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Food governance and food security in small Brazilian municipalities: insights from the Milan Urban Food Policy Pact

Governança alimentar e segurança alimentar em pequenos municípios brasileiros: contribuições a partir do Pacto de Política Alimentar Urbana de Milão

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Abstract: In this research, we aim to identify how food supply and food and nutritional security are addressed in the public policies of municipalities. The methodology employed was qualitative, and the research instrument consisted of semi-structured interviews, with the script based on the report on the Milan Urban Food Policy Pact and literature on food and nutritional security and alternative food supply chains. Municipalities in the microregion of Erechim, in the North of Rio Grande do Sul, Brazil (Getúlio Vargas, Estação, Itatiba do Sul, and Erval Grande) were analyzed. The results illustrate that urban food policies were primarily developed in schools, and there were no actions targeting the entire population of the municipalities. No assertive and coordinated municipal policies were found in favor of the food and nutritional security of the population, especially in rural areas. The responsibility for food production remains exclusively with the rural population, despite its depletion and aging. The study contributes to the debate on food governance by demonstrating the limits and possibilities of translating global urban food policy frameworks into small municipalities marked by rural-urban interdependence.

Keywords: food policies; food and nutritional security; alternative food supply chains; health.

Resumo: Nessa pesquisa buscamos identificar como o abastecimento e a segurança alimentar e nutricional são contemplados nas políticas públicas dos municípios. A metodologia utilizada foi qualitativa, e a coleta de dados foi realizada por meio de entrevistas semiestruturadas, cujo roteiro foi baseado no relatório sobre o Pacto de Política Alimentar Urbana de Milão e na literatura sobre segurança alimentar e nutricional e cadeias alternativas de abastecimento alimentar. Foram analisadas prefeituras da microrregião de Erechim, no Norte do Rio Grande do Sul, Brasil (Getúlio Vargas, Estação, Itatiba do Sul e Erval Grande). Os resultados mostram que as políticas alimentares urbanas foram desenvolvidas prioritariamente nas escolas e não houve ações destinadas a toda a população dos municípios. Não foram encontradas políticas municipais incisivas e coordenadas em prol da segurança alimentar e nutricional da população, especialmente a rural. A responsabilidade pela produção de alimentos permanece exclusivamente com a população rural, mesmo com seu esvaziamento e envelhecimento. O estudo contribui para o debate sobre governança alimentar ao evidenciar os limites e as possibilidades de territorialização de referenciais globais de políticas alimentares urbanas em pequenos municípios marcados pela interdependência rural-urbana.

Palavras-chave: políticas alimentares; segurança alimentar e nutricional; cadeias alternativas de abastecimento alimentar; saúde.

1. Introduction

Traditional agri-food systems may be understood as a chain of activities of which the production, processing, distribution, consumption, and post-consumption of food and regulatory institutions and activities are part (Dansero et al., 2017). The form of food production and distribution through traditional agri-food systems, based on long chains and agro-industrial conglomerates, presents limitations regarding provision, supply, and distribution, putting at risk the food security of populations (Dansero et al, 2017). Generally, these food systems follow production models with a large productive and technological scale and focus on commodity production, monopolizing most of the land and public resources destined for food production (Proença et al., 2021)

With this, the Brazilian traditional agri-food system presents contradictions: at the same time that it is one of the leading agricultural and food producers in the world, it faces the worsening of hunger and food insecurity. At the end of 2020, 9% of Brazilian families faced some level of food insecurity, with this number rising to 15.5% in 2022 (Rede Brasileira de Pesquisa em Soberania e Segurança Alimentar e Nutricional [Rede Penssan], 2022). This percentage represents human populations that live daily with hunger and are in a situation of food insecurity at various levels. Among the leading causes of the increase in these levels are the worsening of the economic crisis and the increase in social inequalities (Rede Penssan, 2022).

Also, food insecurity is experienced in 60% of households in rural areas, and hunger affects 21.8% of the households of Brazilian family farmers (Rede Penssan, 2022). These food insecurity data point to the need for actions to be taken to minimize the problem. Added to this is the recognition of the human right to adequate food, involving the importance of strengthening medium and long-term public policies that guarantee stable and permanent access to adequate food for all people (Vara-Sanchez et al., 2021). An example would be governments rethinking the destination of investments and costing resources, using them to stimulate the production, supply, and consumption of nutritious foods, contributing to the intake of healthier, cheaper food that is equitable and affordable for the entire population (Muñoz et al., 2021), in both rural and urban areas. This problem is the basis of the research questions of this study: has the municipal government cared about the food security of its citizens? What actions have been taken to provide the citizens with the rights established by the Organic Law on Food and Nutrition Security[1]?

Thus, we sought to identify which actions at the municipal level regarding food security and sovereignty of the urban and rural population have

1 Article 3 of Law No. 11346 of September 15, 2006, establishes that "food and nutrition security consists of the realization of the right of all to regular and permanent access to quality food, in sufficient quantity, without compromising access to other essential needs, having as a basis health-promoting dietary practices that respect cultural diversity and are environmentally, culturally, economically, and socially sustainable".

been developed, identifying which policies have been conceived for Short Food Supply Chain (SFSC) development, urban food production, and rural development. To address and discuss these issues, we analyzed the food policies of the municipalities in the microregion of Erechim, Rio Grande do Sul, Brazil, with sampling in four municipalities: Getúlio Vargas, Estação, Itatiba do Sul, and Erval Grande.

In this context, the general objective of this article was to analyze how food supply and food and nutrition security were addressed in the public policies of municipalities in the microregion of Erechim/RS, using the areas of action of the Milan Urban Food Policy Pact as an analytical framework. The following were listed as specific objectives: a) identify with the municipal government if urban food planning goals existed and what they were; b) point out initiatives and policies of these municipalities that promoted sustainable diets and nutrition, social and economic equity, agri-food production, governance, food supply and distribution, and were against food waste, as a way to contribute to the food security of citizens.

This study was based on the Milan Urban Food Policy Pact (MUFPP). This tool may boost and assist municipalities in different regions of the world in implementing and monitoring actions that promote the improvement of urban food and healthier and more sustainable agri-food systems. Although the Milan Pact emerged from debates on urban food policies and is frequently applied to large cities, its analytical dimensions are also useful for examining smaller municipalities, especially in countries such as Brazil, where food systems are strongly shaped by rural-urban relations, family farming, public procurement, and territorial inequalities. Applying this framework to small municipalities does not imply assuming that they have the same institutional capacity as large cities. Rather, it allows the identification of how global food policy agendas are translated, limited, or reconfigured in local contexts with different administrative capacities and territorial dynamics. These discussions are aligned with the United Nations (UN) Sustainable Development Goals (SDGs), according to which goals must be achieved through joint actions that bring together different levels of government, organizations, companies, and civil society in a global call to end poverty, protect the environment and climate, and ensure that people, everywhere, can enjoy peace and prosperity (Organização das Nações Unidas [ONU], 2015).

It is important to clarify that the municipalities analyzed did not necessarily formulate their food-related policies based on the Milan Urban Food Policy Pact, nor were they expected to formally comply with its guidelines. In this study, the Milan Pact was used as an external analytical framework, not as a normative criterion previously adopted by the municipalities. Its relevance lies in providing internationally recognized dimensions for examining urban and territorial food policies, such as governance, sustainable diets, social and economic equity, agri-food production, food supply

and distribution, and food waste. Therefore, the objective was not to verify formal adherence to the Pact, but to use its dimensions to identify convergences, gaps, and limits in local food-related actions in small municipalities marked by strong rural-urban interdependence.

This study contributes to the literature on food governance, urban food policies, and sustainable food systems in three main ways. First, it applies the analytical framework of the MUFPP t to small and medium-sized municipalities, a territorial scale that remains less explored in studies on urban food policies, which are often concentrated in large metropolitan areas. Second, it provides empirical evidence on how food and nutrition security agendas are interpreted and operationalized by municipal public managers in territories marked by strong rural-urban interdependence. Third, the study reveals institutional gaps in local food governance, especially the predominance of fragmented actions linked to federal programs, the limited integration between municipal sectors, and the absence of coordinated policies aimed at the entire population. By doing so, the article advances the debate on the territorialization of global food policy agendas in non-metropolitan contexts.

2. Literature Review

2.1 The dimensions of the Milan Pact

The following presents a conceptual discussion of the main dimensions of the MUFPP, which guides the construction of more sustainable, inclusive, resilient, and food-and-nutrition-security-oriented food systems. These dimensions encompass aspects related to governance, sustainable diets and nutrition, social and economic equity, agri-food production, food supply and distribution, and food waste.

According to Vara-Sánchez et al. (2021), governance in urban food policies refers to the process of articulation and cooperation among different actors (municipal governments, civil society, and others) in the construction and implementation of public policies aimed at sustainability and food security. The authors highlight that this process seeks to integrate different forms of knowledge, interests, and capacities, promoting more democratic, legitimate, and efficient decision-making processes. Furthermore, they emphasize that governance involves the creation of formal and informal spaces for participation and policy co-production, although this process still faces challenges and barriers to its consolidation.

Thus, within the context of integrated urban food systems, governance refers to coordination and decision-making processes involving multiple actors and different dimensions related to food and nutrition security (Peters et al., 2016). According to these authors, food systems encompass a broad network of activities ranging from production to consumption, requiring

governance processes capable of articulating different stakeholders, regulatory environments, infrastructure, support mechanisms, and education and awareness actions. In this sense, governance becomes fundamental for integrating local, regional, and urban food systems, contributing to more sustainable strategies focused on food security, sovereignty, and access to food (Peters et al., 2016).

Regarding sustainable diets and nutrition, it relates to the promotion of food practices that are simultaneously healthy, nutritious, accessible, and environmentally sustainable. Thus, food is not only related to food availability, but also to the social, economic, environmental, and territorial aspects associated with production, distribution, and consumption (Sonnino, 2021). According to the author, sustainable diets are linked to the construction of more integrated and inclusive food systems capable of ensuring food and nutrition security for the population, strengthening access to adequate food, and promoting more sustainable relationships among cities, food production, and the environment.

Regarding social and economic equity, it relates to the promotion of fairer conditions for access to healthy and sustainable food, especially for socially vulnerable populations. Based on Liza Barbour et al. (2022), these aspects involve public policies aimed at reducing inequalities within food systems through expanding access to nutritious food, strengthening employment opportunities and social inclusion related to food, and creating support strategies for socially disadvantaged groups. Among the actions identified by the authors are urban gardens for vulnerable populations, training and employment programs in the food sector, support for food assistance services, and initiatives facilitating low-income populations' access to healthy and sustainable food.

According to Martín and Fuente (2022), this dimension is related to the social, economic, and territorial conditions that produce food inequalities in cities, such as poverty, urbanization, changes in consumption patterns, and environmental and social crises. In this context, urban food policies seek to strengthen the right to food, support small-scale producers, promote sustainable production and consumption strategies, and expand the population's access to adequate and healthy food. The authors further emphasize that social and economic equity involves integrated actions among governments, civil society, and different territorial actors in order to foster more sustainable, democratic, and socially inclusive food systems (Martín & Fuente, 2022).

The aspects related to agri-food production highlight the relevance of agri-food production systems as promoters of healthy diets, environmental sustainability, and public health. Based on the study by Camara et al. (2025), is also directly related to the Sustainable Development Goals, especially SDG 2 (Zero Hunger and Sustainable Agriculture) and SDG 12 (Responsible Consumption and Production). Thus, sustainable agri-food

systems should integrate food security, adequate nutrition, environmental sustainability, and the reduction of impacts caused by current production and consumption patterns (Camara et al., 2025). The study further highlights that themes such as agroecology, urban agriculture, family farming, local food systems, reduction of food loss and waste, and sustainable use of natural resources have gained increasing prominence in debates on food production. In this context, agri-food production systems are understood as fundamental for promoting safe, nutritious, and diversified food, strengthening local economies, conserving biodiversity, and contributing to public health as well as to the construction of more sustainable and resilient food systems.

The dimension "Food supply and distribution" refers to the ways in which food is organized, circulated, and commercialized within food systems, considering the relationships among production, supply, access, and consumption. Based on Muñoz et al. (2021), agri-food markets are fundamental spaces for connecting producers and consumers, especially through short food supply chains, fairs, local markets, and agroecological initiatives. The authors emphasize that food supply and distribution systems are not limited to logistics and product circulation, but also involve disputes, tensions, and negotiations among different production and commercialization models. Furthermore, distribution systems based on proximity foster trust relationships, the appreciation of local producers, and the construction of more resilient and socially inclusive food systems (Brandão et al., 2020). Added to this is the importance of understanding the role of proximity markets in promoting healthier eating habits (Camara, 2024). However, Camara's et al. (2025) research demonstrated that, beyond economic aspects, social, cultural, environmental, and logistical issues also influence the markets accessed and the consumption habits developed.

Finally, Food waste refers to concerns regarding food losses and waste throughout food systems, considering their social, economic, and environmental impacts. Food waste occurs at different stages of the food system (production, distribution, commercialization, and consumption) and represents not only food loss, but also the waste of water, energy, labor, and natural resources used in production (Preiss et al., 2020). In this context, public policies aimed at reducing food waste should encourage more sustainable production, supply, commercialization, and consumption practices, while also promoting greater social awareness regarding the responsible use of food and the recognition of food as a human right and a collective good.

2.2 Articulations in favor of sustainable food systems

Worldwide, the food issue has become a cause of concern, especially since the Second World War, when countries began to sign agreements seeking to guarantee the Human Right to Adequate Food (HRAF) (Preiss et al., 2020).

This occurs due to the situation of social inequality, which generates hunger, and inefficient policies that are unable to combat this problem from its origin (Preiss et al., 2020).

In this sense, there has been a growing need to identify and act in favor of more resilient, inclusive, and sustainable food systems, with greater harmony between the rural and urban environments and in a way that they are connected to each other (Preiss et al., 2020). However, the improvement of urban food systems is a challenge that municipal governments cannot face alone, with there being a need for national governments to support them with resources, knowledge, legislation, and regulations (Sonnino, 2021).

As an example of joint action, the Rio Declaration was signed by municipal representatives of 12 Latin American cities at the end of the 1st Regional Forum of Latin American Cities signatories to the Milan Urban Food Policy Pact, which took place in 2019 in Rio de Janeiro, RJ. This articulated political action aimed to promote sustainable and healthy urban food policies in Latin American cities. In this document, priorities were established to increase food security through public policies that contribute to sustainability, identity strengthening, and inequality reduction (Empresa Brasileira de Pesquisa Agropecuária [Embrapa], 2019).

As in Latin America, signatory cities to the Milan Pact worldwide have created food policies seeking food and nutrition security (FNS). One of the examples is the government of Ghent, a city located in the American state of Minnesota, in Lyon County, which invested in strategies such as creating social employment through food in social restaurants and grocery stores and in local food production and distribution (Barbour et al ., 2022). Other worldwide examples, such as Medellín, Toronto, and New York, may be cited. These municipalities have shown that the initiatives and instruments to achieve objectives are not always political since food is not the responsibility of only a specific department of the local government but must be handled by different teams (e.g., public health, economic development, planning, and education), and the actions of such teams must provide for continuity, surpassing political mandates (Brand et al., 2019).

The process of co-production of food policies is an essential tool in governance processes, as the participation of different actors facilitates the dynamics of production. It is from this that trust is generated and a shared commitment to the construction of sustainable agri-food systems and food strategies is consolidated, creating formal and informal governance structures (Vara-Sanchez et al., 2021).

As a way to tackle the problem of hunger in Brazil, the *Sistema Nacional de Segurança Alimentar e Nutricional* (SISAN, National Food and Nutrition Security System) was created in 2006 by the Organic Law on Food and Nutrition Security, seeking to ensure the HRAF and formulate and implement public policies and programs for FNS (Brasil, 2006). FNS comprises several processes, segments, needs, and interests that concern the way

to produce, which may be agricultural, industrial, or artisanal, including issues related to how to access food, such as income, availability, quality, social and economic inequality, and how food is consumed (Aronson, 2019; Preiss et al., 2020).

As an example, we mention the public supply policies promoting FNS that reconcile the access of family farmers to the institutional market. The institutional market comprises the acquisition of food carried out by the various spheres of government to meet the needs of social programs and regular public services that promote a healthy and sustainable food system (Breitenbach et al., 2020).

However, it is reiterated that ensuring food and nutrition security for rapidly expanding populations is a present challenge for food system governance (Peters et al., 2016). In this context, through the *Política Nacional de Segurança Alimentar e Nutricional* (PNSAN, National Policy on Food and Nutrition Security), the SISAN highlights the importance of consuming local products, as they are part of a circuit that allows minimizing losses in nutritional quality and avoiding energy and food waste, thus underlining the relevance of public policies that promote SFSCs, giving preference to local products, promoting the economy and development (Santos et al., 2020).

2.3 Dimensions and Strategies of Urban Food Policies in Brazil

Habitzreiter et al. (2025), based on a comparative analysis of different studies focused on Brazilian cities that are signatories to the MUFPP, identified that the research converges on the understanding that urban food policies require integrated strategies articulating social, territorial, environmental, and institutional dimensions. The studies analyzed demonstrate that, within the Brazilian context, municipalities that are signatories to the MUFPP have been developing heterogeneous initiatives, yet strongly marked by the pursuit of more sustainable, inclusive, and resilient food systems. Ferreira et al. (2024) and Zimmermann et al. (2024) characterize these aspects.

In this regard, the centrality of local food governance becomes evident, particularly the role of public managers and institutional actors as articulators of intersectoral policies. Brazilian municipalities that are signatories to the Milan Pact demonstrate progress in building governance structures capable of integrating food, urban planning, health, social assistance, and the environment, highlighting the relevance of institutional networks, councils, and coordination mechanisms for the implementation of urban food policies (Ferreira et al., 2024; Zimmermann et al., 2024).

Another recurring aspect refers to the valorization of urban and periurban agriculture as a strategy for promoting food security and social inclusion. The studies show that initiatives focused on sustainable production, community gardens, and local food supply circuits play a relevant role both in expanding access to food and in promoting sustainable and inclusive

food practices in the Brazilian cities analyzed (Castellar, 2021; Lopane et al., 2021; Alves, 2023).

There is also growing concern regarding urban food environments, especially in relation to the mapping of food deserts, food swamps, and food oases, revealing territorial inequalities in access to adequate food in different Brazilian cities that are signatories to the MUFPP (Silva et al., 2023; Brito, 2022).

Furthermore, the fight against food waste emerges as a growing axis within municipal food policies, with emphasis on local experiences involving food recovery, food banks, and educational actions aimed at reducing losses throughout urban food supply circuits (Kerber et al., 2022; Silva, 2023).

At the same time, the importance of integrating food, climate, and sustainable development policies is reinforced in Brazilian studies, demonstrating the alignment of municipal agendas with the Sustainable Development Goals (SDGs), especially those related to hunger, urban sustainability, and responsible consumption, through multilevel governance strategies and intersectoral actions (Marques, 2023; Grisa et al., 2023).

In this context, emphasize that, although significant differences exist among the Brazilian municipalities analyzed, the cities that are signatories to the Milan Pact have been consolidating urban food policies as strategic spaces for institutional innovation, multisectoral governance, and the promotion of sustainable food systems (Habitzreiter et al., 2025).

3. Methodology

The present research is characterized as qualitative since it studied specific realities in depth (Vieira & Zouain, 2005). The fact in question refers to the existence of municipal public policies focused on food in the municipalities of the microregion of Erechim. The selection of the municipalities that would represent the region in this study was intentional, seeking to meet the regional diversity minimally. Initially, a search was conducted on the website of the Instituto Brasileiro de Geografia e Estatística (IBGE, Brazilian Institute of Geography and Statistics). To determine the studied frame, the indices of the population residing in the rural and urban areas of each of the municipalities in the microregion of Erechim were observed. After this information collection, four municipalities were selected, two (Estação and Getúlio Vargas) presenting rural/urban population indices very similar to those of the state and country[2], i.e., most of the population lived in the municipality seats. The other two municipalities (Erval Grande and Itatiba do Sul) were selected because their populations presented very different indices from the state and country, with percentages ranging from

2 In Brazil, 84.72% of the population lives in urban areas and 15.28% in rural areas (IBGE, 2010). In Rio Grande do Sul, 85.1% of its population lives in urban areas (IBGE, 2010).

47% to 58% living in rural areas. The municipalities were included in the sample in an attempt to explore the diversity of situations in the studied region (Figure 1).

Located in the Northwest Geographic Mesoregion of Rio Grande do Sul, the microregion of Erechim comprises 30 municipalities of small and medium populations, traditionally agricultural, with a total of 215,216 inhabitants, occupying an area of 5,725 km^2, with a demographic density of 37.6 inh./km^2 and an altitude of 609 m (Cidade Brasil, 2021). Economically, the agricultural and livestock-raising sector was the most important for many years in the region. However, in recent decades, the growth of industry and the service sector has relegated the agricultural and livestock-raising sector to the third most productive (Gasques, 2007). According to the 2010 census, 45.4% of the population was concentrated in Erechim, and the remaining 54.6% in the other 29 municipalities of the microregion (IBGE, 2010).

Table 1 expresses the structural, productive, and social characteristics of each of the municipalities.

3.1 Detailing of the Research

This research adopted the semi-structured interview as an investigation instrument, seeking to dialogue directly with people related to the subject, following a basic script and giving space for the person to interact (Vieira, 2008). The semi-structured interview script was prepared from the six indicators of the Milan Urban Food Policy Pact in blocks, as shown in Table 2. To prepare the interview script, the theoretical background presented in

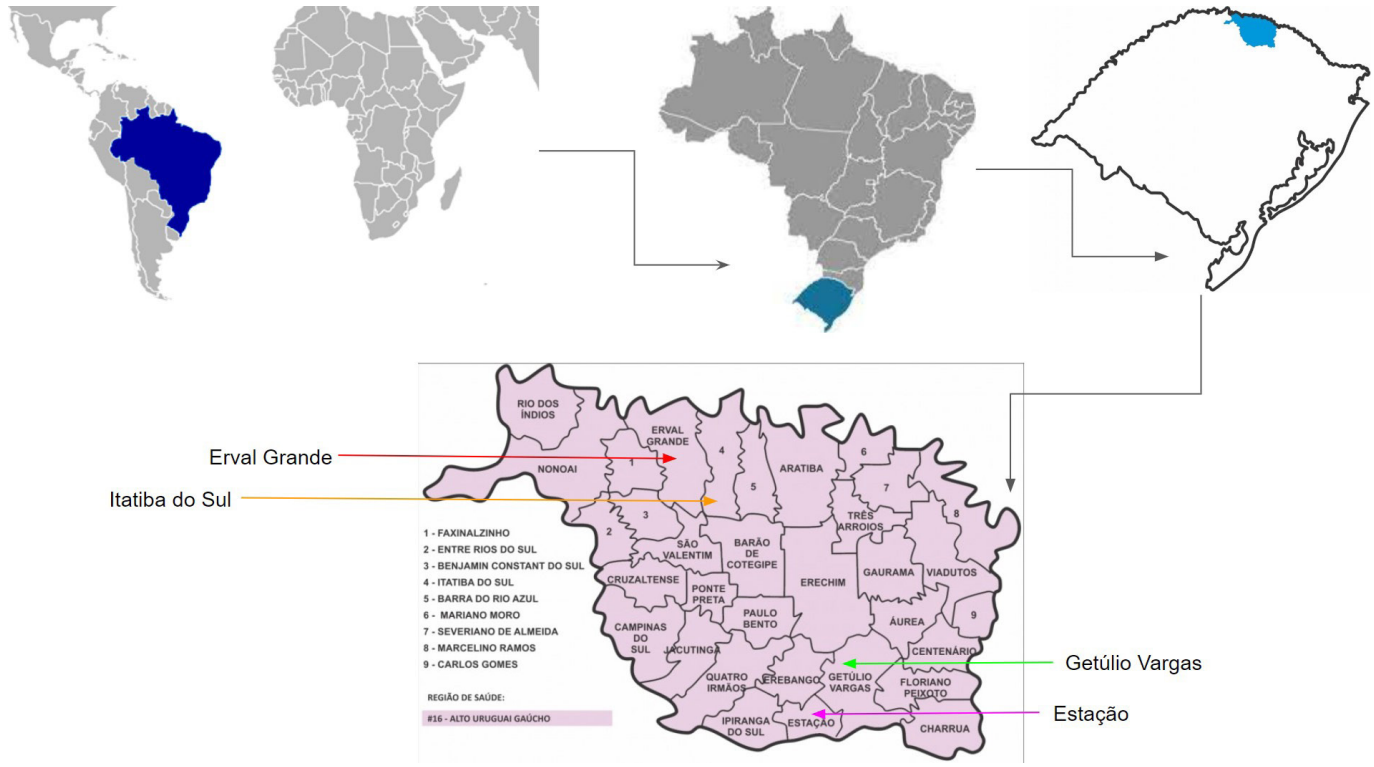

Figure 1
Location of the cases/ municipalities studied.

Table 1 Characterization of the municipalities included in the study.

Data	Getúlio Vargas	Estação	Erval Grande	Itatiba do Sul
Rural population (%)	14.19	14.84	47.94	58.55
Urban population (%)	85.81	85.16	52.06	41.41
Area (km²)	287.12	100	285	212.6
Population (inhabitants)	16,212	6,160	5,180	3,324
Population density (inh./km²)	56.46	59.42	17.01	15.63
Average monthly income (thousand)	R$ 2.20	R$ 2.44	R$ 1.79	R$ 1.80

Source: IBGE Census 2010, and IBGE 2022 population estimates.

Table 2 Investigated indicators, objectives, and base references.

Indicators	Investigation objectives	Source
Governance	Identify with the public power whether goals that were part of urban food planning existed and what they were.	Vara-Sánchez et al. (2021); Peters et al. (2016)
Sustainable diets and nutrition	Point out initiatives of these municipalities that seek the development of nutritious, healthy, and sustainable diets.	Sonnino (2021); *Lei nº. 11.346* (2006)
Social and Economic Equity	Identify whether the municipal government recognizes the need to develop strategies aimed at social and economic equity of the population and how this has been carried out.	Barbour et al. (2022); Preiss et al. (2020); Martín and Fuente (2022); Gazolla and Schneider (2017)
Agri-food production	Discuss and present the relevance of agri-food production systems as promoters of healthy eating and care for the environment and collective health, reducing the occurrence of diseases in the population.	Gazolla and Schneider (2017); Vara-Sánchez et al. (2021); Camara et al. (2025)
Food supply and distribution	Verify actions of the municipal government that concern the production, marketing, distribution, and consumption of healthy food as a way to ensure adequate nutrition and combat all forms of malnutrition.	Muñoz (2021); Renting et al. (2017); Dansero et al. (2017); Breitenbach et al. (2020); Brandão et al. (2020); Camara (2024)
Food waste	Analyze whether the municipal government gives importance to food waste.	Preiss et al. (2020)

this article was taken into account, in addition to the original document of the Milan Urban Food Policy Pact (2015). Table 2 presents the seven indicators used for the research, with the main points investigated and their respective theoretical bases.

The dimensions of the Milan Pact were not used to assess formal compliance by the municipalities, but to guide a qualitative and comparative reading of local food-related actions. This analytical choice made it possible to examine whether themes internationally associated with sustainable food systems were present, absent, fragmented, or underdeveloped in the municipal contexts studied.

The interviews were conducted in the first half of 2023 with representatives of public sectors directly or indirectly related to food, agriculture, health, education, social assistance, and rural development in the municipalities of Getúlio Vargas, Erval Grande, Estação, and Itatiba do Sul. The

selection of interviewees followed an intentional criterion, prioritizing public managers and technical staff who, at the time of the research, were responsible for or directly involved in programs, actions, or services related to food and nutrition security, food production, food supply, school feeding, social assistance, rural development, or health promotion. Initially, the interviewees were those responsible for the agricultural production and livestock sector of the municipal governments. From these first contacts, snowball sampling was used to identify other key informants who participated in or coordinated food security-related programs and public policies.

A total of 12 people were interviewed: two in Erval Grande, three in Itatiba do Sul, three in Estação, and four in Getúlio Vargas. The number of interviews was considered adequate for the exploratory and comparative nature of the study, whose objective was not statistical representativeness, but rather an in-depth understanding of how food supply and food and nutrition security were incorporated into municipal public policies. The selection of interviewees followed an intentional criterion, prioritizing public managers and technical staff who, at the time of the research, were responsible for or directly involved in programs, actions, or services related to food and nutrition security, food production, food supply, school feeding, social assistance, rural development, or health promotion. The selection of interviewees followed an intentional sampling strategy based on key informants. The participants were selected according to their institutional position and their direct involvement in public actions, programs, or services related to food and nutrition security, agri-food production, food supply, school feeding, social assistance, rural development, or health promotion. Initially, the interviewees were those responsible for the agricultural production and livestock-raising sector of the municipal governments. From these first contacts, additional public actors were identified through institutional indication, considering the following inclusion criteria: holding public functions or working in public organizations that participated in or coordinated food security-related programs and policies at the time of the research.

Empirical sufficiency was reached when the interviews began to show recurrence in the information provided, especially regarding the predominance of actions linked to school feeding and social assistance programs, the absence of integrated municipal food policies, and the limited knowledge of the Milan Urban Food Policy Pact among local public actors. To preserve the anonymity of the interviewees, the excerpts used in the results section were identified by alphanumeric codes, from E1 to E12.

The interviews were transcribed and organized according to the six analytical dimensions derived from the Milan Urban Food Policy Pact: governance, sustainable diets and nutrition, social and economic equity, agri-food production, food supply and distribution, and food waste. The analytical procedure followed the principles of qualitative content analysis

(Bardin, 2011), involving three stages: pre-analysis, with repeated reading of the transcripts and organization of the empirical material; coding, in which excerpts related to the six analytical dimensions were identified and classified; and interpretation, in which the empirical evidence was compared across municipalities and discussed in light of the literature on food governance, food and nutrition security, and short food supply chains. The categories were therefore defined deductively, based on the Milan Pact framework, while allowing the identification of recurrent empirical patterns within each category.

The study did not use methodological triangulation with other groups of actors, such as farmers, consumers, civil society organizations, or municipal councillors. This is recognized as a limitation of the research. Nevertheless, the focus on public managers and technical staff was consistent with the central objective of the study, which was to analyze how food supply and food and nutrition security were contemplated in municipal public policies from the perspective of those involved in their formulation or implementation. Although the empirical analysis was primarily based on interviews, secondary data from IBGE and official municipal information were used to characterize the municipalities and contextualize the cases.

As the original interviews were systematized through content analysis, the results are presented mainly through analytical syntheses rather than extensive verbatim quotations. This decision was also adopted to preserve the anonymity of interviewees, given the small number of municipalities and public actors involved in the research. The empirical interpretation therefore emphasizes recurrent patterns identified across the interviews, especially regarding the limited institutional knowledge of the Milan Pact, the predominance of actions linked to federal programs, and the absence of integrated municipal food policies.

4 Results and discussion

The research results were divided into six sections, separated according to the indicators of the Milan Pact. Each section presents the actions being carried out in the studied municipalities concerning food and nutrition security, as well as the identified limitations. Also presented are the levels of knowledge of the interviewees about the document that substantiates this research, the Milan Urban Food Policy Pact, and their views on the need for municipal governments to create projects that aim at the food and nutrition security of the entire population of the municipality.

The results presented in this section reflect the perspective of the interviewed public managers and technical staff. Therefore, the analysis focuses on how municipal public actors understand, organize, and implement food-related actions, rather than on the food system as a whole or on the perceptions of farmers, consumers, and civil society organizations.

As for the knowledge about what the Milan Pact is, among the 12 interviewees, only four mentioned that they knew something about it. However, all others showed interest in getting to know it and pointed out, after participating in the interview, that they had never thought about such important issues regarding the food security of the population of their municipality. Therefore, the interviews carried out generated disquiet among the agents of the municipalities and caused the interviewees to rethink their commitment and actions in favor of the FNS of the citizens. Next, some analyses were performed according to the interview responses for each of the six indicators of the Milan Pact.

4.1 Governance

Based on the fact that ensuring food and nutrition security for rapidly expanding populations is a present challenge for food system governance (Peters et al., 2016), it was possible to identify in this research concerns that the municipal governments were prioritizing. It was found that the prioritized actions related to public school students and people in situations of social vulnerability assisted by the programs of the *Centro de Referência de Assistência Social* (CRAS, Social Assistance Reference Center). In all the municipalities, food planning was linked to federal programs such as the *Programa Nacional de Alimentação Escolar* (PNAE, National School Feeding Program) and the Serviço de Proteção e Atendimento Integral à Família (PAIF, Family Protection and Comprehensive Care Service). Such actions aligned with federal laws, and there were no specific goals orchestrated in the municipalities involving the participation of different political and social segments to jointly assume commitments to build sustainable food systems and generate food security for the population.

Among the actions, we highlight from the municipality of Getúlio Vargas the joint actions of the Cooperativa da Agricultura Familiar (Coopraf, Family Farming Cooperative) with the Institute of Technical Assistance and Rural Extension, the Unified Union of Family Farming Workers of Alto Uruguai, and the Department of Municipal Development. There was the control and mapping of all producers, which had to comply with sanitary surveillance rules for marketing, as well as the construction of supply networks in the rural area in partnership with the farmers themselves.

In Estação, to get to know the context of food supply and consumption, the municipal government mapped food producers through home visits by the Secretary of Agriculture. They carried out partnerships for the production of vegetables with the participation of the urban population, in which five families produced food in a community vegetable garden for their own consumption, with the support of the city hall. In Itatiba do Sul, there was a joint action between the local government, the Associação Regional de Cooperação e Agroecologia (Ecoterra, Regional Association of Cooperation and Agroecology), and producers with programs to encourage agroecologi-

cal and organic food production for internal supply and regional marketing through Ecoterra.

These findings indicate that food governance in the analyzed municipalities is still incipient and predominantly programmatic. Although there are relevant initiatives involving municipal departments, cooperatives, technical assistance agencies, and family farmers, these actions do not yet constitute an integrated local food governance arrangement. Instead of a coordinated municipal food policy, what emerges is a set of fragmented actions linked mainly to federal programs and sectoral initiatives. This reinforces the argument that the territorialization of global food policy agendas, such as the Milan Urban Food Policy Pact, depends not only on the existence of local actions, but also on institutional coordination, intersectoral planning, and stable governance mechanisms capable of connecting food production, supply, consumption, health, and social equity.

The absence of integrated municipal food policies may be interpreted as the result of institutional fragmentation and limited local policy capacity. In the analyzed municipalities, food-related actions are distributed among different sectors, such as agriculture, education, health, social assistance, and rural development, but without a permanent governance mechanism capable of articulating these initiatives under a common strategy. This fragmentation helps explain why food and nutrition security appears mainly through specific programs rather than as a cross-sectoral municipal agenda. In addition, the limited familiarity of local public actors with the Milan Pact suggests that global food policy frameworks have not yet been translated into municipal planning instruments, intersectoral committees, monitoring systems, or long-term food strategies.

4.2 Sustainable diets and nutrition

In all the municipalities analyzed, there were joint projects between the Departments of Health and Education. Among them, the Programa Federal Saúde na Escola (PSE, Federal Health in School Program) stood out, in which activities were carried out in the schools involving nutritional education, disease prevention, healthier menus, and the transfer of information for further pedagogical work in classrooms by educators. Anthropometric evaluations were also performed, with guidance from pediatricians and nutritionists of the Health Centers when necessary.

The concentration of food-related policies in schools can be explained by the institutional centrality of federal programs, especially the National School Feeding Program and the Health in School Program, which provide legal frameworks, operational routines, technical guidelines, and stable public responsibilities for municipalities. In small municipalities, schools become one of the few institutional spaces in which food, nutrition, health promotion, and public procurement are already formally connected. However, this concentration also reveals a limitation of local food gover-

nance: food and nutrition security tends to be addressed through the school population, rather than through a broader territorial strategy aimed at all citizens. Thus, although school-based policies are essential, they do not replace integrated municipal food policies capable of connecting education, health, agriculture, social assistance, supply, and territorial planning.

In all the municipalities, diets for intolerants and diabetics were prepared at the Basic Health Units. Also in the health area, initiatives such as the Quality-of-Life Program developed by the city hall of Getúlio Vargas, with nutritional evaluation and physical educators, stood out. In it, participants were assisted in groups twice a week and received lectures and practical courses guiding actions to improve health.

In Itatiba do Sul, water aerobics and stretching activities were offered to the population. In addition, through the Programa de Práticas Integrativas e Complementares em Saúde (PICS, Integrative and Complementary Health Practices Program), the citizens could enjoy acupuncture and parapsychology for free.

As for access to drinking water, the activities financed by the municipalities were cleaning and maintenance of water tanks, collection and sending for analysis, and chlorination. All communities had artesian wells with treatment, spring protection, and drilling of artesian wells subsidized by the city hall.

4.3 Social and Economic Equity

The city halls showed concern about the supply of jobs for the urban population. The employment gap was high, especially in the municipalities of Erval Grande and Itatiba do Sul, where young people were migrating to neighboring cities in search of better living conditions (Breitenbach et al., 2023). As a consequence, the percentage of employed people relative to the total population was 31.95% in Getúlio Vargas, 28.3% in Estação, 15.3% in Erval Grande, and 12.3% in Itatiba do Sul (IBGE, 2022).

For this reason, the municipalities sought to develop projects that stimulated the permanence of the rural population in the development of agricultural activities, such as the offering of different courses in partnership with the *Serviço Nacional de Aprendizagem Rural* (SENAR/RS, National Service for Rural Learning), the *Associação Riograndense de Empreendimentos de Assistência Técnica e Extensão Rural* (EMATER/RS, Technical Assistance and Rural Extension Association of Rio Grande do Sul), the Rural Worker Unions, and the Rural Union, always funded by the city halls.

Aiming at the food security of the population in a food shortage situation, the municipalities operated two federal programs: Benefícios Eventuais (Occasional Benefits) and Cesta Básica (Basic Basket), under the responsibility of CRAS. No policies aimed at promoting and supporting social and solidarity economy activities with particular attention to the food area were found.

The results suggest that social and economic equity is addressed mainly through social assistance mechanisms and rural training initiatives, rather than through food policies explicitly designed to reduce inequalities in access to healthy and sustainable food. In this sense, municipal action remains closer to compensatory and sectoral approaches than to a broader food justice perspective. The absence of policies aimed at social and solidarity economy activities in the food sector also reveals a gap between the principles recommended by the Milan Pact and the institutional capacity of small municipalities to create inclusive food systems. Thus, equity appears as an indirect effect expected from existing programs, rather than as a central objective of municipal food governance.

4.4 Agri-food production

Regarding agri-food production, the municipality of Itatiba do Sul stood out. Through the Municipal Milk Program, designed by the Municipal Department of Agriculture, it developed incentive programs: a) financial aid of R$ 0.02/liter of milk produced in the properties that were part of the program; b) for orange producers, financing by the city hall was offered; c) for organic and agroecological production, the municipality offered a technical assistance professional and cash transfers in the amount of seven hundred reais (R$ 700.00) per year as donations per farmer; d) spring recovery program, in partnership with the Centro de Estensão, Treinamento e Aperfeiçoamento Profissional LTDA (CETAP, Center for Extension, Training, and Professional Improvement), in which there is the management of tree planting around the springs and in respect of springs; e) provision of machinery services with 50% of the amount subsidized by the city hall.

Still in Itatiba do Sul, schools had vegetable gardens, with food produced and consumed in these spaces. Additionally, most urban families had vegetable gardens and orchards for subsistence on their properties, and the city hall provided services when requested. The CRAS also had a vegetable garden and a medicinal garden.

In Getúlio Vargas and Estação, the municipalities made themselves available to the farmers through the agricultural patrol program so that the work central to the properties (silage, hay, construction of weirs, ditches) could be carried out mechanically. In Getúlio Vargas and Estação, there was demand but no supply of agroecological or organic products for marketing in street markets and participation in public calls for school meals, as there was specific funding for this type of food to be offered to students.

In turn, the municipal government of Erval Grande reported that it had been concerned with agroecological and organic production. The municipality also carried out work with community gardens developed in schools in the rural area. The city hall supported rural producers with incentives to protect the soil with a mix of coverage and the use of a knife roller. For

the provision of services with agricultural machinery, the subsidy from the municipality was from 60% to 65%.

Finally, aiming at better management and reuse of water, the municipality of Itatiba do Sul had ongoing projects for constructing cisterns and Estação for dry weirs. Both strategies aim to store rainwater for use in situations of water scarcity on the property, as it may be consumed by the animals and used for soil irrigation.

4.5 Food supply and distribution

No actions by the municipal government to guarantee the supply and distribution of food were identified. However, according to their possibilities, the producers invested in improving their production, aiming at marketing and distribution within quality standards. Subsidies for improvements (e.g., stainless steel tables and cold rooms) for agribusinesses were achieved through the Rio Grande do Sul state program Consulta Popular (Popular Consultation), with counterpart resources from the municipality.

The marketing of food in the informal market existed in all the studied municipalities (door-to-door sales, direct purchase at the properties/agribusinesses). The municipal governing authorities did not create obstacles to this informality since they considered it important for the family livelihood of farmers. In the municipalities of Estação and Getúlio Vargas, there was food production and marketing via institutional market through a cooperative. Itatiba do Sul, Getúlio Vargas, and Estação encouraged short supply chains, with the valorization of what was produced in the municipality, for example, in the Producer Street Market, with the marketing of vegetables, fruits, and food from the agribusinesses. In these municipalities, this type of marketing occurred twice a week with demand greater than supply, and Erval Grande did not have this type of space for marketing the products of family farming and the agribusinesses. From the perspective of the interviewed public managers, there was limited engagement of farmers in producing food for local, regional, and institutional markets. They also reported that agro-industrialization initiatives were rare and that the formalization of these activities often encountered resistance among farmers. However, this interpretation must be read with caution, since farmers were not interviewed in this study. Therefore, these findings express the perception of municipal public actors rather than a direct analysis of farmers' motivations, constraints, or production strategies.

The assessment of food flows into the cities to ensure access to fresh and affordable food was the responsibility of sanitary surveillance, with guidance and fines when necessary. For school meals, all food items were purchased through bidding, in which case the items were evaluated through a sample by the School Feeding Council and upon receipt in schools by the lunch ladies. As for access, not all citizens living in the municipalities had the purchasing power to consume fresh and healthy food.

The evidence shows that short food supply chains are present in the municipalities, especially through producer street markets, informal sales, direct purchases, and institutional markets. However, these channels are not yet structured as part of a comprehensive municipal food supply strategy. This distinction is analytically relevant: the existence of local food circuits does not necessarily imply the existence of a food policy. In the studied municipalities, short chains depend largely on producers' individual initiatives, cooperatives, and specific programs, while municipal governments act mainly as supporters or facilitators. Therefore, the potential of short food supply chains to promote food and nutrition security remains underexplored, particularly because they are not systematically connected to planning instruments, public procurement, food access policies, or broader territorial development strategies.

4.6 Food waste

It was found that evaluations and monitoring of the reduction of food losses and waste at all stages of the food chain or the recovery and distribution of safe and nutritious food intended for human consumption were not being carried out. The actions developed concerned only the sectors of education, social assistance, and EMATER. Courses and training were offered to lunch ladies, farmers, and families who were members of social projects on the integral use of food (husks, stalks) and the reuse of food for menu production.

In addition, families with food shortages were made aware by professionals working in the CRAS to request the Basic Basket or Occasional Benefits when they had the need. Also, members of social programs were offered lectures and courses on food reuse. In the schools, the nutritionists of the municipality developed food reuse projects, encouraging care and not waste. Specifically in Itatiba do Sul, surplus food from the rural properties was donated to the schools, for example, seasonal and perishable fruits.

Food waste is the dimension in which the distance between local practices and the Milan Pact recommendations becomes most evident. The actions identified are mostly educational and punctual, concentrated in schools, social assistance programs, and technical assistance activities. However, the absence of monitoring systems, indicators, recovery mechanisms, and redistribution strategies shows that food waste has not yet been incorporated as a structured public policy issue. This reveals an important limitation of local food governance: municipalities recognize the relevance of the problem, but lack institutional instruments to measure, prevent, and manage food losses throughout the food chain.

Considering the data presented in the results of this article, Table 3 provides a summary. The objective was to facilitate the visualization of the empirical information obtained and establish comparisons between municipalities.

Table 3 Main research results – indicators analyzed and comparison between municipalities.

	Municipalities analyzed			
Aspects assessed	**Estação**	**Getúlio Vargas**	**Erval Grande**	**Itatiba do Sul**
Governance	Actions between municipal government, Coopraf, STR, Emater, and producers for fruit and vegetable production.		Actions between Ecoterra, local government, and producers for the cultivation of agroecological products.	
	Linked to Federal Programs of Education and Social Assistance			
Sustainable diets and nutrition	Schools: menus with diets for diabetics and intolerants.	Not identified		
	Through the Health in School Program, activities involving weighing, consults, guidance, and treatment of the population were developed.			
Social and Economic Equity	Capacity building and training courses for food-producing farmers.	Refresher courses; incentive to remain in rural areas producing food.	Not identified	Incentive programs for producing milk, orange, and agroecological products; To receive funding, farmers had to participate in training.
	There were no social and economic equity policies for the entire population in the municipalities.			
Agri-food production	Agricultural patrol for farmers.	Community garden; Construction of weirs for rainwater storage. Agricultural machinery.	Cultivation of vegetable gardens in rural schools; ecosystem approach policies in three properties; soil cover; training for farmers (NR 31).	Ecosystem approach (38 properties); Support to SFSCs: Producer Street Market; Cultivation of vegetable gardens in the schools and the CRAS; Construction of cisterns.
	Valorization of local foods sold at the Producer Street Market			
	There are no policies to consolidate food production in the peri-urban area.			
Food supply and distribution	Producer Street Market; Coopaf provides food to schools through the PNAE.		There is no Producer Street Market.	Producer Street Market with 38 producers;
	There is no fruit production for marketing;	Evolution in the production of new varieties of food.	Three agribusinesses marketthrough Ecoterra.	
Food waste	Work carried out in the schools coordinated by the nutritionist, with much resistance from the community to putting the actions into practice. There are no policies.			
	Not identified			Donation of fruits and vegetables to schools.

Table 4 presents the actions identified in the analyzed municipalities considering the six indicators of the Milan Urban Food Policy Pact and distinguishing between municipal, federal, state, and civil society actions and policies.

Table 5, in turn, presents the synthesis of the results obtained from the perspective of the Milan Urban Food Policy Pact in a checklist format for the purpose of evaluating the developed, undeveloped, and developing activities.

Once the study on the management of public policies aimed at food supply and security in the municipalities of Getúlio Vargas, Estação, Erval Grande, and Itatiba do Sul was completed, limitations became evident, especially about food waste, involvement of civil society contributing to projects aimed at FNS, and the development of urban and peri-urban agriculture.

Although it was found that everyone was concerned about the food security of the population, when evaluating which actions had been carried out to provide citizens with the right established by the Organic Law on Food and Nutrition Security, it was concluded that urban food planning policies were focused on schools and CRAS, not considering the entire populations of the municipalities.

Table 4 Policies and actions of the analyzed municipalities and frame context regarding their origin (Federal, State, Municipal, or Civil Society).

	Municipalities analyzed			
Actions	**Estação**	**Getúlio Vargas**	**Erval Grande**	**Itatiba do Sul**
Municipal	Concession of public space for the Producer Street Market; 100% subsidy on drilling artesian wells and use of agricultural machinery.	Construction of the building of the rural producer street market; Quality of Life Program; Agricultural patrol.	100% subsidy for drilling artesian wells and 65% to 70% for other services to farmers.	Organization of the Medicinal Garden; Support to the Agroecological Farm; Integrative and Complementary Health Practices Program (PICS); Incentive programs for food production.
	Occasional Benefits and Basic Basket			
State	Social Assistance Funds			
Federal	Follows guidelines from the Collaborating Centers on School Food and Nutrition.	Food and Nutrition Surveillance System.	Not identified.	
	Health in School Program; National School Feeding Program; School Feeding Council; Comprehensive Family Care Program.			
Civil society	Donation of food bags at the Industrial Nursery.	Campaigns for the acquisition and donation of food to people and entities.	Participation in the Agriculture Council; Campaigns for food collection.	Not identified.
	Participation in the School Feeding Council;			

Table 5 Synthesis of the results of the activities recommended for each area from the Milan Urban Food Policy Pact in the studied municipalities

Recommended activities for each of the areas from the Milan Pact		**Erval Grande**	**Estação**	**Getúlio Vargas**	**Itatiba do Sul**
Governance	Concern for the food security of the population	Yes	Yes	Yes	Yes
	Urban food policies and planning	Yes	Yes	Yes	Yes
	Review of food programs	Developing	Developing	Developing	Developing
	Instruments and measures applied in eating	Developing	Developing	Developing	Developing
	Identification, mapping, and evaluation of experiences	Developing	Developing	Developing	Developing
	Fostering the collaboration between agencies and departments	Yes	Yes	Yes	Yes
	Joint actions of the food and health sectors	Yes	Yes	Yes	Yes
	Multisectoral information systems	No	No	No	No
	Disaster risk reduction strategies	No	No	No	No
Sustainable diets and Nutrition	Sustainable diets in education programs	Yes	Yes	Yes	Yes
	Combating non-communicable diseases	Yes	Yes	Yes	Yes
	Guidelines in favor of sustainable diets	No	No	No	No
	Adaptation of standards to ensure access to sustainable food and clean water	No	No	No	No
Social and economic equity	Promotion of decent employment for all	No	No	No	No
	Support for social and solidarity economy activities	No	No	No	No
	Civil society activities to provide food to marginalized segments	No	Yes	Yes	No
	Promotion of education, training, and research on adequate and nutritious food	Yes	Yes	Yes	Yes

Agri-Food Production	Consolidation of food production and processing	No	No	No	No
	Secure access to land ownership	No	No	No	No
	Ecosystem approaches to land use	Yes	No	No	Yes
	Promotion and provision of services to producers	Yes	Yes	Yes	Yes
	Support for short supply chains	No	Yes	Yes	Yes
	Assessment of food flows	No	Yes	Yes	Yes
	Improvement of water management and reuse	No	Yes	No	Yes
Food supply and distribution	Improvement of technologies and infrastructure	No	No	No	No
	Review of public policies on food supply and marketing	Yes	Yes	Yes	Yes
Food Waste	Awareness-raising of the population about waste	Developing	Developing	Developing	Developing
	Monitoring losses and waste	No	No	No	No
	Recovery and distribution of safe and nutritious food for human consumption.	No	No	No	No
	Projects aimed at FNS	Yes	Yes	Yes	Yes

The public authorities recognized the need to develop strategies aimed at the social and economic equity of the population, but the actions carried out were centered on offering training courses and sessions. Recognize the relevance of agri-food production systems since three of the four municipalities analyzed hold Producer Street Markets, valuing SFSCs. Two of them produced agroecological food, demonstrating the concern for healthy eating, collective health, and environmental care.

The role of local governance is therefore central to understanding the results. The municipalities analyzed do not lack isolated initiatives related to food, but they lack institutional arrangements capable of transforming these initiatives into integrated food policies. Local governance would be the mechanism through which different sectors, actors, resources, and objectives could be coordinated around a territorial food strategy. From this perspective, the Milan Pact is relevant not only as a checklist of actions, but as a framework for evaluating the degree of institutional integration of food policies. The findings show that, in small municipalities marked by rural-urban interdependence, the main challenge is to move from sectoral implementation of programs to cross-sectoral food governance, connecting rural production, urban consumption, public procurement, social equity, health promotion, and waste reduction.

Taken together, the results indicate that the municipalities analyzed do not lack food-related actions; rather, they lack integrated food policies. This is the main analytical finding of the study. The initiatives identified are relevant, but they are fragmented, sectoral, and often dependent on federal programs, especially in the fields of school feeding, health, and social assistance. From the perspective of the Milan Urban Food Policy Pact, this reveals a gap between the presence of food-related programs and the consolidation of local food governance. In small municipalities marked by strong rural-urban interdependence, food policy remains strongly associated with

rural production and assistance to vulnerable groups, while broader issues such as universal access to healthy food, urban and peri-urban agriculture, food waste, intersectoral governance, and food system planning remain weakly institutionalized.

The use of the Milan Pact in this study should therefore be understood as an analytical translation rather than as a mechanical replication of an international framework. The empirical results show that small municipalities do not simply reproduce the agenda of large cities. Instead, food policy issues emerge through specific territorial arrangements, such as the centrality of family farming, the role of school feeding programs, producer street markets, informal food circuits, rural technical assistance, and social assistance mechanisms. In this sense, the framework helped identify not only the presence or absence of recommended actions, but also the ways in which food governance is territorially constrained and reconfigured in small municipalities.

5. Conclusion

The general objective of this article was to analyze how food supply and food and nutrition security were addressed in the public policies of municipalities in the microregion of Erechim/RS, using the areas of action of the Milan Urban Food Policy Pact as an analytical framework. After exploring the topic of food and nutrition security based on the actions defined by the Milan Urban Food Policy Pact, initiatives by the local governments of the studied municipalities were made evident.

Although, for the most part, the municipal managers did not know the cited document, they sought to implement some initiatives that they considered important for the municipality within the food supply chain to facilitate the adoption of healthy and environmentally sustainable food practices. However, regarding the food security of the population, the actions that were carried out in their municipal spheres were aimed at students and citizens in conditions of social vulnerability that were assisted by schools and CRAS. There were no initiatives that sought the formation of support networks that facilitate access to healthy and safe food for the entire population, aimed at preventing diseases caused by poor diets and reducing public health spending, for example.

Some challenges may be listed: in the four municipalities, the population has become increasingly urban; the focus on food production has been eminently in rural areas; shortage of labor for work in food production; difficulties in family succession in rural areas; food waste, as there are no projects in this direction. It was observed that civil society needs to be involved in initiatives aimed at alleviating these necessities since the more extensive the network of actors and the presence of resources, the better the interventions may be.

All those involved in the food sectors of the municipalities demonstrated concern for the food and nutrition security of the rural and urban population, although they did not master what initiatives could be taken to meet these demands. Given this lack of leadership on the part of the municipal governments, it is expected that through the movement carried out in the interviews or the publication of the results, the present research may generate changes and provoke actions in the municipalities, not only those that participated in the research. The results are also expected to provoke discussions to improve municipal policies in favor of food. This is stated since most interviewees claimed they "had never thought like this".

This study has limitations that should be considered. First, the empirical material was based on 12 interviews with public managers and technical staff from four municipalities, which limits the possibility of generalizing the findings to other territorial contexts. Second, the research did not include interviews with farmers, consumers, civil society organizations, or representatives of municipal councils, which restricted the analysis to the perspective of public actors involved in the formulation or implementation of policies and programs. Third, the study did not carry out full methodological triangulation, although secondary data were used to characterize the municipalities and contextualize the cases.

Another limitation concerns the profile of the interviewees. Since the empirical material was restricted to public managers and technical staff, the study does not capture the perceptions of farmers, consumers, cooperatives, agro-industries, civil society organizations, or municipal councils. This limitation is especially relevant for interpreting findings related to farmers' engagement, local food production, agro-industrialization, and food supply dynamics. Therefore, the results should be understood as an analysis of municipal public actors' perceptions and institutional actions, rather than as a comprehensive diagnosis of local food systems.Future research may expand the analytical scope by incorporating multiple groups of actors and comparing municipal policy narratives with documentary evidence, budget data, council minutes, and local food system indicators.

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