic farming had passed to an agro-food dominant regime. Considering this, the hypothesis of this study is that there are coalitions/anchorages between the agrifood socio-technical regime and the organic farming niche. We can comprehend that conventionalization-bifurcation process is a result of the organic transition to regime and represents the results of these anchorages.

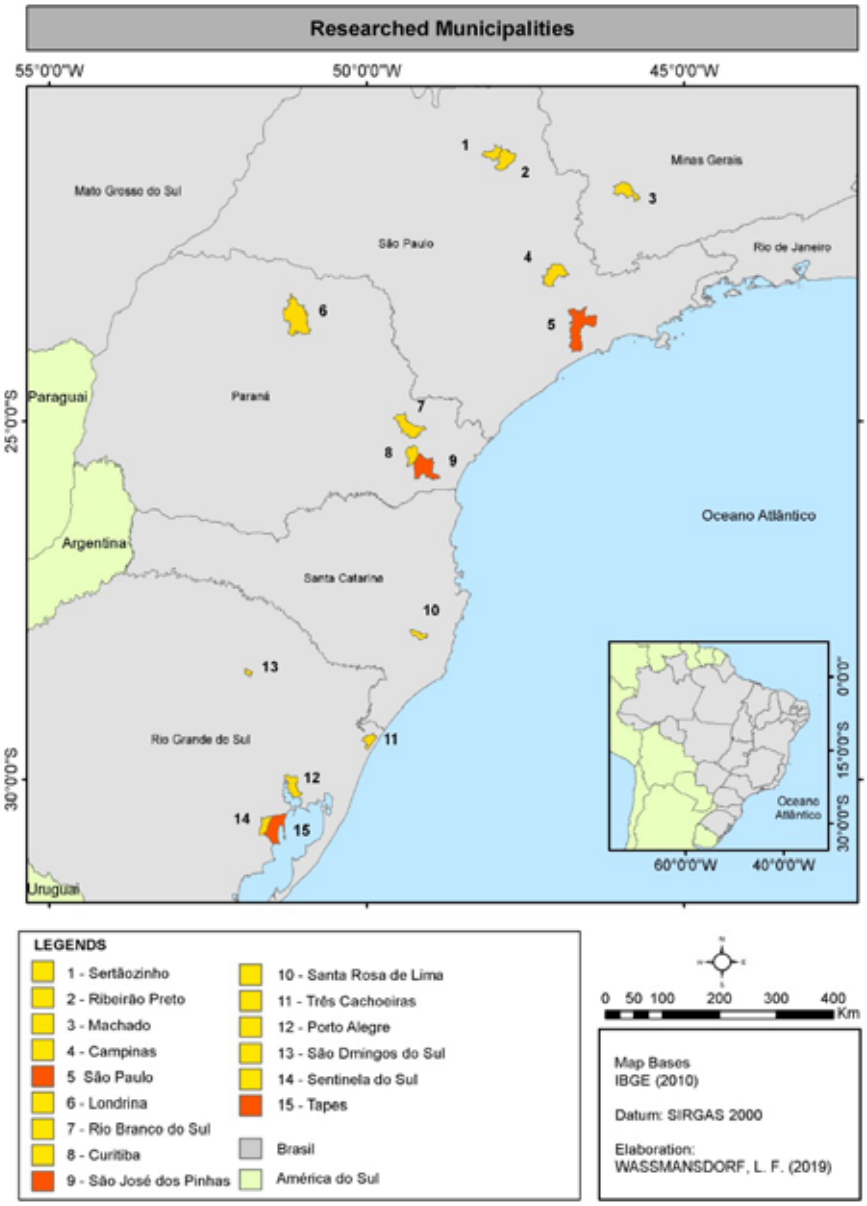
METHODS

The methods used in this paper are qualitative, in that actors from the organic markets and rural extension agents were approached through semi-structured interviews and informal conversations. In addition to these two instruments of data collection, participant observation[8] and field research reports were also used.

[8] According to Angrosino (2009), participant observation conceives that the collection and construction of the data goes beyond the position of the researcher and that his/her presence produces alterations in the routine of the investigators. In other words, in the moment of data collection and generation, the researcher takes part in the scene and provokes alterations in consequence. The scene will be different than if he/she were not present there.

The interview sample is non-probabilistic, since it is defined based on previously chosen criteria, and for convenience, in which the actors selected for the research are able to express how the conventionalization-bifurcation process of the organic markets in the Southern Region of Brazil has occurred (GIL, 1999). The groups of actors in the organic markets interviewed or consulted through informal interviews or conversations were: farmers (family and non-family) certified by third parties, social control or in a participatory manner; agro-processing industries of organic products of small, medium and large-scale; food distributors, among them specialized stores or not in the sale of organics, and supermarket chains. In addition, some consumers were interviewed. A set of actors from each of these groups was randomly selected and interviews were conducted. In addition, the groups of actors were consulted through informal talks to deepen the knowledge about the context in which the other investigated actors were inserted.

Figure 2 – Municipalities included in the study



Source: Luiz Felipe Wassmansdorf elaboration (2019).

In total, 64 actors were contacted formally or informally during August-December, 2016 and March-April, 2017. Among these actors, there were 22 farmers, 11 agro industries representatives and service providers, 14 retailers, 12 consumers and 5 professionals of rural extension. Aside from the primary data generated from these actors, this research was also based on secondary data, like the news, literature and those about the number of certificated organic farmers in Brazil, available from the government[9].

The actors consulted are located in 15 municipalities of five states of Southern Brazil: Rio Grande do Sul (RS), Santa Catarina (SC), Paraná (PR), São Paulo (SP) and Minas Gerais (MG). The cities can be seen in the figure below.

In the board below it is possible to see the state where actors were located. Returning from field work, we initiated a new phase of transcriptions of the interviews, which were put together with the field reports, and were inserted in Nvivo software. The content of these interviews and field work was analyzed and encoded. The encoded variables were: outsourcing of commercialization, production and processes; increases in the number of existing actors between farmers and consumers; restrictions on commercialization opportunities for farmers; and contract use implications. These variables were defined during the analyses of collected data.

Board 1 – States where actors were located

	Minas Gerais	São Paulo	Paraná	Santa Catarina	Rio Grande do Sul
Farmers	1	6	4	4	7
Agroindustries		3	3	2	3
Retailers		5	4		5
Consumers		4	3		5
Technicals		2		1	2

Source: Authors' elaboration.

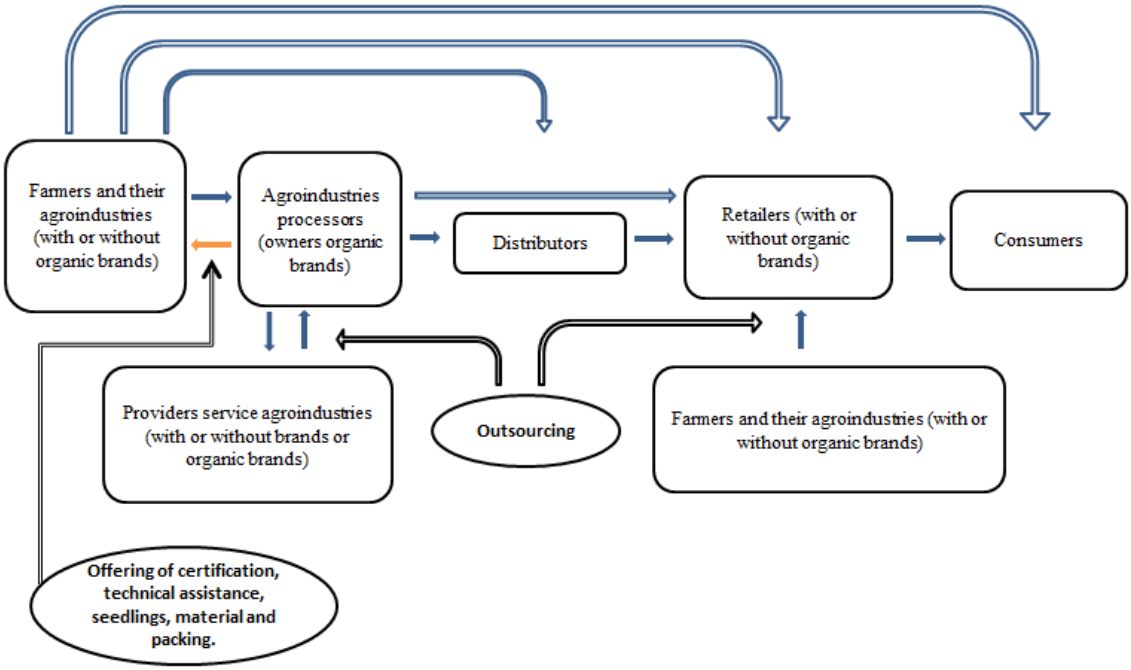
In this study, organic farming is understood as a novelty. When organic markets begin to show the standards of the conventional agrifood markets, we can understand that regime co-opted the organic farming niche. The MLP helps to realize the ways it is occurring.

RELATIONS AND INFLUENCES BETWEEN ORGANIC MARKET ACTORS

This section will present the results from the field work. Some discussions are also presented. However, further analysis from the Multilevel Perspective will be brought in the next section. In the figure below it is possible to identify as the organic market has organized now a days.

[9] MAPA. Ministério de Agricultura, Pecuária e Abastecimento. Disponível em: https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/organicos/cadastro-nacional-produtores-organicos

Figure 3 – Organic markets' organization



Source: Authors' elaboration.

The blue arrows indicate the direction of the raw material or products.

Commercialization, processing and cultivation outsourcing

At least three different outsourcing activities were found among organic markets actors. The first is the cooperatives' commercialization through a third party company; the second is related the manufacturing process and the third is vegetable cultivation process of the organic retail brands. The first occurs when the retail chains demand large volumes of products and a cash down payment from each one of the suppliers to reserve a selling space. Intermediary commercialization benefitted the cooperatives because the cost to obtain commercialization space was spread among all parties involved. Also, there was an increase in the variety and volume of items for the third party enterprise. The partnership between the cooperatives and the referred company includes large volumes of products delivered to the retail chain, taking advantage of the previously established commercialization contact of the third party company. In this case is perceived that trading with the third party brand is a form of accessing new markets.

> Just a few days ago, we tried to enter a chain of supermarkets […]. They asked for, I think, 40,000 Brazilian reais […], then another person outsourced, another client that already had its label in this chain, so we are using this label (AGRO INDUSTRY REPRESENTATIVE 5).

On the other hand, while both cooperatives were favored by the possibility of releasing their products to a larger consumer, there was an increase in the number of intermediate operators and a larger physical distance between farmers and consumers; in other words, there was a stretching in the production chain.

Distinct from this partnership relationship in which the commercialization with third-party brands occurs, production and manufacture process segmentation occurs when agro-industries do not possess all of the necessary equipment to industrialize their products. In this case, distinct stages in the preparation of goods (processing, industrialization, packaging and labeling) are outsourced in different forms, magnitudes and regions. A few of the companies that provide processing services, packaging and labeling do not have their own brand. Others provide services and own brands. Some of the actors that asked for these services were unsatisfied, because there was unfair trading in some situations. It was reported that the service providers imposed a relationship in which they would practically buy their raw materials and return to them the ready in a high price.

Some of the companies that request services have an extensive line of organic products and are responsible for the production, processing and commercialization of some of their items. For the vast majority of its products it takes the hiring of services to process, industrialize, pack and label. As these services are provided by distinct industries they vary according to the services requested, which can be only milling grains. The most common procedure is processing, industrialization and subsequent packing and labeling. That is, aside from the agro industries obtaining processed products at some point, some of the productive processes are still outsourced, making only part of the necessary production processes of the products commercialized under their brand, rarely getting along in the natural transformation of the rural raw materials, or in the industrialization of these raw materials.

Outsourcing and providing services for organic product industrialization and processing cause the elongation of the organic productive chain, through the entry of new actors which, many times, do not have organic labels and only perform services for other companies that possess these brands. This way, the format in which the agro industrialization of organic foods and raw materials is currently occurring in the organics market in Southern Brazil is characterized by segmentation in executing production processes. This segmentation is also verified in the food market in a general way.

Outsourcing procedures in the organic markets is heterogeneous and covers a wide variety of actors with different socioeconomic characteristics, from small, family farmers, and their organizations to large companies. In other words, possessing the equipment used to produce and process the organic products is not a unique characteristic of organic markets or of larger companies.

Last, outsourcing is also present in the cultivation process, as well as in processing the organic products into the retail chains' brands. It happened in São Paulo and Paraná. An interesting fact about this organic market conventionalization process is that the actors that produce the products for the retail chains also possess their own organic brands. In general, the only difference between them is the label, and they are exposed right next to each other on the supermarket shelves. In other words, these products come from the same origin and are commercialized under two different brands, even though the products are very similar. In most cases, the retail distributor brand products and the producer brand have the same measurements, weight and packing, but are commercialized under different prices. In the majority of these observations, the store brand was usually cheaper.

For the agro industries and companies responsible for producing the retail brand organic products, this attitude could mean a decrease in sales for the commercialized own brand products and an increase in store brand sales. If a cooptation of initiatives is the true intention behind this, it could lead to a continued decrease in the sale of organic products producers' brands. This could generate a cooptation, to the extent that producers could become dependent, at a large scale, from commercialization through the stores' organics brands and in this way become constrained by their demands and criteria.

However, the real reason behind the actions of the retail chains is unknown. Indeed, if this is an attempt to the conventionalization of organic markets, it is important to observe that a caveat exists: a conscious consumer. It was found that consumers acquire organic products for health reasons; however, they preferred buying products directly from the farmer´s market. This brings new elements to understanding consumer consumption standards. The consumers are worried about their health and quality guarantee (seal) of the products, but are also perceptive to the productive and trading processes customarily present in the currently dominant agro food system. Consumers observe: production processes and commercialization practices, actors involved and relations between these actors according ethical and equitable dimensions (CHRYSSOHOIDIS; KRYSTALLIS, 2005; TORJUSEN *et al.,* 2001; DIAS *et al.,* 2016). This way, consumers may be aware of the intention the retail chains have of cooptation of the initiatives and choose brands that come straight from the producers. This would relieve the influence the retail chains have on the organic markets.

Furthermore, the consumers' choice for products bought directly from the producers could be related to consumers' income. Customers with income to buy these more expensive products are higher class consumers. On the other hand, by consuming organic store brand products, customers in a lower social class would have access to the organic products that, before conventionalization, were inaccessible to them. This way, in relation to the link between conventionalization and cultivation outsourcing, people with lower income might have access to higher quality products.

If there is an increase in organic product universalization, the problem would be associated with the way the large retail chains operate and the outsourcing of activities. Moreover, even if this relationship does not indicate social justice connotations, payment for the organic products is superior and the farmers adopt more sustainable means of production, at least more environmentally conscious means.

Restrictions in commercialization possibilities

The relation between agro industries, processors and farmers could involve other elements aside from product purchasing. It could involve certification, technical assistance, seedlings, materials and packing. When farmers produce with certification provide by the agro industries buyers, it creates exclusivity in sales. It is similar to the way large companies integrate farmers into the conventional agro business system, supplying them with inputs and technical assistance necessary for production in return for products or raw material generated.

As with productive integration, organic farmers who receive these production inputs and services may not sell their certified products to other buyers, encountering restrictions for using other commercialization channels. If they sell to other channels, they should sell the product as

non-organic or pay double for the certification provided by the agro industries, because when they have gotten the agro industries organic certification they signed a contract of exclusively in the sales. For example, if farmers pay 500 Brazilian Reais for the certification, they must pay 1000 Brazilian Reais if they want to sell to other buyer that not the certification provider. Moreover, the production quantity that each farmer should reserve for the certification provider is defined beforehand. In the case of a production surplus, these goods can be sold to other channels, but with the higher certification cost.

Aside from limited commercialization options, the farmers who supply these markets need to follow product quality guidelines. If the product does not meet these guidelines, it will be returned and the farmers will not receive payment. Farmers can sell the rejected products to the Supply Centers. However, they must be sold as non-organic. Due to this inhibited commercialization options, some farmers seek a certification provider on they own. These have the freedom to choose which channel they would like to sell their product without restriction in their commercialization.

Since quality standards affect farmers, there is a search for agronomic practices to prevent potential damage and/or increase the quality of the products. Nonetheless, to respect and follow natural processes is part of organic farming. Organic farming should look for self-regulation prevention rather than reaction (PETIT; AUBRY, 2016). In this way, these farmers are taking measures, which distance them from the principles of organic farming, but to avoid lose in payment.

Initiatives that create a distance between the current practices and the origins of organic farming and the initiatives cooptation are observed here. Farmer´s markets and cooperatives, at the start, showed the farmers as the protagonists. Over time, however, these initiatives were co-opted by new actors that were not responsible for organic production and neither possessed these initiatives when they began. Some of the farmers are excluded from cooperatives, reversing to activities executed before the switch to organic farming. The cooperatives do not propose compensatory measures for these farmers. It is clear that the cooperative is commercially oriented, excluding possible consequences that this orientation could bring to the cooperative members.

In the same way that these cooperatives organized themselves to market the products of their associated; it also creates unanimous agreement in terms of management. This demonstrates disagreement with the posture and decisions made by the cooperation directors. Some of these cooperatives started as associations and currently form two social organizations, an association and a cooperative. However, this does not happen in either of the cooperatives. There are grievances among some of the cooperative members in relation to the direction the cooperatives are taking.

Changes in trajectories and guiding principles emerged. Reduced or diminished farmer autonomy is highlighted here and points out the concept of substitutionism (GOODMAN; SORJ; WILKINSON, 2008). Goods returned because of their appearance and prohibiting the sale of these items to alternative markets under certification provide by cooperatives are elements that corroborate this concept.

Sale exclusivity is one of the main topics in the retail chains' contracts. This stipulates that farmers may not sell their products to other buyers and must only sell to those who

hold contracts. An informant testified that when sales to supermarkets began in the nineties, exclusivity was already an issue. At that time, the association could not sell to any other retail consumers or clients.

Currently, exclusivity is no longer a criteria used in retailers' practices, but some interviewed actors noted that exclusivity is stated in the contract. However, the suppliers are not obligated to follow this rule. This topic is handled colloquially between the farmers and retail chains, pointing out that it would be in their interest to only sell to retail chains, as stated in the contract. The supplier that pointed this out is aware that exclusivity is arranged informally, what gives flexibility to farmers to access distinct commercialization channels.

The posture that the large retail chains adopt in the organic markets also needs to be analyzed. For these corporations, a contract does not guarantee sales or that any clauses in the contract will be obeyed, for example. The expectancy that these clauses will be obeyed generates social breakdown and the farmers are generally the most penalized. The quantity of products demanded by the retail chains oscillates, such as when there is approximately a 30% discount on the products delivered, and often times higher values on some occasions. According to the information collected, the retail chains mentioned that this discount is because of the losses that occur during transport that the product does not arrive in a state fit for commercialization. The other part of the discount comes from the boxes that the retail chains borrowed and for paying the workforce to unload and display the products on the supermarket shelves.

Justification for these allowances related to low quality is questioned by some of the suppliers, who know the quality of their products and know the conditions in which they were transported and delivered, and would be practically impossible for the products to be damaged to that extent. Two farmers from Paraná and Minas Gerais reported their unsatisfaction with the discounts and product refusal.

> The rope always snaps at the weakest spot; the rope always snaps at the weakest spot! I supplied a large company in São Paulo, they bought a lot in the region here, and I had a contract to supply an "x" amount of product, two or three different types. Aside from the absurd payment period after 45 days, the receipts came with large discounts. You would send 1,000 units, and they would discount 30%, so I only received payment for 700 of the units. Even worse, there were situations when there was 65, even 70% of a discount on the lot. They were perfect, beautiful, classified, uniform, and would arrive in São Paulo, and even so were discarded by the buyer, so I wanted to know why […] So after the third month, I said no, I won´t work with this type of business, the rope always snaps on the producers side actually (FARMER 4).

> If one week goes by without a sale, he [retail chain] can revoke the products and there is a clause that states they can, and they don´t have to pay. You are there with your product to sell and they don´t pay […]. You arrive with the determined weekly load and they say, "No, I am not receiving today and I am not obligated to pay". They send it back, and you are there with the product, a ton of merchandise […]. If you don´t make a delivery because of a problem at the garden, they take out your percentage, of what is in the contract, and if you don´t deliver what they sell, they don´t pay, or in other words, zero guarantee for the producer (FARMER 1).

Based on these interviews, it is clear that the farmers are unaware of the real reasons behind these discounts. Aside from that, the situations revealed by the farmers show that, even while their products are theoretically protected under contractual clauses, there are

uncertainties concerning the sale of the agricultural products. The contracts are ambiguous when dealing with the outflow agricultural products, even if theoretically, this should be a guarantee.

In order to respect quality standards, special criteria are adopted when choosing products destined for retail chains. When preparing deliveries for the retail chain, farmers choose the most visually appealing products. Stores' demands, especially from the retail chains, when dealing with the quality levels of the products, provoke adjustments in production and processing units of organic food. From the beginning of the larger retail commercialization processes, farmers and agro industries modify, adapt or invest in infrastructure as well as finance the construction of processing units to meet retail chain norms. Aside from the mandatory steps, planning is required in order to meet the conditions. Employees working in the packaging and selection needed to be trained to prepare a product according to network requirements. These investments and modifications are necessary in order to meet stores' demands.

Finally, it is important to mention that not all industries and retailers demand products with appearance and quality standards that those similar to conventional and non-organic foods. Also, not all of the agro industries that supply certification and inputs restrict farmer commercialization. Only a small group of agro industries and retailers use practices similar to those used in the dominant socio-technical food regime and in general follow the patterns of market principles.

The end of the section reports the powerlessness the farmers feel when doing business with the retail chains. Explanations for the discounts and for the decisions taken in terms of quality standards are often times not clear. These uncertainties change the perception of the farmers in relation to their products, leading them to believe that their products are not suited for consumption, while the main principles that should be considered in terms of organic foods should be the absence of agrochemicals, respecting natural cycles and social justice. Luckily, some farmers have the opportunities to sell directly to customers in alternative food networks. Sometimes, farmers access both chains.

TRANSFORMATIONS AND IMPACTS ON THE DOMINANT FOOD REGIME

In this article one of the main intentions is to express the relations and influences among the actors of the organic markets present in the conventionalization-bifurcation process. Analyzing the collected data generated in the field and contextualizing that through a review of literature, we verified that the connections related to the conventionalization-bifurcation process of the organic markets among the analyzed actors are of three main types: the commercialization, procedures, and production outsourcing; the possibility of restriction of farmers' drain production due to agreements previously signed or not, which indicates to the business action and marketing appropriation in the organic markets; and consequences, adjustments and conditions of marketing through contracts with retail chains.

This section highlights the data collected from the socio-technical regime and technological niche actors. The technologies used in food production that follow industrialization and modernization agricultural norms are currently evolving, and as well as the organic agricultural niche, so that foods from agrochemical origin and from organic origin coexist.

Using field observations and references on the development of organic agriculture in Brazil (DIAS, 2004; LUZZI, 2007; BRANDENBURG, 2002; ABREU; LAMINE; BELLON, 2009; WEBER, 2007) there are links with the intention of creating a new regime or innovating the current regime. Notice that when social movements unite with political leaders in an attempt to create specific regulations for the organic market niche, the results are dubious. These movements on behalf of alternative agriculture, agroecology and organic farming indirectly create means of conforming and fortifying integration between the organic farming niches and dominate socio-technical food regime.

During the translations made by distinct actors from the niche and regime, alterations occurred at both levels. The organic markets conventionalization process has specific rules on food quality, use of contracts and search for raw materials in other regions and countries with the intention of guaranteeing the supply, changed the organic farming novelty. This innovation also affected the dominant socio-technical food regime with the creation of structures and rules to handle the processing and commercialization of quality organic products.

Aside from these changes, it is important to mention that the intermediaries are a new network and created new interactions – the industrial networks – between actors and segments in the organic markets with the intention of producing high quality food. Furthermore, the changes in user practices and cultural significances are consequences of the tensions and opportunities created by landscape in the regime. The more conscious and politically engaged actors turn these pressures and opportunities into perceptions and actions. One can highlight as changes in the users' practices and cultural meanings the care in the commercialization of organic foods avoiding contaminations, and the search and appreciation by consumers of the commercialization channels that express the dimensions of equity and justice. All of these changes are, according to Geels (2004), preconditions for system innovation.

It is clear that organic farming presents a good anchorage in the dominant socio-technical food regime. In other words, the link between the niche and the regime is resistant, well made and has a long-lasting effect. Anchorage made it possible to amplify the network and involve other actors throughout the process, fortifying and creating coalitions and intensifying contacts and trade. Aside from this, anchorage made it possible to construct specific legislation to regulate the organic markets. However, it is still unclear in respect to how the organic farming niche unfolds in the dominant socio-technical food regime. It is unknown if it will produce ample changes in the regime or if the organic farming niche will produce incremental change.

Notice that the organic farming niche finds itself operating inside of the regime, becoming a market niche while also maintaining itself externally. Evidence to prove this is that organic farming continues to position itself against the dominant socio-technical food regime and there are other initiatives in the organic markets such as principles, formats, actions and distinct criteria from then practiced according to the dominant regime, like the direct and alternative food networks. These initiatives were not inserted into the investigation because they are not part of the organic market conventionalization process, but their existence besides those of conventionalization, supports the hypothesis of bifurcation in the organic markets of Brazilian Southern region.

These findings reveal that in the current period there are two organic farming modes in the study region: the first are actors using practices and principles similar to the dominant

socio-technical food regime and the second have ethical and ecological principles that identify more strongly with Ifoam. This duality of expressions highlights the possible existence of two current niches in organic agriculture. One inserted in the dominant socio-technical food regime and the other partly overlapping the regime on acts on its own free will. One inserted into the dominant socio-technical food regime and another one partially overlapping the regime, and partially outside the regime acting with its own dynamics.

The organic farming principles were partially included in the regime regulations (CONSTANCE; CHAI; LARA, 2015). Consequently, the organic farming niche receive spatter of the partially inclusion in the regime, because in the regulations it is comprehended mostly like inputs and practices.

FINAL CONSIDERATIONS

The main objective of the article was to uncover the relations and influences that actors in the organic markets exert on one another and to identify the transitions that these relations and influences provoke in the dominant socio-technical food regime. These aspects have been interpreted in the light of the Multilevel Perspective. The analysis included actors from the southern Brazilian region, mainly from the states of São Paulo, Paraná, Santa Catarina and Rio Grande do Sul.

The influences that the actors can exert on each other depend on the criteria, characteristics and requirements that mediate the exchanges such as the need for respecting quality norms and restricting commercialization. The findings show that there are three main relationships between these operators. One of the relations is commercialization intermediation, services, procedures and the productive process steps in the organic markets. It was noted that to be an organic brand holder, it is not necessary to possess all of the equipment or resources necessary to produce, add value or industrialize organic products. This means that large agribusinesses access products and raw materials from different regions as well as commercialize their products, but only act on the logistics of this merchandise.

It also pointed out that some of the services, such as certification, are offered to the farmers in return for agricultural production and commercialization exclusiveness with the certification supplier. The third relation analyzed in this article is inherent to commercialization in retail chains through contracts. In this case, it was made clear that the farmers do not comprehend and are dissatisfied with the discounts, quality standards and delivery schedules. A viable way to exit this situation would be to increase outflow channels for organic production through a direct sale between the producer and the consumer, and avoid any intermediate actors.

We concluded that there was an adjustment of the niche of organic agriculture to the dominant socio-technical food regime. At the same time this niche also provoked adaptations to the regime. Some characteristics were identified, such as the existence of new industrial networks and cultural changes in actors and user practices, which are the transitive elements in the regime. However, it is still not possible to be clear about the nature of this transition whether incremental or radical.

It was concluded that there are two niches of organic agriculture that have different characteristics and principles. One of these niches operates as a niche market internally to the dominant socio-technical food regime. And another niche that operates part superimposed and part externally to the regime. The first of these niches is what is related to the process of conventionalization of the organic markets, that comprehend that all organic farmers become conventionalized. Meanwhile, the second niche presents characteristics of the bifurcation, which says that some farmers become conventionalized, but others do not. At the end, it is referred that a next research related to this topic could be in the policy and institutional context. Measuring how the third party certification organizations and policies can open and close doors and impact in the organic farming development.

REFERENCES

ABREU, L.; LAMINE, C.; BELLON, S. Trajetórias da agroecologia no Brasil: entre movimentos sociais, redes científicas e políticas públicas. *Revista Brasileira de Agroecologia,* Rio de Janeiro, v. 4, n. 2, p. 1.611-1.614, nov. 2009. Disponível em: https://www.embrapa.br/busca-de-publicacoes/-/publicacao/577707/trajetorias-da-agroecologia-no-brasil-entre-movimentos-sociais-redes-cientificas-e-politicas-publicas. Acesso em: 15 set. 2015.

ANGROSINO, M. V. *Etnografia e observação participante*. Porto Alegre: Artmed, 2009.

BASTIAN, L.; WAQUIL, P. Uma análise dos sinais da convencionalização dos mercados de orgânicos no Brasil. *Desenvolvimento e Meio Ambiente,* Curitiba, v. 53, p. 189-211, 2020. Disponível em: http://dx.doi.org/10.5380/dma.v53i0.66755. Aceso em: 27 jul. 2020.

BRANDENBURG, A. Movimento agroecológico: trajetória, contradições e perspectivas. *In:* ENCONTRO NACIONAL DA ANPPAS, 1., 2002. Indaiatuba. *Anais* […]. Indaiatuba: ANPPAS, 2002. p. 1-21. Disponível em: https://revistas.ufpr.br/made/article/view/22125. Acesso em: 21 jul. 2015.

BUCK, D.; GETZ, C.; GUTHMAN, J. From farm to table: the organic vegetable commodity chain of northern California. *Rural Sociology*, Oxford, v. 37, p. 3-20, 1997. Disponível em: https://onlinelibrary.wiley.com/doi/pdf/10.1111/1467-9523.00033. Acesso em: 13 ago. 2014.

CHRYSSOHOIDIS, G. M.; KRYSTALLIS, A. Organic consumers' personal values research: Testing and validating the list of values (LOV) scale and implementing a value-based segmentation task. *Food Quality and Preference,* Barking, v. 16, n. 7, p. 585-599, 2005. Disponível em: https://www.sciencedirect.com/science/article/abs/pii/S0950329305000170. Acesso em: 11 nov. 2015.

CONSTANCE, D.; CHAI, J.; LARA, D. Engaging the Organic Conventionalization Debate. *In:* FREYER, B.; BINGEN, J. (ed.). *Re-Thinking Organic Food and Farming in a Changing World*. Springer: New York, 2015. p. 161-186. DOI: 10.1007/978-94-017-9190-8

CONSTANCE, D.; CHAI, J.; LARA, D. Social Dimensions of Organic Production and Systems Research. *Crop Management,* p. 1-10, 2014. Disponível em: https://doi.org/10.1094/CM-2012-0429-01-RV. Acesso em: 13 mar. 2020.

DARNHOFER, I. *et al.* Organic farming practice conventionalization: from structural criteria to an assessment based on organic principles. A review. *Agronomy For Sustainable Development*, Courtaboeuf, n. 30, p. 69-81, 2010. Disponível em: https://link.springer.com/article/10.1051/agro/2009011. Acesso em: 17 nov. 2015.

DIAS, M. *As ONGs e a construção de alternativas para o desenvolvimento rural*: um estudo a partir da Assessoria e Serviços a Projetos em Agricultura Alternativa (AS-PTA). 2004. Tese (Doctorates in Development, Agriculture and Society) – Post-graduate Program in Development, Agriculture and Society, Federal Rural University of Rio de Janeiro, Rio de Janeiro, 2004.

DIAS, V. *et al.* A importância da certificação nos circuitos curtos de alimentos orgânicos. *Espacios*, Caracas, v. 37, n. 3, p. 13-27, 2016. Disponível em: https://lume.ufrgs.br/handle/10183/151079. Acesso em: 16 mar. 2017.

ELZEN, B. *et al.* Stimulating transitions towards sustainable farming systems. *In:* DARNHOFER, I.; GIBBON, D.; DEDIEU, B. (ed.). *Farming systems research into the 21st century*: the new dynamic. Dordrecht: Springer, 2012. p. 431-455. Disponível em: https://www.researchgate.net/publication/273120393_Stimulating_transitions_towards_sustainable_farming_systems. Acesso em: 16 jan. 2017.

ELZEN, B.; LEEUWIS, C.; van MIERLO, B. Anchorage of innovations: assessing Dutch efforts to use the greenhouse effect as an energy source. *Research Policy*, Eindhoven, p. 1-28, 2008. Disponível em: http://library.wur.nl/WebQuery/wurpubs/377019. Acesso em: 25 mar. 2018.

FRIEDMAN, H. From colonialism to green capitalism: social movements and emergence of food regimes. *Research in rural sociology and development*, v. 11, p. 227-264, 2005. Disponível em: https://www.researchgate.net/publication/235269665_From_Colonialism_to_Green_Capitalism_Social_Movements_and_Emergence_of_Food_Regimes. Acesso em: 30 jul. 2020.

GEELS, F. Understanding system innovations: a critical literature review and a conceptual synthesis. *In:* ELZEN, B.; GEELS, F.; GREEN, K (ed.). *System innovation and the transition to sustainability*: theory, evidence and policy. Cheltenham, UK: Edward Elgar, 2004. p. 19-47. Disponível em: https://www.researchgate.net/publication/248694840_Understanding_system_innovations_A_critical_literature_review_and_a_conceptual_synthesis. Acesso em: 12 jan. 2016.

GEELS, F.; SCHOT, J. Typology of socio-technical transition pathways. *Research Policy,* Eindhoven, v. 36, p. 399-417, 2007. Disponível em: https://www.sciencedirect.com/science/article/pii/S0048733307000248. Acesso em: 11 Jan. 2016.

GIL, A. *Métodos e técnicas de pesquisa social*. São Paulo: Atlas, 1999.

GOODMAN, D. The quality "turn" and alternative food practices: reflections and agenda. *Journal of Rural Studies,* v. 19, p. 1-7, 2003. Disponível em: https://www.sciencedirect.com/journal/journal-of-rural-studies/vol/19/issue/1. Acesso em: 30 jul. 2020.

GOODMAN, D.; SORJ, B.; WILKINSON, J. *Da lavoura às biotecnologias*: agricultura e indústria no sistema internacional. Rio de Janeiro: Centro Edelstein de Pesquisas Sociais, 2008.

GUTHMAN, J. The trouble with "organic lite" in California: a rejoinder to the "conventionalisation" debate. *Rural Sociology*, Oxford, v. 44, n. 3, p. 301-316, 2004. Disponível em: https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-9523.2004.00277.x. Acesso em: 14 set. 2014.

HALL, A.; MOGYOROBY, V. Organic farming in Otario: an examination of the conventionalization argument. *Rural Sociology*, Oxford, v. 41, n. 4, p. 399-422, Oct. 2001. Disponível em: https://onlinelibrary.wiley.com/doi/pdf/10.1111/1467-9523.00191. Acesso em: 21 nov. 2015.

IFOAM. International Federation of Organic Agriculture Movement *Princípios da agricultura biológica*: preâmbulo. Boon: IFOAM HEAD OFFICE, 2005. Disponível em: http://www.ifoam.bio/sites/default/files/poa_portuguese_web.pdf. Acesso em: 14 set. 2015.

LAMINE, C.; BELLON, S. Conversion to organic farming: a multidimensional research object at the crossroads of agricultural and social sciences. A review. *Agronomy for Sustainable Development,* Springer Verlag, Germany, v. 29, n. 1, p. 97-112, 2009. Disponível em: https://link.springer.com/article/10.1051/agro:2008007. Acesso em: 1º mar. 2021.

LUZZI, N. *O debate agroecológico no Brasil:* uma construção a partir de diferentes atores sociais. 2007. Tesis (Doctorate in Development, Agriculture and Society) – Post-Graduate Program in Development, Agriculture and Society. Federal Rural University of Rio de Janeiro, Rio de Janeiro, 2007. Disponível em: http://orgprints.org/21839/1/Luzzi_Debate.pdf. Acesso em: 18 nov. 2017.

McMICHAEL, P. A food regime genealogy. *The Journal of Peasant Studies*, v. 36, n. 1, p. 139-169, jan. 2009. Disponível em: https://www.tandfonline.com/doi/full/10.1080/03066150902820354. Acesso em: 30 jul. 2020.

MAPA. Ministério da Agricultura. *Cadastro Nacional de Produtores Orgânicos*. 2019. Disponível em: http://www.agricultura.gov.br/assuntos/sustentabilidade/organicos/cadastro-nacional-produtores-organicos. Acesso em: 22 jan. 2019.

MOUNT, P. *Local food, scale and conventionalization*: mid-scale farms and the governance of "local beef" chains. 2012. Tesis (Doctorado of Philosophy in Geography) – University of Guelph, Guelph, Ontario, Canada, 2012. Disponível em: https://atrium.lib.uoguelph.ca/xmlui/handle/10214/3971. Acesso em: 13 mar. 2020.

NIEDERLE, P. Política de valor nos mercados alimentares: movimentos sociais econômicos e a reconstrução das trajetórias sociais dos alimentos agroecológicos. *Século XXI: Revista de Ciências Sociais*, Santa Maria, v. 4, n. 1, p. 162-189, jan./jul. 2014. Disponível em: https://lume.ufrgs.br/handle/10183/117312. Acesso em: 20 out. 2015.

ORGANICSNET. 2015. *Em um ano, total de produtores orgânicos cresce 51%.* Disponível em: http://www.organicsnet.com.br/2015/03/em-um-ano-total-de-produtores-organicos-cresce-51/. Acesso em: 30 jul. 2020.

PETIT, C.; AUBRY, C. Typology of organic management styles in a cash-crop region using a multi-criteria method. *Org. Agr.,* v. 6, p. 155-169, 2016. Disponível em: http://dx.doi.org/10.1007/s13165-015-0124-4. Acesso em: 13 mar. 2020.

REHBER, E.; VURAL, H.; TURHAN, S. Organic farming: a historical perspective. *Journal of Biological and Environmental Sciences,* v. 12, n. 36, p. 113-122, 2018. Disponível em: https://www.researchgate.net/profile/Hasan_Vural/publication/330113649_Organic_Farming_A_Historical_Perspective/links/5c2e1857a6fdccd6b58f7a8f/Organic-Farming-A-Historical-Perspective.pdf. Acesso em: 10 mar. 2020.

SEIDEL, C.; HECKELEI, T.; LAKNER, S. Conventionalization of organic farms in germany: an empirical investigation based on a composite indicator approach. *Sustainability,* v. 11, p. 3-16, 2019. Disponível em: https://www.mdpi.com/2071-1050/11/10/2934. Acesso em: 10 mar. 2020.

SMITH, A. Translating sustainabilities between green niches and socio-technical regimes. *Technology Analysis and Strategic Management,* Edinburgh, v. 19, n. 4, p. 427-450, July 2007. Disponível em: https://www.tandfonline.com/doi/abs/10.1080/09537320701403334. Acesso em: 25 mar. 2018.

TORJUSEN, H. *et al.* Food system orientation and quality perception among consumers and producers of organic food in Hedmark County, Norway. *Food Quality and Preference,* Barking, v. 12, n. 3, p. 207-216, 2001. Disponível em: https://www.sciencedirect.com/science/article/abs/pii/S0950329300000471. Acesso em: 15 jun. 2017.

VIEGAS, M.; ROVER, O.; MEDEIROS, M. Circuitos (não tão) curtos de comercialização e a promoção de princípios agroecológicos: um estudo de caso na região da grande Florianópolis. *Desenvolvimento e Meio Ambiente,* v. 42, p. 370-384, dez. 2017. Disponível em: https://revistas.ufpr.br/made/article/view/50759. Acesso em: 12 fev. 2020.

WEBER, J. *Red de acción en plaguicidas y sus alternativas de América Latina.* Santa Cruz do Sul: Capa, 2007. (Powerpoint). Disponível em: https://slideplayer.com.br/slide/2924813/. Acesso em: 16 out. 2018.

WISKERKE, J. On promising niches and constraining socio-technical regimes: the case of Dutch wheat and bread. *Environment and Planning,* v. 35, p. 429-448, 2003. Disponível em: https://journals.sagepub.com/doi/10.1068/a3512. Acesso em: 30 jul. 2020.