

Alternative Agri-Food Networks and their Implications for Social Policy: A Literature Review

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Introduction

The literature points out important implications of Community-Supported Agriculture - CSA for Food and Nutrition Security and for the creation of fairer, socially and environmentally responsible communities. It also highlights the implications of these networks for areas related to social policies by promoting rural and community development, strengthening family farming, preserving the environment and contributing to individual health, impacting on public health systems. Consumers play a fundamental and innovative role in the development of these alternative agri-food networks, and their behaviour constitutes one of the food systems elements.

CSA, a global movement, can be considered an alternative agri-food network because it acts against the conventional food systems, with the potential to transform them and create innovative forms of sociability. Characterised as a model of social organisation, it aims to bring together food producers and consumers through links based on ethical economic relationships as a way to create an environment where local knowledge, the ecosystems and solidarity are valued. Through advance payments by the subscribers, CSA promotes the sharing of agricultural production risk, thus favouring social welfare, preserving a collaboration space, and creating a healthy environment.

The relevance of this issue is confirmed by the implementation of the United Nations 2030 Agenda for Sustainable Development, which directs the world's attention to food issues. The proclamation of the UN Decade of Action on Nutrition (2016 - 2025), works alongside the global movement to create healthy and sustainable food systems that take the particularities of each territory into account, valuing food traditions and local biodiversity. From the perspective of the development of sustainable communities, community capital and collective actions for the solution of environmental, economic and social problems are extremely important.

This article aims to explore the innovative ways of producing and consuming food through alternative agri-food networks from the perspective of the consumer. It seeks to identify, from a literature review, the implications of these networks for social policy. The study begins by

addressing the relevance of the Food and Nutrition Security agenda for social policies and the need to create healthy food systems to achieve the objectives of sustainable development. It goes on to discuss the potential of alternative agri-food networks to promote the transformation of food systems and presents the CSA model. Lastly, the implications of these networks for social policy are analysed according to the literature.

Food and Nutrition Security and its importance for Social Policy

The concept of food and nutrition security is constantly under construction and is evolving as society advances and changes the forms of social organisation. In 1928, the League of Nations brought the food issue to its permanent agenda, publishing several reports which showed that over two-thirds of the world's population was suffering from hunger (Castro 1959: 59).

With the end of the second world war, food security came to be treated as food shortages caused by low production in poor countries. The Green Revolution was the solution found. However, the mass use of chemicals on crops and new genetic varieties of food resulted in soil contamination, reduced biodiversity and the emergence of resistant pests, without leading to any significant impact on reducing hunger and combating food insecurity (Burity et al. 2010). According to Josué de Castro,¹ this proves “the inability of governmental and scientific organizations to satisfy the most basic need of human beings: the need for food” (Castro 1959: 57).

From the 1980s, the surplus production generated by the Green Revolution resulted in the appearance of industrialised food, without any reduction of hunger. It is in this context that the debate begins to identify the lack of access to land and to income as causes of social problems related to food (Burity et al. 2010).

With the International Food and Nutrition Conference in 1992, organised by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO), the concept of food security has incorporated the idea of safe food, produced in a sustainable² and culturally acceptable way: “good, clean and fair”³ foods (Slow Food 2013). The nutritional question was covered by the concept of Food and Nutrition Security which associates processes of choice, preparation and consumption of foodstuffs with those of production and distribution (Burity et al. 2010).

Over time, the food and nutrition security concept has increasingly sought to promote and fulfil the human right to adequate food and food sovereignty, ensuring that countries are sovereign when it comes to promoting the food and nutrition security of their peoples, preserving the practices of their territories.

The right to adequate food is inseparable from human life and survival. Several international mechanisms understand this right as fundamental for anyone to be free from hunger and thus access other human rights. Although a large part of the world's population is still far from realising this right, associating it with food and nutrition security is the way to ensure access to quality food (*idem*).

Food policies involve several areas related to social policies: the environment, social inequality, health, cultural identity, and education are all related to food, as we discuss throughout this article. Lang, Barling and Caraher (2001; 2009), who discuss modern food policy thinking in their research, conclude that governance at various levels (public sector, food industry and consumers) and intersectionality should be considered for food policies that actually transform the food system and lead to better macroeconomic, health and environmental conditions. According to the authors, it is necessary to change to a “model of ecological public health” in which health and social dimensions are involved.

In 2005, the FAO issued guidelines to support the progressive implementation of the right to adequate food in the context of food security and has been working internationally to guarantee this right. The debate on food issues has been growing in international organisations, which demonstrates an advance in the discussion on the need for an ecological approach to social policies (Lang et al. 2009).

Healthy Food Systems to ensure Food and Nutrition Security and Sustainable Development

The introduction of the UN 2030 Agenda for Sustainable Development confirmed the world concern about food issues. The relevance of the food and nutrition security agenda is concretely stated in the second goal to “end hunger, achieve food security and improve nutrition, and promote sustainable agriculture” and permeates 6 of the 17 goals that have been signed.

A report on Nutrition and food systems was released in 2017 by the High-Level Panel of Experts on Food Security and Nutrition (HLPE) of the UN Committee on World Food Security. It defines food systems as the combination of all elements (environment, people, processes, infrastructure and institutions) and activities related to the production, distribution, preparation and consumption of food, including their socioeconomic and environmental consequences. Therefore, food systems encompass the food supply chain, food environment and consumer behaviour.

The supply chain brings together all activities from production to consumption (production, storage, distribution, processing, marketing). The food environment refers to the economic, political and socio-cultural context in which consumers interact to acquire, prepare and consume food. Consumer behaviour completes the food systems trio. It encompasses the consumers' choices at individual or family levels on what kind of food will be purchased, stored, prepared and consumed, also relating gender issues to the household tasks division. Consumer behaviour is linked to individual preferences such as taste, convenience, culture and access (HPLPE 2017).

The Food and Nutrition Security guarantee and its contributions to the achievement of sustainable development, therefore, depend on the efforts of society, individual countries and international organisations to transform food systems. Fairer and more responsible supply chains with farmers and the environment are needed; food environments should have easy access to local, fresh and healthy food and consumers need to be aware of their role and their power of choice

(*idem*). Also according to HPLE, consumer behaviour, a constituent element of food systems, is influenced by the current food environment. Collective changes in this consumer pattern could play an important role in the emergence of healthier and more sustainable food systems.

Alternative Agri-Food Networks definition

In a context in which environmental problems, food and nutrition security and the impacts of industrial food consumption on health emerge in discussions on food systems, Goodman (2002) analyses alternative networks in order to understand their contributions to the agri-food system. Called by the author a “quality turn” of the food question, it is characterised by a movement for quality food, based on trust, maintaining local habits and fairer forms of commercial relationships (*idem*; Cassol/Schneider 2015).

The emergence of alternative food systems as a way of creating shorter food chains between producers and consumers is based on concepts related to reciprocity, trust and solidarity (Connelly et al. 2011). These systems are characterised by modes of sociability and based on social networks (Brunori 2007). The author supports choosing local food as a way of modifying food systems, relying on the power of local food. The social actors related to these networks are linked directly and these socially constructed markets are based on trust, embeddedness and the appreciation of traditional local habits. According to Hinrichs (2000), embeddedness corresponds to social capital and trust, denoting the contribution of social bonds to the improvement of economic interactions.

D. Goodman et al. (2012) in *Alternative Food Networks: Knowledge, Practice and Politics* addresses the expansion of alternative agri-food networks for the defence of ethical and traditional values and against the global pattern of the food system, amid growing discussions and concerns about the environment and food insecurity. According to the authors, alternative networks are “reflexive communities of practice of consumers and producers whose repertoires create new material and symbolic spaces in food provisioning and international trade” (Goodman et al. 2012: 7). It is important to emphasise that the definition of this conscious and reflexive consumption depends on the specificities of each territory and the shared values and culture.

Cox et al. (2008) also analyse a number of studies that address the alternative of these networks as an opposition to the industrial food system, that are both initiatives that protest against this form of food supply and attempts to create innovative ways of consuming food.

The consumer is an important participant in the contemporary discussion related to food systems. Cassol and Schneider (2015) highlight the input of these actors in the development of alternative agri-food networks that play a role in opposition to the conventional food system. Connelly et al. (2011) reiterate that these initiatives depend on a change of consumers’ eating behaviour.

The governance role of Social Networks

Social networks have been identified as a form of organisation that connects different actors, creating governance structures. According to Tompkins and Adger (2004); Marin and Wellman (2011); Bodim et al. (2006); and Woolcock and Narayan (2000), social networks can build resilience and increase adaptive capacity to change in the environment; they enable participants to gain access to power and representation by forming engagement networks that are crucial to improving vulnerable communities, and are important for governance processes and to stimulating the preservation and sustainable use of natural resources.

Social-networking studies are based on patterns of relationships rather than on isolated actors. Thus, the bonds that unite these actors create an interdependence relationship, determined by the type of social capital employed (Borgatti/Halgin 2011). One of the first authors to characterise social networks according to the type of social capital employed was Robert Putnam. For that author (2000), social capital can be divided into bonding and bridging. Relationships between actors of the same social groups are associated with bonding social capital. Those between actors of different groups are called bridging social capital. Both types of social capital need to be valued to strengthen governance processes. According to Newman and Dale (2005), not every social network is formed in the same way and it is therefore necessary to balance the two forms of social capital, bonding and bridging. While bridging social capital allows broadening access to tools and knowledge of other communities, bonding social capital is needed to absorb and consolidate the benefits obtained.

Therefore, social networks that promote social participation, with horizontal coordination, diversity of actors and employment of different forms of social capital, can play a good governance role in problem solving (Delgado et al. 2013).

Community Supported Agriculture - CSA: an alternative agri-food network that connects the rural with the urban

CSA is a food distribution model that has grown worldwide. The model emerged in Japan, where it was called *Teikei* [partnership], driven by housewives concerned with feeding a family and the use of pesticides in agricultural production in the early 1970s (Henderson 2010). At the same time, in Switzerland and Germany, farms already employed Rudolf Steiner’s biodynamic agriculture and arrangements similar to those employed in CSAs (*idem*).

The term CSA was created by the North American activist Robyn Van En and by the 1980s the Northern European experiences began to spread also in the United States. Since then, initiatives have been emerging around the world. Although they have different names, AMAP - *Association pour le maintien d’une agriculture de proximité* [Proximity Agriculture Maintenance Association] in France, Re.Ci.Pro.Co - *Relação de Cidadania entre Produtores e Consumidores* [Citizenship

Relationship between Producers and Consumers] in Portugal, ASC - Agriculture Supported by the Community in Canada, the structure is the same and all are based on the sharing of risks and the abundance of agroecological agriculture. According to the Local Food Marketing Practices Survey conducted by the US Department of Agriculture in 2015 there were 7,398 farms participating in direct sales to consumers through CSA's social technology (USDA, 2015).

CSA can be considered an alternative agri-food network, a model of social organisation in which consumers support a local farmer, through links based on ethical economic relations and trust (Hinrichs 2000; Ertmańska 2015), sharing the risks and benefits of food production, usually high quality organic, agroecological or biodynamic (DeMuth 1993).

Allen et al. (2017) analyse the potential of CSA for challenging industrial food production: by shortening food supply chains, they allow capital to remain in the local economy and encourage the development of small related industries. These initiatives also provide financial benefits to family farming and improve the health of the consumers involved (Cohen et al. 2012).

In this model, consumers or subscribers, as they are called, finance the agricultural production of a local producer by means of prepayments and receive in return, in a place defined by the community, generally a community meeting point, a basket of organic foods. This model differs from other direct agricultural markets by building communities related to food, land, the environment and sustainability (Hinrichs 2000). According to Kaltsas (2015); Ertmańska (2015); and Tegtmeier and Duffy (2005), CSA networks create solutions for sustainability, for protecting the environment, for public health systems, for issues related to the global food system, including supply chain problems, as they promote local and fair trade and make it possible to exchange knowledge about local ecosystems.

At the Urgenci Kobe Conference (2010), Henderson presented the benefits of CSA to both consumers who access fresh and healthy food from safe sources and can reconnect with the land, as well to as farmers who benefit from more job opportunities and guaranteed markets. She also highlighted its advantages with respect to the environment in its use of environmentally responsible farming methods that enable local consumption, which generates lower emissions of pollutants in transport and uses less packaging.

Innovative initiatives that enable social change and the improvement of the quality of life and well-being of the involved actors can be characterized as social technologies (Bava 2004). By strengthening communities to reach their potential as social organizations, CSA systems spread the culture of stimulating local production and providing visibility to these regional food systems (Kaltsas 2015), and can, therefore, be characterised as a social technology. According to Tegtmeier and Duffy (2005), CSA also revitalises local economies by retaining capital in the community, enhances the interaction of rural and urban dwellers, encourages local and civic involvement, preserves rural landscapes and the environment, and strengthens the community.

However, Tegtmeier and Duffy (2005) mention some inconveniences reported by subscribers and farmers surveyed in the USA. The responsibility for storing food in quantity and creating daily recipes for all products to be consumed over time becomes a problem for some growers. According to the authors, consumers feel nostalgic about the freedom to choose the items

that would be consumed weekly. Also, some surveyed farmers complain about low wages and overwork. After 30 years of the CSA model in the US, more in-depth information about the reality of communities is still needed to confirm sustainability and the CSA related concept.

In this article, research on CSA networks developed in countries such as the United States, England, Scotland, China, Canada and Australia has been used as literature, evidencing the incidence of studies related to the subject in countries with diverse social and economic contexts.

The power of consumer behaviour to transform Food Systems

Despite the proven economic, social and environmental benefits of these alternative agri-food networks, researchers have only recently emphasised the impact of food consumption behaviour on lifestyle and health. (Allen et al. 2017).

For much of the 20th century, the academy focused its studies on food production, leaving aside the effects of technological evolution on food consumption and eating practices. It was only in the 1990s that the food consumption issue and eating practices came to be addressed by some researchers (Cassol/Schneider 2015). Goodman (2002) treats consumers as the main actors in the world's food question, as they play a key innovative role in establishing the local agri-food networks. D. Goodman et al. (2012) portray consumers as significant agents for the changes in the social and ecological relations of food production, which, by valuing local and daily food practices, fight for food systems that are socially and environmentally more sustainable. For Popkin (2011), correcting the imbalance caused by the industrial food system requires a change not only in agricultural policies, but also in consumers' eating behaviour and social preferences.

It is in this context that the role of food consumption and consumers begins to gain space among scholars. Méndez and Benito (2008) analyse the connection between food consumption behaviour and health. Seyfang (2006) discusses how alternative agri-food networks that commercialise organic foods provide a sustainable mode of consumption by including economic, social and ecological issues.

For Truninger (2010), there are several factors that influence consumers' behaviour before and after the act of buying, with personal needs and choices being subordinated to previously established social practices. According to Allen et al. (2017), individual eating behaviours are complex and influenced not only by economic and political factors, but also by existing food environments and social networks.

All the uncertainty and subordination linked to the act of eating promotes the appearance of readjustment movements. According to Fischler (1988), this explains the growing interest in re-identifying food, resulting in the widening of debates on labelling, specification of ingredients of industrialised foodstuffs and searches for product quality assurances. This scenario encourages the emergence of "active and creative" consumers (Truninger 2010: 44), who seek to control aspects of their life, express their dissatisfaction with the conventional food system, resist the food system used by corporations and food industries that only satisfy neoliberal market

interests (*idem*), and oppose agribusiness supply chains (Cassol/Schneider 2015). According to DuPuis (2000), these consumers also value traditional knowledge about food preparation, as well as biodiversity and local food culture.

According to the literature reviewed by Connelly et al. (2011), changes in food systems require a broad discussion of values in our society, which will only be possible by increasing the scale and dissemination of these initiatives. The literature analysed by Cassol and Schneider (2015) suggests that alternative forms of local food consumption signal the need for policymakers to create sustainable practices by stimulating the expansion of alternative forms of food production, distribution and consumption.

Alternative agri-food networks implications for Social Policy

CSA networks play an innovative role in creating fairer and healthier food systems and contribute to individual and community well-being. Well-being can be defined as meeting the basic needs of individuals or social groups; when experienced by social groups, it provides social cohesion, stimulating people to feel responsible for each other (Spicker 2000).

In the 1990s the North American study by Kolodinsky and Pelch (1997) identified the potential of CSA, which should be considered by policymakers to create healthier and more sustainable food systems.

The Canadian study by Minaker et al. (2014) states that local administrations are already starting to adopt policies that promote local food systems, since 70% of consumers would spend more on locally produced products. These local alternative agri-food networks, in addition to contributing to environmental sustainability, play a role in generating local employment through a fair trade that values regional biodiversity and stimulates a sense of community.

The literature reviewed by Lea et al. (2006) research asserts that community supported agriculture provides solutions for the development of more sustainable agricultural practices, guaranteeing income to the farmer. According to the authors, consuming local foods also helps to reduce the emission of harmful gases due to transporting food for long distances, and to increase the farms' biodiversity.

According to the Chinese study by Shi et al. (2011), which analyses CSA in a growing middle-class context, the most important political document from the country's central government, published in 2007, calls for the strengthening of agriculture, which promotes social and environmental changes, as well the food supply.

Cox et al. (2008) also discuss the contribution of CSA to rural development as an important implication of these initiatives for social policies. Such initiatives have the potential to create social change and consumer participation, which can support the struggles for wider social and ecological causes and a movement against social inequalities.

According to Sumner et al. (2010), CSA systems foster civic engagement and local involvement to encourage environmental initiatives, preserve rural landscapes and biodiversity through

community power. They also analyse the CSA's social movement character, that seeks to meet the social demand and need for healthy foods, from a social justice perspective. The authors believe that culture plays a fundamental role in maintaining traditional eating habits and forms of production, thus contributing to sustainability, justice and agroecology.

Most of the studies, however, analyse the implications of CSA, especially for public health policies. According to Minaker et al. (2014), the channels used by consumers to buy food are directly related to the eating behaviour and weight of each person. Consumers who participate in direct agricultural markets are exposed to more fruits and vegetables than those who buy in markets where there are a large number of processed products. This study concludes that CSA is associated with an improvement in diet, with a higher consumption of fruit and vegetables.

North American research by Allen et al. (2017) also indicates that CSA networks have the potential to influence eating behaviours and health outcomes. Several researchers and policymakers regard CSA as an innovative form of economic arrangement, which could play an important role in resolving food deserts,⁴ which are found in low-income areas. They also analyse the effects of financial incentives and the drafting of social policies for propagation initiatives.

In 2011, Senators Sanders, Gillibrand, Leahy and Tester proposed the US Supported Agriculture Promotion bill which would have provided financial support to expand CSA, since it has a positive role in public nutrition (Cohen et al. 2012). According to a database managed by Robyn Van En in collaboration with the US Department of Agriculture - USDA, in 2004 there were 1,034 CSAs established in the USA. According to Tegtmeier and Duffy (2005), the importance of alternative agri-food networks for consumer rapprochement with food production has been extensively studied and discussed in relevant academic journals in the US.

These studies prove the importance of supporting and stimulating alternative agri-food networks with public power as a way to contribute to public health. Lea et al. (2006), through their literature review, state that for people's nutrition to improve, is it necessary to integrate educational policies on food production and healthy eating with community-supported local food production strategies, and so develop a new food and health policy. CSA networks are therefore a way of integrating and influencing health, environment and community issues.

Lang et al. (2001) argue that food brings together several areas of social policy and it is up to policymakers to adopt a holistic approach to food policy, which they call the "new ecological model of public health": the dimensions of health and environment are linked to social justice. It is necessary, however, to explore new models and configurations of food systems that meet this pattern of increasing urbanisation and that link the social and environmental dimensions to food related policies. O'Connor et al. (2017) state that governments should regulate autonomous and sustainable small-scale agricultural practices that are adapted to local conditions and based on local agriculture knowledge, innovation and agroecological methods, as a way of ensuring food and nutrition security.

Conclusion

The literature review identifies four areas related to social policy impacted by CSA: it improves health by providing access to healthy food without pesticides; it boosts local food production, guarantee a market and income to family farmers and enhance local knowledge; it encourages community engagement; and it reduces impacts on the environment by preserving soil and water sources through its use of organic or agroecological production and thus generating less waste, especially plastic. Alternative initiatives that bring consumption and food production closer can create fairer markets, directly affect community food and nutritional security, promote healthy food systems and act as a resistance movement to the conventional way of producing and accessing food, clearly evidencing the political character of the act of eating.

They also contribute to sustainable development by addressing the particularities of each territory and enhancing local food traditions, knowledge and biodiversity. The literature affirms the importance of stronger social networks for solving environmental problems and creating innovative ways of interacting with natural resources, highlighting the governance role of these networks. They act, therefore, as a signal to the public power that food policies need to be collectively discussed and changed.

In conclusion, these agri-food networks point out the need for an ecological approach to social policies to create a healthier and more sustainable food system: the “ecological public health” model of Lang et al. (2009) which relates health issues to protecting the environment. They also point out that shared and collaborative solutions among the various actors involved in food policies may be more effective to tackle the new challenges of food and nutrition security, acting in favour of the ecological demand of the world today.

The limitations of CSA highlighted in the literature, such as limited access to consumers with sufficient income to finance healthy food production, and increased food waste that can result from the subscribers’ lack of familiarity with the large variety of foods provided by CSA networks deserve to be remembered. There is still a need to expand the scale of these networks, making participation more heterogeneous, with subscribers from different social realities. Only then can their impact be significant to food system change, rather than increasing the inequalities in the food access due to income level. These facts, however, do not detract from their relevant impacts on ensuring healthy food, environmental protection and better conditions for rural workers. The involvement of the various actors, states and international organisations is essential so that the signals coming from these networks are understood as demands of society and thus can be absorbed in social policies that involve food.

CSA networks can be a channel not only to ensure food and nutrition security and sustainable rural development but also to discuss with the community the role of the whole family in household food and in environmental issues. There are already debates around the world about how the state could promote, strengthen and spread these networks, without mischaracterising the role of civil society in the construction of these initiatives. Cooperation between the State and civil society seems to be the most appropriate way for this social technology to gain scale, engaging society

in creating its own solutions, without exempting the State from its responsibility. The literature emphasises that without the participation of the State and international organisations, these initiatives tend to be restricted to a privileged public, and without scale it would be difficult to counteract the global industrial food system. An important step for governments is to encourage participatory councils in which representatives of these networks can dialogue directly with the state, managing policies that bring their impacts to people who do not access them. Food guides would be a channel for discussing an ecological perspective on food policies with people, discussing the environmental impacts of food, from packaged food to the contamination of soil and water sources by pesticides.

These networks indicate a growing demand for health and environmental issues, highlighting the need for an ecological approach to food policy. Alternative agri-food networks that encourage rural development, community participation, strengthening family farming, protecting the environment and contributing to individual health, have important implications for social policies. They indicate, therefore, that policies which help to bring consumers and food producers closer to one another can contribute to the development of local economies, stimulate sustainable consumption and “ecological citizenship” (Seyfang 2006), securing access to “good, clean and fair” food (Slow Food 2013) to all, in contrast to the industrial model of food production imposed by the Green Revolution decades ago.

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Notes

1. Josué de Castro was a doctor, professor, geographer, sociologist and politician and he made the fight against hunger his life. Author of numerous iconic works, he revolutionised concepts of sustainable development and studied in depth the social injustices that caused misery, especially in Brazil. His best-known work and what has been used as a bibliography of this work is *The Geopolitics of Hunger*.
2. An inseparable union of four characteristics: ecologically sound, economically viable, socially fair and culturally accepted (Slow Food, 2013).
3. Manifesto of the international Slow Food movement of 1989, which maintains that food needs to be good, referring to the aroma and flavour, and the skill of the production not to change its naturalness; clean, referring to sustainable practices of cultivation, processing and marketing - all stages of the production chain must protect biodiversity, the producer and the consumer; fair in the sense that agricultural working conditions must respect human beings and their rights, based on concepts of solidarity and respect for diversity and traditions.
4. According to HPLE's 12th Report, food deserts are areas where access to food is restricted or non-existent and supplies are inadequate or non-existent, forcing residents to travel long distances for food (HPLE 2017)