Available online at www.centmapress.org

INTERNATIONAL JOURNAL ON FOOD SYSTEM DYNAMICS

Int. J. Food System Dynamics 12 (2), 2021, 177-191

DOI: http://dx.doi.org/10.18461/ijfsd.v12i2.83

Food Procurement as an Instrument to Promote Local Food Systems: Exploring a Brazilian Experience

Ricardo Serra Borsatto[1], André de Camargo Macedo[2], Leandro de Lima Santos[1], Wolney Felippe Antunes Junior[2], and Vanilde Ferreira Souza-Esquerdo[2]

[1]Federal University of São Carlos (UFSCar), Center of Nature Sciences, 18245-970, Buri, Brazil
[2]State University of Campinas (UNICAMP). College of Agricultural Engineering, Campinas, Brazil
ricardo.borsatto@ufscar.br ; andre_macedo11@hotmail.com ; leandrodelima@ufscar.br ; wolney.antunes@gmail.com ; vanilde@unicamp.br

Received January 2021, accepted April 2021, available online May 2021

ABSTRACT

Public food procurement is becoming more relevant among policymakers as a tool capable of supporting family farming, encouraging sustainable farming practices, and promoting rural development. Brazil is recognized as one of the first countries to develop national policies based on food demands from its public facilities to support family farming. Previous research has already demonstrated several positive impacts of programs based on public food procurement that establish new institutional markets aimed at the poorest family farmers. However, there is still a lack of research evaluating the impacts of public food procurements in creating local food systems that bring closer farmers and consumers. In this research, based on primary and secondary data, we sought to verify whether a food procurement-based program, the Brazilian Food Acquisition Program (PAA), contributes to the constitution and consolidation of local food systems in three Brazilian municipalities. On the one hand, our results suggest that PAA is an important instrument for the productive inclusion of family farming. On the other hand, PAA has contributed little to the establishment of more localized food systems, indicating that other drivers beyond the institutional market are critical to build and support local food systems.

Keywords: Institutional Markets; Family Farming; Rural Development; Public Procurement; Policy.

1 Introduction

Researchers and social movements around the world have issued warnings about the inability of the hegemonic food system to deliver on its proponent's promises to eradicate hunger in the world, mitigate rural poverty, ensure the food security of countries and promote the development of rural areas (IPES-Food, 2016; McMichael, 2009a; Rosset & Martínez-Torres, 2012; Sauer, 2020).

The central feature of the hegemonic food system is the spatial disconnection between food production and its consumption, forming global scale supply chains in which large corporations – represented by suppliers, agro-industries, merchants, retail chains, and banks – establish strategic alliances. These large corporations become the ones to determine the patterns of production, marketing, and consumption of food. The increasingly liberal-capitalist nature attributed to the whole process of food production constitutes what McMichael (2009a, 2009b) calls the "corporate food regime," Ploeg (2010) calls the "food empires," and Otero et al. (2013) name "neoliberal diet."

In response to the growing negative externalities of the hegemonic food system, pressures from civil society have led policymakers from different parts of the world to create policies that foster new socioeconomic structures for food production and circulation, new structures favoring the establishment of more localized systems that reduce the distances (both geographical and social) between those who produce and those who consume. As a rule, these policies go beyond the sectoral perspective and rely on a more complex approach of development, presenting multiple objectives, such as encouraging local economic development, ensuring food security, supporting family farming, fostering ecologically-sustainable productive processes, among other possibilities (Giacomini & Mancini, 2015; Maluf et al., 2015; Martin & Horst, 2017; Mendonça & Rocha, 2015; Stefani et al., 2017; Morley, 2021). An important initiative in this regard is the European Union (EU)'s Farm to Fork (F2F) Strategy, which addresses food sustainability comprehensively, aiming to make the EU food system fair, healthy, and environmentally friendly (Moschitz et al., 2021; Schebesta & Candel, 2020).

In this context, governments have been using public food procurement as an important tool to support the construction of more socially-efficient markets, involving mechanisms such as pre-defined prices, conditions on suppliers, guaranteed purchase quotas, and qualitative constraints on production systems and their products.

Since the mid-2000s, Brazil has implemented some innovative policies using public food procurement to achieve multiple objectives, including promoting the local production and circulation of food produced by family farmers[1]. Within this context, the Brazilian Food Acquisition Program (PAA) was developed and implemented with the goal of promoting food security of socially-vulnerable people through the establishment of more localized food systems based on family farming (Borsatto et al., 2019; Maluf et al., 2015; Rocha, 2009).

PAA is simultaneously an agricultural and social policy. It establishes an institutional market for foodstuffs produced by family farmers and, through food pantries, social welfare institutions, and other means, makes these foods available to people facing food and nutritional insecurity in the same territory where these foods are produced. Under the PAA, the Brazilian government buys foodstuffs directly from family farming organizations, paying them prices equivalent to those of regional markets. Thus, the farmers handle their products to local social welfare organizations charged with distributing it to people in food and nutrition insecurity (Bergamasco, Borsatto, & Souza-Esquerdo, 2013; Grisa et al., 2010; Maluf et al., 2015; Menezes, Porto, & Grisa, 2016; Wittman & Blesh, 2017).

Studies on the PAA indicate that public food procurements, while promoting food security for socially vulnerable populations, can increase the economic well-being of family farmers and contribute to the establishment of more biodiverse agroecosystems (Giraldo & Rosset, 2018; Grisa & Zimmermann, 2015; Maluf et al., 2015; Mesquita & Bursztyn, 2017; Resque et al., 2019; Rocha, 2009; Wittman & Blesh, 2017). However, specific studies on the impacts of public procurement on strengthening local food systems – which should remain sustainable even in scenarios without public procurement – are still scarce (Souza, Fornazier, & Delgrossi, 2020; Stefani et al., 2017).

[1] In Brazil, family farming is defined by the Family Farming Law (Law 11,326/2006), based on four criteria: a maximum land tenure defined regionally; a predominant recourse to non-wage family labor; a significant part of the income originated from the farming activity; and a farm managed by the family.

Thus, this article seeks to verify if a given program based on food procurement, the Brazilian Food Acquisition Program (PAA), contributes to forming and consolidating localized food systems.

2 Local Agri-Food Markets and Systems

On a global scale, movements on several fronts (e.g., academia, consumer groups, peasant social movements, environmentalists, health professionals) question the hegemonic food system and promote socially and environmentally sustainable alternatives. A common point between these movements is that they advocate for the constitution and strengthening of markets that rebalance the power relations between production and consumption, where the interests of consumers, family farmers, and rural workers overlap the interests of large corporations (Bell-Pasht, 2013; Brinkley, 2017; IPES-Food, 2017; Martínez-Torres & Rosset, 2010; Trabalzi, 2007; Vaarst et al., 2018).

Researchers dedicated to food systems' studies argue that the markets' socio-structural dimensions stand as key components for the constitution of socially and environmentally sustainable food systems. They point to the importance of creating markets that value environmental, social, cultural, and ethical aspects and not only the economic dimension (Perez-Cassarino & Ferreira, 2016; Renting, Marsden, & Banks, 2003; Sevilla Guzmán & Soler Montiel, 2010). Researchers have used different nomenclatures and approaches to define and study the socio-structural dimensions of alternative markets, such as nested markets (Ploeg, Jingzhong, & Schneider, 2012), embedded markets (Marsden, 2010), localized agrifood systems or local food systems (Martinez et al., 2010; Muchnik, Cañada, & Salcido, 2008) or short food supply chains (Renting et al., 2003).

Two characteristics are identified as fundamental for alternative markets to compete and coexist with corporate-based hegemonic markets. The first refers to greater proximity between those who produce the food and who consume it, both regarding the spatial distance and the decrease in the number of agents that mediate the food supply to the final consumer. The second regards products and services circulating through alternative markets, as they must present attributes that distinguish them from the ones circulating through the hegemonic food system (Marsden, Banks, & Bristow, 2000; Ploeg, 2010).

Regarding the first characteristic, the nearness between farmers and consumers should offer some form of connection between these agents, so that the food reaches the consumer with information about its specificities, for example, about the place where it was produced, the processes involved, the values and the people who took part in this chain (Renting et al., 2003). In other words, alternative markets would serve as a counterpoint to the so-called "food from nowhere regime," characterized by the spatial disconnection between food production and consumption (McMichael, 2009a). Thus, alternative markets to the hegemonic food system should promote a system by which consumers identify from where, how, and by whom the food they are consuming was produced (Campbell, 2009; McMichael, 2009b).

This process of reconnection between production and consumption restores the consumers' confidence in the food they are acquiring, based on new conceptions and constructions of quality. The characteristics of the products, the people, the organizations, and the social relations that connect food and the place of production assume the role of ensuring such quality. As a result, these shorter chains are expected to rebalance power relations in the food systems, favoring family farmers and consumers rather than large corporations (Giacomini & Mancini, 2015; Perez-Cassarino & Ferreira, 2016; Sevilla Guzmán & Soler Montiel, 2010).

However, a greater geographical and structural proximity between producers and consumers alone is insufficient to enable local food systems to properly compete with the corporate-based hegemonic one. It is also crucial that the products and services circulating through these local systems have distinctive characteristics, differentiating them from the products and services circulating in the hegemonic system (Hebinck, Schneider, & Ploeg, 2019; Ploeg et al., 2012).

While a large corporation is responsible for differentiating its products from those of its competitors in the hegemonic food system, in localized food systems, differentiation emerges from the community articulation. The differentiation of the products circulating in these local systems is created, structured, developed, and functions as a common-pool resource – which prevents it from being appropriated by opportunistic actions –, thus serving as material and social benefit of communal use (Engelseth & Sandvik, 2017; Ploeg et al., 2012). In short, differentiation derives from constitutive elements of social capital linked to a durable network of more or less institutionalized

social relations. These links are not reducible to objective relationships of proximity in the physical (geographical) space or even in the economic and social space. They are rather based on both material and symbolic exchanges (Bourdieu, 1980, 2007).

Ploeg et al. (2012) pointed out that local food systems emerge through a process of social struggle and can be viewed as an evolving set of responses to market failures. Thus, promoting local food systems through public policies is not a trivial task. An exogenous intervention for creating a localized institutional market can be insufficient to develop local food systems if this new market is not based on a social fabric with high community articulation.

As an example, in local food systems, there is space for differentiation: regarding the price of food, which can be significantly cheaper (by eliminating intermediaries) or more expensive (because it has attributes considered unique); based on the quality of the food (specific production processes due to the local social organization and the specific conditions of a given territory); and reliant on the proximity between production and consumption (local food). Also, there may be differentiation by the supply of fresh or exotic products (produced only in a given region) or by the availability of products that are scarce in other regions (Ploeg, 2015).

Thus, an important feature of policies that aim to promote local food systems through public procurement is that they should favor both the creation of markets that brings closer the consumers and farmers and the circulation, through these markets, of foods that differ from those in markets dominated by large corporations.

3 Food Acquisition Program (PAA)

The PAA was drafted under the 'Fome Zero' (Zero Hunger) program in 2003, a major priority and national strategy for eradicating hunger in Brazil. In Fome Zero, debates and ideas related to food security were translated into policies and programs (Mendonça & Rocha, 2015; Menezes et al., 2016; Wittman & Blesh, 2017).

The PAA was the Brazilian first experience in using public food procurement to foster more socially-efficient markets. The program establishes an exclusive institutional market for family farming, ensuring an annual acquisition quota per farmer and paying pre-fixed prices equivalent to those paid in conventional markets. Between 2011 and 2018, PAA benefited almost 450,000 family farmers, acquired 2 million tons of food, encompassing 80% of the Brazilian municipalities (Sambuichi, Almeida, Perin, Moura, & Alves, 2020).

Compared to similar programs, PAA's acquisitions involve little bureaucracy. The prices paid for the goods under the PAA are comparable with those in the respective regional markets. Both fresh and processed foods can be marketed through the program. To participate, a family farmers' organization must submit a proposal describing its participating farmers, the foodstuffs to be delivered, their respective quantities, the organizations that will receive the donations, and the delivery period. Once a proposal is approved, the resources are made available to the farmer organization's banking account upon confirmation of the products' delivery. The organization then pays its participant farmers according to their sales. The program specifies a flat monetary annual quota per farmer, so the amount of food a farmer can sell through the program is limited. In the modality we have studied, each farmer can sell up to U.S. $2300 worth of food per year[2].

Considered a policy innovation, PAA represented a paradigm shift in Brazil's government procurement (Hespanhol, 2013; Maluf et al., 2015; Porto, 2014). Through the program, (a) the government buys, directly and with little bureaucratic constraint, foodstuffs from family farming organizations, land reform settlements, quilombolas (communities of descendants of escaped or freed slaves), and indigenous communities; (b) the prices paid for non-organic foods are equivalent to those paid in regional local markets; and (c) since the program was intended to stimulate the production and consumption of organic food, the price paid for any certified organic food includes a compulsory incentive of at least 30% over the local price of a similar. The food acquired under PAA is distributed through social agencies (e.g., shelters, asylums, public hospitals, and orphanages) to those in food insecurity; it is also used in government food programs such as food pantries,

[2] Recently, PAA managers have encouraged a new form of access to the program by which farmers can participate individually, with payment made directly into the farmer's personal bank account. That is, the program no longer requires farmers to be organized into associations or cooperatives to participate.

communal kitchens, and school meals; or it is directed to replenish strategic public stocks.

Among the program's multiple objectives is its goal of "strengthen local and regional circuits and local market networks" (Table 1). However, the program also has other implicit objectives, perceptible in its operational structure, which are: income distribution; money circulation in the local economy; more rational use of rural areas; and preservation of regional food culture (Batista et al., 2016; Becker & dos Anjos, 2010; Marques, Le Moal, & Andrade, 2014; Vinha & Schiavinatto, 2015)

Table 1.
PAA's objectives

I- to strengthen family-based agriculture, promoting its economic and social inclusion, along with sustainable production, food processing, industrialization, and income generation;
II - to encourage the consumption and appreciation of foodstuffs produced by family farming;
III - to promote the regular access to food, in quantity and quality, by populations in a situation of food and nutrition insecurity;
IV – to promote the food supply through public procurement, including the provision of school feeding;
V - to constitute public stocks of food produced by small-holder farmers;
VI - to support the constitution of stocks by cooperatives/associations of family farmers;
VII - to strengthen local and regional circuits and local market networks;
VIII - to promote and enhance biodiversity and organic and agroecological production, and to encourage healthy eating habits at local and regional level;
IX - to stimulate cooperatives and other forms of association.

Source: Decree 7775, 2012

With the exposure of its positive results in international forums, the PAA started to be disseminated to other locations. Global South countries have implemented institutional markets inspired by the PAA, with the most outstanding example being the “Purchase from Africans for Africa,” best known as PAA Africa (Clements, 2015; Miranda, Gyori, & Soares, 2017; Rahmanian, Gomez, Bannò, & Meybeck, 2016; Swensson, 2015).

In thesis, by promoting short food marketing circuits based on family farming production, the PAA can promote closer ties between consumers and farmers, which in turn may allow the emergence of new market relations built on a new institutionality, enhancing the agricultural production systems of family and peasant farming and strengthening the mechanisms of reciprocity between production and consumption (Perez-Cassarino & Ferreira, 2016; Vaarst et al., 2017; Ploeg et al., 2012). Thus, we chose the PAA to explore the challenges institutional markets based on public procurement face to promote localized food systems.

In 2012, the PAA peaked when the numbers of family farmers benefited, the quantity of food purchased, and the social assistance entities served were the most expressive compared to other years. (Sabourin et al., 2020). Since 2013, the PAA has been going through a gradual dismantling process, more accentuated from 2016 onwards, suffering drastic reductions in budget transfers and severe political attacks (Camargo et al., 2020; Sabourin et al., 2020; Triches & Grisa, 2015).

4 Methodology

We focused our analysis on three Brazilian municipalities located in the southwest of the state of São Paulo: Angatuba, Buri, and Campina do Monte Alegre (Figure 1). The region where these municipalities are located is marked by low Human Development Indexes (HDI) and significant social and income inequalities (Borsatto, Antunes Junior, & Souza-Esquerdo, 2020). These and other factors caused this region to be known as the "Hunger Branch."

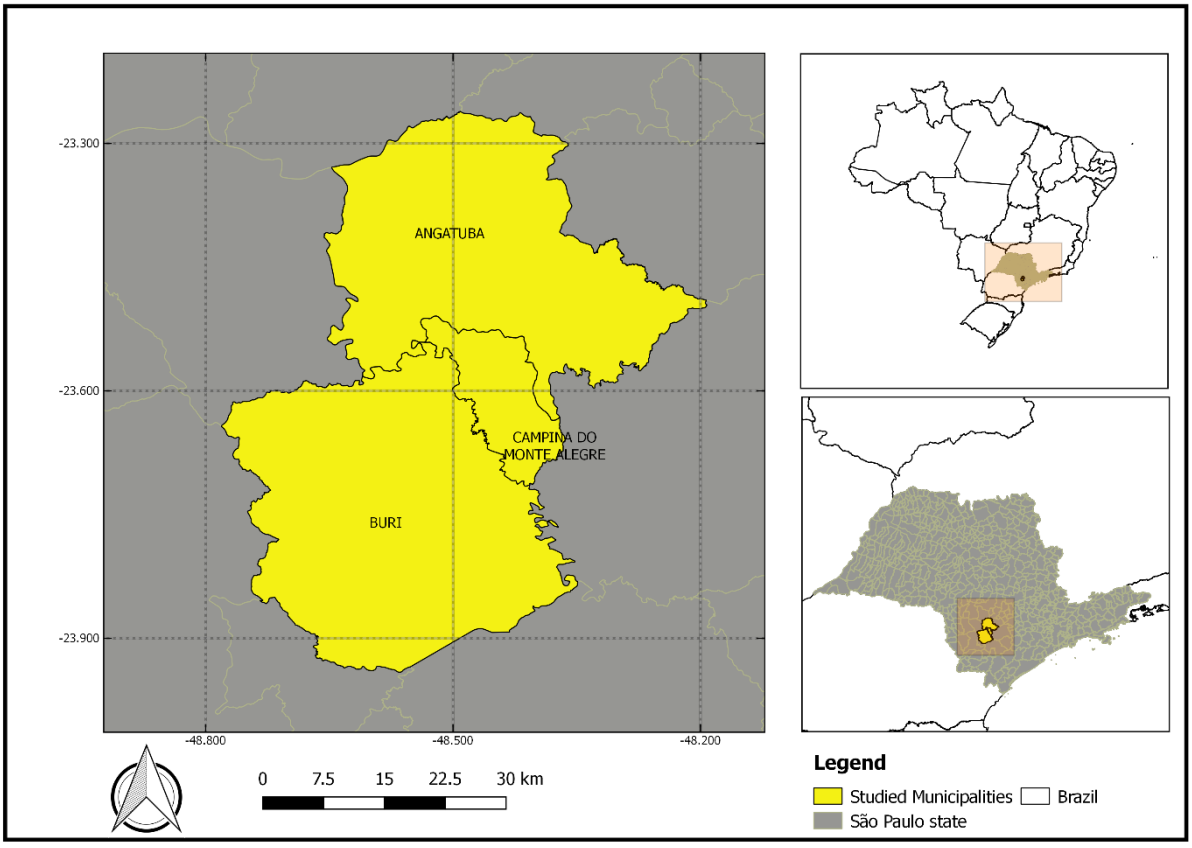

Figure 1. Geographic location of Angatuba, Buri and Campina do Monte Alegre, São Paulo, Brazil.

We chose the municipalities of Angatuba, Buri, and Campina do Monte Alegre to carry out this survey based on their continuous participation in the PAA (Borsatto et al., 2020; Macedo et al., 2017) and the significant presence of family farming in their territories (Kassaoka, 2018), which is constituted of both decapitalized farmers and producers integrated into the hegemonic agri-food systems (Borsatto et al., 2020; Porto, 2014). In these municipalities, family farming produces grains, vegetables, and milk, coexisting with a highly technified commercial agriculture specialized in soy, corn, and wood (Borsatto et al., 2020; Castro, 2019).

The three municipalities are small, with a typically rural profile and a population ranging from approximately 6,000 (Campina do Monte Alegre) to 24,400 inhabitants (Angatuba). The municipalities present a high land concentration (Matheus & Feliciano, 2018) and approximately 1,000 family farmers in their territory (Table 2).

Table 2.
Distribution of agricultural units and areas in the studied municipalities

Municipality	Typology	% Farmers	% Area
Angatuba	Non-family farming	31.7	88.2
	Family farming	68.3	11.8
Buri	Non-family farming	33.8	93.6
	Family farming	66.2	6.4
Campina do Monte Alegre	Non-family farming	31.2	89.4
	Family farming	68.8	10.6

Source: Agricultural Census, 2017.

When the survey was conducted, each municipality had a family farmers' association responsible for sales to the PAA. The first phase of this research consisted of conducting in-depth interviews with the managers of these three associations. In Angatuba, the organization was the Cooperative of Rural Producers of Angatuba (COLANG); in Buri, it was the Association of Plasticulture Farmers of Buri (APLAB), and in Campina do Monte Alegre, the Association of Rural Producers of the Watershed of Ribeirão do Barreiro (APHRMB). The three organizations were relatively new, established less than 20 years ago, and their constitution was stimulated by local government, seeking to raise public funds to support family agriculture. The farmers' associations constituted from local politicians' pressure (up-bottom) and not from the endogenous farmers' organization (bottom-up).

We conducted the interviews in 2016 when the respective associations still had contracts being complied in the PAA context. The focus of the interviews was to understand the challenges faced by the PAA's institutional market in constituting a basis for the construction of new and more localized markets, in which there would be a better power balance in the relations of production-consumption. Therefore, the interviews sought to understand both whether the farmers' associations were accessing or building new local markets and whether the products circulating in the local markets had any differentiation. We used a script structured in three analytical categories: a) initiatives to promote localized agri-food systems; b) how farmers are organized and the level of participation in the association; c) the PAA's operationalization. The time for each interview was approximately 60 minutes.

As a second step, we systematized and analyzed the secondary data regarding the PAA operation in the studied municipalities. From the information extracted from the PAA's Public Transparency database (CONAB, 2017), we analyzed the participation of local farmers, the food purchased, and the destination of food within six years (2013-2018). It is worth mentioning that after 2016, due to the intensification of the program dismantling, the farmers' associations of the studied municipalities no longer signed marketing contracts with the PAA, but the contracts signed between 2015 and 2016 were executed until 2018.

5 Results and discussions

5.1 PAA's Food Procurement: an important market for local family farming

The results of this study show that the PAA was a relevant program for the studied municipalities, confirming its high impact both in supporting family farming and in ensuring the food and nutritional security of its populations.

According to the Agricultural Census (2017), the studied municipalities had 1,084 family farmers in their territory; during the studied period, 44% of these farmers (477) marketed part of their production through the PAA. Besides, between 2013 and 2018, PAA purchased approximately 4,200 tons of food from local farmers, almost all of which was distributed free of charge in the form of food baskets to families in a situation of food insecurity in the same municipalities (Table 3).

Thus, the data shows the PAA has successfully met some of its main objectives, such as strengthening family farming, promoting economic and social inclusion, and promoting regular access to food, in quantity and quality, for populations in food and nutrition insecurity.

Table 3.
Descriptions of PAA contracts in the studied municipalities (2013-2018)

Municipalities	Year	Farmers' organization	Destination of purchased food	Contract number	Volume of purchased products (kg)	Number of food suppliers *	Number of food items purchased
Angatuba	2013	Colang	Angatuba	2013/0350	89,064	24	25
	2013	Colang	Angatuba	2013/0080	347,281	93	43
	2014	Colang	Angatuba	2014/0161	537,331	142	29
	2015	Colang	Angatuba	2015/0184	1,155,482	237	34
	2016	Colang	Angatuba	2016/0339	424,615	187	31
Buri	2013	Aplab	Buri	2013/0349	93,960	28	12
	2014	Aplab	Buri	2014/0289	27,190	28	12
	2015	Aplab	Buri	2015/0019	125,750	31	11
Campina do Monte Alegre	2013	APRMHRB	CMA	2013/0182	421,997	121	24
	2014	APRMHRB	Angatuba	2014/0069	332,596	76	25
	2014	APRMHRB	Tatuí; CMA	2014/0236	633,346	127	26
					4,188,612		

Source: Research data (CONAB, 2017)
* There is an overlap of farmers and food between the contracts

From the secondary data, we can infer that family farmers consider the PAA a relevant alternative channel for disposing of part of their production since 70% of them have sold for the program in different contracts and years. This information is consistent with the results of other surveys, which identified that farmers consider the PAA as an easily accessible market that guarantees adequate remuneration for their production (Bergamasco et al., 2013; Borsatto et al., 2020; Camargo et al., 2020; Mota et al., 2014).

Moreover, our analyses show that the PAA values the diversification of food production in the territories. Regarding the studied municipalities, 63 different foodstuffs were acquired by the PAA in the covered period. This information corroborates the results of other researches that state the program promotes diversification of farmers' production, promotes food and nutritional security for family farmers, and mitigates risks of producing a small diversity of crops (Camargo, Baccarin, & Silva, 2016; Camargo et al., 2020; Macedo et al., 2017). Table 4 shows the list of the main foods acquired by the program in the analyzed area.

Table 4.
Main foods acquired by the PAA in the studied municipalities between 2013-2016

Product	Volume (kg)	Participation
Sweet Corn	946,594	22.6%
Banana	282,318	6.7%
Tomato	267,727	6.4%
Watermelon	233,660	5.6%
Zucchini	178,840	4.3%
Cassava	173,184	4.1%
Lettuce	173,081	4.1%
Pumpkin	147,589	3.5%
Bell pepper	146,897	3.5%
Cucumber	138,887	3.3%

Source: Research data (CONAB, 2017)

5.2 Challenges in promoting localized food systems through food procurement

On the other hand, our research shows that local actors face difficulties in building alternative markets that allow greater autonomy and protagonism to commercialize their products.

Although the PAA also purchases food of animal origin (e.g., honey, eggs, milk, meat, and sausages) and with some level of processing (e.g., frozen fruit pulp, peeled cassava, flour, and bread), during the study period, almost all the food products marketed through the program were fresh vegetable products, with no processing at all (Table 4). Besides, products certified as organic were not identified among the commercialized food, which would allow the payment of a 30% overprice.

The production and marketing of animal origin food, with some degree of processing or certified as organic, require greater technical knowledge and organization from the family farmer, which farmers did not achieve in the studied municipalities. The secondary data indicates that local farmers and their organizations would not be able to create conditions to differentiate their products or add any aggregated value to their production.

In-depth interviews with farmers' organization managers confirmed that no food processing was carried out, which could add some aggregated value to the products. These organizations' only services were coordinating commercialization via institutional markets, managing food distribution, and processing the payment to farmers.

None of the three organizations provided any additional service to farmers, such as prospecting/construction of other markets, technical assistance, and joint purchases of inputs. Thus, the associations depended exclusively on PAA since their only earned income came from the program. The interviews revealed that the PAA's institutional market was not used to support the constitution or access to other markets beyond the program.

Aplab, the organization responsible for the PAA in the municipality of Buri, which was created with the function of organizing farmers to sell their products through institutional public procurement markets, suspended its activities for an indefinite period starting in 2017 since it did not obtain new contracts due to the decrease in budget transfers for the operationalization of the program.

A similar situation is observed in the association representing family farmers in the municipality of Campina do Monte Alegre, APRMHRB, whose manager stated that not obtaining new contracts from the PAA in 2017 significantly discouraged farmers from making investments in their production systems.

The perception of dependence on the program is also shared by COLANG's manager, from Angatuba, who, despite having secured a new PAA contract in 2017, when questioned about prospects for family farmers should the PAA end, expressed his concern: "It's a huge dependence, farmers could even go hungry. In the first half of 2019, COLANG closed its activities due to the failure to obtain new PAA contracts, a direct consequence of the program's dismantling process (Sabourin, Craviotti, & Milhorance, 2020; Sabourin et al., 2020).

If, on the one hand, we realize that the PAA's public food procurement was an important instrument to encourage production and to guarantee the income of family farmers, on the other hand, it is evident that the establishment of local agri-food systems depends on other factors.

Participation in the PAA requires a local institutional arrangement to be established, including different actors. This institutional arrangement involves municipal civil servants from different areas (agriculture, social assistance, administration), farmers' organizations, and the beneficiary population's representatives. In all three municipalities, these local institutional arrangements were present, but it was evident that their exclusive focus was to participate in the PAA. Farmers were satisfied in finding a market to sell their production at a price considered fair; similarly, consumers were satisfied in receiving free food; and local public officials considered their goals of fostering food security as met, so they were satisfied in serving the vulnerable population of the municipality.

The public food procurement via PAA has not succeeded, in the municipalities studied, in creating incentives beyond participation in the program itself. In these municipalities, we identified an inability of local arrangements to take advantage of the program to develop a broad commercialization strategy based on short circuits (e.g., farmers' fairs, farmers' stores, food basket sales, direct sales on rural properties, restaurants, or even other institutional markets) and on the differentiation of marketed products (e.g., promotion of organic agriculture and family agro-

industrialization). Consequently, the end of the program in the municipalities caused the disarticulation of the family farmers' organizations, and the relations return to pre-program levels.

Our results indicate that policies based on food procurement, which create exclusive institutional markets for local family farming, are not in themselves sufficient to ensure the consolidation of local agri-food systems. Other factors are crucial in this process. Other research has pointed out that public food procurement can be a gateway to the constitution of local agri-food systems, as long as other drivers are present, such as strong social capital among farmers (Boossabong, 2019; Grisa et al. 2010; Simão, Silva, & Silveira, 2014), technical assistance to differentiate products (Brandão, Santos, & Rist, 2020), support to access other markets (Izumi, Wynne Wright, & Hamm, 2010; Valencia, Wittman, & Blesh, 2019; Wittman & Blesh, 2017), and/or engaged consumers (Rossi, Bui, & Marsden, 2019). Unfortunately, in the municipalities studied, these other drivers were not present.

In short, the example of the PAA reveals that public food procurement can be a stimulus for the constitution of food systems in which food and services circulate with some degree of differentiation and that bring closer the farmers and consumers. However, the constitution of local food systems requires a series of preconditions on which public procurement's institutional markets must be based.

6 Conclusions

Our research results point to the challenges of using public food procurement as a tool to promote local food systems, indicating that other drivers beyond the institutional market are critical to build and support local food systems effectively.

The studied program, PAA, is recognized as innovative in many aspects, even serving as a reference for several other countries (Milhorance, 2020). This recognition is due primarily to its ability to work simultaneously with different social demands, such as ensuring food security, promoting local development, supporting family farming, fostering more sustainable production processes, developing social organization, among other qualities. Our results confirm that programs based on public food procurement can be an important instrument for the productive inclusion of family farming, providing a guaranteed and fair income from its production.

However, this research focused on whether this process of productive inclusion has led to the development of market socio-material structures that enable the establishment of more localized food systems, which could serve as an alternative or complement to the hegemonic one. In other words, we sought to explore the challenges of public procurement in providing rural development strategies based on creating markets that promote greater proximity between farmers and consumers. The results of this research indicate that the PAA has contributed little in this direction. The family farmers' organizations in the studied municipalities have not developed or accessed other markets (besides public procurement) that bring farmers closer to consumers, nor have they been able to add any attributes that differentiate their products from those circulating in conventional markets.

This research concludes that the impacts of food procurement policies tend to present different results in promoting new and more localized markets, probably due to the social capital constituted in existing social networks in rural territories. Our study shows that in the studied municipalities, where social capital among the family farmers is low, the public procurement market ends up acting as a market that has little influence on rural development processes that could be promoters of a social fabric centered on the locality.

In line with international literature, our research points out that it is still an open challenge to understand how public policies can be effective in fostering local food systems.

Finally, Brazil's experience highlights the risk of policies based on food procurement when they fail to advance the constitution of local agri-food systems. After the political crisis in Brazil, which culminated with the government's takeover in 2016 by a political group committed to the agro-export sector, policies aimed at encouraging family farming are undergoing an intense budget cut.

The recent process of dismantling the PAA has taken away the primary market from many family farmers, reinforcing the relevance of understanding, by public managers, about the limited role of public procurement, so that such managers start to use it not as an end in itself, but as a tool to support the development of local food systems.

Acknowledgements

We would like to thank the administrators of the family-farming organizations for sharing information with us. This research was funded by the grant#427726/2016-6, National Council for Scientific and Technological Development (CNPq) - Brazil. The first author was supported in this research by the grant#2017/04577-1, São Paulo Research Foundation (FAPESP).

References

Batista, L. M. G., Ribeiro, S. M. R., Santos, R. H. S., Araújo, R. M. A., Ribeiro, A. Q., Priore, S. E., … and Gasparoni, G. P. (2016). The perception of family farmers of Program de aquisição de Alimentos (PAA) on the meaning of being part of PAA and their understanding of concepts related to food, nutrition and health. *Saude e Sociedade*, **25**(2): 494–504. https://doi.org/10.1590/S0104-12902016150258.

Becker, C., dos Anjos, F. S. (2010). Segurança alimentar e desenvolvimento rural: limites e possibilidades do Programa de Aquisição de Alimentos da agricultura familiar, em municípios do Sul gaúcho. *Segurança Alimentar e Nutricional, Campinas*, **17**(1): 61–72. Retrieved from http://www.unicamp.br/nepa/arquivo_san/volume_17_1_2010/san_vol_17_1_Claudio%5B61-72%5D.pdf.

Bell-Pasht, K. (2013). Possibilities for Local Food Procurement in Ontario: Trade Agreement Restrictions and How Other Jurisdictions Have Avoided Them, 15.

Bergamasco, S. M. P. P., Borsatto, R. S., and Souza-Esquerdo, V. F. de. (2013). Políticas públicas para a agricultura familiar no Brasil: reflexões a partir de estudos de casos no estado de São Paulo. *Revista Interdisciplinaria de Estudios Agrarios*, **38**: 25–49. Retrieved from http://www.ciea.com.ar/web/wp-content/uploads/2016/11/Páginas-desdeRIEA-38-a-imprenta-02-2.pdf.

Boossabong, P. (2019). Governing Bangkok's city food system: Engaging multi-stakeholders for smart, sustainable and inclusive growth. *City, Culture and Society*, **16**(May 2018): 52–59. https://doi.org/10.1016/j.ccs.2018.05.001.

Borsatto, R. S., Altieri, M. A., Duval, H. C., and Perez-Cassarino, J. (2020). Public procurement as strategy to foster organic transition: insights from the Brazilian experience. *Renewable Agriculture and Food Systems*, **35**(6): 688–696. https://doi.org/10.1017/S174217051900036X.

Borsatto, R. S., Antunes Junior, W. F., and Souza-Esquerdo, V. F. de. (2020). Território, arranjos institucionais e os desafios para a governança territorial: apontamentos do Território Sudoeste Paulista (SP). *Redes*, **25**(3): 940–961. https://doi.org/10.17058/redes.v25i3.15251.

Borsatto, R. S., Duval, H. C., Grigoletto, F., Santos, L. de L., Andrade, V. R. S. de, &andFernandes, L. C. de A. (2020). Desafios do programa de aquisição de alimentos (PAA) em fomentar autonomia de agricultores familiares. *DRd - Desenvolvimento Regional Em Debate*, **10**(September): 1104–1122. https://doi.org/10.24302/drd.v10i0.2897.

Bourdieu, P. (1980). Le capital social: notes provisoires. *Actes de La Recherche En Sciences Sociales*, **31**: 2–3. Retrieved from http://www.persee.fr/web/revues/home/prescript/article/ arss_0335-5322_1980_num_31_1_2069.

Bourdieu, P. (2007). *A economia das trocas simbólicas* (6th ed.). Sçao Paulo: Perspectiva.

Brandão, E. A. F., Santos, T. da R., and Rist, S. (2020). Family Farmers' Perceptions of the Impact of Public Policies on the Food System: Findings From Brazil's Semi-Arid Region. *Frontiers in Sustainable Food Systems*, **4**(September): 1–15. https://doi.org/10.3389/fsufs.2020.556732.

Brinkley, C. (2017). Visualizing the social and geographical embeddedness of local food systems. *Journal of Rural Studies*, **54**: 314–325. https://doi.org/10.1016/j.jrurstud.2017.06.023.

Camargo, R. A. L. de, Baccarin, J. G., and Silva, D. B. P. da. (2016). Mercados institucionais para a agricultura familiar e soberania alimentar. *Revista Nera*, **19**(32): 34–55.

Camargo, R. A. L. de, Bocca, M. F., Almeida, O. L., Pinotti, L. R. R., and Micheletto, A. P. (2020). Plantar prá que? Os efeitos do esvaziamento do PAA no assentamento Córrego Rico - SP. *Retratos de Assentamentos*, **23**(1): 143–180. https://doi.org/10.25059/2527-2594/retratosdeassentamentos/2020.v23i1.387.

Campbell, H. (2009). Breaking new ground in food regime theory: corporate environmentalism, ecological feedbacks and the 'food from somewhere' regime? *Agriculture and Human Values*, **26**(4): 309–319. https://doi.org/10.1007/s10460-009-9215-8.

Castro, D. S. (2019). Eucalyptus culture in the State of São Paulo considering the concepts of Landscape, social economic formation and agrarian systems: a way to environmental management. *Revista Brasileira de Gestão e Desenvolvimento Regional*: 252–272.

Clements, E. A. (2015). Addressing rural poverty and food insecurity through local food purchasing and school lunch programs: PAA Africa , PRONAE and the creation of institutional markets in Mozambique. *Revista NERA*, **18**(26): 28–50.

CONAB. (2017). Transparência Pública do PAA. Retrieved October 31, 2017, from http://consultaweb.conab.gov.br/consultas/consultatransparenciapaa.do?method=abrirConsulta.

Engelseth, P., Sandvik, M. (2017). On complexity, ecosystems, and sustainability in local food supply: A case study on fresh seafood supply. *International Journal on Food System Dynamics*, **8**(3): 173–191. https://doi.org/10.18461/ijfsd.v8i3.831.

Giacomini, C., Mancini, M. C. (2015). Organisation as a key factor in Localised Agri-Food Systems (LAFS). *Bio-Based and Applied Economics*, **4**(1): 17–32. https://doi.org/10.13128/bae-15088.

Giraldo, O. F., Rosset, P. M. (2018). Agroecology as a territory in dispute: between institutionality and social movements. *Journal of Peasant Studies*, **45**(3): 545–564. https://doi.org/10.1080/03066150.2017.1353496.

Grisa, C., Schmitt, C. J., Mattei, L. F., Maluf, R., and Leite, S. P. (2010). O programa de aquisição de alimentos (PAA) em perspectiva: apontamentos e questões para o debate. *Retrato de Assentamentos*, **13**: 137–170.

Grisa, C., Schmitt, C. J., Mattei, L. F., Maluf, R., and Leite, S. P. (2011). O programa de aquisição de alimentos (PAA) em perspectiva: apontamentos e questões para o debate. *A Política Vivida: Olhar Crítico Sobre Monitoramento de Políticas Públicas*: 321–342.

Grisa, C., Zimmermann, S. A. (2015). Estado e Sociedade Civil na Promoção da Segurança Alimentar e Nutricional no Brasil: a Construção do Programa de Aquisição de Alimentos da Agricultura Familiar (PAA). *Agroalimentaria*, **21**(41): 17–36.

Hebinck, P., Schneider, S., and van der Ploeg, J. D. (2019). *Rural Development and the Construction of New Markets*. London: Routledge. Retrieved from https://www.taylorfrancis.com/books/e/9781317753773.

Hespanhol, R. A. M. (2013). Programa de Aquisição de Alimentos: limites e potencialidades de políticas de segurança alimentar para a agricultura familiar. *Sociedade & Natureza*, **25**(3): 469–483. https://doi.org/10.1590/S1982-45132013000300003.

IPES-Food. (2016). *From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems*. *International Panel of Experts on Sustainable Food systems*. https://doi.org/IPES-Food.

IPES-Food. (2017). *Too big to feed: Exploring the impacts of mega-mergers, consolidation and concentration of power in the agri-food sector*. *International Panel of experts on sustainable food systems*. Retrieved from http://www.ipes-food.org/reports/.

Izumi, B. T., Wynne Wright, D., and Hamm, M. W. (2010). Market diversification and social benefits: Motivations of farmers participating in farm to school programs. *Journal of Rural Studies*, **26**(4): 374–382. https://doi.org/10.1016/j.jrurstud.2010.02.002.

Kassaoka, D. (2018). *Mapa da agricultura familiar*. São Paulo: Coordenadoria de Desenvolvimento dos Agronegócios.

Macedo, A. C. de, Meira, B. C., Lopes Junior, E. C. de A., Agápto, J. P., and Borsatto, R. S. (2017). Os Limites de Políticas Públicas Voltadas para Agricultura Familiar em Promover Organização Social : O Caso do Assentamento 23 de Maio. *Extensão Rural*, **24**(2): 102–117.

Maluf, R. S., Burlandy, L., Santarelli, M., Schottz, V., and Speranza, J. S. (2015). Nutrition-sensitive agriculture and the promotion of food and nutrition sovereignty and security in Brazil. *Ciência & Saúde Coletiva*, **20**(8): 2303–2312. https://doi.org/10.1590/1413-81232015208.14032014.

Marques, P. E. M., Le Moal, M. F., and Andrade, A. G. F. (2014). Programa de aquisição de alimentos (PAA) no estado de São Paulo: Agricultura de proximidade em questão. *Ruris*, **8**(1): 63–89. Retrieved from https://www.ifch.unicamp.br/ojs/index.php/ruris/article/view/1741.

Marsden, T. (2010). Mobilizing the regional eco-economy: evolving webs of agri-food and rural development in the UK. *Cambridge Journal of Regions, Economy and Society*, **3**(2): 225–244. https://doi.org/10.1093/cjres/rsq010.

Marsden, Terry, Banks, J., and Bristow, G. (2000). Food supply chain approaches: Exploring their role in rural development. *Sociologia Ruralis*, **40**(4): 424–438. https://doi.org/10.1111/1467-9523.00158.

Martin, S., Horst, M. (2017). Recipe for resiliency: There's more to community food systems than farmers markets. *Planning*, **83**(8): 34–38. Retrieved from https://www.scopus.com/record/display.uri?eid=2-s2.0-85027452828&origin=resultslist&sort=cp-f&src=s&st1=localised+food+system+policy&nlo=&nlr=&nls=&sid=4a0b3888eaa01afe6826c0f7a2794432&sot=b&sdt=b&sl=43&s=TITLE-ABS-KEY%28localised+food+system+policy%29&re.

Martínez-Torres, M. E., Rosset, P. M. (2010). La ví a campesina: The birth and evolution of a transnational social movement. *Journal of Peasant Studies*, **37(**1): 149–175. https://doi.org/10.1080/03066150903498804.

Martinez, S., Hand, M., da Pra, M., Pollack, S., Ralston, K., Smith, T., …, and Newman, C. (2010). *Local food systems: Concepts, impacts, and issues*. *US Department of Agriculture, Economic Research Service*. Retrieved from www.ers.usda.gov/Briefing/.

Matheus, F. A., Feliciano, C. A. (2018). Ciência, terra e poder: uso e apropriação das terras públicas no Sudoeste Paulista. *Revista Nera*, **21**(45): 94–121.

McMichael, P. (2009a). A food regime analysis of the "world food crisis." *Agriculture and Human Values*, **26**(4): 281–295. https://doi.org/10.1007/s10460-009-9218-5.

McMichael, P. (2009b). A food regime genealogy. *Journal of Peasant Studies*, **36**(1): 139–169. https://doi.org/10.1080/03066150902820354.

Mendonça, M., Rocha, C. (2015). Implementing national food policies to promote local family agriculture: Belo Horizonte's story. *Development in Practice*, **25**(2): 160–173. https://doi.org/10.1080/09614524.2015.1002454.

Menezes, F., Porto, S. I., and Grisa, C. (2016). *Abastecimento alimentar e compras públicas no brasil: um resgate histórico*. Centro de Excelência contra a Fome.

Mesquita, P. S., Bursztyn, M. (2017). Food acquisition programs in the Brazilian semi-arid region: benefits to farmers and impacts of climate change. *Food Security*, **9**(5): 1041–1051. https://doi.org/10.1007/s12571-017-0711-1.

Milhorance, C. (2020). Diffusion of Brazil's food policies in international organisations: assessing the processes of knowledge framing. *Policy and Society*, **39**(1): 36–52. https://doi.org/10.1080/14494035.2020.1724362.

Miranda, A. C., Gyori, M., and Soares, F. V. (2017). *Fase II do Programa PAA África: Resultados e lições aprendidas*. *One pager*. Retrieved from https://ipcig.org/pub/port/OP343PT_-Fase_II_do_Programa_PAA_Africa_resultados_e_licoes_aprendidas.pdf.

Moschitz, H., Muller, A., Kretzschmar, U., Haller, L., de Porras, M., Pfeifer, C., …, and Stolz, H. (2021). How can the EU Farm to Fork strategy deliver on its organic promises? Some critical reflections. *EuroChoices*. https://doi.org/10.1111/1746-692X.12294.

Mota, D. M. da, Schmitz, H., Silva Júnior, J. F. da, Porro, N. M., and Oliveira, T. C. V. de. (2014). As catadoras de mangaba no Programa de Aquisição de Alimentos - PAA: um estudo de caso em Sergipe. *Revista de Economia e Sociologia Rural*, **52**(3): 449–470. https://doi.org/10.1590/S0103-20032014000300003.

Muchnik, J., Cañada, J. S., and Salcido, G. T. (2008). Systèmes agroalimentaires localisés : état des recherches et perspectives. *Cahiers Agricultures*, **17**(6): 513-519 (1). https://doi.org/10.1684/AGR.2008.0251.

Otero, G., Pechlaner, G., and Gürcan, E. C. (2013). The political economy of "food security" and trade: Uneven and combined dependency. *Rural Sociology*, **78**(3): 263–289. https://doi.org/10.1111/ruso.12011.

Perez-Cassarino, J., Ferreira, A. D. D. (2016). Redesenhando os Mercados: a Proposta dos Circuitos de Proximidade. *Espacio Regional*, **1**(13): 49–65.

Porto, J. R. S. (2014). Projetos políticos de desenvolvimento territorial: territorialidades, significados e o campo de disputas no Sudoeste Paulista. *IDeAS*, **8**(1): 8–61.

Porto, S. I. (2014). *Programa de Aquisição de Alimentos (PAA): política pública de fortalecimento da agricultura familiar e da agroecologia no Brasil*. Universidad Internacional de Andalucía. Retrieved from http://www.reformaagrariaemdados.org.br/sites/default/files/2014 Dissertação ISEC Silvio Porto.pdf.

Rahmanian, M., Gomez, J., Bannò, L., and Meybeck, A. (2016). What types of markets to support agroecology? Reflections from the FAO agroecology symposia. In A. Meybeck & S. Redfern (Eds.), *Sustainable value chains for sustainable food systems* (pp. 193–211). Rome: FAO. Retrieved from http://observatorio.ica.edu.cu/pdf/a-i6511e.pdf#page=203.

Renting, H., Marsden, T. K., and Banks, J. (2003). Understanding Alternative Food Networks: Exploring the Role of Short Food Supply Chains in Rural Development. *Environment and Planning A*, **35**(3): 393–411. https://doi.org/10.1068/a3510.

Resque, A. G., Coudel, E., Piketty, M.-G., Cialdella, N., Sá, T., Piraux, M., …, and Le Page, C. (2019). Agrobiodiversity and Public Food Procurement Programs in Brazil: Influence of Local Stakeholders in Configuring Green Mediated Markets. *Sustainability*, **11**(5): 1425. https://doi.org/10.3390/su11051425.

Rocha, C. (2009). Developments in national policies for food and nutrition security in Brazil. *Development Policy Review*, **27**(1): 51–66. https://doi.org/10.1111/j.1467-7679.2009.00435.x.

Rosset, P. M., Martínez-Torres, M. E. (2012). Rural Social Movements and Agroecology: Context, Theory, and Process. *Ecology and Society*, **17**(3): art17. https://doi.org/10.5751/ES-05000-170317.

Rossi, A., Bui, S., and Marsden, T. (2019). Redefining power relations in agrifood systems. *Journal of Rural Studies*, **68**: 147–158. https://doi.org/10.1016/j.jrurstud.2019.01.002.

Sabourin, E., Craviotti, C., and Milhorance, C. (2020). The Dismantling of Family Farming Policies in Brazil and Argentina. *International Review of Public Policy*, **2**(1): 45–67. https://doi.org/10.4000/irpp.799.

Sabourin, E., Grisa, C., Niederle, P., Leite, S. P., Milhorance, C., Ferreira, A. D., …, and Andriguetto-Filho, J. M. (2020). Le démantèlement des politiques publiques rurales et environnementales au Brésil. *Cahiers Agricultures*, **29**(31): 1–8. https://doi.org/10.1093/acprof.

Sambuichi, R. H. R., Almeida, A. F. C. De, Perin, G., Moura, I. F. de, and Alves, P. S. C. (2020). *Execução do Programa de Aquisição de Alimentos nos municípios brasileiros*. Brasilia. https://doi.org/10.38116/td2606.

Sauer, S. (2020). Interview with João Pedro Stédile, national leader of the MST–Brazil. *Journal of Peasant Studies*, **47**(5): 1–17. https://doi.org/10.1080/03066150.2020.1782892.

Schebesta, H., Candel, J. J. L. (2020). Game-changing potential of the EU's Farm to Fork Strategy. *Nature Food*, *1*(10), 586–588. https://doi.org/10.1038/s43016-020-00166-9.

Sevilla Guzmán, E., Soler Montiel, M. (2010). Agroecología y soberanía alimentaria: alternativas a la globalización agroalimentaria. *PH Cuadernos*: 190–217. Retrieved from http://www.iaph.es/web/canales/publicaciones/cuadernos/cuadernos-ph/contenido/Cuadernos/CuadernoXXVI.

Simão, G. L., Silva, E. A., and Silveira, S. de F. R. (2014). Grau de Cobertura do Programa de Aquisição de Alimentos (PAA) Junto aos Agricultores Familiares do Estado de Minas Gerais. *Revista de Economia e Sociologia Rural*, **52**(3): 533–548. https://doi.org/10.1590/S0103-20032014000300007.

Souza, A. B. de, Fornazier, A., and Delgrossi, M. E. (2020). Local food systems: potential for new market connections for family farming. *Ambiente & Sociedade*, **23**: 2020. https://doi.org/10.1590/1809-4422asoc20180248r2vu2020l5ao.

Stefani, G., Tiberti, M., Lombardi, G. V., Cei, L., and Sacchi, G. (2017). Public food procurement: A systematic literature review. *International Journal on Food System Dynamics*, **8**(4): 270–283. https://doi.org/10.18461/ijfsd.v8i4.842.

Swensson, L. F. J. (2015). *Institutional Procurement of Food from Smallholder Farmers: The Case of Brazil* (FAO). Roma: FAO.

Trabalzi, F. (2007). Crossing Conventions in Localized Food Networks: Insights from Southern Italy. *Environment and Planning A*, **39**(2): 283–300. https://doi.org/10.1068/a37247

Triches, R. M., Grisa, C. (2015). Entre mudanças e conservadorismos : uma análise dos programas de aquisição de alimentos (PAA e PNAE) a partir da retórica da intransigência. *Revista Nera*: 10–27.

Vaarst, M., Escudero, A. G., Chappell, M. J., Brinkley, C., Nijbroek, R., Arraes, N. A. M., …, and Halberg, N. (2018). Exploring the concept of agroecological food systems in a city-region context. *Agroecology and Sustainable Food Systems*, **42**(6): 686–711. https://doi.org/10.1080/21683565.2017.1365321

Valencia, V., Wittman, H., and Blesh, J. (2019). Structuring Markets for Resilient Farming Systems. *Agronomy for Sustainable Development*, **39**(2): 25. https://doi.org/10.1007/s13593-019-0572-4

van der Ploeg, J. D. (2010). The peasantries of the twenty-first century: The commoditisation debate revisited. *Journal of Peasant Studies*, **37**(1): 1–30. https://doi.org/10.1080/03066150903498721

van der Ploeg, J. D. (2015). Newly emerging, nested markets: a theoretical introduction. In P. G. M. Hebinck, J. D. van der Ploeg, & S. Schneider (Eds.), *Rural Development and the Construction of New Markets* (pp. 16–40). New York: Routledge. https://doi.org/10.4324/9781315797519-11

van der Ploeg, J. D., Jingzhong, Y., and Schneider, S. (2012). Rural development through the construction of new, nested, markets: comparative perspectives from China, Brazil and the European Union. *Journal of Peasant Studies*, **39**(1): 133–173. https://doi.org/10.1080/03066150.2011.652619

Vinha, J. F. de S. C., Schiavinatto, M. (2015). Soberania alimentar e territórios camponeses: uma análise do Programa de Aquisição de Alimentos (PAA). *Revista NERA*, **26**: 183–203. Retrieved from http://revista.fct.unesp.br/index.php/nera/article/view/3576

Wittman, H., Blesh, J. (2017). Food Sovereignty and Fome Zero: Connecting Public Food Procurement Programmes to Sustainable Rural Development in Brazil. *Journal of Agrarian Change*, **17**(1): 81–105. https://doi.org/10.1111/joac.12131