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NUTRITIONAL AND FOOD SECURITY AND URBAN AGRICULTURE: A STRATEGY AGAINST HUNGER FOR PEOPLE IN SOCIAL VULNERABILITY IN BRAZIL

Segurança alimentar e nutricional e agricultura urbana: uma estratégia de enfrentamento da fome de populações em situação de vulnerabilidade no Brasil

Seguridad alimentaria y nutricional y agricultura urbana: una estrategia para combatir el hambre en poblaciones

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Abstract: Nutritional and food security are complex challenges being faced by people in contexts of social vulnerability in Brazil. In 2022, according to the data gathered with the National Inquiry About Food Insecurity During the COVID-19 Pandemic in Brazil, 33.1 million people did not have enough food to eat every day stably. Therefore, urban agriculture is being analyzed as an alternative to improve the availability and access to healthy food. This article, utilizing a literature review, ponders the role of urban agriculture in guaranteeing the food and nutritional security of socially vulnerable people. It also presents the importance of urban farms in guaranteeing food and nutritional security, especially for socially vulnerable people. In that context, the maps, concepts, and data show how the betterment of public policies could incentivize urban farms as spaces of food cultivation in urban and peri-urban areas, creating networks in different cities with the final objective of achieving food and nutritional security. This goes against the historic social problems in Brazil and the malicious and predictable result of the accumulation of income which is hunger.

Keywords: Urban Agriculture. Food. Food Security. Social Vulnerability.

Resumo: A segurança alimentar e nutricional é um desafio complexo enfrentado por pessoas em situação de vulnerabilidade social no Brasil. Em 2022, de acordo com dados do Inquérito Nacional sobre Insegurança Alimentar no Contexto da Pandemia de Covid-19 no Brasil, registrou-se que 33,1 milhões de pessoas não tinham garantido o que comer diariamente. Assim, analisa-se a agricultura urbana como uma alternativa para melhorar a disponibilidade e o acesso à alimentos saudáveis. Neste artigo, apresenta-se uma revisão bibliográfica sobre o tema, com o objetivo de investigar o papel da agricultura urbana na melhoria da segurança alimentar e nutricional das populações vulneráveis. Apresenta, ainda, a importância das hortas urbanas em relação à segurança alimentar e nutricional, especialmente para a população que vive em situação de vulnerabilidade social. Nesse contexto, os mapas e demais dados em diálogo com os conceitos e, sobremaneira, o fortalecimento das políticas públicas, poderão fomentar hortas urbanas como espaços de cultivo de alimentos em áreas urbanas e periurbanas, consolidando redes em diferentes cidades para extinção da fome como uma síntese da perversa e contradição concentração da renda e das mazelas históricas no Brasil.

Palavras-chave: Agricultura Urbana. Alimentação. Segurança Alimentar. Vulnerabilidade Social.

Resumen: La seguridad alimentaria y nutricional es un desafío complejo al que se enfrentan las personas en situación de vulnerabilidad social en Brasil. En 2022, según datos de la Encuesta Nacional sobre Inseguridad Alimentaria en el Contexto de la Pandemia de Covid-19 en Brasil, 33,1 millones de personas no tenían garantizada la alimentación diaria. Por ello, la agricultura urbana es analizada como una alternativa para mejorar la disponibilidad y el acceso a alimentos saludables. En este artículo se presenta una revisión de la literatura sobre el tema, con el objetivo de investigar el papel de la agricultura urbana en la mejora de la seguridad alimentaria y nutricional de las poblaciones vulnerables.

También presenta la importancia de los huertos urbanos en relación con la seguridad alimentaria y nutricional, especialmente para las personas que viven en situación de vulnerabilidad social. En este contexto, los mapas y otros datos, en diálogo con los conceptos y, sobre todo, el fortalecimiento de las políticas públicas, podrían fomentar los huertos urbanos como espacios para el cultivo de alimentos en áreas urbanas y periurbanas, consolidando redes en diferentes ciudades para erradicar el hambre como síntesis de la perversa y contradictoria concentración de ingresos y problemas históricos en Brasil.

Palabras clave: Agricultura Urbana. Alimentación. Seguridad alimentaria. Vulnerabilidad social.

INTRODUCTION

"To be rich means having food for the entire year."

Nepalese Peasant

"The globalization of food markets is a current strategy to generate hunger."

Vandana Shiva
(*apud* Madeley, 2003, p. 43 and 65).

The escalating trend of urbanization stands as a significant contemporary challenge, posing cities with a myriad of issues encompassing hunger, food insecurity[1], poverty, social disparities, and environmental repercussions. In this context, urban agriculture emerges as an alternative to make cities more sustainable and resilient while contributing to the promotion of food and nutritional security, job creation, income generation, and the strengthening of local communities.

As Oliveira (2019) asserts, urban agriculture can be seen as a means to provide people with a way to produce fresh and healthy food while interacting with nature and strengthening community bonds. Additionally, urban agriculture serves to reconnect people with the environment. In this regard, Louv (2011) highlights that urban agriculture is a way to make people reconnect with the land even in an urban setting, helping them better understand the relationship between nature and the food they consume. Therefore, this article aims to discuss the potential of urban agriculture as a solution to hunger, which is an expression of the social issue generating vulnerability[2] in Brazil, presenting its benefits, challenges, and perspectives.

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1 Food insecurity can be categorized as mild, moderate, and severe, according to the Brazilian Household Food Insecurity Measurement Scale (Ebia). *Mild food insecurity:* involves a compromise in the quality of food at the expense of maintaining a perceived adequate quantity; *Moderate food insecurity:* entails modifications in the usual eating patterns among adults alongside a restriction in the quantity of food available to adults; *Severe food insecurity:* characterized by a disruption in the usual eating patterns with a compromise in both quality and quantity of food for all household members, including resident children, and may also involve the experience of hunger. Available at: https://www.gov.br/saude/pt-br/assuntos/saude-brasil/glossario/inseguranca-alimentar-e-nutricional. Acessed on: jul. 2023.

2 According to Ziegler (2013), three groups of vulnerable people are identified based on the terminology of the FAO: rural poor, urban poor, and victims of catastrophes. Therefore, there is underreporting in different contexts and regions. They are victims of a terrifying geography that does not fit into the author's statistics.

Urban agriculture practices significantly contribute to improving the food and nutritional security of individuals. Local food production can increase the availability of fresh and healthy products, reducing dependence on industrialized and ultra-processed foods, which are often more expensive and less nutritious. According to Oliveira (2019), urban agriculture can be seen as a way to provide people with a means of producing fresh and healthy food while interacting with nature and strengthening community bonds[3].

Furthermore, urban agriculture has the potential to create employment and income opportunities for residents in the most vulnerable urban areas, often facing challenges in securing formal employment. According to Goldberg (2017), urban agriculture serves as a source of employment, income generation, and solidarity economy. It has the potential to mobilize and engage people, create communal spaces, and produce food.

Urban agriculture plays a crucial role in food production in urban spaces and in reducing hunger in cities, promoting social inclusion and sustainability simultaneously. It is important to emphasize that urban agriculture is not a standalone solution and should be considered in conjunction with other policies and initiatives aimed at promoting food and nutritional security, social justice, and sustainability. Urban agriculture has the potential to offer a viable alternative for food production in cities, reducing the need to transport food over long distances and minimizing greenhouse gas emissions associated with food transportation (Vianna, 2018).

Concerning the reduction of vulnerability caused by hunger, urban agriculture is a way to contribute to the gradual decrease in the number of people in this condition and to strengthen the local economy, creating job and income opportunities for the most vulnerable urban populations (Silva, 2013). In the same context, urban agriculture emerges as a creative and innovative solution to address the reality of hunger in cities and to promote social inclusion and sustainable development (Goldberg, 2017).

The current scenario of challenges and problems related to hunger in Brazil: reflections on the potential of urban agriculture practices

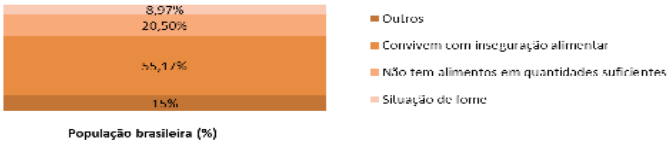
> In the specific case of Brazil, there are still those who do not sleep because they are hungry and those who do not sleep out of fear of those who are hungry. We are a country where more than half of the population does not partake in the wealth, knowledge, culture, and everything else we produce (Castro, 2002, p. 13).

Thus, it is understood that the current situation in the country regarding the food and nutritional insecurity of a portion of the population is very serious, as revealed by the data from the Second National Survey on Food Insecurity (2022). Hence, this historical dissonance, persisting across decades and centuries, is underscored by a recorded total of 211.7 million Brazilians, among whom 116.8 million have experienced or currently face

3 For more information on these scenarios, refer to the essays by Siqueira and Ferreira (2021) and Ferreira and Cepolini (2018).

varying degrees of food insecurity. Among them, 43.4 million did not have enough food, and 19 million Brazilians faced hunger, as presented in the graph below. In this context, a total of *211.7 million Brazilians are recorded, of whom 116.8 million lived and/or live with some degree of food insecurity. Among them, 43.4 million did not have enough food, and 19 million Brazilians faced hunger*, as presented in the graph below.

Graph 1 – Percentage of food and nutritional insecurity in the Brazilian population



Source: Prepared by the authors based on data from the Second National Survey on Food Insecurity (2022).

The worsening of food insecurity in Brazil, as revealed in the aforementioned survey, is part of a process that was already underway, characterized by the deterioration of living conditions for a significant contingent of the Brazilian population and the increase in social inequalities. According to Souza *et al*. (2019), among its causes are the potential impacts on Food and Nutritional Security of austerity policies adopted in Brazil since 2014, leading to a reduction in investments related to social policies.

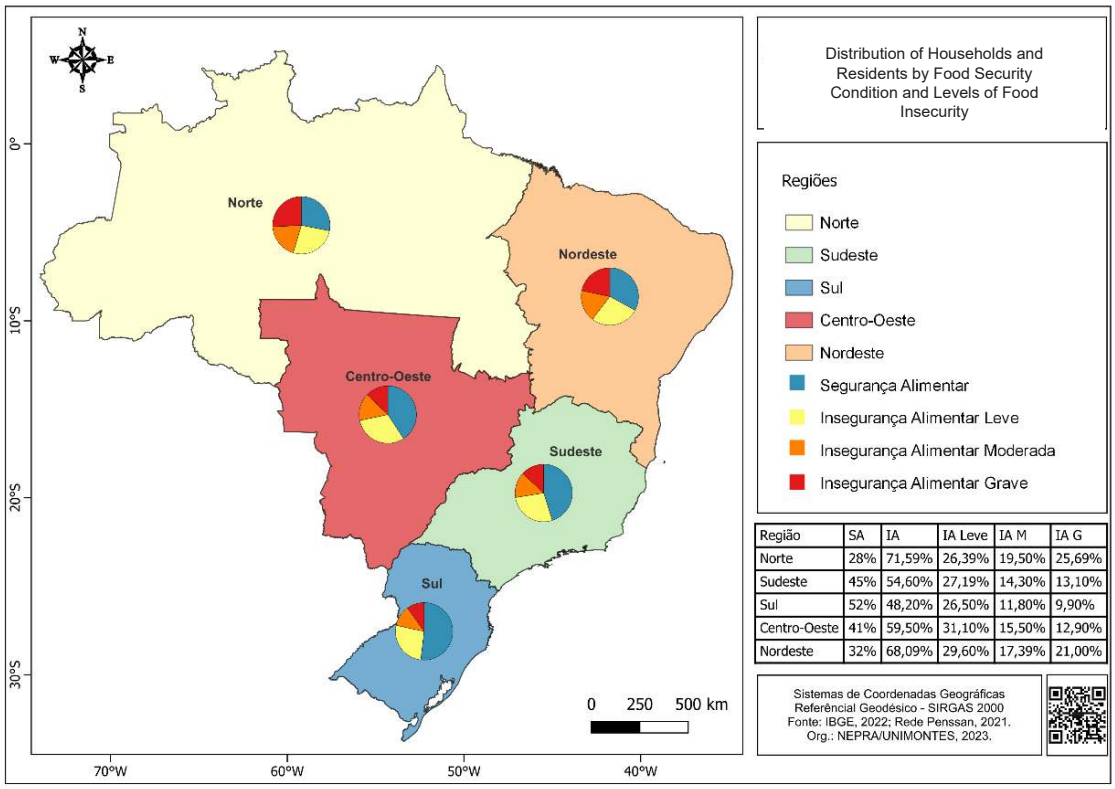
In this sense, the II[4] VIGISAN plays a crucial role in understanding and combating food insecurity in Brazil, providing solid data that can be used to develop more effective policies, allocate resources appropriately, and raise awareness among the public about this critical issue. The data from the II VIGISAN serve as a valuable source of evidence for researchers, enabling them to support discussions, further studies, and concrete actions aimed at reducing food insecurity.

In the presented context, the figures aim to illustrate specific groups facing more significant challenges regarding food insecurity in various regions of Brazil. These data reveal diverse profiles of social groups dealing with situations of Food Security (FS) and Food Insecurity (FI) in our country.

Figure 1 provides a comprehensive overview of the conditions of Food Security (FS) and Food Insecurity (FI) in households across different Brazilian regions. Notably, the Northern region stands out with the highest rate of Food Insecurity in the country, reaching 71.59%. Additionally, this region also exhibits the highest index of Severe Food Insecurity, at 25.69%. These figures are extracted from the distribution of households and their inhabitants facing these severe FS and FI conditions. These data underscore the need for attention and targeted interventions to address significant food security challenges in this region.

4 Second National Survey on Food Insecurity in the Context of the Covid-19 Pandemic in Brazil: Second VIGISAN – final report.

Figure 1 – Household and percentage of Food Security (FS) and levels of Food Insecurity (FI) in households across different Brazilian regions



Região	SA	IA	IA Leve	IA M	IA G
Norte	28%	71,59%	26,39%	19,50%	25,69%
Sudeste	45%	54,60%	27,19%	14,30%	13,10%
Sul	52%	48,20%	26,50%	11,80%	9,90%
Centro-Oeste	41%	59,50%	31,10%	15,50%	12,90%
Nordeste	32%	68,09%	29,60%	17,39%	21,00%

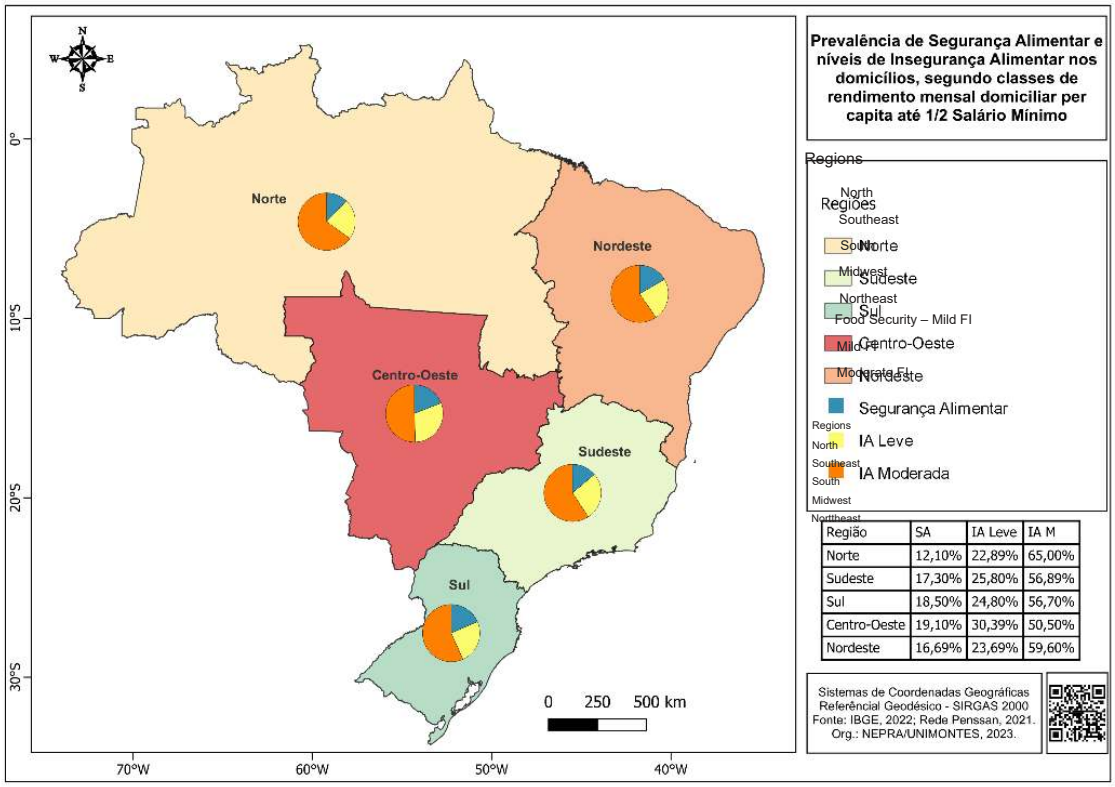
Source: Organized by the authors based on data from II VIGISAN (2022).

In this context, a global survey conducted by Gallup, a U.S.-based opinion research company, reveals that, compared to 120 countries (both developing and developed), food insecurity in Brazil surpassed the global average by four times in 2021 (Fiocruz, 2022).

The scenario is alarming, with more than 65 million Brazilians unable to guarantee their daily meals. This number represents families lacking the financial means to ensure three meals a day. According to Tereza Campello (Fiocruz, 2022), hunger is characterized by the lack of regular and permanent access to sufficient and quality food.

In this context, Figure 2 presents the prevalence of Food Security (FS) and the different levels of Food Insecurity (FI) in households, categorized according to the monthly income class per household of up to 1/2 minimum wage in each region of Brazil. Notably, the data reveal that the Northern region has the lowest FS rate, at only 12.10%, while the Midwest region, compared to the other regions, boasts the highest FS rate, reaching 19.10%. These findings highlight significant variations in food security conditions among different regions of the country and can serve as a basis for specific public policy strategies aimed at improving food security in more vulnerable areas.

Figure 2 – Figure 2. Prevalence of Food Security (FS) and different levels of Food Insecurity (FI) in households considering monthly income up to 1/2 minimum wage.

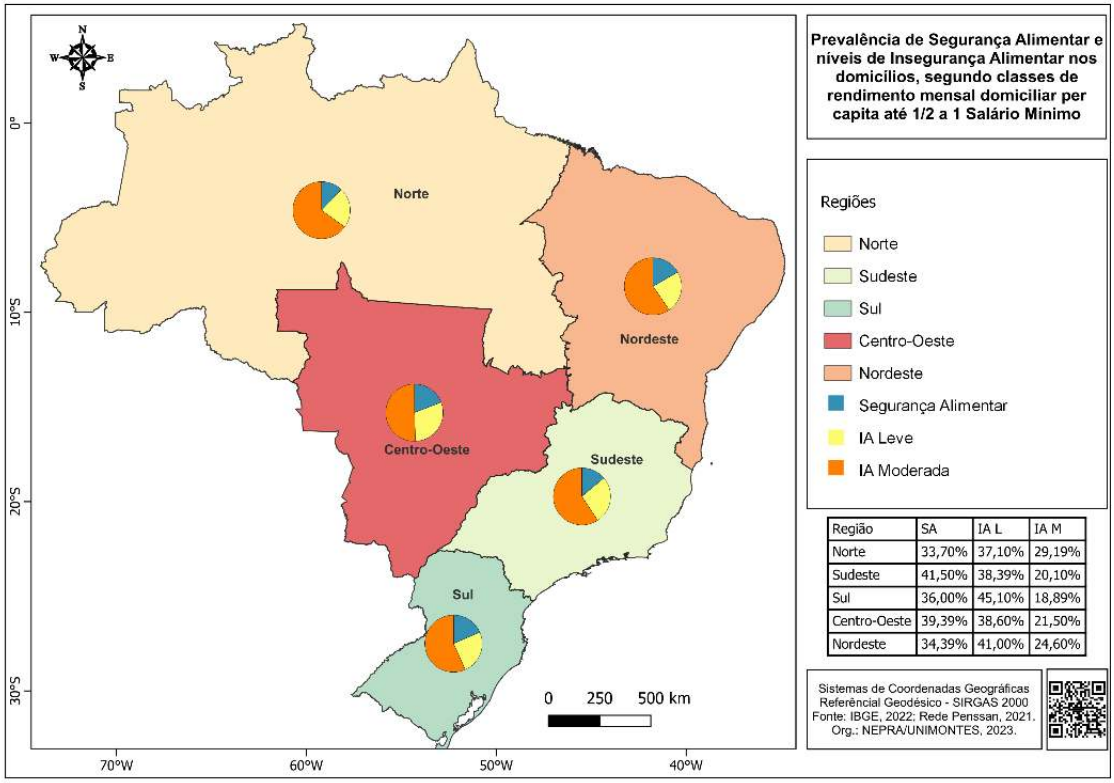


Source: Organized by the authors based on data from II VIGISAN (2022).

From the same perspective, Figure 3 displays the prevalence of Food Security (FS) and various levels of Food Insecurity (FI) in households categorized based on monthly income classes ranging from 1/2 to 1 minimum wage. The data reveal that the Southeast region has the highest FS rate, reaching 41.50%, while the Northern region has the lowest percentage of people in FS in the country, with only 33.70%.

Furthermore, regarding moderate FI levels, the South region records the lowest index, at 18.89%, while the Northern region, once again, compared to other regions, has the highest index, reaching 29.19% concerning moderate FI. These numbers underscore remarkable regional disparities in food security conditions, highlighting areas of higher and lower social vulnerability.

Figure 3 – Prevalence of Food Security (FS) and different levels of Food Insecurity (FI) in households considering monthly income from 1/2 minimum wage to 1 minimum wage.



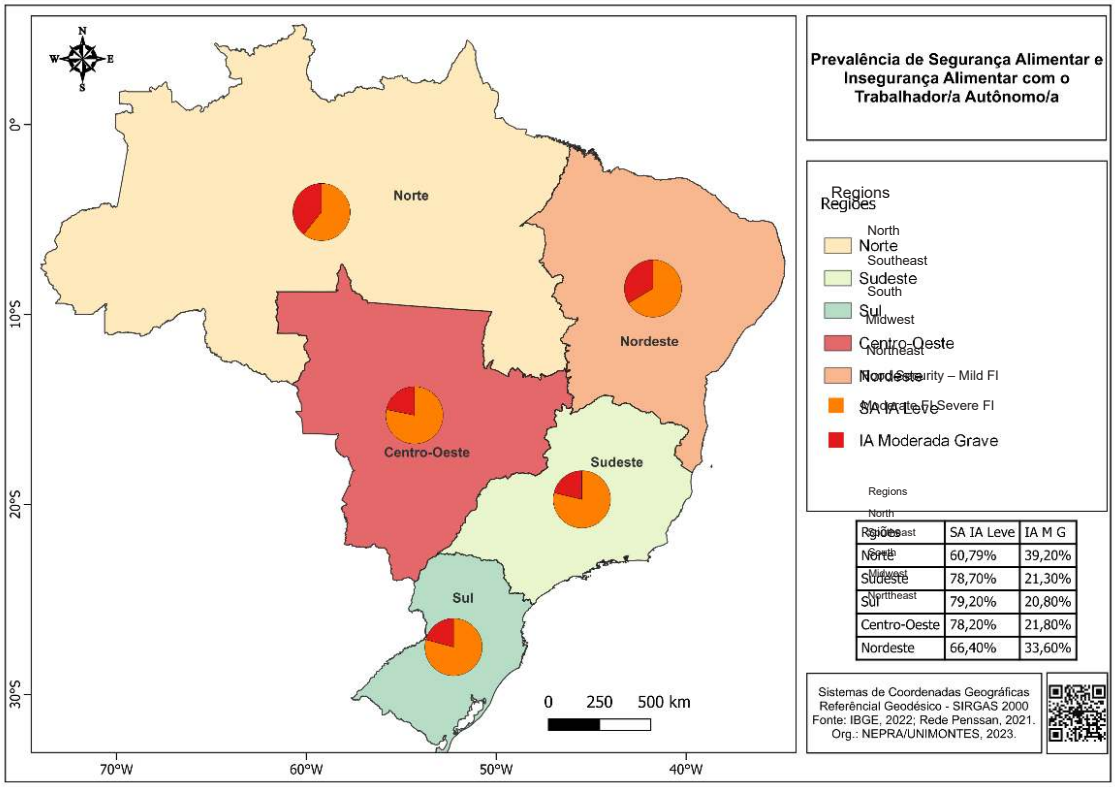
Região	SA	IA L	IA M
Norte	33,70%	37,10%	29,19%
Sudeste	41,50%	38,39%	20,10%
Sul	36,00%	45,10%	18,89%
Centro-Oeste	39,39%	38,60%	21,50%
Nordeste	34,39%	41,00%	24,60%

Regions: North – Southeast – South – Midwest – Northeast – Food Security – Mild FI – Moderate FI
Region: North – Southeast – South – Midwest – Northeast
Source: Organized by the authors based on data from II VIGISAN (2022).

In the same context, Figure 4 highlights the prevalence of Mild Food Security (FS) and Moderate Food Insecurity (FI) among self-employed workers by region. The data reveal notable regional disparities. In the Northern region, Mild FS is the least common, registering only 60.79%, while the Southern region leads with an impressive rate of 79.20% of people in Mild FI in the country.

Regarding Moderate FI, once again, the Northern region has the highest rate, at 39.20%, contrasting with the Southern region, which holds the lowest rate about Moderate FI, at only 20.80%. These numbers highlight the different realities faced by self-employed workers across the country and underscore the need for policy approaches that take into account the specificities of each region.

Figure 4 – Prevalence of Food Security (FS) and Food Insecurity (FI) among self-employed workers



Regiões	SA IA Leve	IA M G
Norte	60,79%	39,20%
Sudeste	78,70%	21,30%
Sul	79,20%	20,80%
Centro-Oeste	78,20%	21,80%
Nordeste	66,40%	33,60%

Source: Organized by the authors based on data from II VIGISAN (2022).

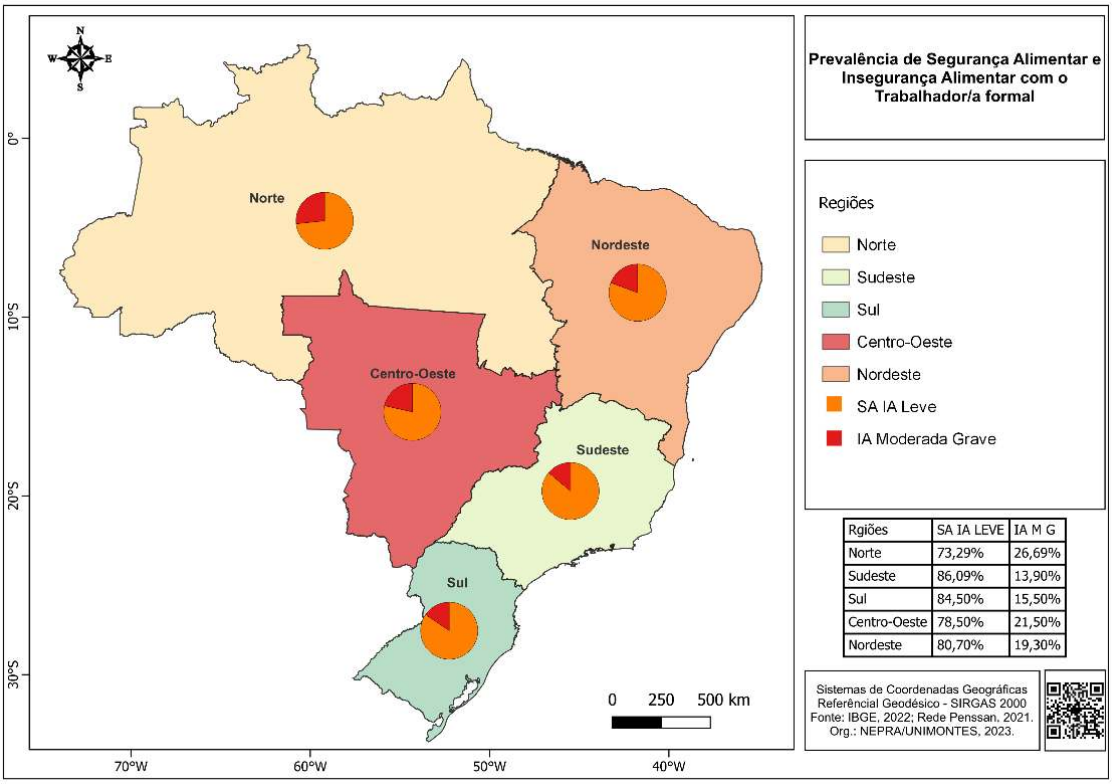
In the current context, with Brazil's return to the United Nations Map of Hunger, it is extremely important to promote a debate on this issue. In this regard, Tereza Campello (Fiocruz, 2022) emphasizes the need to create a multidimensional strategy, promote the integration of ongoing policies, and discuss the human right to adequate food, which are essential elements for addressing food insecurity.

Ziegler (2002, p. 23) remains relevant in stating coherently that scarcity is social, "that is, the unjust distribution of available goods. Millions of beings die of hunger every year because they do not have the economic means – and others – to access sufficient food."

Figure 5 provides a comprehensive view of the levels of Food Security (FS) and Mild, Moderate, and Severe Food Insecurity (FI) among formal workers, segmented by region. The data highlight notable regional contrasts. The Northern region, with a rate of only 73.29%, has the lowest rate of FS and Moderate FI, while the Southeast region, with a rate of 86.09%, records the highest rate in this aspect.

As for the situation of Moderate and Severe FI, it is evident that the Northern region faces the most challenging situation, with a rate of 26.69%, while the Southeast region exhibits a more favorable indicator, at only 13.90%, surpassing the other regions. These data emphasize marked differences in food security among formal workers in different parts of the country.

Figure 5 – Prevalence of Food Security (FS) and Food Insecurity (FI) among formal workers



Rgiões	SA IA LEVE	IA M G
Norte	73,29%	26,69%
Sudeste	86,09%	13,90%
Sul	84,50%	15,50%
Centro-Oeste	78,50%	21,50%
Nordeste	80,70%	19,30%

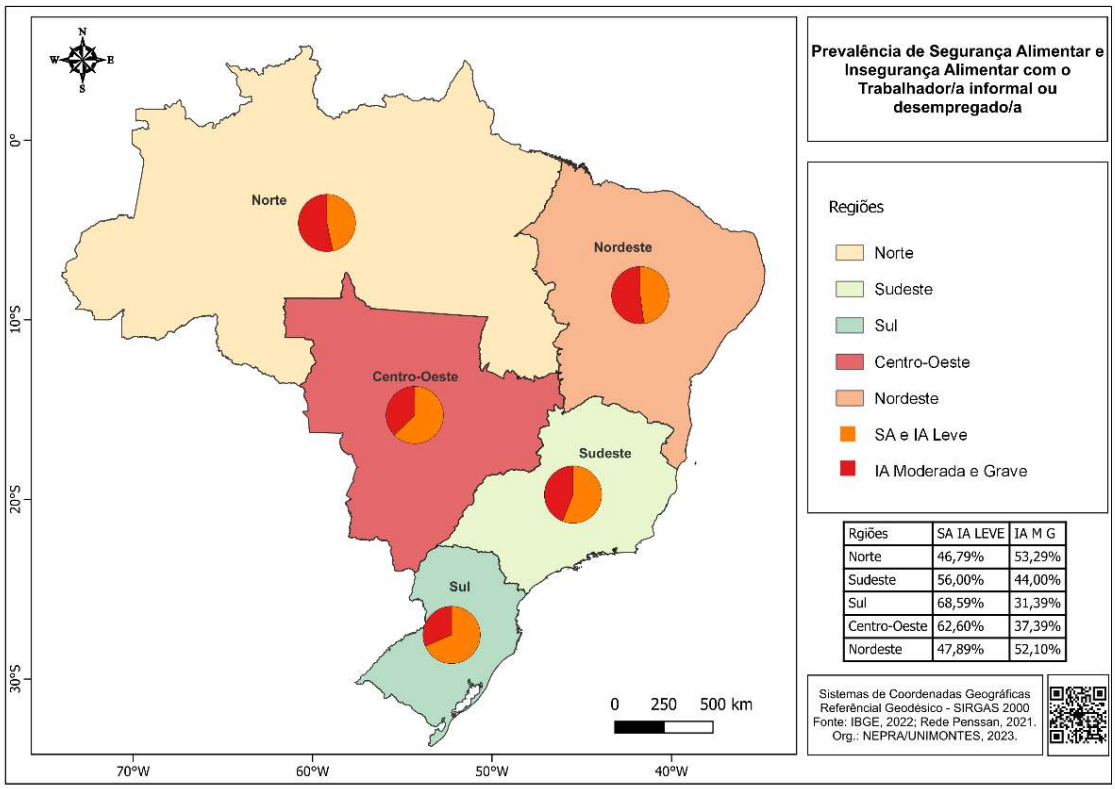
Source: Organized by the authors based on data from II VIGISAN (2022).

The theme is the current great challenge, thinking about strategies to address issues related to combating hunger and poverty in Brazil. Hence the importance of alternative food production that is accessible to the population living in vulnerable situations in urban areas.

Figure 6 offers an analysis of the levels of Food Security (FS) and Mild, Moderate, and Severe Food Insecurity (FI) among informal or unemployed workers, segmented by region. The data reveal significant trends. Regarding FS and Mild FI, the Northern region has the highest rate, with 46.79% of people in this situation, while the Southern region records a slightly better rate, at 68.59%.

As for Moderate and Severe FI, once again, the Northern region has the least favorable rate, at 53.29%, standing out as the most affected region. On the other hand, the Southern region exhibits a more positive rate, at 31.39%, surpassing the other regions. These data underline regional inequalities in food security among informal or unemployed workers and emphasize the urgency of specific actions adapted to the needs of each region.

Figure 6 – Prevalence of Food Security (FS) and Food Insecurity (FI) among informal or unemployed workers.



Rgiões	SA IA LEVE	IA M G
Norte	46,79%	53,29%
Sudeste	56,00%	44,00%
Sul	68,59%	31,39%
Centro-Oeste	62,60%	37,39%
Nordeste	47,89%	52,10%

Source: Organized by the authors based on data from II VIGISAN (2022).

The analysis of the data presented in the previous figures reveals a complex and heterogeneous reality of food security in different regions of Brazil, particularly when considering variables such as income and occupation. These data are of utmost importance as they highlight significant disparities and provide valuable information for the development of more effective and targeted public policies.

They show that food insecurity affects formal, informal, and unemployed workers unevenly across the country, with regions like the North facing particularly pronounced challenges. This in-depth analysis allows us to identify areas of greater vulnerability and guide specific strategies to improve food security, promoting a more equitable and just distribution of resources and opportunities across all regions of Brazil.

In this sense, urban agriculture is an increasingly important topic in the debate on food security and sustainability in cities. Reflecting on the potential of urban agriculture, it is possible to see how this practice can contribute to health promotion, poverty reduction, and the building of fairer and more sustainable communities.

According to Altieri (2019), urban agriculture has the potential to provide fresh and healthy food to urban communities, reducing dependence on processed and ultra-processed foods often consumed in cities. Additionally, urban agriculture can help promote the mental and physical health of people by offering outdoor activities, contact with nature, and a more balanced diet.

Another author highlighting the potential of urban agriculture is Smit (2016), who states that this practice can contribute to poverty reduction and social inclusion. Urban agriculture can be a source of income and employment for populations in more vulnerable situations, promoting the development of skills and knowledge related to agriculture and food production.

Regarding the issue of hunger in Brazil, already in the first half of the 20th century, Josué de Castro (1984) pointed out the multiplicity of factors involved in this theme. For him, hunger is a political phenomenon, a social construction that is not the result of food scarcity or lack of will on the part of those in vulnerable situations. Thus, overcoming this problem requires state action through effective public policies that envision the democratization of access to land and the socialization of socially produced wealth.

Hunger is directly related to food and nutritional security. Effective public policies to combat hunger, as a social expression of inequalities in Brazilian society, must aim for a set of elements related to food as a human right. In this sense, based on guidelines from the Food and Agriculture Organization of the United Nations (FAO-UN), Guerra, Cervato-Mancuso, and Bezerra (2019) point out that:

> [...] it is the right of every human being to have adequate and healthy food, from the perspective of health, respect for food culture, economic, social, and environmental sustainability, and the permanent availability and access to quality food, without compromising other needs inherent to a dignified life, such as education, housing, employment, and leisure (Guerra; Cervato-Mancuso; Bezerra, 2019, p. 3370).

The 1988 Constitution (Brazil, 2016) represented an important step in the normative recognition of food as a human right. Also, within the legislative framework, according to the Organic Law of Food and Nutritional Security (LOSAN) – Law No. 11,346 of 2006, which created the National Food and Nutritional Security System (SISAN),

> Art. 3 The food and nutritional security consist of the realization of everyone's right to regular and permanent access to quality food in sufficient quantities, without compromising access to other essential needs, based on health-promoting eating practices that respect cultural diversity and are environmentally, culturally, economically, and socially sustainable (Brazil, 2006, p. 1).

In this sense, food security is not only related to hunger but also to multiple factors that, when connected to the direct issue of hunger, promote much more than immediate satisfaction, as they must effectively provide a quality of life with access to healthy food. In summary, the promotion of health should be the goal when seeking to combat hunger.

According to Nascimento and Segall-Corrêa (2023), between the end of 2021 and the beginning of 2022, more than half of the Brazilian population did not have their human and constitutional right to adequate food assured. These data demonstrate how the issue of food insecurity has been worsening in the country, especially after the last governments explicitly linked to the interests of foreign capital, to the detriment of effective public policies addressing food security.

Analyzing the data from the II National Survey on Food Insecurity in the Context of the Covid-19 Pandemic in Brazil, for example, Nascimento and Segall-Corrêa (2023) also point out that the study

> also reaffirmed, in the context of food insecurity, the already known and permanent social inequality in Brazil. The scourge of hunger was more frequent in the North (25.7%) and Northeast (21%) of the country and in households located in rural areas (18.6%). Among families with the reference person of brown or black color, hunger affected 18.1% of them, and when the person was female, 19.3% of households. Hunger manifested prominently within low-income families, reaching 43% among those with an average per capita income of up to 1/4 of the minimum wage, and 36% in cases where the responsible person was unemployed. Other unfavorable conditions of access to food that highlight inequities in Brazil were observed in the I VIGISAN and further aggravated in the II VIGISAN, such as low education, precarious work relationships, family indebtedness, and the presence of small children in the household (Nascimento; Segall-Corrêa, 2023, p. 1).

Considering these data, we reinforce the role of urban agriculture in addressing this challenge, which is hunger in Brazil, to ensure food security as a human right. As Monteiro (2003) pointed out, we do not want to establish a direct relationship between hunger and poverty; we only indicate how the situation of socioeconomic vulnerability can be an aggravating factor in the issue of food insecurity, and urban agriculture is a means of addressing this issue.

Urban agriculture can also help build fair and sustainable communities. As observed by Rosol (2018), urban agriculture can foster cooperation and solidarity among community members, and stimulate local production and fair trade. Additionally, urban agriculture assists in preserving biodiversity and local ecosystems, as well as reducing the carbon footprint and environmental impacts of human activities in cities.

Urban agriculture is a practice that has been gaining increasing prominence in Brazilian cities, seen as a part of the solution to the social issue of hunger. Upon reflecting on the potential of urban agriculture, one can discern how this practice can help promote food and nutritional security, reduce reliance on industrialized and processed foods, as well as generate employment and income for the most vulnerable populations.

It is worth emphasizing that urban agriculture holds the potential to contribute to hunger reduction in cities by increasing the availability of fresh and healthy food. According to Oliveira (2019), urban agriculture can be viewed as a means of promoting food sovereignty[5] by allowing urban communities access to locally and sustainably cultivated food. Furthermore, urban agriculture serves to decrease dependence on foods transported over long distances, positively impacting the reduction of greenhouse gas emissions.

Urban agriculture stands out as a significant tool in combating hunger and promoting food and nutritional security in cities. The practice of food production within urban areas

5 "It can be roughly defined as the right of countries and communities to determine food production according to their preferences and cultural traditions. The concept of food sovereignty places less emphasis on trade" (Madeley, 2023, p. 49).

has proven to be a vital ally in the fight against hunger, particularly in urban regions. It is underscored that urban agriculture is a means to augment food production and ensure access to food for populations facing vulnerability.

According to Mougeot (2000), urban agriculture plays a significant role in food security, especially in areas where people encounter difficulties accessing quality and affordable food. Urban agriculture increases the availability of healthy and fresh food in cities, empowering individuals to have greater control over their nutrition.

Another author emphasizing the importance of urban agriculture in combating hunger is Van Veenhuizen (2006). According to him, urban agriculture assists in reducing dependence on imported foods and enhances the resilience of urban communities in the face of food crises. Moreover, urban agriculture can serve as a source of employment and income for the most vulnerable populations, contributing to the reduction of poverty and food insecurity.

Urban agriculture also addresses social inequalities by creating opportunities for employment and income for the most vulnerable populations. As highlighted by Silva (2013), urban agriculture can be seen as a form of social inclusion by enabling vulnerable populations to participate in food production and the local market. Additionally, urban agriculture aids in strengthening the local economy, generating income and employment for urban communities.

However, it is essential to note that urban agriculture is not a standalone solution to hunger and social vulnerabilities. It should be considered in conjunction with other policies and initiatives aimed at promoting food and nutritional security, social justice, and sustainability. In this regard, governments, non-governmental organizations, and civil society must collaborate in promoting urban agriculture and other practices that contribute to the development of fair, inclusive, and sustainable cities.

Urban Agriculture and Community Garden Experiences in Some Brazilian Capitals

> Food is not merely a commodity bought and sold. It is not just the nutrients we consume. Food fulfills many human needs—cultural, psychological, and social, among others. It is a social good (Madeley, 2003, p. 43).

Urban agriculture has been increasingly developing in Brazil, with community gardens being one of the most popular forms of this activity in cities. It is noteworthy that community gardens can be a viable solution for food production and the promotion of health and well-being in urban communities.

According to Filho *et al*. (2018), urban agriculture has been growing in the country, driven by factors such as the demand for healthy and organic foods, the reduction of environmental impacts caused by food production, and the generation of employment and income. Community gardens are one of the primary forms of urban agriculture practice in Brazil, with successful experiences in various cities across the country.

An example of a successful community garden is the Horta das Corujas, located in São Paulo. According to Silva and Oyama (2019), Horta das Corujas is a community initiative involving food production on a communal urban plot, using permaculture and agroecology techniques. The initiative aims to promote food and nutritional security, community interaction, and environmental education, becoming a reference for other urban agriculture initiatives in the country.

Horta das Corujas, situated in the western part of the city, is one of the most well-known community gardens in São Paulo. According to Beiler *et al.* (2019), the garden was established in 2004 on an abandoned plot and now features over 200 plots cultivated by around 100 families. Besides producing healthy food, the garden also fosters social interaction among residents and environmental education.

Another example of a community garden is Horta das Flores in Belo Horizonte. According to Figueiredo *et al*. (2019), Horta das Flores is a community initiative seeking to promote food and nutritional security in vulnerable communities through the production of organic and healthy food on urban land provided by public authorities. The initiative aims to enhance community food autonomy and environmental education, as well as generate income through product commercialization.

There are other community garden experiences worth mentioning, such as Horta do Ciclista, located in the southern part of the city, which is another interesting initiative. According to Menezes *et al*. (2017), the garden was established in 2013 by a group of cyclists and residents on an abandoned lot previously used as a dump. The initiative transformed the space into a place for socializing and food production, with the harvested produce distributed among participants and donated to charitable institutions.

Horta do Povo do Jardim Damasceno, in the northern part of the city, is another noteworthy experience. As reported by Almeida and Santoro (2017), the garden was created in 2010 by a group of residents who organized to transform an abandoned plot into a food production space. Currently, the garden features over 60 plots cultivated by about 40 families, in addition to promoting environmental and food education activities.

We also mention other community garden initiatives, such as Horta das Flores, located in the Laranjeiras neighborhood, Rio de Janeiro, in the southern part of the city. According to Miranda and Menezes (2017), the garden was established in 2014 by a group of residents who transformed an abandoned plot into a food production space. The initiative includes about 25 plots cultivated by 10 families and promotes environmental education and social interaction among participants.

Additionally, we have Horta do Casarão, in the Morro dos Prazeres community, Santa Teresa, also in the southern part of Rio de Janeiro. According to Gonçalves *et al*. (2016), the garden was created in 2012 on land provided by the Rio de Janeiro City Hall and is managed by a group of community residents. The initiative comprises around 25 plots cultivated by 15 families and promotes integration among participants and the appreciation of local culture.

Horta da Freguesia, in the western part of the city, is another interesting experience. As reported by Lima and Souza (2018), the garden was created in 2013 by a group of residents who transformed an abandoned plot into a food production space. Currently, the initiative features over 100 plots cultivated by about 70 families, in addition to promoting environmental education and income generation activities.

Community gardens have proven to be a viable and successful form of urban agriculture practice in Brazil, promoting the production of healthy food and the enhancement of health and well-being in urban communities. These initiatives are essential for promoting food and nutritional security, as well as for generating employment and income and promoting environmental sustainability in cities.

Community gardens play a significant role in cities, especially for people in situations of socioeconomic vulnerability. According to the Food and Agriculture Organization (FAO) of the United Nations, community gardens are a way to promote food and nutritional security, reduce food waste, increase biodiversity and environmental quality, as well as foster citizen participation and social integration.

For individuals facing socioeconomic vulnerability, community gardens represent a source of fresh and healthy food, often inaccessible in urban areas dominated by processed and industrialized foods. Additionally, community gardens generate income and job opportunities, serving as excellent means for environmental education promotion and community interaction.

As highlighted *by Gonçalves et al*. (2016), community gardens can contribute to improving the quality of life for residents in urban areas, especially in peripheral regions and communities experiencing socioeconomic vulnerability where the availability of healthy food is scarce. According to the authors, community gardens are vital instruments for promoting food sovereignty, meaning the capacity of communities to decide on the foods they want to produce and consume.

Public Policies and Urban Agriculture in Brazil: Main Challenges and Difficulties

> Food is an essential human need, the true means of life, acknowledged in the United Nations Charter as a human right (Madeley, 2003, p. 43).

In 2022, Brazil reached the unfortunate milestone of 33 million people experiencing hunger, according to a survey by the Brazilian Network for Research on Food Sovereignty and Security (Penssan, 2022). The numbers become even more alarming when realizing that 58.7%—half of the country—live with some level of food insecurity, categorized as mild, moderate, and severe.

The situation in Brazil worsened due to the policies implemented by the former president Jair Bolsonaro (2018-2022; ineligible). During his tenure, through budget cuts, he dismantled hunger-fighting policies by ending programs and creating Provisional Measure

870/2019,[6] which, without discussion with organized civil society, abolished the National Council for Food Security and Nutrition (CONSEA[7]), impacting the food security of Brazilian families living in social vulnerability and relying on government social assistance policies.

In this regard, the current federal government, which took office in early 2023, has taken a step towards addressing the dire situation regarding hunger. The first step was the creation and implementation of public policies to make food on the table a reality through CONSEA (National Council for Food Security and Nutrition), reinstated in February 2023.

Furthermore, the government reinstated the Food Acquisition Program (PAA[8]), allowing the federation, states, and municipalities to purchase food produced by family farming to supply daycares, schools, and public hospitals, as well as popular restaurants, community kitchens, and food banks. This program represents another important alternative for minimizing issues related to food and nutritional security.

In this context, Table 1 presents other laws created at the federal, state, and municipal levels to ensure food and nutritional security, proposing strategies to expand access to food. The creation of these laws and decrees aims primarily to enhance conditions for accessing food for the population experiencing food insecurity.

Table 1 – List of Laws and Decrees on Food and Nutritional Security

Legislation	Function/Objectives	Creation Date	Sphere
Law nº 11.346	Establishes the National Food and Nutritional Security System, SISAN, to ensure the human right to adequate food and taking other measures.	September 15, 2006	Federal
Decree nº 6.273	Creates, within the scope of the National Food and Nutritional Security System – SISAN, the Interministerial Chamber of Food and Nutritional Security.	November 3, 2007	Federal
Decree nº 6.272	Deals with the competencies, composition, and functioning of the National Council for Food and Nutritional Security – CONSEA.	November 23, 2007	Federal
Law nº 22.806	Addresses the State Policy on Sustainable Food and Nutritional Security – (PESANS) – and organizes the National Food and Nutritional Security System – (SISAN) – at the state level.	December 29, 2017	State/MG

6 Brazil. Brazil. Provisional Measure No. 870, January 1, 2019. Establishes the basic organization of the offices of the Presidency of the Republic and the Ministries. Official Gazette of the Union 2019; Jan 1.

7 Created during the Itamar Franco government and reopened at the beginning of the first Lula government, CONSEA was part of the National Food and Nutritional Security System (SISAN), which aims to ensure the right to adequate food for the entire population residing in the national territory.

8 It consists of purchasing fruits, vegetables, milk, and other foods from small producers for distribution to populations in vulnerable situations.

Legislation	Function/Objectives	Creation Date	Sphere
Decree nº 47.502	Regulates Law No. 22,806, of December 29, 2017, which deals with the State Policy on Sustainable Food and Nutritional Security – Pesans – and organizes the National Food and Nutritional Security System – SISAN – at the state level.	October 2, 2018	State/MG
Law No. 3,598	Authorizes the creation of the Sustainable Food and Nutritional Security Council of Montes Claros. The Municipal Council of Sustainable Food and Nutritional Security of Montes Claros, named COMSEA-Montes Claros, aims to ensure the constitutional right of every individual to food and food and nutritional security.	November 7, 2006	Municipal

Source: Organized by the authors.

Nevertheless, many people still lack access to healthy and nutritious food in Brazilian cities. Urban agriculture can be a solution to this problem but faces challenges related to the lack of space and infrastructure, as well as the absence of public policies that encourage its adoption (Mougeot, 2005).

The lack of public policies and government incentives hinders the development of urban agriculture in Brazil. Without support, urban farmers struggle to invest in infrastructure, equipment, and other necessary resources for the practice (Gonçalves *et al.*, 2017).

According to Veríssimo and Campos (2015), in their article "*Urban Agriculture in Brazil: Between Marginalization and Regulation*," urban agriculture requires public policies that recognize and value its social, cultural, and economic importance and create conditions for its inclusion in urban and rural development policies.

Thus, public policies focused on urban agriculture contribute to promoting food security, environmental sustainability, improving the quality of life for urban populations, and the social inclusion of urban farmers, among other benefits. Therefore, these policies must be participatory, coordinated, and integrated, involving various stakeholders and institutions in the theme.

Urban agriculture is an activity that allows for the improvement of the quality of life in cities, both environmentally and socially. Assad (2014) emphasizes that public policies encouraging urban agriculture are essential for its development. Through these policies, it becomes possible to promote urban agriculture as a strategy to combat hunger and promote food security in cities, as well as strengthen the local economy and create jobs and income for urban residents.

In the same context, according to Assad (2016), urban agriculture can contribute to the food and nutritional security of families living in urban areas, providing access to fresh and healthy food, while generating income and employment for those engaged in this activity. In this sense, the government needs to promote policies encouraging urban agriculture, such as offering land and inputs for production, technical training for farmers, and creating marketing channels for agricultural products.

From what has been presented, it is evident that public support for urban agriculture can significantly contribute to combating hunger and promoting food security in cities due to its capacity to expand food production.

Urban agriculture and its potential to promote food and nutritional security

Urban agriculture is a promising practice to promote food and nutritional security, and it is a growing phenomenon in urban areas worldwide, particularly in regions where access to nutritious food is limited. Hence, there is a need to promote and incentivize the implementation of urban and community gardens and other food production practices.

In this regard, urban agriculture is an effective strategy to enhance food and nutritional security in urban areas by providing fresh and healthy food to local communities (Mougeot, 2000). Therefore, urban agriculture is an excellent approach to improving food and nutritional security in urban areas, especially for low-income communities with limited access to nutritious and fresh foods.

The challenge of accessing nutritious food is a reality in many urban areas, particularly in low-income communities. Limited access to fresh and healthy foods can lead to health problems. In this context, urban agriculture serves as a solution to minimize these challenges by increasing the availability of fresh and healthy foods in urban areas. Urban and community gardens offer a local source of food, enabling communities to access nutritious and fresh foods at a more affordable cost.

FINAL CONSIDERATIONS

> [...] the problem of severe hunger in the world is a social issue. The hundreds of millions of people who die every year from acute malnutrition die because of the unfair distribution of available food on the planet (Ziegler, 2022, p. 108).

Regional disparities are notable, with some regions facing concerning levels of food insecurity, especially among informal workers and the unemployed. This highlights the urgent need for public policies that address these inequalities, prioritizing regions in situations of greater vulnerability and the most affected groups in these areas. It is imperative to acknowledge that food security constitutes a fundamental and intrinsic human right crucial for societal well-being. Therefore, based on this information, collective actions and public policies must be implemented at the national and regional levels.

Despite the yearly surge in production and commodity exports in Brazil and various nations, the ongoing daily battle for sustenance persists, with countless hungry individuals worldwide. This geopolitical landscape of hunger, in numerous instances, has the potential to manifest as a genuine form of genocide and ethnocide. (Ziegler, 2002).

Thus, community gardens, as well as urban agriculture practices, have significant potential to improve the quality of life for people in situations of socioeconomic vulnerability residing in urban areas. They promote access to healthy food, generate income, and strengthen community networks. In other words, it is a viable path linked to other public policies for building food sovereignty to eradicate hunger, and malnutrition, and ensure lasting food security, possibly enabling an agroecological transition.

Urban agriculture practices have the potential as an effective strategy to ensure access to fresh and nutritious food, promote social inclusion, and minimize issues of food and nutritional security. However, additional investments in infrastructure, training, and government support are needed to expand and strengthen urban agriculture practices in Brazil, aiming to achieve a significant impact on the food and nutritional security of people in situations of social vulnerability, building another national development project that ensures food and environmental security.

Therefore, it is reaffirmed that the understanding of hunger and the geopolitics of food must be constantly deepened in the face of the possibilities of urban agriculture and peasant farming in the production of food, cultures, and territories of life and work.

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