The Geography of Community Supported Agriculture

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Abstract

Community Supported Agriculture (CSA) is considered an initiative that supports a more just and sustainable food system by creating a direct and mutual relationship between local farmers and consumers. Through an agreed mechanism, CSA supports farmers’ livelihoods as they have provided healthy food for consumers. This study contributes to the geographic mapping of CSA studies in Scopus-indexed social science journals and related articles. It traces the emergence and development of diverse CSA models, its political economy context, and the pattern of research themes across geographic areas. The findings reveal that the urban middle class in industrial countries can encourage farmers to produce healthy food and apply more sustainable farming systems. The findings also show that key factors of CSA emergence and development are the growing urban middle class with health, just, and environmental awareness; the availability of farmers who are willing to implement a more sustainable farming practice, and the platform or agreement that links them. The CSA practices across geographic areas differ as they are shaped by the political and economic context and the availability of opportunities. The limitation of this study is the lack of literature on CSA from non-western or non-industrialized countries. Therefore, this study suggests further research agenda on the following topics: exploration of CSAs in non-industrial and non-western countries; intangible value of CSA; diverse perspectives on CSA research; multidisciplinary research on CSA, processes and enabling conditions for CSA and CSA people; and potencies of CSA to solve in diverse social and environmental problems.

Keywords:
Community Supported Agriculture; solidarity farming; sustainable food system; local food system, community farming

Introduction

The global food system has shown a notable achievement in global food production, but it has been criticized for its ecological consequences and inequality between producers and consumers within and across countries (Cone & Myhre, 2000; O’Hara & Stagl, 2001). Community Supported Agriculture (CSA) can promote a more just and sustainable local food system (Schnell, 2007) by linking farmers and consumers in a mutual, supportive agreement. CSA differs from other alternative food movements such as organic agriculture and fair trade. Unlike organic agriculture, which only focuses on sustainable farming practices and healthy food issues, CSA addresses other issues, such as the survival of local farms, workers’ safety, living wages, ecological sustainability, biodiversity, energy conservation, food miles, food security, community engagement, and social equality (Cone & Myhre, 2000; Galt et al., 2016; Guthman, 2008; Guthman et al., 2006; C. C. Hinrichs, 2000; Thompson & Coskuner-Balli, 2007a, 2007b). Like the fair trade movement, CSA promotes just relationships along the food chains, but the former accommodates...
long-distance trade across countries, and the latter builds a direct, local relationship between farmers and consumers (Khan et al., 2019; Raynolds, 2000; Ruggeri et al., 2019).

Studies on CSA have shown diverse CSA models, which can be organized by a farmer or a farm, cooperatives, consumer cooperatives, or cooperatives consisting of several farmers and consumers, or some NGOs or networks connecting farmers and consumers (European CSA Research Group, 2016). Despite its diversity, the basic arrangement of CSA is that a farm or several farms build mutual relationships with consumers or consumer groups. They agree on several aspects of food production and distribution, such as the mechanism of sharing risks and benefits for farmers and members. Members contribute their financial or working share and obtain a regular share of the harvest. The amount and types of produce depend on the harvest quantity and varieties (European CSA Research Group, 2016; C. C. Hinrichs, 2000; C. Hinrichs & Kremer, 2002).

Looking at the diverse CSA models, from a geography perspective (Cloke et al., 2014; Mitchell, 2000; Sibley et al., 2005), it is important to explore the space and place where CSA emerged, the political economy context of its emergence, and what kind of livelihood emerged from that practice. So far, research covering the spatial pattern of CSA at the global level is limited. Most articles discuss CSA in a specific country or region such as in China (Krul & Ho, 2017; Shi et al., 2011; Tang et al., 2019), the US (Paul, 2019; Smith et al., 2019), the UK (Bonfert, 2022b), Transdanubia region (Kacz et al., 2019), Germany (Diekmann & Theuvsen, 2019), and Austria (Plank et al., 2020). There are also some review articles on CSA, such as bibliometric analysis on the trends of CSA research (Fomina & Ignasiak-szulc, 2022), CSA history and potential to promote a sustainable food system (Schnell, 2007), its health benefits (Vasquez et al., 2017), and challenges and potential solutions for its development (Sulistyowati et al., 2023).

This article aims to fill this gap by answering the following questions: Why and how does CSA emerge and develop in certain countries/regions? What important issues are covered in CSA research in different countries/regions? With these two questions, we analyse the findings of past research and identify the gaps in CSA literature. Information was sourced from CSA articles on the peer-reviewed social science journals indexed by Scopus and other related references.

The remainder of this article is organized as follows. Following this introduction section, which presents the background and the purpose of this article, the Methods section explains the review process. The Results section presents the findings, the Discussion explores the research gaps, and the Conclusion section draws the inference from the findings.

Methods

This study aims to understand the context of the emergence and development of CSA and CSA research themes across geographic areas. This study started by searching CSA articles published in peer-reviewed social science journals indexed by Scopus, which was chosen for its large sources of peer-reviewed journals and extensive coverage period of CSA research (since 1992) compared to Web of Science (since 1997). The keywords used were “community supported agriculture”. From this search, 309 articles were found. We limited the search to social science journals, resulting in 158 articles from 1994 to 2022. Since this study explores the emergence of CSA, we retrieved all articles without using year restrictions.

After that, the title and abstract on the publisher’s site were reviewed. Two non-English articles were excluded, one in Spanish and one in Croatian, because none of the authors speak these languages. Another nine articles were excluded because they were unavailable
Figure 1. Summary of the review process

Source: Authors’ construction
or inaccessible, which might have resulted in missing some useful information. Next, the rest of the articles were checked for their substance, which led to the exclusion of forty-three articles as they were not focused on CSA. These articles mentioned community supported agriculture in its title or abstract, but the main content of the full article focused on something else. For example, there is an article about ecosystem services that mentioned community supported agriculture in the abstract as an example of a sustainable agriculture system, but its finding was not about CSA.

We adopted a regional geographical approach, where the selected articles were grouped and analysed based on region to see the spatial differences in the research themes (N=104). Fifty-nine articles were set in America, thirty from Europe, eight from Asia, and two from Australia and New Zealand. Five articles that were not location-specific were grouped into one category. All selected full papers were reviewed carefully and were coded by their main themes, i.e., the emergence and development of CSA and specific issues in the regions/countries. Similar themes were grouped and analysed to find the spatial patterns of the findings. The analysis was done by country/region to understand the emergence of CSA and the key themes in CSA research in specific countries/regions. During the review process, more relevant articles were added as needed.

Several CSA local names were identified in the database and were used for further exploration. For example, three articles on CSA in Japan were included because they explained the emergence of CSA in Japan and the challenges to its sustainability from gender and generational perspectives (Gelb & Estevez-Abe, 1998; Kondo, 2021; Kondoh, 2015). Therefore, it is important to note that, since there might be other local names of CSA that have not been covered, this study might miss some valuable information about CSA in certain regions. The summary of the overall process of this review can be seen in Figure 1.

Results
The geography of CSA emergence and development

CSA was developed in Japan in the mid-1960s (Kis, 2014), in Europe in the late 1960s, in the US in the mid-1980s (Schnell, 2007), and was then adopted in China in the 2000s (Krul & Ho, 2017; Tang et al., 2019). The adoption of CSA continues to increase (European CSA Research Group, 2016; Galt, 2011; Tang et al., 2019), and CSA networks are being developed in several countries (Bonfert, 2022b, 2022a; Nost, 2014). Table 1 summarises the geography of CSA emergence and development and the following section explains in more detail.

CSA in Asia

The origin of CSA in Japan could be traced back to the Teikei Movement back to the end of the 1960s. In 1961, the Japanese government modernized Japanese agriculture to increase its productivity and efficiency by increasing the farm size, implementing mechanization, and using chemicals in agriculture production. This transformed Japanese farmers from subsistence mixed crops farmers into commercial producers with selected commodities for sale (Kondoh, 2015).

In the early 1970s, there was a public concern about the impact of chemicals used in agriculture on the environment and health. Media coverage of these impacts amplified consumer awareness of food safety and influenced the emergence of direct buying clubs for chemical-free products (Kondo, 2021; Kondoh, 2015). Since then, this movement grew until the 1980s (Kondoh, 2015). This movement declined in the late 1980s because of gender and market factors. The change in Japanese women’s role from housewives to professional employees made the younger generation of women have less time for domestic and
community work, including doing farm work in CSA; while the older generation could not help with the farm work anymore (Kondo, 2021; Kondoh, 2015). At the same time, the growing availability of cheap, certified imported organic products in the markets reduced the demand for organic food from the teikei system, which was considered a less practical option. In addition, Japanese farmers could not certify their products as they viewed organic farming as an ingrained cultural process that could not be standardized (Kondoh, 2015).

CSAs emerged in China as a response to food scandals (Hansen, 2020; Leung, 2021). The first CSA in China, Little Donkey Farm was set up in Beijing as a collaborative experimental project between universities and the government in 2008 (Hansen, 2020; Jia’en & Jie, 2011; Krul & Ho, 2017). The spread was supported by increasing awareness of healthy food and the environment among the urban middle class and the emergence of a new generation of farmers (Krul & Ho, 2017; Leung, 2021; Xie, 2021). Despite its rapid growth, CSA in China still faces many challenges such as soil and water contamination, skeptical consumers, institutional barriers, and low participation of local peasants (Krul & Ho, 2017).

Differing from the Teikei Movement, which was against the government policy of industrial agriculture, CSA in China supports economic growth by providing healthy food for the growing urban middle class in China. In Japan, CSA development was rooted in the long-term traditions of Japanese consumers’ buying clubs that support the Japanese traditional organic

<table>
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<tr>
<th>Year</th>
<th>Region/Country</th>
<th>Local name</th>
<th>Context of emergence and development</th>
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</table>
| 2008 | China          | Various Chinese local names | - The emergence of a new generation of farmers  
|      |                |            | - Rising awareness of health and the environment among the urban middle-class |
| 2015 | Brazil         | Community supported agriculture | - Alternative marketing model to support agroforestry |

**Table 1. The geography of CSA emergence and development**

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</table>
| CSA in Asia  
The mid-sixties | Japan          | Teikei Movement | - Raising consumers’ awareness of the danger of chemical and nuclear contamination in agricultural products  
|      |                |            | - Collaboration between buying clubs and the Organic Farmers Association |
| 2008 | China          | Various Chinese local names | - The emergence of a new generation of farmers  
|      |                |            | - Rising awareness of health and the environment among the urban middle-class |

CSA in America  
80s | United States of America | Community supported agriculture | - The demand for healthy food from the urban middle class  
|      |            |            | - Supporting small/ family farms |

2015 | Brazil         | Community supported agriculture | Alternative marketing model to support agroforestry |

CSA in Europe  
1970s | Switzerland    | Les Jardins de Cocagne | - Consumer awareness of healthy food, environmental sustainability, and food sovereignty  
| 1988 | Germany        | Solawi (Solidarische Landwirtschaft) | - Supporting small and family farms  
| 1990 | United Kingdom | Community supported agriculture | - Alternative buying clubs  
| 2000s | Italy          | GAS (Gruripper di Acquisto Solidale). | - Community farming  
|      |                |            | - Alternative food network |

2001 | France         | AMAP (Agriculture Paysanne) | |
| 2006 | Norway         | Andelslandbruk | |
| 2011 | Austria        | Solawi (Solidarische Landwirtschaft) | |
| 2011 | Hungary        | Közösségi mezőgazdaság | |

*Source: Authors’ compilation*
farmers. Meanwhile, CSA in China was led by a new generation of farmers with rising environmental awareness who saw economic opportunities in producing organic food for the increasing urban middle class.

It should be noted that no article on the emergence of CSA was based in other Asian countries. However, there are two articles on the CSA prospect, one in Taiwan (Pisarn et al., 2020) and another in India (Bisht et al., 2020).

CSA in America

The CSA movement in the United States (US) started in the 1980s. The basic arrangement of CSA was that a farm or several farms built mutual relations with consumers or consumer groups. They made agreements on several aspects of food production and distribution, such as advance payment of members’ annual share and risks and benefits sharing between farmers and members (C. C. Hinrichs, 2000; C. Hinrichs & Kremer, 2002). Many CSA initiatives in the US address healthy food issues (Cohen et al., 2012; Rossi et al., 2017; Seguin et al., 2020), and also many other issues, such as building relationships between farmers and consumers, food security, farmers’ livelihood, sustainable farming, ethics, and social equality (Cone & Myhre, 2000; Galt et al., 2016; Guthman, 2008; Guthman et al., 2006; C. C. Hinrichs, 2000; Thompson & Coskuner-Balli, 2007a, 2007b).

No information on CSA emergence in Canada or other American countries was found in the database. However, there is an article from Latin America, which analyses the prospect of CSA to support agroforestry in Brazil, which started in 2015 (Cechin et al., 2021).

CSA in Europe

Many CSA initiatives in Europe were formed to support small farmers. In Western Europe, the number of small-scale farms declined, and agricultural land parcels were merged into fewer larger farms. CSA mechanism was developed based on the principle of solidarity with small farmers, such as by providing upfront payment to allow farmers to cover their operational costs in advance; and sharing the risk of crop failure among farmers and consumers (Plank et al., 2020; Tang et al., 2019). CSA in European countries emerged in the 1970s and developed at varied paces, such as by becoming a network involving a larger social movement. In Switzerland, Les Jardins de Cocagne started to spread in the 1970s. Meanwhile, in France, the development of CSA was attributable to the role of AMAP (Association pour le maintien d’une agriculture paysanne or Association for Maintaining Small Scale Family Farming), which helped small farmers in France maintain their operations through the support of consumer groups since 2001 (Tang et al., 2019). In Germany, CSA was known as solidarity-based agriculture or Solidarische Landwirtschaft/solawi (Carlson & Bitsch, 2019), founded in 2011 with members throughout Germany (Tang et al., 2019). In Austria, CSA emerged as part of the food sovereignty movement, which responded to the discourse of “food from nowhere” in the third food regime (McMichael, 2009) by practicing “food from here”. This movement was also a counter-discourse of the imperial mode of living, a lifestyle where the living of the residents in first-world countries is supported by the exploitation of workers in the South (Plank et al., 2020).

In Italy, CSA emerged and developed as a self-organized purchase group (Cicia et al., 2011; Piccoli et al., 2021). In Scandinavian countries, such as Norway, CSA is related to local food and environmental movement (Hvitsand, 2016; Milford et al., 2021; Standal & Westskog, 2022). In other Western European countries, CSA is part of the alternative food network (AFN) movement (Bonfert, 2022b, 2022a). In Hungary, this movement has started to grow as alternative buying groups providing many benefits to consumers, such
as healthy food, leisure, and well-being (Bakos & Khademi-Vidra, 2019; Balázs et al., 2016; Birtalan et al., 2020; Campbell et al., 2014; Graeber, 2011; Kacz et al., 2019; Kis, 2014). In Eastern Europe, CSA is associated with subscription farming, which connects farmers and consumers through online purchasing (Wegren, 2021).

**CSA in Australia, New Zealand, and Africa**

No article has been found to describe the emergence and development of CSA in Australia, New Zealand, and Africa. There is only one article exploring the prospect of CSA in Australia, which is to provide food for low socioeconomic groups (Markow et al., 2014), and one article about the value creation of CSA in New Zealand (Savarese et al., 2020).

**CSA Research Themes**

**Benefits for farmers and consumers**

CSA connects farmers and consumers directly in a mutual relationship that supports farmers in producing healthy food for consumers (Cone & Myhre, 2000; Kondoh, 2015; Paul, 2019; Tang et al., 2019). Many articles agree on the benefits of CSAs. In Japan, besides providing healthy food for consumers and supporting farmers’ livelihoods (Kondo, 2021; Kondoh, 2015), solidarity among consumers in Japan improves farmers’ resilience in difficult times (Kondoh, 2015), and creates political space for women (Gelb & Estevez-Abe, 1998). In China, CSA opens opportunities for a new generation of farmers to work in the countryside to provide healthy food for the increasing population of the urban middle class (Kruk & Ho, 2017; Xie, 2021).

CSA has been shown to improve farmers’ livelihoods, such as in the US (Galt, 2013; C. C. Hinrichs, 2000; Jarosz, 2008; Paul, 2019) and China (Kruk & Ho, 2017). However, several articles from the US explained that, although the average income of CSA farmers is higher than their conventional counterparts, it still cannot guarantee an adequate living standard for farmers (Galt, 2013; Galt et al., 2016; Jarosz, 2008). The influencing factors include competition with other marketing channels (Galt et al., 2016), the moral economy of farmers (Cone & Kakaliouras, 1995; Galt, 2013), marketing performance (Jablonski et al., 2019), market co-optation (Thompson & Coskuner-Balli, 2007b), spatial consideration (Sitaker et al., 2019), and retaining members (Galt, Bradley, et al., 2019). Nonetheless, many CSA farmers continue to produce healthy food for their members because of the moral economy (Galt, 2013).

Besides the economic benefits, CSA in the US provide social and ecological benefits (Paul, 2019), such as a closer link to farmers and farms (Wells et al., 1999), more leisure (Farmer et al., 2014; Sumner, 2018), more cooking at home (Feuerstein-Simon et al., 2020), improved health and diets (AbuSabha & Gargin, 2019; Cohen et al., 2012; Rossi et al., 2017; Seguin et al., 2020), more space for environmental education (Donahue, 1994), more informal learning (Everson, 2015), food democracy (Hassanein, 2008), and tactile space (M. S. Carolan, 2007; Hayden & Buck, 2012), as well as improved relationships among members (King, 2008), and farmers and farms (Wells et al., 1999). Research in Canada has also shown that CSA provides health benefits (Minaker et al., 2014) and opens space for food autonomy (Wilson, 2012).

In Europe, research in Hungary discusses the benefit of CSA from health and leisure perspectives (Kis, 2014). Meanwhile, the CSA studies based in the UK focus on the CSA’s role in improving relationships with livestock farmers (Gorman, 2018) and the CSA’s spiritual aspect (Pigott, 2021). Other CSA research articles show that CSA improves marketing performance in Turkey (Atakan & Yercan, 2021) and in the US (Jablonski et al., 2019). It also has opened space for economic exchange in Turkey (Atakan & Yercan, 2021). Likewise, CSA in the UK has improved marketing performance.
and opened virtual space (Bos & Owen, 2016). In Sweden and Germany, two articles discuss the interaction between consumers and producers (Opitz et al., 2017, 2019). Lastly, in the Netherlands (Van Oers et al., 2018) and Sweden (Van Poeck & Östman, 2018), CSA has opened an alternative political space.

Dilemmas and contradictions of CSA models

Some articles discuss CSA’s potential as an alternative to industrial agriculture (Cone & Myhre, 2000), global markets (O’Hara & Stagl, 2001), global food systems (La Trobe & Acott, 2000), and capitalism (Koretskaya & Feola, 2020). It proposes a local sustainable food system (Espelt, 2020; Jarosz, 2008; Leung, 2021; Plank et al., 2020; Savarese et al., 2020). Some studies reveal the contradictions and dilemmas of the CSA model (Baronov, 2018) and its implementation (Charles, 2011; Cone & Myhre, 2000; C. C. Hinrichs, 2000; Katz, 2002). Just as the economic system is embedded in culture, the current CSA is embedded within the culture of capitalism. As an alternative system that explores new practices outside the system, its main challenge is the conflicting values between the CSA and the existing food system. It is argued that the sustainability of CSA will depend on how it can manage the tension between farmers’ needs and consumers’ interests (Cone & Kakaliouras, 1995; Cone & Myhre, 2000; Galt, 2013; Galt, Bradley, et al., 2019; C. C. Hinrichs, 2000; Kadarko, 2002). Some other articles highlight the contradictions inside CSA, such as embeddedness vs. marketness in its production relations (C. C. Hinrichs, 2000), self vs. the world, and competition issues (Baronov, 2018).

The market influenced CSA in several ways. In the US, a CSA model must compete with other CSA models, regular markets, and healthy food supplies from other regions (Galt, 2013; Morgan et al., 2018). It suggested that CSA should avoid competing with each other and put a joint effort to increase the number of consumers through education, campaigns, and joint marketing (Galt, 2013; Galt et al., 2016; Galt, Bradley, et al., 2019). In Germany, despite a growing demand for healthy food, limited access to land, increasing rent prices, insufficient processing capacities, and government policy hinder CSA potential (Doernberg et al., 2016).

Labour is another key factor for CSA’s sustainability (Janssen, 2013). Spatial consideration (Sitaker et al., 2019) and legal aspects are also important in promoting CSA (Kapała, 2020; Plank et al., 2020). In the US, the current legal instruments are not adequate and require additional legal instruments such as tax system, safety requirements, and land zoning to support CSA and other local food initiatives (Kapała, 2020). In addition, CSA is influenced by national policies. For example, a study on CSA and other alternative food networks in the US shows that urbanization and rural restructuring were uneven processes that impacted farmers disparately (Jarosz, 2008).

Membership Issues in CSA

CSA influences farmers and members and the relationship between them. The success of CSA depends on its members’ support. Many studies based in the US highlight the membership issues in CSA such as members’ motivation (Kato, 2013; Kolodinsky & Pelch, 1997; Schrank & Running, 2018; Thompson & Coskun-Ball, 2007b; Vassalos et al., 2017), retention (Galt, Bradley, et al., 2019; Galt, Kim, et al., 2019), satisfaction (Lang, 2005), dynamics (J. Chen et al., 2019), participation (Vassalos et al., 2017), decision to join CSA (Kolodinsky & Pelch, 1997), challenges for engagement (Kato, 2013), and engagement through social media (C. Cox et al., 2016). Some studies discuss the issues of memberships and competitiveness (Morgan et al., 2018) and the influence of CSA on members’ roles as active citizens (M. Carolan, 2017). A direction for further study is the cultivation of CSA stakeholders (Galt, Kim, et al., 2019).
Members’ motivation is also discussed in Europe (Diekmann & Theuvsen, 2019). In Norway, members’ motivation is crucial for CSA sustainability (Hvitsand, 2016). In Scotland, research has shown the importance of communication between consumers and farmers in boosting the motivation to support CSA (R. Cox et al., 2008). While many articles emphasize the economic aspects, such as price, healthy food supply, and demand in the region as factors that motivate members to join CSAs, other reasons to join CSAs include access to healthy food, environmental awareness, inclination to support small farmers, and being part of a community. Being a CSA member requires commitments such as the willingness to change their food habits according to CSA harvest, contributing to work share, and paying upfront their financial share. As not all potential members have the financial means, an adjustment in the payment mechanism is useful, such as combined with a ‘pay as you go’ system in the US (Freedman & King, 2016) and Turkey (Atakan & Yercan, 2021).

CSA in the US has been criticized for providing more benefits to white and high-income people and excluding people of colour and people with low-income (Guthman, 2008; Guthman et al., 2006; C. Hinrichs & Kremer, 2002; Larchet, 2015). On the other hand, there are efforts to use CSA to provide food or improve health for the selected target group in the US (Feuerstein-Simon et al., 2020; Forbes & Harmon, 2008; Jernigan et al., 2012) and in Australia (Markow et al., 2014).

Although most CSA members across geographic areas are women, the study on the gender dimension in CSA is still limited (DeLind & Ferguson, 1999; Jarosz, 2011). It opens a new research area on gender differentiation among CSA farmers and members and diverse CSA experiences for both. It will also be interesting to explore its links with a wider gender division of labour or gender construction in specific geographic areas.

Status and The Future of CSA

Some articles have shown the status of CSA in selected regions. At the country level, research has shown the status of CSA in the US (Paul, 2019; Schnell, 2007) and China (Krul & Ho, 2017). At the regional level, studies have focused on Western Transdanubia (Kacz et al., 2019) and California (Galt, 2011). Some others explore factors of the spread of CSA initiatives (Bonfert, 2022a, 2022b; Nost, 2014; Savarese et al., 2020). In the US, scaling up local food depends on the types of commodities, available labour, and supply and demand management (Nost, 2014). In England (Bonfert, 2022b), Germany, and Wales (Bonfert, 2022a) CSA’s scale-up depends on local collaboration, which can integrate supply chains (scaling out), engage communities (scaling deep), and attract food councils’ participation. By contrast, competitive tensions among CSA models hinder the scalability (Bonfert, 2022a).

The CSA literature also discusses its prospect in Italy (Cicia et al., 2011), Poland (Struś et al., 2020), Russia (Wegren, 2021), and Hungary (Balázs et al., 2016; Campbell et al., 2014) and the US (Smith et al., 2019). In Asia, a study in Taiwan (Pisarn et al., 2020) assessed consumers’ willingness to join CSA, while a study in India explored CSA’s potential to support small farmers (Bisht et al., 2020). Meanwhile, a study in Latin America explores CSA as a marketing mechanism for agroforestry products. More recent articles discuss the development of CSA during the COVID-19 pandemic and its impact on resilience in Italy (Nichols et al., 2022) and food security in the US (Biddle et al., 2021).

The use of information and communication technology and social media in CSA has also been studied in China (W. Chen & Tan, 2019; Tan & Chen, 2019), the UK (Bos & Owen, 2016; Vallauri, 2014), Spain (Espelt, 2020), and the US (C. Cox et al., 2016). The general finding is that ICT and social media can improve the relationships between farmers and members.
but cannot replace the real connection with the farms.

**CSA Publication in Peer-Reviewed Social Science Journals**

In the Scopus database, the number of publications continues to grow (see Figure 2). Most research is based in the US (54 articles) and European countries (30 articles). Several studies were based in China (6 articles) and Canada (4 articles). There is only one study based in Brazil, one in India, one in Australia, one in New Zealand, and none in Africa (see Figure 3).

**Figure 2. Trends in CSA publication in Scopus-indexed Social Science Journals 1994-2022**

*Source: Authors’ construction from Scopus search results analysis*

**Figure 3. Spatial distribution of CSA articles published in Social Science Journals 1994-2022**

*Source: Authors’ construction using Insert Map in Excel*
Figure 4 shows the distribution of CSA articles by journal. Sustainability Switzerland published most CSA articles (Bonfert, 2022a; Jablonski et al., 2019; Krul & Ho, 2017; Pisarn et al., 2020; Savarese et al., 2020; Smith et al., 2019). It is a Scopus Q1 Open Access journal published by MDPI addressing a wide range of sustainability issues. Despite the debate on MDPI and the predatory allegations (https://predatoryreports.org/news?blogcategory=MDPI as of 21 November 2023 and https://www.mdpi.com/about/announcements/5482 as of 21 November 2023), we decided to keep some articles from this...
Discussion: Understanding the geography of CSA

The following section discusses some emerging questions from understanding the similarities and differences of CSA across geographic areas, followed by the identification of research gaps and directions for further research.

Is it an urban middle-class movement in industrial countries?

This study shows that most CSA publications are based in industrial countries such as the US, Western European countries, and China. Only a few articles are based in other countries and these focus on the prospect of developing CSAs (Bisht et al., 2020; Cechin et al., 2021). Many CSA articles discuss CSA as an alternative to industrial agriculture or as a critique of the current development model (Cone & Myhre, 2000; Jarosz, 2008; Koretskaya & Feola, 2020; La Trobe & Acott, 2000; Leung, 2021; Plank et al., 2020). This finding leads us to a question: is CSA a phenomenon of industrial countries?

One explanation to view CSA from this perspective is as follows. In many countries in Europe, Japan, the US, and China, industrialization produces a growing population of the urban middle class. This class does not produce their food, has the financial means to purchase food at a higher price, and has environmental and health awareness. This class has the potential to organize themselves and support farmers who produce healthy food for them. This explains why most CSA proponents live in urban areas (Galt, 2011; Kato, 2013; Kolodinsky & Pelch, 1997; Krul & Ho, 2017; Plank et al., 2020; Shi et al., 2011).

The urban middle class is a key factor in CSA’s emergence and development in many industrial countries. However, the political-economic contexts in these countries vary, resulting in diverse CSA models. In Europe, it is about solidarity with small family farms,
such as in Germany (Bonfert, 2022a; Diekmann & Theuvsen, 2019; Wittenberg et al., 2022), Austria (Plank et al., 2020), as well as in the UK (Bonfert, 2022b, 2022a). In the US, most CSA models emerged as a response to healthy food awareness while supporting smallholder farmers (Cone & Myhre, 2000; DeLind & Ferguson, 1999; Galt, 2011; Jarosz, 2008, 2011; Schnell, 2007). In China, it became an alternative market response to the food scandal that caused increasing awareness of food safety and environmental issues among the younger generation (Krul & Ho, 2017; Tang et al., 2019). In democratic countries such as the US, Canada, and Western Europe, most CSA emerged as civil society movements and alternatives to industrial agriculture (Cone & Myhre, 2000), as solidarity movements to support small farmers (Moellers & Birhala, 2014), or as a critique of the global markets (O’Hara & Stagl, 2001). In a less democratic country like China, instead of going against capitalism in the food sector, it opens a new market opportunity created by the increasing demand for a healthy and green lifestyle from the urban middle class (Krul & Ho, 2017; Shi et al., 2011).

The importance of the urban middle class in the CSA movement can be explained as follows. In CSA, members finance CSA and in return, they receive healthy food. However, it is only possible in a society with enough middle-class people with awareness and willingness to pay. Without awareness and willingness to pay, the urban middle class will not support the CSA movement. It means that the success of CSA will depend on the consumers’ commitment to support local CSA farmers even though plenty of cheap healthy food can be accessed more easily. Without this commitment, even in a country like the US, where CSA farmers can generate more income from the urban middle class compared to non-CSA farmers, some research shows that many CSA farmers are still living a low standard of living (Galt, 2013; Ostrom, 1997). This indicates that in a situation where the power relation between consumers and farmers is not equal, even in a CSA, it is hard to ensure that farmers can benefit from their food production and afford a decent life.

**Trends, Research Gaps, and Recommendations for Future Research**

As most CSA publications are from industrial countries, there is a big gap in CSA research from non-industrial countries. Studies about similar practices from non-industrial and non-western countries are highly recommended.

Our findings show the main themes of CSA publications are the benefits of CSA, dilemmas and contradictions in CSA models, membership issues, and the future of CSA. Regarding benefits, a lot of research has highlighted not only the financial benefit of CSA, such as increased income for farmers, but also the non-financial benefits for farmers and consumers, such as healthy food and space for learning (Donahue, 1994; Everson, 2015), leisure (Farmer et al., 2014; Kis, 2014), improving connection between farmers and consumers, between human and livestock, and the spirituality aspect (Pigott, 2021). These non-financial benefits are often overlooked in mainstream development, which tends to underscore production. These non-financial intangible values should be included in the equation, as well as the impact of the externalized cost of chemical agriculture and the global agri-food system on the environment and health. Therefore, future research should delve into the intangible value of CSA beyond economic or financial measures.

As an initiative within a larger system, CSA is embedded in the existing global agri-food system (Galt, 2013; Galt et al., 2016; O’Hara & Stagl, 2001; Vaderna et al., 2022). In this system, consumers have plenty of options to obtain cheaper healthy food. The local farmers are not the only providers of healthy food for consumers. This situation creates unequal
relations between farmers and consumers. Farmers depend on consumers more than consumers on farmers. This inequality is discussed differently across geographic areas. The US and Western Europe share similar concerns about the inequality between CSA and the mainstream market. However, studies in the US highlight the inequality across class and race/ethnicity (Guthman, 2008), but this is not observed in studies based in other countries. In the US, CSA is a discourse for white and middle-class citizens. Meanwhile, studies in China have pointed out generational inequality. CSA is a growing market opportunity for organic products produced by younger generations of farmers with a higher education background and environmental awareness. Chinese traditional farmers, although they cultivate organic products, do not sell their products through CSA. These disparities warrant more CSA research from multiple perspectives, such as class, ethnicity, gender, and generational aspects.

This inequality is not only among farmers, or between farmers and consumers but also between urban and rural areas. In the mainstream development process, cities are the centres, while rural areas are designed as the periphery to support urban growth. However, this aspect of inequality is still absent in CSA publications. The majority of CSA research is published in food, agriculture, or rural studies journals. Although CSA members are mostly in urban areas, publications of CSA research in urban studies journals are limited. These patterns bring to our attention the exploration of CSA as a multi-scale research area linking rural and urban areas. An example of such studies could be exploring CSAs as a potential initiative to close the gap between urban and rural areas, for example by designing circular economic systems in the food sectors in the specific local region and how the benefit can be distributed equally along the economic chains. It could reduce the farmers’ marketing problems, food waste, and the ecological footprint of food distribution. This opens an invitation to look at CSA from multidisciplinary perspectives connecting rural and urban studies, or from a larger development perspective, such as sustainable and just cities. The integration of multidisciplinary studies such as urban and rural studies, or economic and social sciences on CSA research is recommended.

Another trend in CSA research is CSA membership. Research in the US has contributed considerably to the body of knowledge on CSA membership. While a lot has been discussed on motivations and retaining members, there have been very few studies on how to shift their perspectives. The process that shapes their awareness and the enabling factors for them to support CSA are the research areas that are still understudied and highly recommended.

The prospect of CSAs is another research topic that emerged in many geographic areas. Most are based in the areas where CSA is not practiced yet, some of which are related to social problems, such as poverty and market access. This opens the exploration of models of consumer solidarity from non-industrial and non-western countries and an opportunity to do experimental research on CSA in various geographies. The research on CSA under growing technological innovation or in emergency situations like the COVID-19 pandemic, or to solve specific social or environmental issues will be a promising future research agenda as well.

**Conclusion**

This study contributes to the geographic mapping of CSA studies in Scopus-indexed social science journals and related articles. By exploring the emergence and development of CSA and the research themes across geographies, this study reveals that CSA is a phenomenon of urban middle-class movement.
in industrial countries. The important factors to support CSA’s emergence and development are (1) the growing urban middle class with an awareness of healthy food, environmental sustainability, and solidarity to support farmers, (2) the availability of farmers who are willing to apply more sustainable farming practices, and (3) the platform or agreement that links consumers and farmers. The agreement varies by location depending on each country’s political and economic context, resulting in diverse CSA models and effects across locations.

The weakness of this study is the limited literature on CSA from non-western and non-industrial countries in Scopus-indexed social science journals. Therefore, the recommendation for further research is to explore: (1) similar practices of CSA from non-industrial and non-western countries; (2) intangible value of CSAs beyond economic/financial measure; (3) more diverse perspectives on CSA research such as class, ethnicity, gender, and generational perspectives in studying CSA; (4) the integration of multidisciplinary studies, such as urban and rural studies or economics and social science; (5) processes and enabling conditions that support the formation of CSA and CSA people across geographic areas; and (6) probabilities of CSA in solving diverse social and environmental issues.

Acknowledgement

We express our deepest thanks to the two reviewers who have provided feedback to improve the initial version of this article. Their input was valuable to improve the methodology and analysis of this article. We also thank the editorial team for their patience in providing step-by-step assistance. We also thank Hilary Reinhart from the Faculty of Geography, Universitas Gadjah Mada, for his technical assistance in map development and geographic analysis. Any errors will be our responsibility.

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