

Solidarity economy and food production: a new configuration for agri-food chains

Economía solidaria y producción de alimentos: una nueva configuración para las cadenas agroalimentarias

Economia solidária e produção de alimentos: uma nova configuração para as cadeias agroalimentares

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Abstract

Alternative economies are responses to conventional economic systems, such as the solidarity economy, which tend to have an impact on changes in food supply systems, aiming for a transition to sustainability. With this in mind, the article addresses the importance of the solidarity economy for food production in the interrelation between the terms solidarity economy and food. This is a comprehensive review, which its approach is organized into four sections: the first discusses the path to food security and the sustainability of food systems, demonstrating the challenges for global food security. The second refers to the principles of cooperativism, particularly its social organizations, with an emphasis on cooperatives and the solidarity economy. The third describes the influence of short chains on alternative food supply networks, based on an overview of the interdisciplinary dimension of these short food circuits. And finally, the fourth covers the debate on organic production as an alternative in food networks, presenting innovations achieved by organic farming. This is an analysis of studies already carried out on the global food system linked to a complex multifactorial dimension, in which organic farming and the solidarity economy can be an alternative to the transition to sustainability in food production chains.

Keywords: Alternative economy. Cooperativism. Circular economy. Food practices. Healthy food.

EconLit Subject Descriptors:

J54 Producer Cooperatives • Labor Managed Firms • Employee Ownership

P13 Cooperative Enterprises

Q18 Agricultural Policy • Food Policy • Animal Welfare Policy

Resumen

Las economías alternativas son respuestas a los sistemas económicos convencionales, como la economía solidaria, que tienden a incidir en los cambios de los sistemas de abastecimiento de alimentos, con vistas a la transición hacia la sostenibilidad. Teniendo esto en cuenta, el artículo pretende discutir la importancia de la economía solidaria para la producción de alimentos en la interrelación entre los términos economía solidaria y alimentación. Se trata de una revisión exhaustiva, cuyo enfoque se organiza en cuatro secciones: la primera aborda el camino hacia la seguridad alimentaria y la sostenibilidad de los sistemas alimentarios, mostrando los retos para la seguridad alimentaria mundial. La segunda se refiere a los principios del cooperativismo, en particular sus organizaciones sociales, haciendo énfasis en las cooperativas y la economía solidaria. El tercero describe la influencia de las cadenas cortas en las redes alternativas de suministro de alimentos, comenzando con una visión general de la dimensión interdisciplinar de estas redes de circuitos cortos de alimentos. Y por último, el cuarto abarca el debate sobre la producción ecológica como alternativa en las redes alimentarias, presentando las innovaciones logradas por la agricultura ecológica. Se trata de un análisis de los estudios ya realizados sobre el sistema alimentario mundial vinculado a una compleja dimensión multifactorial, en la que la agricultura ecológica y la economía solidaria pueden ser una alternativa para la transición hacia la sostenibilidad en las cadenas de producción de alimentos.

Palabras clave: Economía alternativa. Cooperativismo. Economía circular. Prácticas alimentarias. Alimentación sana.

Descriptores:

B55 Economía Social

Q01 Desarrollo sustentável

P13 Mercados y Comercialización Agrícola • Cooperativas • Agronegocios

Resumo

As economias alternativas são respostas aos sistemas econômicos convencionais, como a economia solidária, que tendem a impactar em mudanças nos sistemas de abastecimento alimentar, visando a transição para sustentabilidade. Nesse propósito, o artigo objetiva discorrer sobre a importância da economia solidária para a produção de alimentos na interrelação entre os termos economia solidária e alimentos. Faz-se, assim, uma revisão abrangente, cuja abordagem está organizada em quatro seções: a primeira discute-se o caminho para segurança alimentar e sustentabilidade dos sistemas alimentares, demonstrando os desafios para a segurança alimentar global. A segunda, remete-se aos princípios do cooperativismo, particularmente, suas organizações sociais, com ênfase nas cooperativas e na economia solidária. A terceira descreve-se a influência das cadeias curtas nas redes de abastecimento alimentar alternativas, a partir de um panorama da dimensão interdisciplinar nessas redes de circuitos alimentares curtos. E, finalmente, a quarta, abrange-se o debate sobre a produção orgânica, como alternativa nas redes alimentares, apresentando inovações obtidas pela agricultura orgânica. Trata-se de uma análise de estudos já realizados sobre o sistema alimentar global atrelado a uma dimensão multifatorial complexa, em que a agricultura orgânica e a economia solidária podem se constituir como alternativa à transição para sustentabilidade das cadeias produtivas de alimentos.

Palavras-chave: Economia alternativa. Cooperativismo. Economia circular. Práticas alimentares. Alimentos saudáveis.

Introduction

In response to conventional economic systems, research involving the context of alternative economies has gained prominence (Zanoni, Contu, Healy and Mir, 2017), which present social injustices and socio-ecological vulnerability (Chaves-Avila and Gallego-Bono, 2020).

The traditional market economy does not effectively address structural problems such as social inequality and environmental impacts. Thus, more inclusive and sustainable economic models are alternatives in the search for new solutions to holistically reorganize society, in order to equitably share the benefits of the economic structure: people, nature and ethics (Van Niekerk, 2020). Furthermore, these new economic perspectives, when related to agricultural practices, have been translated into food supply strategies, particularly when associated with sustainability initiatives, especially in relation to social and environmental values, and positively, aiming to produce more healthy food (Čajka and Novotný, 2022).

Therefore, the solidarity economy fits into this form of economic organization, as work occurs in a collective and egalitarian manner, which demonstrates importance to people's lives and the environment, unlike the profit-based capitalist economy, the solidarity economy aims to the distribution of leftovers, that is, surplus. Cooperation, in this context, presents itself as one of its main principles, alongside self-management, democracy, solidarity, respect for nature, fair trade and supportive consumption (Dagnino, 2019).

The solidarity economy is based on the collective ownership of the means of production, in contrast to the capitalist model, which emphasizes capital accumulation and individual freedom rooted in possessive individualism. In the solidarity economy, the guiding principles focus on the equitable distribution of outcomes across various types of solidarity organizations, including solidarity enterprises, whether cooperatives or economic associations (Addor & Laricchia, 2018). In this context, solidarity and equality are essential elements for both production and reproduction, necessitating state mechanisms to ensure the fair redistribution of income (Singer, 2013).

Thus, to understand agricultural organizations under the principles of solidarity economy in synergy with the quality of life of their producers, there is a requirement that food be offered directly to consumers (Nagib & Nakamura, 2020). In this assumption, the solidarity economy and agri-food systems are strongly affected by institutions that aim to reframe the impacts of agricultural policies, particularly in relation to climate effects (Costa & Silva, 2020; Klein, Nier & Tamásy, 2022).

In view of the above, this article aims to debate, in synthetic terms, the importance of the solidarity economy for the organization of agri-food systems with a focus on the production of healthy food from the perspective of sustainability.

Methodology

A preliminary evaluation of the literature related to the selected topic was conducted to confirm its relevance to the discussion of the solidarity economy and food production. Accordingly, this article presents a review of scientific studies specifically based on action research, focusing on the intersection of these two key themes: the solidarity economy and food production. Bibliographic references were gathered from the Capes journal platform, with Scopus and Web of Science serving as the primary databases. The selection criteria included scientific articles with high academic impact published between 2011 and 2022. Works deemed irrelevant to the topic, based on title and abstract screening, as well as books, periodicals, and other types of literature, were excluded from this review.

The following keywords were used: "*solidarity economy*" and "*food*", "*solidarity economy*", "*solidarity economy and food security*", "*solidarity economy and food production*", "*solidarity economy and healthy food*". Expressions related to food were associated with the terms "*alternative economies*", "*alternative economic system*" and "*rural economy*". With this procedure, 965 articles were found in the literature from which, 261 were filtered. 51 articles were selected and registered with the aim of building a comprehensive view in terms of the proposed objective. The works that make

up the body of the article, therefore, became significant because they bring elements of interrelationship between solidarity economy and food, specifically, with a focus on sustainable agri-food systems.

Thus, the adopted procedures provided an overview of quantitative data related to the current research landscape on the central theme, while also facilitating qualitative connections between categories and concepts. This approach enriched the debate on strategies and alternatives, highlighting shifts in understanding and emphasizing the importance of linking the concepts of the solidarity economy with the food production chain. These insights are further explored in the breakdown of the sections that compose this article. Table 1 presents scientific studies that associate the topics researched with a literature review, in a diverse global focus.

Table 1. General characteristics of studies on the contribution of the solidarity economy to the production of sustainable and healthy food production chains.

Food system	Study location	Methodology	Conclusion	Reference
Diverse food products	China	A case study in Guangzhou rethinks the nature of immersion in Alternative Food Networks (AFNs), discussing complex sociocultural factors intertwined with shifting embeddedness and multifaceted challenges.	AFNs have a limited role due to low participation by ordinary farmers and cognitive gaps between producers and consumers, as well as a lack of government endorsement.	Zhong et al. (2022)
Organic foods	Sweden	Study of complex material arrangements in the formation, dimensioning and stabilization of alternative food networks (AFNs). It applies the concept of market infrastructure with attention to the sociomaterial processes.	AFNs do not only depend on the formation of identities, the development of consumer-producer relationships, the construction of communities and social imaginaries, but also on the articulation and configuration of a series of material elements/devices, such as constructing market infrastructures.	Fuentes e Fuentes (2022)
Organic foods	Kenya	Identify innovations in organic agriculture and evaluate how they overcome the social, economic and ecological challenges of the agricultural sector in the developing country.	Introduces organic agriculture stimulated by a wide range of innovations, which are overcoming social, economic and ecological challenges in the country, but the policy remains a major challenge; requiring advocacy efforts for the development of national organic agriculture policy.	Canwat e Onakuse (2022)
Diverse food products	Africa	Assessment of the potential effects of African Continental Free Trade Area (AfCFTA) on the agri-food sectors and food security.	Food production is there in some regions, but imports and consumption increase the added value of food products across Africa.	Simola et al. (2022)

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Food system	Study location	Methodology	Conclusion	Reference
Organic and conventional foods	Madrid	Study of the profile of producers according to their interests in third-party certification in the Madrid region, to infer the adequacy of policies to promote certified labeling schemes in short food supply chains (SFSCs).	Certifications are useful for consumer confidence and for overcoming asymmetries in global agri-food chains. The economic benefits stand out in social and environmental aspects, as labeling schemes are economically strategic and can transform marketing alternatives in SFSCs, market niches.	González-Azcárate, Cruz-Maceín e Bardají (2022)
Organic foods	Italy	Investigates the relationship between contemporary alternative food networks and social innovation in the city of Bologna.	The involvement of consumers in production, the participation of co-producers, reshapes relationships between producers and consumers, becoming emblematic in spatial terms, as the consumer has a leading role in supporting and creating links through short channels with local agriculture.	Alberio e Moralli (2022)
Organic foods	Italy	Applying the concept of coproduction in an alternative agri-food network.	It highlighted how civil society drives change in the food chain towards a more sustainable production system, aligned with the concept of food citizenship and food democracy.	Sacchi et al. (2022)
Plant-based foods	United Kingdom	Investigates the role of alternative plant-based foods as a pathway to more sustainable diets and meeting meat and dairy reduction goals.	Alternative plant-based foods become possible pathways for the food transition to achieve emissions targets in high-income environments.	Alae-Carew et al. (2022)
Solid food waste	Brazil	Addresses a methodology focusing on the role of agents, with insight on solid food waste management and is based on the solidarity economy.	The solidarity economy is broad and promotes socio-integrated food waste management systems, which can reach a macro scale.	Fuss, Barros e Pogonietz (2021)
Agroecological foods	Ecuador	The CE approach can be broadened to boost socio-integrated RSS management systems, on a macro scale, and, when analyzing the role of consumers, it understands the principles of organizing intercultural economic circuits of solidarity.	The logic of intercultural solidarity economic circuits is successful from a political, economic and social point of view. Consumers are empowered and participate in the construction of intercultural solidarity economic circuits.	Carrascal (2021)

Source: authors (2024).

In general, most studies linking the themes of the solidarity economy and food production are concentrated in Europe, where a robust debate revolves around food sovereignty and conscious consumption. However, the focus is less on the Common Agricultural Policy (CAP), which aims to standardize consumption patterns and

establish production targets for EU member countries. Instead, the emphasis is on consolidating and strengthening local food systems and short supply chains through positive interventions that enhance farmers' positions within value chains, with the goal of mitigating the impacts of global competition.

The analyzed articles highlight that organic agriculture contributes to more sustainable food systems, as it aligns with agroecological practices. These practices include nutrient recycling for disease management, pest control, and soil conservation, among others, while also reducing pollution and preserving the diversity of ecosystems.

The studies further emphasize that cooperation is a crucial factor for the success of food chains, ranging from small social organizations to established cooperatives. Additionally, sustainability remains a fundamental requirement for developing food supply chains, ensuring the availability of healthier foods to promote food security (Campi, Dueñas & Fagiolo, 2021; Long & Liao, 2021).

The Path to Food Security and Sustainability of Food Systems

The concept of food security represents a global concern (Simola et al., 2022) and involves complex, multifactorial relationships. It addresses not only the quality and quantity of food but also nutritional and cultural aspects, along with economic, social, and environmental sustainability (Long & Liao, 2021).

According to Campi, Dueñas, and Fagiolo (2021), developing countries have encountered significant challenges in addressing food security and contributing to global food security, particularly in the context of building sustainable food systems. This has become an increasingly pressing issue on the agenda of international politics.

This indicates the need to examine multiple factors related to the promotion of food systems, particularly when food security is linked to sustainability. These two elements are inherently connected to economic, social, and environmental dimensions (Barabási, Menichetti, & Loscalzo, 2020).

With the constant changes in food systems to meet the growing global population, there is increasing pressure for higher food production. However, it is crucial to recognize that this drive for intensified production is often influenced by production that has contributed to food insecurity, resulting in hunger in certain regions of the world (Aguiar et al., 2020).

When this phenomenon occurs, it often involves technologies that are not always healthy, such as the use of agrochemicals. Furthermore, the reduction of

arable land available for food production indicates significant changes in production systems aimed at increasing volume and standardizing agri-food systems over the long term. These changes frequently depend on external factors, with decisions often being made at the level of stock exchanges (Finaret & Masters, 2019).

Therefore, to enhance the availability of healthy foods, it is essential to promote commitments to sustainable development (Johnston, Fanzo, and Cogill, 2014). Additionally, raising awareness about adopting diets rich in healthy foods is crucial, along with ensuring that incomes are sufficient to provide access to food that is both abundant and nutritious. Geographic and cultural factors also play a significant role in determining food diversification (Campi et al., 2021).

Springmann et al. (2018) demonstrate that increased consumption of plant-based foods is associated with significant benefits for both health and the environment. This shift contributes not only to a reduction in diseases related to poor nutrition but also to lower greenhouse gas emissions.

In this context, decisions regarding what and how much to produce in agricultural terms are crucial for ensuring food consumption, alleviating hunger, and promoting public health while conserving the environment. Therefore, promoting and producing collective agri-food systems can serve as effective strategies for shifting the current paradigm, particularly when paired with efforts to raise awareness about the importance of healthy foods, as discussed in the following section of this article.

Solidarity Economy in the Path of Healthy Food Production

The solidarity economy, particularly in relation to food production, is primarily associated with cooperativism, which is viewed as a social movement rooted in an economic organization guided by social, cultural, and environmental principles (Forgiarini, Alves, & Mendina, 2018). Cooperatives are social organizations with objectives distinct from those of capitalist enterprises, although they paradoxically operate within competitive markets.

Cooperatives primarily innovate in their management practices, relying on collective decision-making (Tidd & Bessant, 2018). These institutions aim to ensure the satisfaction of their members not only in economic terms but also regarding social and environmental considerations (Forgiarini et al., 2022; Schneider, 2019).

According to Schneider (2013), although cooperatives resemble “any economic enterprise” (p. 253) their rationality is not solely instrumental. Instead, their objectives

and means are guided by principles of cooperation and voluntary adherence. Collective decision-making governs “planning, the efficient use of resources, and hierarchy in pursuit of objectives” (p. 253). Decisions regarding productivity and quality are made based on the criteria of democratic participation, alongside efforts to secure investments from financial institutions, all while maintaining their core purpose. This creates a persistent contradiction in how cooperatives operate within the capitalist market.

Strengthening cooperativism based on the principles of solidarity is a viable option for enhancing the logistical performance of alternative food networks. In the solidarity economy, the principle of intercooperation plays a crucial role in reducing inefficiencies. The authors note that “cooperation can be achieved through closer interaction with the food cooperative (vertical cooperation) or through shared logistical activities with other regional farmers (horizontal cooperation)” (Kump & Fikar, 2021).

According to Calvário and Kallis (2017), alternative economies, such as the solidarity economy, have emerged from social movements aimed at countering the negative effects of capitalism. These economies prioritize the well-being of the community and operate under norms distinct from those of dominant capitalist practices. Figure 1 illustrates the multidimensionality of the solidarity economy.

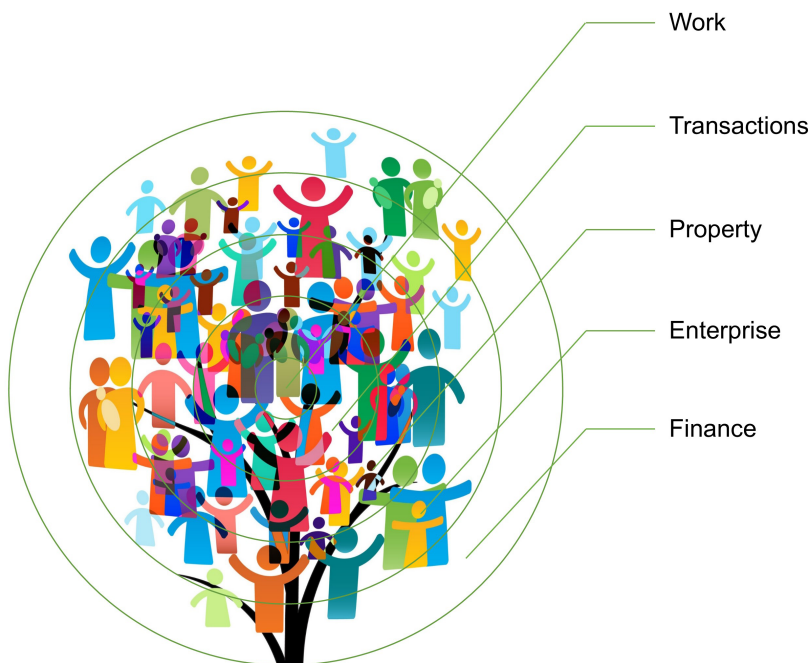


Figure 1. Multidimensional structure of the solidarity economy

Source: prepared by the authors, based on the literature review, 2024.

According to Healy (2020), the foundation of the solidarity economy can be structured around five key aspects. The first aspect is unpaid work, which contrasts with the capitalist economy where labor is often exploited for wages. In the solidarity economy, value is created through the distribution of surplus generated from collective work aimed at promoting social well-being. The second aspect involves transactions conducted in alternative markets, such as fairs and barter systems. The third aspect pertains to property, which can be either privately owned or publicly accessible. The fourth aspect encompasses solidarity economic enterprises, which are non-capitalist organizations, such as cooperatives, that exist within a capitalist society. Finally, the fifth aspect involves finance, which includes support from financial institutions like cooperative banks and credit unions, as well as donations.

Alternative economies are known by various names, including the circular economy, social economy, ubuntu economy, peer-to-peer economy, and *buen vivir*, with the term “solidarity economy” being the most recognized. Many of these social movements arise in response to increasing economic inequality and the urgent ecological challenges that have become increasingly alarming over the past fifty years (Healy, 2020).

As a result, cooperatives exhibit diverse performance levels due to a range of uncontrollable factors that vary across different regions and organizations. These factors primarily include aspects of organization and management, soil fertility, rainfall patterns, and access to markets (Robles, 2019).

Cooperatives operating under the principles of the solidarity economy tend to foster effective social organization and management. From this perspective, they can produce food in the necessary quantity and quality, helping to reduce food insecurity while also providing opportunities for work and income, or even formal employment. This presents a paradox, as these cooperatives aim to promote broader rural economic growth (Akanji, 2020).

Short Chains and Alternative Food Supply Networks

Social movements and organizations create and promote local initiatives, such as producer fairs and direct sales from producers to consumers, known as short circuits. These initiatives serve as alternatives to the food distribution systems dominated by large corporations and are driven by their own dynamics (Carrascal, 2021).

These circuits involve the organization of production and marketing sectors, as well as the participation of consumers and other relevant stakeholders. Such organizations encompass not only the agricultural sector but also small-scale animal husbandry, handicrafts, fairs, community tourism, ancestral health, housing cooperatives, and various other experiences, showcasing their multidimensional nature (Lamine, Garçon, & Brunori, 2019).

From this perspective, cooperatives create alternative food economic circuits aimed at better managing the global food system. Food consumption, viewed through the lens of the solidarity economy, encompasses sustainability, ecology, and healthy foods. This includes family labor and initiatives that positively impact society, which are strategies promoted within the realm of solidarity cooperativism. This encouragement involves not only participants from social movements but is also increasingly driven by the demands of conscious consumers. These consumers are more discerning and prioritize health and well-being, making their choices a political act as well (Fisher, 2014; Mupedziswa, Malinga, & Ntshwarang, 2021).

These spaces, such as alternative food networks, encompass a wide range of initiatives and are defined by short distances between producers and consumers. This proximity benefits the entire food chain by promoting sustainability, right up until the point of sale (Kump & Fikar, 2021).

According to Tregear (2011), there are three distinct approaches to short food circuits that help elucidate the variability in studies focused on this concept, as illustrated in Table 2.

Table 2. Theoretical perspectives in research on alternative food networks.

Theoretical perspective	Applied precepts	Objectives
Political economy	Marxist approach	Large-scale economic and political structures, particularly global capitalism and neoliberal policies
Sociology/ rural development	Social constructs or impressions by beliefs, values and motivations	Provide positive socioeconomic benefits, through a vision of effective leveraging by communities of resources and capital
Network theory and modes of governance	Food systems with actors operating at state or regional levels	Composition of the actors involved, their objectives and strategies

Source: Adapted from Tregear (2011).

Organic Production and Alternative Food Networks

The global population's awareness of the negative effects of conventional agriculture on health has led to increased societal demands for policies that protect ecosystems and agri-food systems undergoing transformation toward sustainable food chains. In this context, organic agriculture emerges as a potential source of innovation within alternative food networks (Puvis, Mao, & Robinson, 2019; Canwat & Onakuse, 2022), addressing social, economic, and environmental challenges (Anghinon et al., 2021).

Organic food production systems aim to reduce reliance on external inputs within the production environment. However, technical knowledge about these systems is not yet fully established, despite efforts to disseminate information across various geographic regions (Medaets & Cechin, 2019).

In terms of negative factors affecting food production and the supply of organic products, there is a noticeable trend regarding the quantity produced; however, the overall volume remains low, and prices are high. This situation is largely driven by limited productivity and elevated production costs, which are influenced by the laws of supply and demand.

Supermarket chains serve as the primary distribution channels for organic food. However, in recent years, short-circuit networks have emerged as alternative distribution methods, including fairs, street markets, public procurement, and door-to-door delivery, as well as organizing within local social communities (De Oliveira & Hoffmann, 2015; Giraldo & Rosset, 2018; Medaets, Fornazier, & Thomé, 2020; Thakur et al., 2022).

In this context, the debate on sustainability in agriculture—intensified by the efforts of producers, farmers, and consumers—has led to the emergence of various agricultural systems aimed at achieving what is commonly referred to as organic agriculture. In recent years, this term has increasingly become synonymous with the agroecological movement (Medaets, Fornazier, & Thomé, 2020).

Alternative food networks primarily focus on the production of organic food, with a preference for distribution aimed at local markets (Gaitán-Chemaschi et al., 2019). Organic agriculture is grounded in principles that are considered innovative practices (Figure 2) and are closely linked to concerns for health, environmental preservation, and fair labor conditions. These multidimensional processes encompass concepts such as food sovereignty and self-management (Alberio & Moralli, 2022). This production model contributes to the transition of agriculture toward more sustainable agri-food systems.



Figure 2. Circle of innovation in organic agriculture, overcoming social, economic and ecological challenges.

Source: prepared by the authors, based on the literature review, 2024.

Canwat and Onakuse (2022) identified four categories of organizational and institutional innovations: product innovations, process innovations, marketing innovations, and others. These include financial innovations such as social currency and fair trade, as well as organizational and social diversification through initiatives like afro-tourism, community gardens, urban agriculture, and peri-urban agriculture—activities that were previously considered atypical in agriculture. Innovation is closely linked to the utilization of agri-food waste and peer learning systems. In the marketing sector, new distribution channels such as e-commerce and digital agriculture have emerged, including basket delivery schemes and online advertising techniques, which have promoted organic products and raised social awareness. Furthermore, the introduction of innovation within organizations and institutions is associated with participatory systems that ensure certification, traceability, and other forms of organization.

These innovations are crucial for countries in the developing phase, positioning organic agriculture as a pathway toward sustainable farming and strengthening the solidarity economy. Organic agriculture helps mitigate the effects of climate change while also addressing social, economic, and agroecological aspects.

Food produced through organic methods aims to sustain the health of individuals, soils, and ecosystems, promoting a harmonious coexistence with the natural environment (Altieri, 2018). This approach reduces environmental damage during

both the production process and the generation of end products when compared to conventional food production systems (Feil et al., 2020).

Results and Discussion

The results achieved with the review of the selected literature led us to understand that the global food system is made up of different multifactorial dimensions of a complex order, encompassing numerous heteronomic parts, which have affected food production and, simultaneously, the producer/consumer actors interested in this system.

The management of agri-food systems under the logic of the market economy has prioritized maximizing production and food standardization, with negative consequences for the environment, agricultural diversity and food quality. This scenario reinforces the need to adopt alternative production and commercialization models that promote more sustainable and inclusive practices.

Organic agriculture represents an alternative approach to sustainable agri-food systems, with food and nutritional security as fundamental principles. It also emphasizes food sovereignty, which is driven by consumers who are increasingly aware of the harmful effects of climate change and global warming. However, challenges such as low productivity and high production costs continue to hinder the wider adoption of organic practices, particularly in developing countries.

In this context, linking organic production to the solidarity economy facilitates the transition from conventional global food systems to sustainable agricultural practices. The principles of the solidarity economy foster care for nature and community well-being, specifically in mitigating poverty. Cooperation, solidarity, reciprocity, and intercooperation contribute to political advancements by promoting innovations in the management of food supply networks, from local to global levels. The solidarity economy prioritizes a commitment to local communities while also emphasizing socio-productive inclusion and sustainable development.

The implications of these results indicate that strengthening solidarity economies and transitioning to sustainable agri-food systems are essential for achieving global food security, particularly in the face of increasing pressure on natural resources and climate change. The adoption of sustainable agricultural practices, such as organic farming, along with alternative marketing networks like direct purchasing, can help create fairer and more resilient food systems from both economic and environmental perspectives.

In summary, advancing toward more sustainable and equitable food systems requires a more effective integration of economic, social, and environmental dimensions, with a focus on the role of solidarity economies and the development of alternative food networks. These initiatives serve as a form of resistance against the negative impacts of global capitalism on agri-food systems and the environment.

Conclusion

The solidarity economy emerges as a viable response to the challenges faced by small farmers and rural communities, fostering an organizational structure that values cooperation, self-management, and collective well-being. Cooperatives, as foundational elements of this movement, play a crucial role in promoting fairer agri-food systems by encouraging diversification of production, improving working conditions, and providing access to healthy food. Additionally, intercooperation and short distribution circuits are essential strategies for strengthening alternative food networks and reducing inequalities in food access.

Transitioning to sustainable agricultural practices, such as organic farming, is vital for mitigating the negative impacts of conventional production and contributing to long-term food security. However, this transition faces significant challenges, including low productivity and high production costs, which must be addressed through public policies aimed at encouraging and raising awareness among the population about the benefits of organic and sustainable foods.

Thus, integrating sustainable agri-food systems with solidarity economies presents a promising alternative to address the global challenges of food security. The adoption of more ecological agricultural practices, combined with cooperative social organization, can foster the development of more resilient, equitable, and environmentally responsible food systems, promoting positive transformations for both society and the environment.

Given the complexity of the transition to sustainable agri-food systems, more detailed investigations are needed into the economic viability and scalability of agro-ecological practices, such as organic agriculture, in large-scale production contexts. Future research could focus on conducting in-depth empirical analyses of the solidarity economy within the agri-food sector, exploring various cooperative models and their practical contributions to enhancing food security across different socioeconomic contexts.

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