

# **Agroecology and urban agriculture in the city of São Paulo: socio-spatial and socio-territorial movements**

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## **Abstract**

The article presents data and analyses on organic and agroecological production in the city of São Paulo, in the context of the discussion on agroecological transition. The methodology is based on surveys of secondary data and on open interviews. A synthesis map is presented, configuring the combined action of socio-spatial and socio-territorial movements by agroecology in the city of São Paulo and the metropolitan region of São Paulo. The concepts of agroecology, urban and peri-urban agriculture and socio-spatial and socio-territorial movements as analytical tools are discussed. The combined action of socio-spatial and socio-territorial movements is necessary for the expansion of agroecology.

**Keywords:** Agroecology; urban agriculture; São Paulo city; sociospatial and socioterritorial movements

## **Agroecologia e agricultura urbana na cidade de São Paulo: movimentos socioespaciais e socioterritoriais**

### **Resumo**

O artigo apresenta dados e análises sobre a produção orgânica e agroecológica na cidade de São Paulo, no contexto da discussão sobre transição agroecológica. A metodologia baseia-se em levantamentos de dados secundários e entrevistas abertas com membros da agroecologia. É apresentado um mapa síntese configurando a ação combinada de movimentos socioespaciais e socioterritoriais pela agroecologia na cidade de São Paulo e Região Metropolitana de São Paulo. São discutidos os conceitos de agroecologia, agricultura urbana e periurbana (AUP) e de movimentos socioespaciais e socioterritoriais como ferramentas de análise. A ação combinada de movimentos socioespaciais e socioterritoriais é necessária para a expansão da agroecologia.

**Palavras chave:** Agroecologia; agricultura urbana; São Paulo; movimentos socioespaciais e socioterritoriais.

## **Agroecología y agricultura urbana en la ciudad de Sao Paulo: movimientos socioespaciales y socioterritoriales**

### **Resumen**

El artículo presenta datos y análisis sobre la producción orgánica y agroecológica en la ciudad de Sao Paulo, en el contexto del debate sobre la transición agroecológica. La metodología es encuestas de datos secundarios y entrevistas abiertas. Se presenta un mapa de síntesis, que configura la acción combinada de los movimientos socioespaciales y socioterritoriales por parte de la agroecología en la ciudad de Sao Paulo y en la región metropolitana de Sao Paulo. Se discuten los conceptos de agroecología, agricultura urbana y periurbana (AUP) y movimientos socioespaciales y socioterritoriales como herramientas

analíticas. La acción combinada de los movimientos socioespaciales y socioterritoriales es necesaria para la expansión de la Agroecología.

**Palabras clave:** Agroecología; agricultura urbana; Sao Paulo; movimientos socioespaciales y socioterritoriales.

## Introduction

Agroecology in the city of São Paulo and surroundings comprise a political movement whose subjects seek healthful foods and fight for the human right to adequate and healthy food, what goes beyond organic production. Among these subjects, there are militants of the MST - *Movimento dos Trabalhadores Rurais Sem Terra* (Landless Rural Workers Movement), permaculture activists, urban garden collectives, youth collectives from the outskirts, Guarani smallholder indigenous people, associations of organic producers from the eastern and northern zones, groups of university students and researchers. As in every political action, the territories are under competition: farms, squares, empty plots and rural settlements can be appropriated either by organic farming or by conventional farming with use of pesticides. As organic production is legally formalized, there are available data on this; agroecological production, conversely, is difficult to measure. Even so, more than measuring, what matters here is to point out its spatial and territorial movement and the search for food sovereignty. The number of organic producers is not small, in relative terms, in comparison to the number of agricultural establishments in the city. In addition to organic production and in the labyrinths of the city, the movements for agroecology have gained ground and representativeness, even in legislative spheres.

This article presents part of the research entitled Agroecology and the Communes of the Land in São Paulo's Metropolitan Area (SPMA), aimed at identifying and interpreting the organic and/or agroecological production in the Brazilian city of São Paulo. The methodology comprises a survey and systematization of secondary data from the National Database of Organic Producers, of the Ministry of Agriculture, Livestock and Supply (MAPA, 2018), the Agricultural Census (IBGE, 2006), among other sources, and also unstructured interviews with one member of the Urban Movement of Agroecology (MUDA-SP), one member of the Studies and Practices in Agroecology and Human Reenchantment (EPARREH) and with one Guarani indigenous leader of the Kalipety village in the southern zone of São Paulo. The respective interviews are duly credited in footnotes.

Given the data and mapping on organic and agroecological production in São Paulo, this article presents new elements on the movements for urban farming and agroecology in the city. Its contribution resides in a key to interpreting the subject from the perspective of socio-spatial and socio-territorial movements, a cartographic representation

for explaining the dynamics of these movements for agroecology, and the emphasis on empirical data on the involvement of Guaranis from Parelheiros in the agroecological movement.

The following sections present data regarding the city of São Paulo, the definition of organic production and the characterization of the agroecological transition process. The mapping of agroecology socio-spatial and socio-territorial movements is explained and, afterwards, the engaged subjects are presented. Such depiction involves issues related to agroecology, socio-territorial movements and urban farming.

### **São Paulo: Organic Agriculture and Agroecological Transition**

São Paulo is a city with a land area of 1,500 km<sup>2</sup> and about 12 million inhabitants, 99.1% of which live in the urban area and 0.9% is rural. According to the 2010 Census, 45.6% of the 100,536 rural inhabitants live in the region South 2 (mainly in the districts of Parelheiros and Capela do Socorro), in regions East 2 (especially São Miguel) and North live 23.6% of them. Despite the minute percentage of rural population, the city's hugeness accounts for more than 100,000 rural inhabitants. It is worth noting that less than 7% of Brazilian municipalities have more than 100,000 inhabitants.

According to the Agricultural Census (IBGE, 2006), there were 193 agricultural establishments in the municipality of São Paulo, in a total area of 8,000 ha. Peasant family farming comprised 130 farms, on 556 ha altogether, and agribusiness consisted of 63 farms totaling 7,443 ha. Although the City Hall does not have a Department for Agriculture or for Food Security, there are Municipal Councils for Food and Nutrition Security (COSAN) and for Sustainable and Solidary Rural Development (CMDRSS) that are accountable to the Municipal Department for Development, Labor and Entrepreneurship, since 2015<sup>1</sup>. The usual image of São Paulo as a forest of buildings hides the presence of agricultural production. Yet, data from IBGE (2016) showed a farmed area of 91 ha (much smaller than that counted by the agricultural census), with both permanent and temporary crops, mainly comprised of bananas, beans, sugarcane, cassava, persimmon and coffee, in terms of volume. Although a too small volume to supply a city where millions of tons of fresh produce circulate, these data allow to get deep into the city from the inside out.

According to data from the National Database of Organic Producers (MAPA, 2018), there is a total of 76 registered producers in the city, 44 of which are individuals or companies that hold third party certification (paid) and 32 certified through a participatory system (detailed further on). Among the former 44 certified producers, it was possible to

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<sup>1</sup> Currently, Municipal Department for Economic Development and Labor, since it was renamed in 2017 by the then mayor, it still has the COSAN - Coordination of Food and Nutrition Security as a subordinated body.

identify at least 29 that refer to establishments of industrial processing of organic food, such as vegetable packaging, and chocolate, coffee and baby food manufacturing; the remainder comprise a small number of vegetable producers. Among the 32 producers that hold participatory certification, there are 13 individuals members of social control organizations (SCO), ten of which are members of *Agricultores da Zona Leste* (Farmers from the Eastern Zone – described further on) and 3 from the SCO São Paulo, whose location could not be found; there are also 19 individuals who cultivate organic crops certified by the *Organismo Participativo de Avaliação da Qualidade Orgânica* – PCAB (Organic Conformity Assessment Body) of the Brazilian Association of Biodynamic Agriculture (described in the topic about Cooperapas, in the Southern Zone). Thus, out of the 76 official registers of organic producers in 2018, about half are proven to be small farmers and the remainder are organic food processing companies, whose sizes are not identifiable in the afore mentioned database. These latter cases are probably non-agricultural establishments.

Considering the 130 family farms (IBGE, 2006), 32 of them are registered as organic, representing almost 25% (although we should take note of the long time span between data). This percentage may be slightly higher due to a few third-party certifications and possible organic farming initiatives that are not yet accredited. What matters to highlight is that the share of organic farming is not negligible (even if in absolute terms it is too small for the size of the city) and, mainly, that there are distinct appropriations of the “organic”, either as niche of the processed food market or as a human right to proper and healthy eating. Therefore, agroecology has a relevant place in the debate, as we will see.

The National Database of Organic Agriculture (MAPA, 2018) registers each producer by: type of certification (third-party, SCO, or PCAB), municipality, individual or legal entity registration ID, and scope of production (processed products of either plant or animal origin; plant or animal primary products). Processed products of plant origin may be, for example, coffee capsules, chocolates, frozen ready meals, baby food, etc. Plant and animal primary products are the crops and the livestock. Using the filter for municipality, data were retrieved for the city of São Paulo and other municipalities of the SPMA. As there is no information on the size of the establishments, data were grouped according to the form of organic certification: by third-party (which is a paid service) or by SCO/PCAB (participatory and free of charge). The scope shows the difference between primary production and processing, which can be at industrial scale or a small manufacturing.

Organic production in Brazil has been regulated by law since 2003. Federal law 10,831/2003 defines organic production:

Art. 1º Considera-se sistema orgânico de produção agropecuária todo aquele em que se adotam técnicas específicas, mediante a otimização do uso dos recursos naturais e socioeconômicos disponíveis e o respeito à integridade

cultural das comunidades rurais, tendo por objetivo a sustentabilidade econômica e ecológica, a maximização dos benefícios sociais, a minimização da dependência de energia não-renovável, empregando, sempre que possível, métodos culturais, biológicos e mecânicos, em contraposição ao uso de materiais sintéticos, a eliminação do uso de organismos geneticamente modificados e radiações ionizantes, em qualquer fase do processo de produção, processamento, armazenamento, distribuição e comercialização, e a proteção do meio ambiente.

According to this law organic production is defined as encompassing production processes named ecological, biodynamic, agroecological, permaculture and others. As a result of this law, producers interested in marketing organic goods must be registered with the Ministry of Agriculture, Livestock and Supply - MAPA. There are two paths, according to MAPA's policy<sup>2</sup>: 1) to obtain certification from a MAPA-accredited Organic Conformity Assessment Body (OCA), so the products will have an organic seal and can be freely traded – these are certification bodies controlled by audits; 2) to organize as a group and register with MAPA for sale without certification. However, without certification, its not possible to sell to third parties, only at farmer's markets (or directly to the consumer) and to the government through school feeding procurement. In this second path, the producer can join a Participatory Guarantee System - PGS, under the certification by a Participatory Conformity Assessment Body (PCAB), in which the regular assessment happens through the farmers' participation in the PCAB. Alternatively, for either direct or institutional sales, farmers can form a SCO.

The decree 7794<sup>3</sup> of 2012, established the National Policy of Agroecology and Organic Production, defining agroecological production as the one that “seeks to optimize the integration between productive capacity, use and conservation of biodiversity and other natural resources, ecological balance, economic efficiency and social justice”, as already established by Law 10831 for organic production. That is, there is almost no specificity of agroecology. In this decree, the “agroecological transition” is defined as a gradual process of practices and management of agroecosystems, aiming to reach farming systems whose principles and technologies are ecologically based.

However, the academic literature on agroecology identifies three phases in the process of agroecological transition, namely: reduction and rationalization of agrochemicals and synthetic fertilizers use; replacement of chemical with biological inputs (decreasing the external dependence); biodiversity management and the complete redesign of production systems. The three steps are not linear, they are subject to comings and goings; however, only with the third step will the transition be achieved (EMBRAPA, 2006, p. 27-30; ALTIERI, 2012, PRIMAVESI, 2016).

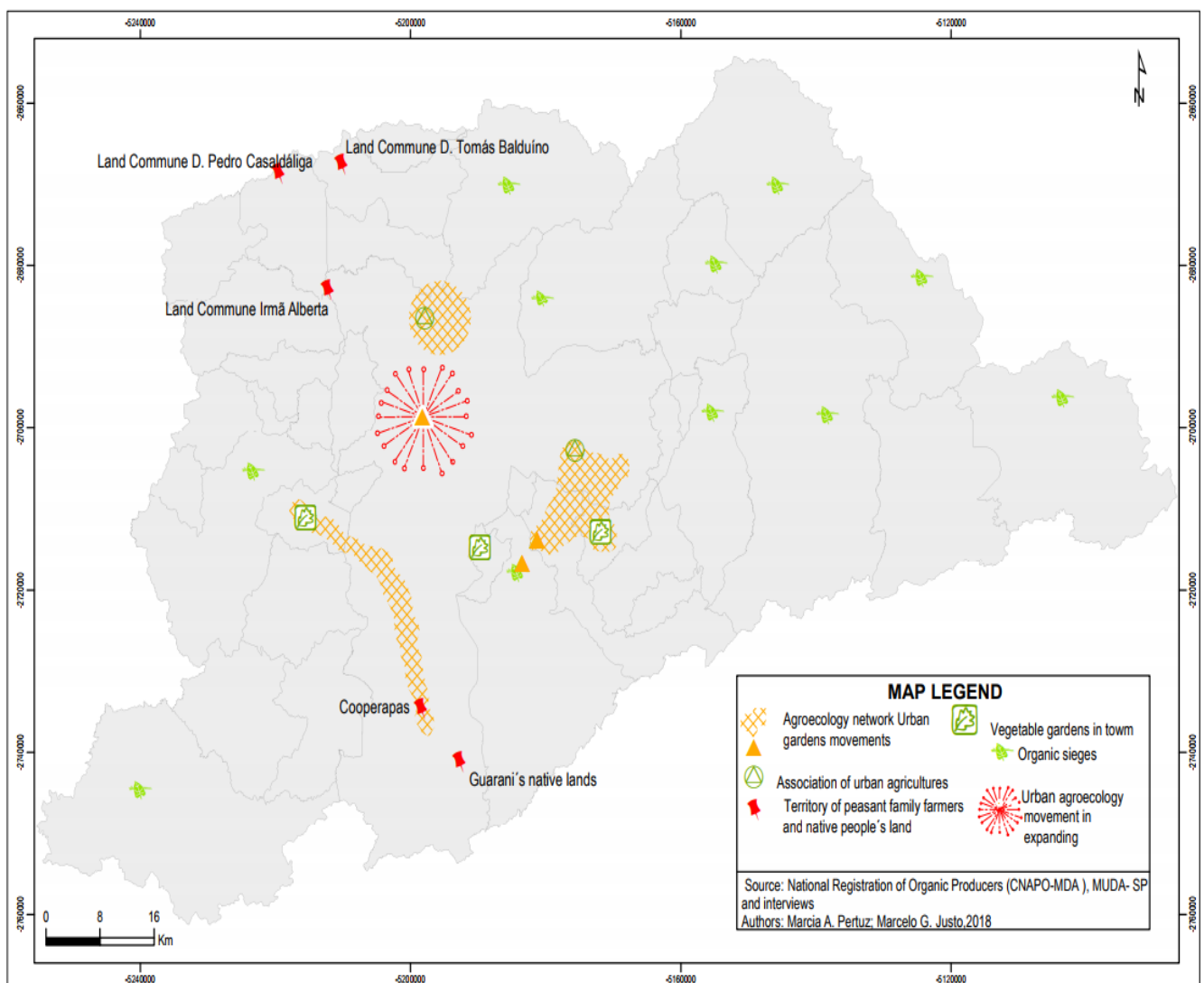
<sup>2</sup> MAPA – Ministério da Agricultura, Pecuária e Abastecimento. *Como regularizar a produção orgânica*. Available at: <http://www.agricultura.gov.br/assuntos/sustentabilidade/organicos/regularizacao-da-producao>

<sup>3</sup> Available at: [http://www.planalto.gov.br/ccivil\\_03/\\_ato2011-2014/2012/decreto/d7794.htm](http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/decreto/d7794.htm)

The definition of organic production considered here is the one adopted by the Ministry of Agriculture, according to law 10,831/2003. The definition of the three steps for “agroecological transition” is useful for the general classification of what will be presented throughout this text. However, unlike the terms of the law, agroecology is understood here not as part of organic production but as something broader that involves socio-spatial and socio-territorial movements (FERNANDES, 2005), as well as policies aimed at an agriculture that can overcome the capitalist farming. Thus, organic production data are discussed regarding situations of agroecological transition, which may or may not contribute to the construction of agroecology.

### Agroecology as a set of socio-spatial and socio-territorial movements

**Map 1: Socioterritorial and Socio-spatial Movements of Agroecology in the RMSP**



Source: research data. Elaboration: Marcia Arteaga and Marcelo Justo.

In the map above, we seek an overview focused on the city of São Paulo in the context of agroecology socio-spatial and socio-territorial movements in the whole SPMA.

First, we highlight socio-territorial movements that involved gaining land, particularly in the three *Comunas da Terra* (Communes of the Land) Irmã Alberta, Dom Pedro Casaldáliga and Dom Tomás Balduino (respectively in the district of Perus/SP, in Cajamar and in Franco da Rocha), organized by MST at Cooperapas (Agroecological Cooperative of Rural and Clean Water Producers of the Southern Region) and in the Guarani indigenous villages in São Paulo's southern zone (represented on the map by red georeferenced pointers). These movements combine the struggle for territory with organic or agroecological farming practices. In addition to these communes, there are 40 organic sites registered as either PCAB or SCO, distributed by 12 municipalities of the SPMA, therefore, few units in each municipality (represented by a green sprout on the map).

The Guarani people of the southern zone – who won 16,000 ha that they consider necessary to recover traditional crops and do not depend on processed foods – see themselves as part of the agroecological movement. Their struggle for land has clearly a sense of pursuit for food sovereignty. At Cooperapas there are about 30 smallholder families, 19 of which with PCAB registration. In the Irmã Alberta Commune, about 35 families live in their farms producing diverse and organic crops, without the use of pesticides, in a movement to recover the peasant identity. However, as the settlement has not yet been legally expropriated, they cannot regularize associations or have access to family farming policies. In addition, the presence of farmers in Irmã Alberta Commune is not included in any official statistics. Dom Pedro and Dom Tomás Communes have, respectively, 29 and 30 farmers, organized and registered as SCO. These are the highest numbers by municipality within the SPMA, out of the city of São Paulo, and which result from MST's territorial action. Concerning the region's organic farms, there are, generally, two or three registrations in each municipality, although there is no information regarding either size or ownership and leasehold. Noteworthy is the number of registrations in Mogi das Cruzes, which is the largest agricultural producer of SPMA, with 10 registrations, divided into two SCO: *Produtores Orgânicos de Mogi das Cruzes e Região* (Organic Producers of Mogi das Cruzes and Surroundings) and *Associação de Produtores Orgânicos do Alto Tietê* (Association of the Organic Producers of Alto Tietê). These two SCOs also have members in Arujá, Salesópolis, Santa Isabel and Suzano.

Several socio-spatial movements that do not involve land struggle are identified, as urban gardens (represented on the map by orange triangles), which are spread throughout the city of São Paulo, organized by tens of civil society initiatives (groups of residents, collectives and non-governmental organizations - NGOs) and placed in public spaces such

as squares, yards of schools and of primary healthcare units (hence the red lightning symbol in downtown SP). This movement of urban gardens also appears in São Bernardo and Santo André, set up by NGOs and farmers' associations and, therefore, is connected to agroecology networks (represented by an orange grid on the map). There are at least two organic farmers' associations of the northern and eastern zones (10 of which holding registers from the SCO – Agricultores da Zona Leste), which cultivate their gardens on public land such as under high-voltage power lines (where no buildings can be built) or on private plots (represented on the map by a triangle inscribed in a circle, in green). Such representations (Urban Garden Movements and Agroecology Networks) show trends, i.e., their indication on the map are not accurate. Agroecology networks (represented by orange grid on the map) – Permaperifa, for example – are youth collectives that combine cultural actions with agroecological crops. It should be noted that the grid indicates the region of operation; they are neither georeferenced points, nor are in scale. There are also municipal gardens established by the municipalities of Embu, Santo André, São Bernardo, Diadema and Mauá, with the participation of civil society (represented on the map by a leaf inscribed in a square, in green). The socio-spatial movements are formed by local residents, activists, NGOs, universities and municipalities, which promote discussions, organization and dissemination of urban and/or agroecological farming. When such actions take over a square or an area under high-voltage power lines, a dispute emerges over the destination of public space and the territorialization of the agroecological struggle.

As noted by Fernandes (2005), an interface between socio-territorial and socio-spatial movements is observed, since some people engaged in urban gardens are also involved with the *Comunas da Terra* and have, for some years, promoted an exchange. In these cases, the political struggle is well defined, with people from the academic middle class, residents of the central area, allying with the poor from the outskirts in a relationship of reciprocity and joint construction of urban agriculture in places of greater social vulnerability.

We are dealing with relatively small numbers in the city of São Paulo, with 32 records from SCOs/PCAB and between 35 to 90 community gardens distributed over the city and the SPMA. Many of the activists know each other. The accuracy of the figures for registers of organic producers is not always consistent with the observed situations of dissemination of adherence to agroecology. For example, the occupations of wasteland by the Movimento dos Trabalhadores Sem Teto - MTST (Homeless Workers Movement) have community gardens. The strengthening of socio-territorial and socio-spatial movements in the SPMA depends on the greater connection between them, what involves sharing experiences, knowledge and commercial exchanges.



## The subjects present in the mapping

Regarding legal aspects, in 2004, the City Council enacted the municipal law number 234, creating the Urban and Peri-urban Farming Program – PROAURP<sup>4</sup>, which defines urban farming as any activity of growing vegetables, legumes, medicinal plants, fruit and flowers and the raising of small animals, fish farming and the artisanal production of food and drink for human consumption within the municipality. The program aims to fight hunger, encourage job and income generation, family farming and production for own consumption, among other objectives. The municipal administration, according to the law, will survey public areas for the program's implementation, as well as register idle private areas and encourage their use, by means of tax exemption. PROAURP was the result of a broad discussion between government and civil society, held during the Urban and Peri-urban Agriculture Forum of São Paulo's Metropolitan Area, in 2002, according to Badue and Gonçalves (2007). The presence of the state, through laws and strategic plans, can be a response to the struggles of socio-spatial movements and a way to enter political disputes over the directions of agroecology.

Also in 2004<sup>5</sup>, for the first time the municipal strategic plan mentioned urban farming. In 2006, the municipal administration created the Casas de Agricultura Ecológica - CAEs (Ecological Farming Houses) for technical support to urban farmers. In the current Strategic Plan of 2014, the concept of “rural zone” was taken back, due to territorial and urban administration notions that the city and the quality of urban life have a direct link with the strengthening of the rural area. In these areas, the Plan proposes to foster economic uses and activities capable of conciliating job and income generation with improved quality of life, thus reducing social and environmental vulnerability, and recognizes the importance of urban and peri-urban agriculture<sup>6</sup>. The law that approved the 2014's Municipal Strategic Plan also established the Municipal Council for Sustainable and Solidary Rural Development - CMDRSS. The Decree 57.058 of 2016 defined the CMDRSS' composition, duties and running, highlighting the recognition of urban farming by ensuring the presence of two farmer representatives of urban agriculture movement from the South, one from the East, one from the North and one from the Center-West. The municipal law 16.140/2015 establishes the obligation to include organic or agro-ecological foods in school meals of the municipal

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<sup>4</sup> Ver: PREFEITURA DE SP, Lei municipal no. 234/2004. Available at: [http://www3.prefeitura.sp.gov.br/cadlem/secretarias/negocios\\_juridicos/cadlem/integra.asp?alt=13012004L%20137270000](http://www3.prefeitura.sp.gov.br/cadlem/secretarias/negocios_juridicos/cadlem/integra.asp?alt=13012004L%20137270000)

<sup>5</sup> The contextualization presented was based on the works of Nakamura (2017) and Nagib (2016).

<sup>6</sup> See: Apresentação do Plano Diretor Estratégico – 2014. Available at: <http://mapacolaborativo.gestaourbana.prefeitura.sp.gov.br/bordas-da-cidade/>

education system. Considering the exposed figures, local production would not be sufficient for supplying schools; however, agroecology necessarily depends on public policies<sup>7</sup>.

Still regarding the legal context, the state law number 16.684, enacted in March 2018, established the State Policy of Agroecology and Organic Agriculture – PEAPO<sup>8</sup>, aimed at encouraging and promoting agroecology and organic agriculture. Among the State's attributions related to such policies, it is worth mentioning the creation of credit lines and a 30% increase in institutional purchases of organic or agroecology transition products.

In the context of civil society, there are various non-governmental organizations and socio-spatial movements focused on agroecology, some of which have mapped it. Gabanyi (2015) presents a survey by Instituto Vitae Civilis (NGO focused on sustainable development), published as *Agricultura em São Paulo: a importância do engajamento popular para transformação social e ambiental* (Agriculture in São Paulo: the importance of people's engagement for social and environmental transformation) and carried out in partnership with the Institute of Applied Economic Research (IPEA), the State Department of Agriculture and Supply (SAA) and the Institute of Botany of the State Department of Environment (SMA), in 2013 and 2014. Aimed at mapping and diagnosing urban and peri-urban agriculture in the city of São Paulo, the article describes its presence in the whole city. This work reveals something that has resisted and still resists densification, and that is inscribed within a new context – a movement around urban agriculture and agroecology that NGOs have been building over the last decade. The author reports the occupation of idle spaces, such as wasteland, in the eastern zone. An example is the Associação de Produtores Orgânicos da Zona Leste (APO-ZL) which has 40 urban farmer members producing on lands lent in commodate by Eletropaulo or Sabesp (membership figures are higher than SCO registrations as seen on the map). Another example is the NGO Cidades Sem Fome (Cities without Hunger) that also uses land lent by Eletropaulo. In the southern zone, there are about 400 urban farmers, 90% of whom practice conventional agriculture using chemicals and 10% are the exception. These latter are members of Cooperapas, the Parelheiros farmers' cooperative. A more detailed description of the southern zone will be presented further on. Urban farming at the foot of Serra da Cantareira, in the northern zone, is characterized by historical Portuguese immigration. The local farmers are organized within the Associação dos Pequenos Agricultores Familiares do Jardim Damasceno - APAFA (Smallholder Family Farmers Association of Jardim Damasceno), which grows vegetables

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<sup>7</sup> During the municipal administration ruled by the Workers' Party (PT), from 2013 to 2016, when the law was approved, a partnership was made with the MST cooperatives from Rio Grande do Sul to supply organic rice for school feeding. At the beginning of the following municipal administration (PSDB), the then secretary of education signed a contract with Parelheiros agricultural producers to supply the schools. For the introduction of organic products into school lunches, see Badue (2007).

<sup>8</sup> Available at: <https://www.al.sp.gov.br/repositorio/legislacao/lei/2018/lei-16684-19.03.2018.html>

and fruits and raises chickens, ducks, goats, sheep, cattle and especially pigs. The regulation of these breedings was under discussion (GABANYI, 2015, p. 99). Another experience described by the author in the region is the Comuna da Terra Irmã Alberta, in Perus, on land occupied by MST. In the western zone, urban farming shows the smallest area in comparison to the others, though having a significant turnover with products of urban agriculture in a shopping mall and with the Hortelões Urbanos (Urban garden farmers) movement, which organized the Horta das Corujas (Owl's Garden) and other community gardens in public spaces in the city (GABANY, 2015).

There are also other surveys or mappings of the organic and agroecological circuit of the city of São Paulo and SPMA. Most notable are MUDA-SP and *União de Hortas Comunitárias de SP*. MUDA-SP<sup>9</sup>, the Urban Agroecology Movement created in 2013 as a collective for promoting agroecology, carried out a collaborative mapping of organic gardens, restaurants, open markets and institutions operating in the area. The map is updated annually and encompasses the SPMA. It is considered a reference survey of urban gardens in the city of São Paulo. A search within its website provides the following information, among others: 95 gardens (in schools, public squares, public or private lent land, primary healthcare units, and greenhouse schools in subprefecture headquarters, farms etc.); 40 organizations operating in the sector; 66 points of sale of organic products. Another reference for organic production mapping in the city, União de Hortas Comunitárias de SP (SP's Community Gardens Union)<sup>10</sup> presents 36 initiatives, which represent more recent data compared to MUDA-SP's.

Data summarized on the map are further detailed for two fronts of urban farming and agroecology: one located in the center-western and eastern zones, as the urban gardens, and another in the southern zone, represented by the organization of farmers in Parelheiros – Cooperapas – and by Tenondé Porã Indigenous Land, with an emphasis on this latter, since it rarely appears in researches on the subject.

### **Urban and peri-urban agriculture (UPA) in the center-western and eastern zones - socio-spatial movements**

As already mentioned, since 2004 urban farming legally entered the city's political agenda. This happened as a result of the action of agroecology socio-spatial movements in the city. Hence, a debate on the subject with its likely interfaces with agroecology became

<sup>9</sup> I am thankful to André Biazoti, a member of MUDA-SP, for providing the information about MUDA-SP and its surveys, on 12/20/18. See: MUDA-SP - [www.muda.org.br](http://www.muda.org.br)

It is worth noting that there is also the map of organic open markets of IDEC (Institute of Consumer Protection).  
<sup>10</sup> For more information on the União de Hortas Comunitárias de SP, see: <https://www.facebook.com/UniaodeHortasSP/>. Accessed in: 02/02/2019. See also Urban farming wiki portal: [https://pt.wikiversity.org/wiki/Portal:Agricultura\\_Urbana?fbclid=IwAR3s0D0ov\\_XQO3LPogUMEMJvlpK-EC1PF4ASZSj6mnNUqNli7raVGiXtJYQ#Iniciativas\\_de\\_Agricultura\\_Urbana\\_em\\_S%C3%A3o\\_Paulo](https://pt.wikiversity.org/wiki/Portal:Agricultura_Urbana?fbclid=IwAR3s0D0ov_XQO3LPogUMEMJvlpK-EC1PF4ASZSj6mnNUqNli7raVGiXtJYQ#Iniciativas_de_Agricultura_Urbana_em_S%C3%A3o_Paulo)

necessary. However, we know that MST's work, through the proposal of *Comunas da Terra*, had already brought up the issue of agroecology in metropolitan areas. The secondary data systematized here point to a spectrum of civil society organizations that, in the form of collectives, associations and networks, began to advocate agroecology to the point of converging into an urban agroecology socio-spatial movement. Two moments can be noted, one in the early 2000s, another in the beginning of its second decade. There are, for instance, founded respectively in 2000 and 2004, Instituto Kairós, aimed at sustainable consumption, and *Cidades Sem Fome* (Cities Without Hunger) that promote urban gardens in the eastern zone. Also in 2004, a collective of students of humanities from the University of São Paulo (USP), known as EPARREH (Studies and Practices in Agroecology and Human Reenchantment) got together as a study group and started to carry out extramural activities with community gardens in Embu das Artes (RIBEIRO, 2013). From 2010 on, emanating from the work of collectives such as EPARREH, the *Permaperifa* network emerges (see note 15). In 2011, the consumption cooperative *ComerAtivamente* (EatActively) – constituted in 2007 by USP students and others – contacted residents of *Comuna da Terra Irmã Alberta*, in Perus, for purchasing organic food (SALGADO and MARCOS, 2012)<sup>11</sup>. Also in 2011, the virtual network called *Hortelões Urbanos* – which advocate and act for changes in urban space, from use of bicycle to agroecological urban farming – was formed, and promoted the creation of *Horta das Corujas*, at Vila Madalena neighborhood, in the center-western zone of the city (NAGIB, 2016). Some of these collectives converged into MUDA – SP. At the turn of 2010, university activists for agroecology living in the central area of the city approached poor residents of the outskirts and MST activists, thus, strengthening agroecology movement in the center of the metropolitan area.

Nagib (2016) conducted a study focused on urban gardens in the city of São Paulo. To this end, he discusses the meaning of urban farming as a political activism. He traces a historical trajectory of the idea of urban agriculture, bringing elements of urban gardens in the nineteenth-century England and going through works by European and American urban planners from the late nineteenth and early twentieth century, who pondered on “garden-cities”, “ruralizing the city and urbanizing the countryside”, on sharing between wage labor and dedication to home gardens and so on. *Horta das Corujas*, in Vila Madalena, is an urban farming experience in the center-western zone of São Paulo city, in a neighborhood whose socioeconomic profile is marked by upper middle class, according to the author's analysis. The action was set in motion by the creation of *Hortelões Urbanos*' social network, in 2011. The author regards the meeting, in 2012, between two activists – the creator of *Hortelões*

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<sup>11</sup> According to later information, the *ComerActively* group stopped buying the production of *Irmã Alberta* Commune.

Urbanos' virtual network, Cláudia Visoni<sup>12</sup>, and the founder of the association of residents and entrepreneurs of Avenida das Corujas (Owls Avenue) and surroundings – as crucial for the formation of Horta da Corujas. He provides a long account of the formation of the Hortelões virtual group, which later became an in-person action group to start Horta das Corujas. In 2012, the first open meetings took place, involving residents of the square surroundings and supporters to start the seedbeds. According to the author, Hortelões Urbanos held the Cyclist's Garden on Paulista Avenue, where they had a dialogue with the local homeless people (NAGIB, 2016: 329). Another reference in this urban agriculture movement is the vegetable garden at Centro Cultural SP (SP's Cultural Center). In 2014, the City Council launched the call “Redes e Ruas” (Networks and Streets) for project proposals, and the “Edible Cities” Project presented by MUDA-SP was one of the selected projects. It was aimed at expanding the number of urban gardens, using Centro Cultural SP as a reference point for information and supporting activities to the implementation of new gardens. The project was launched in February 2015 (NAGIB, 2016, p. 149).

The Cidades Sem Fome is another example of urban farming promotion in the city of São Paulo. It was created by Hanz Temp, in 2004, and operates in the eastern zone, in the districts of São Mateus, São Miguel Paulista, Cidade Tiradentes and Itaquera, creating community gardens<sup>13</sup>. Its goal is the “social integration of vulnerable groups” through work in horticulture. The work of this NGO was studied by Pellizon (2017), who presents a research on the implementation and management of community gardens in São Paulo's Metropolitan Area. This is a case study on the organization and implementation of 21 community gardens, which, according to the entity, involves the direct contribution of 115 people as urban farmers and ensures food for about 650 people, being considered organic production. The study draws the conclusion that there were socioeconomic gains for the families engaged in the gardens, but that it is necessary to increase the number of families benefited by the actions. Vegetable gardens represent a transformative potential for communities because they generate not only food, but organization abilities.

An interviewed<sup>14</sup> agroecology (and MST) activist, and one of the creators of EPARREH collective, reported the gestation of an agroecology movement in São Paulo between 2004 and 2010. At the beginning of this period, USP set up a university extension project in partnership with the federal government's Fome Zero (Hunger Zero) program for

<sup>12</sup> In 2018, Claudia Visoni was elected state co-deputy for PSol party, headed by Congresswoman Monica Seixas. The mandate will represent another step in the expansion of agroecology as an anti-capitalist political movement.

<sup>13</sup> About the association, see: <https://cidadessemfome.org/>. It is worth watching the G1 report on the work of the NGO Cidade Sem Fome in São Miguel Paulista - SP: “Moradores transformam terrenos baldios em hortas orgânicas em SP” (Residents change wasteland into organic vegetable gardens in SP): <http://g1.globo.com/globo-reporter/noticia/2016/02/moradores-transformam-terrenos-baldios-em-hortas-organicas-em-sp.html>

<sup>14</sup> Unstructured interview with Lucas Ciola held on 4/20/18, at the School of Philosophy, Letters and Human Sciences -FFLCH / USP. My thanks for his willingness. On the history of the EPARREH Collective, see Ribeiro (2013).

building community and school gardens in the outskirts of São Paulo and in the municipalities of Taboão da Serra and Embu. By 2010, the partnership with the government ended and collectives focused on environmental education and a cooperative of sowers were formed, which combined the work in the outskirts with middle class activists from the central districts of the city, originating the MUDA SP - Movimento Urbano de Agroecologia. This movement is aimed at promoting urban gardens in SP – experiences that were taking place in Europe and North America. The Permaperifa network also emerges in this period, linking several collectives of agroecological food production and/or distribution, as well as feminist and other activist groups involving black people from the outskirts. There are collectives in the northern and eastern zones, in Santo André and São Bernardo municipalities in a total of 20 groups directly involving about 150 people, according to the interviewee<sup>15</sup>.

### **Cooperapas (Agroecological Cooperative of Rural and Clean Water Producers of the Southern Region) - agroecological transition in the southern zone**

Organic agricultural production in the southern zone of São Paulo was researched by Badue (2007), Jesus (2016), Nakamura (2017) and Coradello (2015), among others. While the latter two deal specifically with Cooperapas, the first ones present a broader view of the region. Badue (2007) addresses particularly the insertion of organic products into school meals at a time prior to the formation of the afore mentioned cooperative, while Jesus (2016) researches youth and family farming. Cooperapas (Cooperativa Agroecológica dos Produtores Rurais e de Água Limpa da Região Sul de São Paulo) was founded in 2011 and is, so far, the only agricultural cooperative in the city of São Paulo (NAKAMURA, 2017; CORADELLO, 2015). The main goals of this cooperative are to strengthen the access to markets for farmers in the region and to facilitate access to public policies aimed at family farming. As Gabanyi (2014) noted, only 10% of farmers in the southern zone are part of Cooperapas and do not practice the conventional pesticide-based farming.

The work by Badue (2007) observes the beginning of CAE Parelheiros' Diagnosis of Local Agriculture in 2006, when there were 107 farmers in the Parelheiros and Marsilac districts, 92% of which declared to adopt the conventional farming system, and 8% were adherent to the organic system (by self-declaration). Regarding the production, 69% consisted of vegetables and fruits, 29% of ornamental plants and 2% have left the activity. As to market operations, 42.9% goes to CEAGESP (Company of General Warehouses of São Paulo), 28% to open markets and 26.1% to middlemen; 14% (percentages overlap) are

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<sup>15</sup> In a previous research, I mapped and analyzed the networks related to Hip Hop culture movements in the southern zone of São Paulo and found a series of initiatives related to organic agriculture and food security and sovereignty. See: Justo and Hardargh (2014).

allocated to other markets (fruit and vegetable stands, supermarkets, local markets etc.). Regarding land ownership, the vast majority reported being regular (between 73% and 88%).

Ten years later, Jesus' (2016) research presents the profile of a larger number of farmers and their working conditions in the southern zone of São Paulo. A group of technicians (including, during some time, the author herself) together with CAE Parelheiros – as mentioned by Badue (2007) – surveyed the farmers, between 2006 and 2012, and found a total of 316 people, in a total registered area of 4,756.3 ha, of which 1,251.9 ha were cultivated with temporary crops, 123.9 ha with perennial crops, 516.7 ha with pasture, 534.4 ha were fallow and 42.7 ha consisted of swamp/dale (these numbers are higher than those pointed out by IBGE, 2006). The crops are distributed as follows: ornamental plants in 256.6 ha; olericulture in 1,066.6 ha; eucalyptus in 146.6 ha; fruits in 74.2 ha and other crops in 167 ha. Out of the total respondents, 195 live in properties of up to 10 ha; 56, between 11 and 20 ha; 45, between 21 and 50 ha and 19 between 51 and 150 ha. It can be noted that due to the size of the area, some are considered family farmers and some are not, although they all live, basically, as family producers, even those with a larger area than that established by law to be regarded as a family farming. For 176 farmers, 100% of their income comes from agriculture and for the remainder, this percentage ranges from 90 to 30%. For more than 200 people, the use of family labor is predominant – even in case that young people went to live in the city, they come back to help with the harvest. For about 50 people, there is the use of waged external labor. For most, the status of the land is not regularized. Among the respondents, 137 belong to the rural union, 32 to some association and 30 to Cooperapas (JESUS, 2016).

Coradello (2015) systematizes, in her research, the experience of Cooperapas – of which she is also one of the founding members – remarking that most members of the cooperative are in “agro-ecological transition”, that is, they are gradually constructing agroecological knowledge in a process of learning and exchanging of knowledge, experiences and interpretations of the contexts in which they live and produce. The author reports the background of Cooperapas' creation. In 2010, a partnership between the State Government and São Paulo City Council created the *Protocolo de Boas Práticas Agroambientais* (Agro-Environmental Best Practices Protocol) in which a group of farmers committed to perform agro-ecological conversion, in a period of four years, eliminating the use of pesticides and chemical fertilizers and reforesting degraded areas, among other points. This allowed the farmers to participate in the Feiras de Agricultura Limpa (open markets of Clean Farming), in the Burle Marx Park and Ibirapuera Park or in the São Mateus open market, in the eastern zone. Earlier, in 2006, part of the farmers participated in activities promoted by the USP's Incubadora Tecnológica de Cooperativas Populares – ITCP (Technology Incubator of Popular Cooperatives), and some projects were developed in

collaboration with Instituto 5 Elementos, an NGO that helped organize organic production. In 2009, the Associação de Agricultura Biodinâmica - AAB (Biodynamic Farming Association) carried out a project for the participatory certification of eight farmers in the region. About 100 farmers have gone through such processes. Interviews conducted by Coradello (2015) show that, regarding agroecology, some respondents answered that more than farming without use of pesticides it is an ecological production system; two respondents could not answer for not knowing the concept but showed an understanding of the idea and the practice.

Nakamura's (2017) research shows that Cooperapas farmers move between agroecology, organic agriculture and biodynamics. The study illustrates on a map the groups belonging to the biodynamic production, which comprise seven farms, and four farms that take part in SCO. It is worth noting the profile of cooperative's members identified by Nakamura (2017), which updates and complements previous researches. They see themselves as family farmers. There are people whose parents and grandparents were rural workers, others who sought to leave the urban environment without having a farmer's background and those who aimed to change their lives by becoming farmers. As for schooling, seven have higher education, five have completed high school, two have completed elementary school, two have not completed elementary school and two have no schooling. Only two respondents earn 100% of their income from agriculture, and the others depend on outside sources such as side jobs, holding events on the farm, and retirement pensions. Only one of them accessed the Pronaf (National Program for Strengthening Family Farming). The consumers of the production are restaurants, neighbors, acquaintances, Instituto Chão, organic open air markets, middlemen, groceries, and fruits and vegetables stands.

### ***The “forgotten” Guarani Mbya and the agroecology cause***

The struggle of the Guarani people is hardly depicted as part of the agroecology movement in the city of São Paulo. In the district of Parelheiros, indigenous lands grew from 52 ha to 16,000 ha. By 2010, they had a population of 1,000 people and officially only the villages of Tenondé Porã and Krucutu existed, with 26 ha each. Currently, the population is around 3,000 people, they won a declaration of demarcation of an area of 16,000 ha and it has 6 villages.

The article by Jerá Poty (2016) describes this process of recovering indigenous lands in the southern zone of São Paulo. The author, one of the leaders of this struggle, refers to the people's concern in 2012 about the lack of land to be able to reproduce the



Guarani way of life (*Nhandereku*)<sup>16</sup>. She herself was distressed for not having enough land to grow sweet potatoes, corn and cassava. According to Poty (2016), the Guarani people are characterized by being calm, patient and cautious, but patience had then reached its limit and they decided to begin demonstrations, such as closing the Bandeirantes Highway, and having a hearing with the then Minister of Justice. They decided to take back areas recognized as Guarani's ancestral lands, starting with one area whose alleged owner had abandoned it more than ten years ago. There they established the Kalipety village, where Poty is one of the leaders. In 2016, the then Minister of Justice, Eugênio Aragão, began to regularize some indigenous lands that were not under legal disputes. This offered them an opportunity and they then occupied the office of the Presidency of the Republic, in São Paulo (at Paulista Avenue). While the *Xondaro* (warriors) occupied this office, other leaders, such as Jerá Poty, went to Brasília to meet with the minister. She describes putting some of the hard, dry earth of Tenondé village on his desk along with packets of chips, crackers and sodas, and next to this, she put some of the black and fertile earth from Kalipety village, along with sweet potatoes, corn and cassava to show him the need for more land for a healthy life. He then pledged to sign the demarcation statement the next day in São Paulo.

During field work in Kalipety village, I participated in an interview with Jerá Poty<sup>17</sup>. She was then 38 years old, had studied pedagogy at USP and had a 16-year-old daughter (who attended, in Belo Horizonte, the IV National Meeting of Agroecology, in June 2018). She told that her work with the village youth began by 2008 or 2010. She, then, felt there was a certain atmosphere of dispersion in the village, young people were more interested in the "whites" (*juruaá*) culture than in their own. She, then, remembered that, as a child, she used to feel the ground shaking when the adults danced the *Xondaro*. She began to promote meetings with young people to dance. At first, they were stiff and shy, but after a month they were already loose and engaged. *Xondaro* serves as a basis for all activities in the village, such as planting, hunting, hiking. In her view, the process of recovering Guarani culture led to the struggle for territory expansion. They demanded the expansion of their lands from the federal government, but initially failed. They decided, then, to take over (occupy idle and ancestral indigenous land) and to start public demonstrations to press for demarcation of the indigenous lands. When they were invited to attend the opening ceremony of the 2014 Football World Cup, they took the opportunity to show a banner with the words "*demarcação já!*" (demarcation now!) (PACIORNIK, 2016). The main point is that the movement to rescue Guarani practices, dances, basketry and cultivations is related to the need for more land.

<sup>16</sup> For information on Nhandereku, Xondaro and Sacred Corn, see the documentaries available at: <http://videos.yvyrupa.org.br/nhandereko-nosso-modo-de-viver/>

<sup>17</sup> Interview conducted by the NGO Ashoka on 1/6/18 for the line of work: youth strategy in Latin America. My thanks to Jerá Poty for being willing to talk and show the crops.

For Poty, to be able to cultivate and one day be self-sufficient in food and way of life, her people need land. She aims to ensure that villages do not depend on the donation of basic food baskets and clothing. There are villages that are more dependent and some that are less. She gives the example of pasta: many have gotten used to eating it and now she has managed to have sweet potatoes and the village does not need to consume pasta.

After the interview, we went to see the fields. Poty first showed us a small patch of lettuce, sweet potatoes, beans and papaya. Next, we went to another house with fenced plots at both sides. The first, she said, was a kind of "agroforest" with corn, banana and cassava. When asked if it comprised an intercropping, she replied that this kind of planting is traditional among Guaranis – they have always planted different species together and never practiced monoculture. In the second plot, there were patches with beans, sweet potatoes, corn and yellow watermelon; they were beginning to sprout and the earth was covered with dry leaves. I asked if they used organic fertilizers and she said they did, but it still was not enough so they had to buy it. Consciously, she stands as part of the agroecology movement.

Considering what was observed in the villages of Parelheiros, it is fair to assert that the Guarani from Pico do Jaraguá village, in the northern zone of the city, need a greater territory.

### **Agroecology, socio-spatial and socio-territorial movements and urban farming**

Agroecology must be understood within the framework of socio-spatial and socio-territorial movements in the countryside and in the city (agrarian reform settlements such as the Communes of the Land, community gardens, organic producer associations, indigenous lands etc.). The conceptual discussions to guide interpretations shall include agroecology, socio-territorial and socio-spatial movements, and urban and peri-urban agriculture (UPA).

Studies have shown that a very small portion of agricultural production is organic and/or is in agroecological transition – only about 1% of the total according to estimates. So, its presence in the city of São Paulo is significant once it is higher than this estimate. However, a challenge is posed by contention regarding both ideas and agricultural practices. Hence the need of movements for its expansion.

There has been a long discussion on agroecology, which is not to be deepened here, although it is worth showing that it goes far beyond organic production. Different authors agree that agroecology refers to both a set of practices and to a science. As a science, Altieri (2012) defines Agroecology as the application of ecological concepts and principles to the design of sustainable agroecosystems, promoting a broad base in view of complex systems. However, the discussion involves a set of issues so intertwined that the approach to one issue individually is not enough to define agroecology.

In summary, six issues are involved in the conceptualization of Agroecology:

- 1) The pillars: ecology, ecosystems, environmental preservation, sustainability and cultural, social and economic dimensions. In Altieri's formulation, they are productive ecosystems that preserve natural resources, are culturally sensitive, socially fair and economically viable (ALTIERI, 2004, p. 21; 2012).
- 2) Agrobiodiversity: human creation of highly diverse agricultural systems that simulate the balance of nature; the more the variety, the better for soil, plant health and food supply (ALTIERI, 2004; 2012, p. 131; PRIMAVESI, 2016). Today's peasantry is a symbol of diversity, and biodiversity is associated with cultural diversity (BARTRA, 2011).
- 3) Practices that are specific to small peasant family farming (ALTIERI, 2012; BARTRA, 2011; MACHIN SOSA *et al.*, 2013). The presence of women in peasant organizations stands out (DESMARAIS, 2013). Public policies are fundamental (MACHIN SOSA *et al.*, 2013).
- 4) Knowledge dialogue between scientific knowledge and local peasant and indigenous wisdom (ALTIERI, 2012; MACHIN SOSA *et al.*, 2013)
- 5) The political struggles against the co-optation of agroecological discourse by capitalist industrial agriculture (ALTIERI and HOLT-GIMENEZ, 2016; GIRALDO and ROSSET, 2017).
- 6) The joint action with rural social movements for food sovereignty and defense of agroecology so that to guarantee it (ALTIERI and HOLT-GIMENEZ, 2016; DESMARAIS, 2013; GIRALDO and ROSSET, 2017). Here it is worth highlighting the MST's adherence to agroecology (DESMARAIS, 2013).

An additional point is that, if the presence of peasant social movements is central, then agroecology can be associated with socio-spatial and socio-territorial movements, as conceptualized by Fernandes (2005). Giraldo and Rosset's (2017) article started this approach by placing the current political dispute over agroecology as a territorial competition, either in the material sense or in the field of ideas. Fernandes (2005) explains that, unlike sociological studies on social movements, Geography is concerned with movement of space, its transformation into territory and the geographical space in its entirety. In socio-territorial movements, the land is essential to their existence. "Territorialized movements are those that act in various macroregions and form a network of relationships with political strategies that promote and foster their territorialization" (FERNANDES, 2005, p. 31). By breaking with the local scale, they organize networks that expand actions and spaces, the author explains. Recent work by the author states that public policies for family farming created during the former president Lula's period (2003 to 2016) enabled the "territorialization of agroecological production" (HALVORSEN, FERNANDES and TORRES, 2019, p.10).

### **Urban and peri-urban agriculture (UPA) and agroecology**

The work by Santandreu and Lovo (2007) is one of the first surveys on experiences of urban and peri-urban agriculture (UPA) in the Brazilian metropolitan regions. The authors studied eleven metropolitan areas – Belo Horizonte - MG, Curitiba - PR, Porto Alegre - RS, Rio de Janeiro - RJ, Sao Paulo - SP, Brasília - DF, Goiania - GO, Belém - PA, Fortaleza - CE, Recife - PE and Salvador – BA – noticing the presence of urban agriculture in all five regions of the country and identifying 635 initiatives. Of this total, 75% are in the state capitals and the remaining 25% in the surrounding cities. Plant production is the most frequent activity, both for own consumption (and for exchange or donation) and for selling. Transformation or value adding is too low. Of the total initiatives, 537 are of plant production, collection or extraction, 109 of raising animals, 12 of production of inputs, 248 of commerce, 175 of services and only 66 of transformation. Therefore, there are a variety of initiatives, and 53% of the experiences have more than one activity. Overall, 72% have production among their activities and 49% involve commerce (there is an overlapping). The presence of organic or agroecological production is of 50% in the South and Southeast and of 60% in the North and Northeast. However, it was not possible to assess how strict they are with such precepts. In the Midwest, 85% use conventional production methods.

The authors define UPA as the production, transformation and provision of services to generate agricultural and livestock products aimed at own consumption, exchanges and donations or commerce, by means of sustainable use of local resources and inputs. These are activities carried out in urban or peri-urban spaces, linked to urban or metropolitan dynamics and coordinated with the territorial and environmental management of cities. In addition, it should be guided by respect for local knowledge, promotion of gender equity, use of appropriate technologies and participatory management processes. Those who participate are individuals or groups, especially those in vulnerable conditions, such as women, the unemployed, migrants, children, young and old (SANTRANDREU and LOVO, 2007, p. 11). Finally, it is worth noting the typology presented by the authors about the places used. In private spaces, there are vacant plots, wastelands (either private or whose ownership is uncertain), roofs, backyards and green areas in housing estates. In public spaces, there is land (municipal, state or federal) of urban green areas, such as squares and parks; institutional, such as schools, day care centers, healthcare units, hospitals, prisons and buildings; in non-buildable sides such as railway, roads and avenues edges, watercourse margins, flooded areas and tracks under high-voltage power lines; in protected areas and in environmental treatment areas.

Damasio (2015) carried out a literature review on urban and peri-urban agriculture (UPA). He presents a final conceptualization of UPA as “practice of cultivating food, medicinal and aromatic plants and small-scale animal raising” in the urban and peri-urban

environment, “using idle spaces and local resources” and developed by marginalized populations, mostly women, aiming to meet nutritional, occupational, educational, therapeutic and social empowerment needs (DAMASIO, 2015, p. 14).

Commonalities are observed between the agroecology and urban agriculture discussions. Biazoti's (2017) essay confirms the convergence between the two.

## Final remarks

Urban garden movements constitute urban and peri-urban farming experiences, many of whose activists are advocates of agroecology. Taken in its technical sense, the described situation is, generally, one of agroecological transition – Cooperapas, for example, is characterized as such. The third step of the agroecological transition, which is the redesign of the whole organization of production, is something more complex and probably not yet accomplished in the different depicted experiences. By considering the six issues involved in agroecology, the situation seems more distant. However, the configuration of the set of experiences depicted from the city of SP and its surroundings shows the potential of agroecology movements to spread.

Agroecology issues (the pillars, agrobiodiversity, peasants, knowledge dialogue, fight against co-optation and the need for social movements) are present in the analysis of the whole map, but not in individual cases. In each case, some of the topics are present, but one is more prominent. Socio-spatial and socio-territorial movements are present, and the politicization of the struggle is clear in *Comunas da Terra*, among the Guarani and in the urban garden collectives. In the literature on Cooperapas, a dialogue is observed between traditional wisdom and scientific knowledge. The residents of the Comuna da Terra Irmã Alberta live a process of reconstruction of their peasant identity, being people of rural origin who lived in the metropolis for years.

The map summarizes the dynamics of agroecology in the city of São Paulo by the existence of two combined movements, one socio-spatial and the other socio-territorial. The socio-spatial movement is expressed through urban farming actions as community gardens in public or private areas, in coordination between residents, NGOs, activists, academics, MST militants and networks from the outskirts. It is present throughout the city in specific points such as vegetable gardens and in networks such as the Permaperifa and Hortelões Urbanos collectives, for example, located in the North, South, East and Center-West zones. When this socio-spatial movement appropriates a public square with the creation of a community garden, it becomes territorial because it enters the competition – with the public authorities and with other visitors – for the configuration and use of public space. The

Guarani struggle is clearly for food sovereignty, in the sense that the groups build it and the state must guarantee it.

The socio-territorial movement is found in the Cooperapas organic farmers' properties, in the Guarani indigenous villages of the southern zone and in the Comuna da Terra Irmã Alberta, in Perus, in the northern zone. Some militants or activists of agroecology socio-spatial movement make the connection with the Irmã Alberta Commune. Then, there is a feedback in which the socio-spatial and socio-territorial movements are consolidated and strengthened in their relationship with each other. The gain in scale will depend on the strength of the combination of movements and the gain in territories.

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