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Chapter 4

**AGROECOLOGY AND MARKETS:
WHERE ARE WE GOING?**

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ABSTRACT

The commercialization of agroecological food is the subject of this chapter. We begin from understanding conventional food supplies, in order to comprehend its limits and to create a possibilities context aiming qualification of agroecology markets. We divide the way markets consider food in two extreme groups: in one, they are considered simply

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as commodities, exchangeable without further attention to the effect of its production on ecosystems and its consumption on human health; the other attention focused on the centrality of food, aiming to achieve ecosystem sustainability as well as to promote healthy lifestyles. We hope to provide an appreciation of territorialized expressions, as well as cultural and specific food qualities that extend beyond the nature of food as a commodity. There are several factors and practices that comprise the agroecological approach; nevertheless, there is little effectiveness market practices that may provide a real appreciation of the principles that guide agroecology. We live in a favorable moment in terms of the growth of agroecological markets: There is increasing demand on the part of consumers for quality, clean, healthy and locally-sourced foods. We find that the construction of agroecological markets faces several barriers, including high food prices to the final consumer, large-scale supply difficulties, and lack of articulated production-consumption networks. We use two case studies to illustrate the fact that regional markets and short food supply chains (SFSC) are powerful alternatives that connect populous cities increasingly demanding for higher quality food with territorial agroecological production. However, these alternatives require strengthening participation on the part of farmers and consumers in food supply dynamics, as well as networking experiences that connect interested organizations and institutions. It is about to overcome the experimental condition, in which innumerable and dispersed practices of agroecological supply are found, and build organizational and educational processes anchored in commercial articulation, networking production and consumption. These socio-economic relations foster cooperation, reciprocity and articulation principles among actors, in opposition to the depoliticized individualism of conventional agri-food supply and consumption practices.

Keywords: short food supply chains, agroecological markets, production-consumption networks, organic agriculture, sustainability

INTRODUCTION

Agroecology is a polysemic concept. Some authors define it as being simultaneously a production mode oriented by a set of specific techniques and a social movement and a scientific approach (Norder et al., 2016). We are not going to delve into this complexity of viewpoints, and instead will follow the FAO (2019) description that mentions ten interlinked and

interdependent elements: diversity; synergy; efficiency; resilience; recycling; co-creation and sharing of knowledge; human and social values; culture and food traditions; responsible governance; and the circular and solidarity economy, enabling environment¹.

Within this perspective, we understand with Altieri and Nichols (2012) that among the key dimensions of agroecology are agrobiodiversity and biodiversity of productive systems, as its strategic pillars. Agrobiodiversity and biodiversity are, at the same time, the most limiting factors to generate scales to optimize commercial logistics, because all logic of conventional market/supply systems is organized according to principles of specialization, homogenization and a strong concentration of economic actors. Commercial logistics are central factors that impose specialization requirements and scale to the production systems, placing limits on congruence between agroecological production and integration into conventional markets. From this concept we arrive at what Buck, Getz and Guthman (1997) term “conventionalization of organic agriculture.”

On the other hand, urbanization processes and population concentration demands food in populated centers as a condition for food and nutritional safety of a territory, while simultaneously increasing consumer distrust of conventional foods (Méndez and Espejo, 2014). This increasing distrust has been a determining factor for a “quality turn” (Goodman, 2003) and it is accelerating important transformations in contemporary agri-food markets, with impacts on productive and commercial processes, aimed towards agroecological valorization.

Consumer movements demanding clean food and connection with farmer movements and organizations have generated new forms of market organization, valuing elements bonded with short food supply chains or short food circuits that expand forms of production-consumptions. Often those movements are called alternative food networks (AFN), given their political stance of indicating a counterpoint to the agri-food systems mainstream. However, many of these initiatives do not constitute parallel or contradictory dynamics to dominant markets, inserting themselves in

¹ Those ten elements were pointed during FAO’s Multi-actor Regional Meetings of Agroecology, from 2015 to 2017.

order to generate alternatives, constituting what Ploeg (2016) referred as “nested markets.” If we examine new food markets, we find practices dominated by corporation agribusiness that coexist with punctual alternatives, as well as practices that are building more effective alternatives, mobilizing reflexive consumers and organizing local-source markets, expanding direct selling forms and the intersection between production and consumption, as well as valuing substantially more agroecological processes of production.

In this chapter, we assume that, the more markets stimulate production systems that respect ecosystems and human cultures of each production territory, more these markets will get closer to an agroecological condition. It is the agroecological approach that promotes fair solutions “based on local needs, resources and capacities” (FAO, 2019, p. 12). By contrast, when markets generate productive systems with heavy technical means-dependency (motor-mechanized traction, high-solubility fertilizers, pesticides, etc.), and external factors (rural credits, pricing policies, markets, etc.), they move away from the agroecological condition, considering food as any commodity traded on open markets. Nevertheless, markets are understood as external factors that may induce the organization of different production systems, not only to fend off the agroecological approach, but also to value it. In this sense, the chapter will present two territorialized and intertwined experiences that value agroecological production and put food in the center.

In the following chapter, we present market basic notions of agroecology, reflecting the key elements that contribute to the agroecological approach, from the standpoint of conventional markets. We identify local/regional markets as those with the greatest potential for valuing productive diversification, favoring agroecosystem resilience (Altieri and Nichols, 2012). Subsequently, we speculate as to whether market dynamics could generate an approximation between the ‘production-consumption’ spheres and the elements of socioeconomic innovation that would actualize the creation of markets that approach the elements that define agroecology. In the end, we generate syntheses and open topics for future studies that consider the permanent dynamism to

which agroecological productive and commercial alternatives are subjected, as well as their adaptation to particular territories.

Market Basic Notions in Agroecology

A diversity of actors act in chains that involves production, distribution and supply of food. Those chains are complex and full of specificities, including territorial elements, productive seasonality, social groups involved with production and consumption, mobilized technologies, as well as external factors. Farmers and consumers are located at the edges of these chains or trade circuits, being usually the most fragile and dispersed links (Figure 1).

Farm products can enter long and/or short supply chains. Long chains may have several intermediaries, with products produced geographically distant from the consumer pole, possibly revealing larger informational asymmetry over the market process. These are frequently globalized, with large retailers (supermarkets) playing a dominant role (Darolt, 2013).

Food commercialization system general scheme

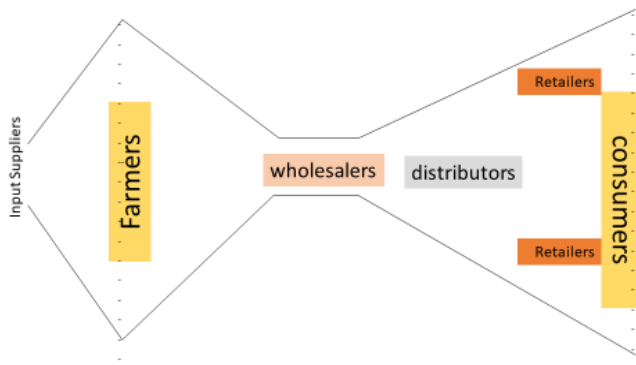


Figure 1. Food commercialization system general scheme.

The short food supply chain (SFSC) has fewer intermediaries, with food closer to consumers, generating less information asymmetry that can

reduce possible damages and negative impacts on the environment, as well as providing greater awareness about its operation. This allows generating greater recognition of the actors involved in the production and supply processes².

The different economic actors operating food supply chains perform various services around commercialization (Figure 1): gathering products that are dispersed across production units and their distribution in retail are the main services, especially in case of fresh products. However, many other services can be operated, including processing, storage, transportation, and sale. All these engender costs and aggregated value to products. Each intermediary that enters a supply chain plays a role in it. Markets and supply chains are social fields open to innovation, and the various roles of the actors are ordinarily reviewed, thereby transitioning their importance and maintenance in a given chain. An intermediary can perform several functions, some of them essential such as storage, transportation and processing. Unimportant roles related to farmers and consumer interests can be played by intermediaries, or perhaps they can be what in some contexts is called a “conscious intermediary” when sensitivity towards family farmers’ work is present (Saravia and Castro, 2019). This intermediary type can be found, for example, in participatory guarantee schemes, local producer markets, the denomination of origin labeling, community-supported agriculture and e-commerce schemes (FAO, 2019).

The values set aggregated to goods/services engender a final value that is paid by each consumer at the time of food purchase. Therefore, commercial chains that require fewer services, fewer intermediaries and shorter travel distances tend, in general, to have fewer built-in costs. Consumers aware of this condition and who are concerned about food are

² The short food supply chains (SFSC) definition was proposed by Marsden, Banks, Bristow (2000) and subsequently taken by several authors (KNEAFSEY, et al., 2013; Darolt, 2013). For Marsden, Banks, Bristow (2000), SFSC dynamics create an information flows that allow consumers to make associations with the production place and raise perceptions as to the importance of the people involved with the processes as well as drawing attention to the production methods involved. In this chapter, we consider SFSC notions and short food supply circuits as synonymous.

increasingly organizing themselves to reduce costs and pursue other interests in food chains.

Whereas conventional food is increasingly treated as any commodity, traded in globalized markets that impose flow conditions, prices and availability, one of the features of agroecological food is that it is not interpreted simply as a commodity.

Conventional or not, food is central to human life and health, and to society. Food production and distribution schemes reflect on social organization forms and on the natural environment. Various natural environments depend on production modes to remain stable and resilient in the face of extreme weather events such as droughts, floods, windstorms, etc. (United Nations, 2015).

To understand that food is not a simple commodity means to remember that it is something central to human life and society; therefore, it also includes drawing attention to food security and sovereignty. These concepts imply the need to guarantee food in terms of quantity, quality and suitability to the food culture of each society. Despite its centrality, it is necessary to comprehend that food is traded as a commodity, and that follows assumptions and rules that organize markets in general. Therefore, even though it is not a simple commodity, it is necessary to understand how conventional agri-food markets are organized and also to perceive the ones that propose to become alternatives, because it is within them that agroecological food will be introduced.

Because food is conceptualized as a commodity that responds to one of the most basic needs of every human being, ensuring access to food is the first central theme. Therefore, commercialization processes seek to transfer food from producers to consumers at the lowest price, leading to the need to reduce the price element. The reduction of cost in conventional production-supply chains is promoted, mostly, by strong pressure on prices paid to producers. As the price per product unit tends to be low, pressure is generated within the agrarian and productive systems to increase productivity and scale gains, with consequent specialization and distancing from the agroecological pillar of (agro) biodiversity. In addition to (agro)

ecological impacts, this logic causes selectivity and consequent exclusion of smaller farmers.

Against the tendency, many movements initially organized in Europe since the 1920s have arisen proposing alternative production, market, and consumption food approaches. There are numerous social and economic movements that have been joined the Alternative Agrifood Networks (AAR) and, more recently, the Agrifood Citizenship Networks (ACR) (Lamine et al., 2012; Renting et al., 2003; Renting and Marsden, 2017). These approaches related to agrifood production and supply have developed very rapidly over the past three decades, generated by the growing distrust of food, as well as to awareness of the global environmental crisis. This distrust is motivated by food scandals, the advent of GMOs and the increasing use of pesticides, which led to a growing perception among consumers regarding the risks of conventional foods. This promoted the search for organic, agroecological, functional, colonial and artisanal foods, reevaluating traditions, local varieties, and localized production processes in order to guarantee superior quality food and the recovery of food flavors, as well as of some control over the supply food dynamics.

The transformations derive from a broader process of growing markets that provide environmental goods and services, reducing the ecological footprint and integrating the nature-human duality. Specifically, in the agri-food field, a quality turn has been taking place (Goodman, 2003), thereby expanding short food supply chains.

Nevertheless, one of the agroecological and organic food issues is its final price and the difficulty for many consumers to afford it. This problem does not derive, necessarily, from higher production costs of such foods, because that depends substantially on the traded product and how its supply chain is organized; nevertheless, its productive efficiency on an agroecological/organic basis must be carefully considered³. Short food supply chains with have lower value margins that benefit intermediaries

³ In a meta-analysis of studies comparing yields between conventional and organic production systems, Seufert et al. (2012) concluded that, under certain conditions (good management practices, certain crop types, and development conditions), organic systems can reach similar productivity when compared to conventional ones.

could result in more affordable final prices. A large European study regarding short food supply chains identified organic food affordability as the main motivator for consumers to integrate this type of trade chain (Kneafsey et al., 2013).

In summary, while conventional food supply chains create a strong concentration of socioeconomic actors and products, materialized in large storage centers and large supermarkets, two other movements occur in parallel: a) the rising appeal of consumer movements seeking valorization of food quality; and (b) the enlargement of agri-food market diversification and segmentation, opening room for farmers and their organizations to insert in new market models, as well as for new types of articulations between producers and consumers. At an international level, various and contradictory production and supply systems, that normally conflict with each other, generate hybrid situations and new productive, social and commercial organization possibilities.

In the following section, we will discuss innovative possibilities for local and regional markets, emphasizing agri-food networks constructions that articulate production and consumption, and that grant centrality to food organizing SFSCs.

MARKETS FOR AGROECOLOGICAL PRODUCTS AND CITIZEN INNOVATION

Based on the forgoing, we infer that there is much space for new social agri-food markets and that consumers as demand generators have been increasingly participating in its construction. Recent market tendencies, in general, have tended to produce demand. In rural studies, investigators identified dislocation from actions and analysis guided by agrarian issues, to others guided by food issues, pointing toward dislocation of social and political perceptions, conferring a greater centrality to food rather than to technological or land access issues (Méndez and Espejo, 2014; Poulain, 2013). This refers to the need of producers and their organizations to

change attitudes, as well as to the necessity of having research and support institutions that bring consumers into the arenas of analysis, social and political actions. From the universe of consumers surrounded by food and saturated with information (Méndez and Espejo, 2014), one can perceive increased numbers of those who organize themselves to purchase healthy food and obtain wider control over their supply chains.

Nevertheless, the food commercialization processes guided on demand often do not guarantee simultaneous benefit for family farmers⁴, or for the sustainability of rural territories and consumers. Organizational and commercial actions aiming to guide food production on demand requires understanding that there are some central issues to consider:

- a. There is space to consider anticipation and change of demand; for this to happen, one must comprehend present and future consumer desires and expectations, considering time, place, form, price and food quality.
- b. Lack of information and articulation between production and consumption spheres; if business processes are operated by intermediaries, producers and consumers tend to play passive roles in the supply chain. Local, regional markets and short-chains have the potential to overcome information and articulation restrictions, by approximating, in spatial and relational senses, the production and consumption spheres.

In order to construct markets that value farmers and their territories, and to bring them closer to consumers, it is also important to consider the need to scale gains, so that farmers can better integrate themselves into markets, optimizing trade logistics, and benefiting from the value chain. Cooperative scale gains are strategic for family farmers, such that they can obtain a larger portion of added value in the supply chain. In this sense,

⁴ It is important to highlight the fact that family farming and peasant farming represent, at a worldwide level, the vast majority of agricultural establishments, as well as it is responsible for a great part of food productive diversity, even if they are a minority regarding to land availability (FAO, 2013). Smaller establishments are also the main organic food producers worldwide (FIBL, 2018), and in Brazil (MAPA, 2016).

cooperation forms between producers and networks linking their organizations is a necessity; this is something that many organizations are already doing. Nevertheless, it remains one of their greatest challenges. Those who do not make progress in this sphere limit their potential to face the requirements of markets that demand larger scales to facilitate logistics and to negotiate with retailers that demand product diversity, supply regularity and competitive prices.

There is a diversity of experiences regarding the creation of social and collective markets, the articulation between farmers and their organizations, as well as of these organizations with consumers and their groups; there is also space for new organizations and networks that are able to actualize closer production and consumption, generating new food supply chains (Marsden, Banks and Bristow, 2000; Darolt, 2013; Kneafsey et al., 2013).

In this chapter, unlike in Marsden, Banks and Bristow (2000), we understand that a commercial circuit can be considered short when the proximity between producers and consumers is comprehended in two senses: relational and spatial: relational proximity implies fewer intermediaries; while spatial proximity refers to reduce distances, activating new local transactions and encouraging consumption of products from and on the territory of its production⁵. We consider that the SFSC spatial sense is the most relevant for an agroecological approach, because it reduces the ecological footprint with transport, in addition to generating conditions for a greater valorization of territorial productive diversity, for example, facilitating the commercialization of fruits and fresh vegetables. They bring closer those who produce to those who consume, enabling the reduction of logistic costs, qualifying the production through demand signs and allowing consumers to recognize seasonality elements, weather and other restrictions inherent to agricultural production. Access to diversified products on a regular basis with good prices are central issues in most retail stores and among organic food consumers, all of which favor

⁵ Marsden et al. (2000) suggested that a spatially extended commercial circuit may also be considered short. We understand that this approach does not give the necessary value to territorial, local and ecological footprint issues.

diversified production and supply, representing an important agroecological valorization sign.

The relational and spatial approximation between food production and consumption spheres has also the potential to generate compromises between farmers and consumers, sharing responsibilities for the production-supply set. However, this type of movement would require two displacements: a) from farmers and their organizations: advancing to the stages of reunion and distribution of products, in order to bring to consumers products with costs, as well as diversity, regularity and quality; b) from consumers: participating more in food markets, moving out from a passive condition as food receivers (mere customers), requiring expansion of their organizations as social segments directly interested in food chains results. Therefore, just as there are productive challenges for the agroecology advancement, there are others regarding the commercial-logistic dimension, the farmer and consumer organizational dimension, as well as political-educational challenges, because it would require a transformation in cultural aspects that would value the farmer's work and creation of analytical and engaged consumers in an agri-food system.

Many SFSC modalities and organizations networks are formed to support it; nevertheless, in the sequence, there will be presented two experiences in which it is intended to highlight socio-organizational innovation elements that allow identification of advances related to approximation relations in production-consumption, as well as to the challenges facing its qualification.

The Civic Food Network (CFN) of Greater Florianópolis, Santa Catarina, Brazil

There is a diversity of SFSC experiences in the Greater Florianópolis-SC region that were constituted without any articulation between them. In the last year, there has been deeper integration of the two, and efforts have been made to qualify the relations between the production-consumption spheres in some of these experiences. Therefore, we suggest that, even

without defining itself as a CFN, a network has been formed with this profile in the territory.

In the CFN context, a tool has been created to assist the exchange and access to information related to direct organic/agroecological sale food forms through producers and organized consumers. One of the shortcomings to enlarge relations between the production and consumption spheres is information access. To overcome this barrier, organizations and the local federal university (UFSC) developed an online map (<https://www.arcgis.com/apps/View/index.html?appid=32251646649943949ecbdde0f0c2568d>), aiming to identify, territorially, direct selling initiatives and/or with one intermediary at most, to stimulate the organic food access “fostering a consumption based on democracy, justice, and food sovereignty.”

This initiative represents a way of constructing social and collective markets, because it articulates consumers, farmers and support organizations involved in the SFSC organic/agroecological scenario in the region. The map helps articulating experiences, conferring a sense of responsibility and belonging, and stimulating the development of new relationships between consumers and producers engaged in new forms of agri-food citizenship. The map embraces three distinct agri-food categories: (i) organic/agroecological food commercialization initiatives in Florianópolis based on short supply chains concept; (ii) production groups of such initiatives; and (iii) support organizations of organic/agroecological food supply and production involved. It articulates social actors who share common development visions and seek to strengthen local economies through proximity food markets.

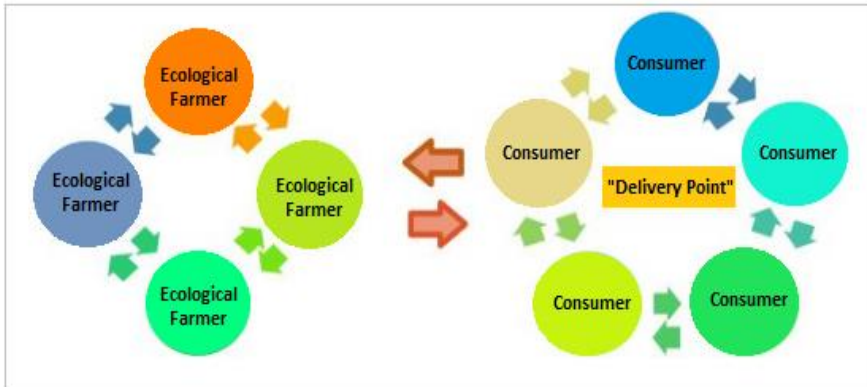
The CFN and the map represent innovations related to stimulation of new relationships in local and regional markets, giving centrality to food and to social relations that are organized around it, involving SFSC. These are innovations that reconnect production and consumption, expanding markets and relocating agri-food systems relations. Nevertheless, the engagement of local social actors in the dynamics of the organization of commercial circuits is a condition that prevents social innovations such as this one from remaining a commercial niche. The physical existence of the

map and the CFN make sense if people assume an active (and not a passive) attitude towards the food supply organization. Cooperation alliances among production, supply and consumption initiatives, that are usually devalued by extended agri-food chains, have been being worked and qualified through SFSC insertion in the territorial network (CFN). This type of organizational approach should be better analyzed with respect to its strategic capacity to democratize access and decision-making processes that deal with quality superior food, as well as to rebalance power in local agri-food systems.

The Case of Responsible Consumer Cells (RCCs) in Florianópolis, Santa Catarina, Brazil

The RCCs are an SFSC modality that operates in the Greater Florianópolis region and it is inserted in the Civic Food Network. It is a social technology of organic food directly sold by family farmer groups to consumer groups that order and pay in advance. Consumers pay monthly for organic food baskets they receive weekly, not choosing which specific products they will receive. These products are delivered according to the seasonal varieties available, respecting the seasonality of food production and the natural cycles of each crop. It is understood that each food basket should contain at least two salad types; one or two fruit types; two vegetable types; one or two roots types; two types of spices and/or teas. In some baskets, a grain type is added. In this manner, farmers are not obligated to have always one or another product, only to produce diversely based on the product types indicated, favoring seasonally-adapted products for which some of these farmers did not previously find a place in the market.

RCC consumers organize themselves in groups, and the food basket delivery occurs in a common access location for each group (Figure 2), which may be a school, a neighborhood association, a university, an organization, a residence, a workplace or a company. This facilitates access on the part of consumers.



Source: LACAF/UFSC, 2019.

Figure 2. RCC operation schematic.

The RCC organizational format allows each farmers group, all of whom are associated with the Rede Ecológica de Agroecologia⁶ (Ecológica Agroecology Network), to organize themselves in order to commercialize the production according to their know-how, land availability, labor and capital, as well as with each one's interests. It also previously guarantees farmers a monthly sales volume, a time-saving of commercialization - as farmers only deliver their products, and also an economy with respect to fuel and dislocation costs. For consumers, the RCC guarantees quality food access close to their home or workplace, with affordable prices, beneath those practiced in the local organic food market (Grade and Mergen, 2018). The affordable price and proximity to residence place or work are among the main factors related to motivations to join the RCCs chosen by consumers (LACAF, 2019). It is worth mentioning that this social technology started only with 27 food baskets weekly delivered, and less than two years later, they sell more than 300 food baskets.

Both groups, farmers and consumers, choose a coordination that promotes relations between each other and with other group coordinations. There is also a pre-established agreement through a "shared responsibilities term" aiming to organize all the process and institute co-responsibility among farmers and consumers. In this manner, RCCs are an experience

⁶For more information, please visit <http://ecovida.org.br/> and Rover, Gennaro and Roselli (2017).

that generates market dynamics that articulate themselves with ethical/responsible consumption practices, relocating food supply chains through the formation of direct sales networking that articulates production-consumption.

Through initiatives such as RCC and the various initiatives that compose the Florianópolis region RCA, information interchange networks and citizenship exercise learning are created. Having food as reference, it promotes socio-economic innovations, changes in individual consumption choices, and collective actions that lead to political, economic and institutional changes. This contributes to generating more localized and sustainable production and consumption dynamics.

FINAL REFLECTIONS

There is a growing need to open markets for agroecological foods; however, such efforts are normally made based on the know-how of conventional products markets. These are organized through requirement impositions of specialization and scale that move production processes away from agroecological principles. Local, regional and territorially integrated markets reveal a potential of supplying urban populations that are increasingly concerned with the quality of food that goes to the table, generating stimuli for agrobiodiversity production. Nevertheless, there is the possibility that, in order to be effective, there will be a need for new trade arrangements that would not treat food as mere commodities, seeking good remuneration for farmers and fair and attractive prices for consumers, as well as generating closer relations between the production and consumption spheres. Many commercialization experiences, even though done through SFSC, are organized without an effective articulation among one another, nor with producer and consumer organizations, and without supporting organizations and institutions. This creates the risk of isolating each initiative, limiting its potential to integrate into agri-food market competitive dynamics that are often aggressive. In the context of the “quality turn,” beyond the differentiated food production, as well as its

distribution and supply dynamics, the management of the territorial production-food supply relation must be considered. In this sense, we believe that the formation of various civic food networks in local territories are strategic, as demonstrated by the Greater Florianópolis RCA. Most local territories have agri-food actors with intersecting interests; nevertheless, they develop punctual and individualized initiatives without effective network integration that could otherwise potentialize each initiative. A dialogue between producers, consumers, their organizations, support organizations and public institutions, valuing food cultures and local agrobiodiversity, as well as expanding access to superior quality food, could produce strategic management of agri-food in the local territory.

Beyond strategic networks of production-consumption articulation, such an approach requires that operational-level effective trade experiences such as the RCC model can be built that can be diverse and functional in the same territory. Models that value biodiverse production, productive seasonality and shared gains between farmers and consumers, valuing agroecology, are the ones showing the most consistent and lasting results. Many trading experiences regarding agroecological products generate logistical and informational complementarities when integrated in local networks that articulate interests, actions, and strategies uniting farmers and consumers. In this sense, we agree with the FAO/INRA (2018) that commercial circuits become agroecological through specific rules and networks, built to ensure transmission of knowledge that products are in fact agroecological. On the other hand, we understand that knowledge transmission regarding products is necessary but not sufficient to actualize the principles and strategies highlighted by the ten elements that are interlinked and interdependent to define agroecology (FAO, 2019).

Based on these reflections, this article leaves some open questions for future research, in order to qualify market organization that values agroecology: which strategies would allow maximum effective integration among social actors involved in the approximation of production-consumption relations? Which cooperation processes could be generated and strengthened to qualify such relations?

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