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"At first, I was only a subscriber": re-mediating food citizens' solidarity practices through digital technologies

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In this paper, we explore how digital technologies re-mediate solidarity practices in alternative food networks (AFNs). To do so, the first author conducted an 8-month (auto-)ethnography of a community supported agriculture (CSA) initiative in Switzerland and 12 semi-structured interviews with CSA members. We identified three types of solidarity practices in our analysis that aim to support social inclusiveness, increase responsibility and sustainability, and foster the sharing of risk, work and infrastructure amongst CSA members. Digital technologies are central for joining and becoming a member of the CSA and also play a vital role in sharing information and organizing members' work assignments. By becoming a member, consumers become subscribers voting with their wallet. If they regularly engage in farm work, they become prosumers or co-producers. Thus, our analysis foregrounds the continuum of food citizenship in the CSA we studied. However, the number of subscribers increases through digital technologies, transforming the initiative from an *alternative to the market* to an *alternative within the market*, whereby certain aspects of solidarity, such as social inclusiveness and sharing, are not realized anymore. Our study contributes to the emerging field of digital food studies by showing how solidarity is digitally enabled and negotiated in CSA, and how this shapes food citizenship.

KEYWORDS

alternative food networks, community supported agriculture, food citizenship, subscribers, digital technologies, sustainability, social and solidarity economy

1. Introduction

As the Covid-19 pandemic unfolded globally in 2020, media outlets reported that a growing number of grocery shoppers shifted to local food consumption in the Global North. Community supported agriculture (CSA), including vegetable box subscriptions, registered an influx of new members (see [Nemes et al., 2021](#), p. 594). Farmers markets—those that were still open—and farm shops attracted new shoppers. And organic food stores selling local produce saw a rise in sales. Supermarkets reported an increase in sales of fresh produce, and digital food provisioning platforms saw a jump in the number of new customers. For instance, in March 2020, the Swiss startup and online food marketplace Farmy.ch stated in an interview that their sales doubled

year over year after February 2020.¹ Reasons given in news reports for accessing local and fresh produce varied from concern over the robustness of global food supply chains, which had come under strain in the pandemic, to a desire to purchase healthier foods, or people simply having more time to cook as they worked from home and ate out less.

While digital food provisioning platforms such as meal box schemes, digitalized local food markets and food delivery apps have gained prominence before (Khan and Sowards, 2018; Samsioe and Fuentes, 2020), the pandemic accelerated the growth of these digital food platforms. In these digital times, and especially during Covid-19, shoppers looking for local food commonly turned to the Internet to learn what is available, where and how. While searching, they might discover the supermarkets' online shopping and delivery options, but are also likely to come across dedicated online platforms that specialize in the sale of local foods, such as the above-mentioned example of Farmy.ch. They might also learn about alternative food networks (AFN), such as cooperatives and community supported agricultures, which increasingly have a presence online, including an online shop. What commonly distinguishes AFNs and digital food provisioning platforms is their market orientation. AFNs aim to create and foster *alternatives to markets*. They create "social spaces where vanguard projects of alternative economy" are taking place (Goodman et al., 2012, p. 4), with the ambition to foster spaces of possibilities where members of social movements create solidarity economies. These solidarity economies can take many different forms, from co-operatives and social enterprises to collectives (Goodman et al., 2012; Hitchman, 2019, p. 10). Commercial digital food provisioning platforms' goal, on the contrary, is to establish their platform as a novel middle space between producers and consumers. They aim to provide an alternative to established grocery stores and their supply chains. Thus, these commercial digital food provisioning platforms provide *alternatives within markets*.

These different types of alternatives for accessing and purchasing local produce may appear similar to a novice local food shopper, based on their websites. Shoppers may, in fact, treat them as a bundle of alternatives from which to pick in order to access local foods, despite these organizations' different organizational forms, values and commitments. In this paper we explore how digital technologies affect food citizenship in CSA based on an (auto-)ethnographic study of a Swiss CSA initiative and semi-structured interviews with members of the initiative. We foreground how digital technologies enable a continuum of roles from consumer-citizen to food citizen in our field work. More specifically, these roles range from subscribers to a CSA supporting its existence to people who holistically act as food citizens, participating in food-related solidarity practices beyond the initiative. This allows us to reflect upon how these varying roles enable different ways of doing solidarity in the Swiss CSA we studied, and how digital technologies organize and re-mediate these practices.

The article is organized as follows. First, we introduce CSA as a form of AFN and then review the literature on food citizenship as well as the literature on the digitalization of collective food procurement. Second, we provide an overview of *Solveg*—a pseudonym we chose for

the CSA initiative we studied to ensure the anonymity of the initiative's members. Third, we explain our study design and chosen research methods. Fourth, we present different ways of how solidarity is done in the initiative and discuss how sharing practices that are central for doing solidarity in practice are digitally enabled at *Solveg* and how this affects food citizenship. In conclusion, we explore the implication of our findings for understanding food citizenship in digital times by taking into account existing research on digital food provisioning.

2. Food citizens' solidarity practices and the underexplored role of digital participation in AFNs

2.1. "Food citizenship": from food consumers to food citizens and beyond

Over the last two decades, consumers have been called upon to vote with their wallets in order to express their social or political preferences. A myriad of social movements, non-governmental organizations (NGOs) as well as filmmakers, writers and activists have advanced this agenda of political consumerism, i.e., "market-oriented engagements emerging from societal concerns associated with production and consumption" (Boström et al., 2019). Political consumerism, by now a common form of civic engagement, is conceptualized as an "informal community-based associational activity that does not involve political organizations, parties, or officials, and that is undertaken on a voluntary basis for charitable and social purposes" [De Zúñiga et al., 2014, pp. 491–492, drawing on Putnam's (2000) definition]. Typically, political consumerism entails boycotting (refusing to purchase goods/brands as a way of expressing strong disapproval) or buycotting (purchasing specific products and brands as a way of expressing strong support). Yet, as Stolle and Micheletti (2013) observe, there are two additional forms of action in practices of political consumerism: 'discursive political consumerism' that entails communicative actions and 'lifestyle political consumerism' that typically involves major shifts in a person's lifestyle. Political consumerism, thus, blurs the boundaries between economy and democracy. A separation between individuals' social roles as consumers and citizens becomes increasingly untenable. The term citizen-consumer has been proposed for consumers who exercise their citizenship through political and ethical consumption (Johnston, 2008).

Food features prominently in consumers' everyday practices of political activism (Halkier, 2019). Apart from animal welfare issues and health concerns, sustainability has become a prominent concern of political activists in recent years (Collinson et al., 2023). However, food scholars have pointed out that little is known about food citizenship in practice. For instance, Hatanaka (2020) states, "there is a dearth of research on what it means for a person to act as a food citizen and the kinds of governance processes that enable food citizenship." Her ethnographic research of the Seikatsu Club Consumer Cooperative (SCCC) in Japan over three summer terms contributes to filling this gap. SCCC was founded in 1968 to increase food safety in milk and has since developed into an initiative with 380,000 members who take responsibility for food as co-producers; thus, SCCC has many elements of a CSA, as well as of a procurement cooperative. She shows how consumers and producers act as food

¹ <https://www.blick.ch/wirtschaft/online-boom-wegen-coronavirus-lieferengpaesse-bei-migros-coop-und-co-id15790167.html>

citizens guided by a shared set of values, including inclusivity, meaningful participation, community and collective good, transparency and short supply chains (Hatanaka, 2020, pp. 56–57). Hatanaka finds that by defining sustainability standards, participating in ‘audit by many’ and in sharing risks and responsibilities, members and producers act as food citizens in the SCCC. Based on her long-term ethnography she found that food citizenship fosters commitment, partnership and a shared vision among members and producers, which in turn inspires them to seek continuous improvements in sustainability. Thus, food citizenship “can be an effective means for advancing sustainability in food systems” (Hatanaka, 2020, p. 61).

Anthropologist Cristina Grasseni (2018), who studied solidarity purchase groups² in three European cities, shows that examining collective food procurement will provide important new insights into food citizenship. Attending to collective food procurement, she argues, “might help reframing the issue of European food systems not only from an agricultural and logistic point of view, but also from a social point of view that goes beyond individual preferences and tastes. [...] food procurement in all its facets highlights how food is a mediator of relations within social networks, not only a commodity or nutrient” (Grasseni, 2018, p. 1). CSA is a specific form of collective food procurement and is particularly insightful for understanding how practices of food citizenships can be fostered. Solidarity practices are crucial in activities shaped by food citizens’ holistic understanding of the food system, whether towards nature, animals, or other citizens.

2.2. Solidarity practices in CSAs: the cornerstone of this kind of AFN

AFNs are defined as “social spaces where vanguard projects of the alternative economy” are taking place (Goodman et al., 2012, p. 4). Goodman and colleagues speak of them as spaces of possibilities, where members of social movements are directing markets and thereby creating solidarity economies which can take many different forms, “from co-operatives to social enterprises and collectives” (Goodman et al., 2012; Hitchman, 2019, p. 10). Established forms of AFNs are farmers markets, community gardens, solidarity purchase groups or CSAs. The latter was, as already indicated, the object of our investigation. A CSA is composed of a “community of individuals who pledge support to a farm operation so that the farmland becomes, either legally or spiritually, the community’s farm, with the growers and consumers providing mutual support and sharing the risks and benefits of food production” (USDA in Robinson and Farmer, 2017). Moreover, consumers become growers themselves, as in most CSAs consumers are supporting the initiative with their own work force. This blurring and redistribution of roles is discussed under the notion of *prosuming*, whereby the established roles of consumers and producers are becoming fused and democratized (Boddenberg, 2018, p. 134).

In these new co-production processes, members follow the *food-as-means* approach described by Dal Gobbo and colleagues, with the aim of strengthening social aspects, as is the case for CSA initiatives

(2021, p. 9). CSAs can provide fresh local foods to communities that may not otherwise have access to them (Kolodinsky and Pelch, 1997; Van En et al., 1997; Schmidt et al., 2011). These communities can consist of people living in food deserts or in urban areas without access to their own land. CSA initiatives envision developing personal and social relationships based on the notion of sharing. Practices of sharing include sharing cost, risk, planning, work, harvest and celebration within the dimensions of food security, sustainable agriculture and community building (Fieldhouse, 1996; DeLind, 1999). This view is contrasted with the approach of *food-as-end*, whereby the optimization of transactions is targeted (Dal Gobbo et al., 2021, p. 9).

The cornerstone of solidarity within CSAs can be derived from the term community in community supported agriculture, also called community based/shared agriculture (Fieldhouse, 1996; Macias, 2008) or sustainable community agriculture (Forno and Graziano, 2014). Factors that positively influence a strong community and create new social spaces are shared values, emotions, trust, understanding, engagement and solidarity support (Jarosz, 2000; Poulsen, 2017; Breidahl et al., 2018). In German solidarity is even anchored in the name for CSA, “solidarische Landwirtschaft,” which can be translated as “solidary agriculture.” Other aspects of CSA closely intertwined with solidarity are social equality and a broad community participation, whereby, for instance, the integration of deprived persons is sought (Hinrichs and Kremer, 2002; Goodman, 2004; Lamine, 2005; Peterson et al., 2015; Diekmann and Theuvsen, 2019). Although such initiatives claim that the concept is open to everyone, according to Hinrichs and Kremer (2002) there are four criteria that determine access: education, the social network, race, and income.

Solidarity was defined by Prainsack and Buyx (2012) as “shared practices reflecting a collective commitment to carry ‘costs’ (financial, social, emotional, or otherwise)” (2012, p. 346). The term solidarity can thereby either be understood on an individual or a structural level (Berger, 2004, p. 254). The first term captures solidarity practices and understandings of individuals, while the latter looks at how solidarity is embedded and lived in institutionalized structures (Tranow, 2012, p. 35). Acknowledging the difficulties of solidarity within society, AFNs aim to foster new social values (Forno and Graziano, 2014, p. 1). These values and the wider concept of solidarity in connection to AFNs are addressed in the literature highlighting different aspects or related concepts of solidarity, such as social sustainability (Diekmann and Theuvsen, 2019), community (Macias, 2008; Pole and Gray, 2013), urban commons (Borčić, 2020), co-production (Grasseni, 2014), convivialism (Khushf, 1998; Boddenberg, 2018), sharing (Fieldhouse, 1995; Michelini et al., 2017) or solidarity economy (Grasseni, 2014; Hitchman, 2019).

Research has shown, however, that in practice, from both the consumers’ and producers’ side, individual motives can trump collective ambitions. Consumers’ motives to join include obtaining a harvest share of fresh organic local produce (rather than social reasons such as community involvement), connection to the farm, meeting like-minded people, participating in farm activities or even sharing risks (Fieldhouse, 1996; Conner, 2003; Oberholzer, 2004; Ostrom, 2007; Lang, 2010; Pole and Gray, 2013; Diekmann and Theuvsen, 2019). Researchers explored whether members join driven by ideology and community reasons, or rather based on economic evaluations and convenience aspects of local food consumption. The studies found that ideology and community are only added benefits and not the

² Solidarity purchase groups are grassroot groups of consumers who aim to shop for food in a more direct and collective way (Grasseni, 2014).

main reason for joining the initiative (DeLind, 1999; Feagan and Henderson, 2009; Diekmann and Theuvsen, 2019). This shift is not only visible at the consumer side, but also at the producer's side. Oberholzer (2004) reported that “social aspects,” rather than “economic aspects,” were the driving force to use the CSA concept for only a minority of the CSA farmers. Thus, it is not surprising that there is rising critique that CSA is moving away from its original vision as a solidarity community towards new distribution models (Blätzel-Mink et al., 2017, p. 160; Diekmann and Theuvsen, 2019, pp. 105–106).

The previously elaborated understanding of solidarity highlights the need to deepen the interplay of economic and social aspects while allowing to go beyond alternative economic models (Fonte and Cucco, 2017, p. 293; Chiffolleau et al., 2019, p. 183). According to Chiffolleau and colleagues, this can be achieved by adding new indicators of wealth, “which enlarge the economic objectives beyond conventional attributes (fair trade beyond turnover...), express social goals (well-being, justice, equity, etc.) and design an expanded vision of the economy” (2019, p. 184). These thoughts are discussed in the research stream of Social and Solidarity Economies (SSE). The United Nations (2014) define SSE as “a broad set of organizations and enterprises that are specifically geared to producing goods, services and knowledge while pursuing economic and social aims and fostering solidarity.” The expanded vision within SSE is achieved by building social markets that avoid neoliberal economic logics (Espelt, 2020, p. 270). Laville and Amaro (2016) thereby highlight the potential of SSE as a basis for broad social innovation. However, SSE, in contrast to AFNs, still provide *alternatives within the market*.

2.3. Digitalization of collective food procurement

As we have seen, aspects of solidarity within CSA are characterized by the local; however, most CSA initiatives use global digital communication technologies to ease information flow (Forno and Graziano, 2014), which dissolves the strict local anchorage. Digital affordances allow citizens to participate in such initiatives without disturbing their “contemporary urban organization of everyday life” (Dal Gobbo et al., 2021, pp. 5–6; see also Fuentes, 2019). Digital technologies can be used in fostering sharing practices, and therefore redistributing existing food resources, helping to address issues of the current food system, especially in fighting hunger and food waste (Oncini et al., 2020). The possibility of connecting in online food communities through social media offers new opportunities for producers and consumers of food (Dal Gobbo et al., 2021). The authors highlight their argument by discussing how Facebook makes “alternative material flow” easier, as the social media platform can be the first point of contact for an urban citizen.

Recently, those opportunities afforded by digital platforms gained general attention by scholars investigating AFNs (Cui, 2014; Bos and Owen, 2016; Schneider et al., 2018). In particular, they highlight the possibility for consumer producer interactions, including digital food activism (Schneider et al., 2018; De Bernardi and Tirabeni, 2019), the potential for a wider public to get “access to sustainable good food” (Dal Gobbo et al., 2021, p. 8), the key role of Internet presence for the future of the agriculture industry (Cristobal-Fransi et al., 2020, p. 63), or the power of such tools to foster participation and to share

knowledge (Perlines et al., 2013). The question of how digital technologies shape and can contribute to the growth and spread of AFNs and social movements' visions, therefore, still remains open and warrants further research (Oncini et al., 2020).

However, digital platforms should not be treated as detached spaces, but rather as co-existing and constituting entities of physical spaces where alternative practices take place. Although meeting in physical spaces is crucial to social movements and AFNs, the scale of action within those communities highly increased based on the use of information and communication technologies (ICTs) for social communication (Bennett, 2003, 2012; Hoelscher and Chatzidakis, 2020). Still, members of Italian AFNs allocate ICTs little importance, as they represent for them an intermediary (Grasseni, 2014). These members clearly follow the previously introduced *food-as-means* approach, contrasted by the *food-as-end* approach (Dal Gobbo et al., 2021, p. 9). These contrasting approaches also reveal a critique towards digitally mediated AFNs, as they serve a convenient solution and therefore attract consumers who are aware of certain sustainability issues, but do not want to make an excessive commitment. We want to have a closer look at this phenomenon. Thus, we aim to highlight the plurality of food citizenships in AFNs in order to explore ways of doing solidarity and how digital platforms re-mediate these relational practices. To do so, we use the case of *Solveg*, a community supported agriculture initiative in Switzerland.

3. Ethnography of *Solveg*

To explore the everyday solidarity practices in community supported agriculture and how digital technologies remediate these, one of the researchers undertook an 8-month ethnography of the CSA initiative *Solveg*,³ a CSA group located in a suburban area in the German-speaking part of Switzerland. Its website states: “With *Solveg*, you receive fresh vegetables (BioSuisse certified) grown in our cooperative fields every week. We distribute what is growing in our fields to our members in about 150 baskets. Depending on the weather, it may be a bountiful or somewhat smaller harvest. *Solveg* involves working a minimum of 12 h per year and subscription in the vegetable fields and/or in another project area. This way, you get to know the garden team and the cooperative members, and know exactly how and where your vegetables grow.”⁴ The initiative is organized as a cooperative—which is a typical organizational and legal structure for CSAs in Switzerland (Dytrich, 2015, p. 271). Each member of the initiative is an associate of the cooperative. Five members form a so-called core group which is in charge of operational activities. They are elected during the yearly general assembly for an indefinite period. They meet every 2 weeks to discuss and decide on strategic and operational aspects of the initiative. On behalf of the cooperative, the core group searches for arable land and employs

³ The originally planned ethnography, which was to last 8 months, finished a few days before the first lockdown was announced in Switzerland. As Covid-19 brought in new interesting dynamics, sporadic field work was picked up again in August 2020 and lasts until today.

⁴ The website is only available in German, the quote was translated by the authors.

gardening professionals, who till the farmland and fulfil all the related tasks that are needed to run the initiative. Each member of the core group is responsible for a different area of organization, such as accounting, communication, or crop rotation planning, to name just a few.

Contrary to common agricultural practices in Switzerland, the initiative is not qualified for direct payments (subsidies) from the government, but rather relies on money from its members. Interested individuals sign up and pay a membership fee per year. They also acquire share certificates of the cooperative, which serve as investment capital for the project. Currently 151 households obtain their vegetable groceries from *Solveg*. The households vary heavily in terms of age and constellations, from young couples to residential communities, families and seniors. Each of these members can choose between three different sizes of vegetable boxes—small, medium and large—chosen in the beginning of the year. Every week the harvest is distributed equally among the CSA members, based on their basket size. While the production acreage is located in a suburban area, most of the members live in urban districts. Volunteers deliver the vegetable baskets to 13 urban district centers, where members of the initiative can pick them up. In addition, each member commits to 12 h of collaboration each year. Therefore, the members do not merely provide financial security to a certain farmer or initiative. Instead, they become prosumers (Boddenberg, 2018, p. 134) and take on some of the risks related to the production process, such as droughts, floods, or weather fluctuations in general, misplanning and staff absences due to sickness.

Solveg was selected because it is representative of CSAs in Switzerland, given the initiative's size, organizational form as cooperative and its organic standards, being part of the international solawi-network,⁵ and also given its accessibility. Access to the initiative was gained by an automated online subscription process, the manner in which any regular member would join. Prior to the first face-to-face interaction, the researcher contacted the core group to inform them of the research. During on-site activities, the researcher also verbally informed all present members about the research. Through this active participation, the first author developed a sense of how to become a member (Emerson et al., 2011, p. 3). The researcher saw herself in the role of documenting “the perspectives of the people involved in the events and settings” (Hammersey, 1992, p. 33). The first author observed the members in the field through open as well as targeted interactions in the field (Flick, 2018, p. 162). The aim was to highlight the varying practices in which the members engaged as part of their membership—from initial subscription to working on the farm or participating in events. The author took notes on her experiences in addition to taking notes on her observations of others, since it is essential to also document one's own experiences and practices as a participant observer and member of the group (Emerson et al., 2011, p. 15).

The observation phase started when the first author became a member. To conduct these observations, the author participated in regular activities of the initiative captured in field notes, following the three phases “descriptive, focused and selective” defined by Spradley (1980, p. 34). On that account, jottings were written during short research intermissions, which served as a basis for in-process memos that finally led to field notes. It needs to be acknowledged that the field notes reflect the perception of the author at the time they were composed, and thus reveal a subtle understanding of everyday life practices and concerns of members. The field notes were assembled in field note tales (Emerson et al., 2011, pp. 121–123). These autoethnographic insights enabled us to identify important themes and to see where digital technologies play a crucial role in the initiative.

To complement and enrich the observations, the first author also conducted ethnographic interviews to fathom the meanings behind the members' practices (Spradley, 1979, p. 5). During the process of conducting these *on the job interviews* it became obvious that they were not sufficient to fully address the research question, as there was not sufficient time for members to reflect on their practices and understandings during the farm activities. Thus, the first author conducted 12 semi-structured qualitative interviews with selected members. The selection of interview partners followed the rules of theoretical sampling developed by Glaser and Strauss (1967); accordingly, interviews were held with representatives of the core group, regular members and former members. The participants were recruited mainly during fieldwork, at an extraordinary general assembly and using follow-up e-mails afterwards. All members at *Solveg* were anonymized and we sought verbal consent as well as written consent for the interviews. Structured in four parts, the interviews started with a narrative stimulus in the form of a biographical question about their membership in the initiative, followed by questions on general eating practices, community, and finally, negative aspects of the initiative. Questions about the usage of digital technologies were asked as follow-up questions about their membership in the initiative and in the part on eating practices. The interview guideline was semi-structured and left room for follow-up questions. Data were collected in the form of digital voice recordings and transcribed verbatim at a later stage.

In the sense of theoretical saturation, the collection and evaluation of both the interview transcripts and the field note tales proceeded in parallel. In a first step, open coding was deployed to identify initial codes and thus identify first phenomena that needed to be confirmed within the second step where line by line coding was applied. Thereby, semantic and latent codes were generated and grouped in new categories based on relevant events (Emerson et al., 2011, p. 175). The results of this analysis are presented and discussed in the next chapter.

4. Food citizens' (digital) solidarity practices

4.1. Digital solidarity practices of *Solveg* members

This section provides an overview of (digital) practices of solidarity at *Solveg*. We will present these solidarity practices and discuss how digital technologies mediate them. In the second

⁵ The international network was founded in 2008 in the French speaking part of Switzerland. The German speaking part of Switzerland followed in 2011, and since then the initiative spread across the border to Germany and Austria. Currently there are several hundred CSA initiatives listed on the platform. Further information about the network platform can be found here: <https://www.solawi.ch/vernetzungsplattform/#/> (last accessed April 19, 2023).

subsection we show how digitally mediated solidarity practices do not play out identically for all members of the CSA.

A central characteristic of CSAs is the regular involvement of the community in their farming and related activities. The first author experienced this involvement autoethnographically, as a member of *Solveg*. We will draw on her fieldnotes to introduce short vignettes (in gray) describing typical activities at *Solveg*, and to present our thematic analysis of and reflections on the values guiding these activities. A regular activity for any *Solveg* member is to assist in the cooperative's farming activities. In our first vignette, we describe the organization of these work assignments.

In late summer, I receive an email from *Solveg* that reads: "Please plan your collaboration soon/early. It is very difficult to organize work if at the end of the season—when the main work is already done—people still ask for opportunities to help (we would like to send as few subscribers as possible a bill in November for hours not worked, even though we have nothing against a financial contribution). You can find current opportunities to help at any time at (link)." The link leads me to a Doodle survey, where I register for a slot to work in the field. After my registration, I receive an e-mail telling me what to wear and what to bring for the day; I was excited to go there, as it was a very welcomed change to my regular working days behind a laptop. A few days later, when I arrive at the farm, I receive further instruction from three gardeners together with a handful of other members. Our task for the day is to work in the potato field – an activity none of us have any experience with. The harvest of potatoes is over, we need to remove the remains of the plant, place it in a barrow, and bring it to the dunghill of the neighboring farm. Afterward, the farmer from the neighboring farm drives by with his tractor and plows the field for us. We are very grateful to him; while he needs 10 minutes for the 5 by 20 meter field, we would have worked by hand for a day, as one of the gardeners tells me while we watch the tractor. After that, we shovel trenches between the beds; for this we stretch long strings across the field, which we could use for orientation, and finally, we fertilize the new beds. After a full day of physical work in the scorching sun, I felt exhausted and every muscle in my body was aching. I commiserated with my fellow workers/members about the demanding work, but we all had smiles on our faces and shared a sense of achievement and pride looking at the field, ready to host new crops.

As I wrote in my field notes, this and similar work assignments on the farm not only created a sense of familiarity with farm work, but also with the cooperative and its other members. Most importantly, I changed my relationship with the food; I cherish the work that went into its production, and I am happy to know where and by whom the vegetables I consume are produced. Especially the vegetables I received from *Solveg* that day, which I could take home as a small thank-you for my work in the field, made me very proud. They were tomatoes that had reached the maximum ripeness and would no longer be edible until the next pick-up day. Thus, I ended my day with a tomato salad for dinner with my roommates. Upon reflection, it also made me realize that digital infrastructure, although mostly absent on the farm and in

the field, are present and play an important role in organizing farm work assignments.

Another regular activity for *Solveg* members, in addition to harvesting, is the preservation of produce. Some produce is not distributed immediately in its raw form to members, but rather is transformed into more durable food products, such as preserves, pickles or pesto. The second vignette reports on one occasion where the first author volunteered to preserve wild garlic in the form of wild garlic pesto.

It's spring in Switzerland and I'm volunteering in the *Solveg* farm kitchen with a group of six other *Solveg* members. One of the members joins every preserving activity of the initiative as she lost her job during Covid-19. Her knowledge of the different preserving methods is very valuable, and she will soon receive, after this day in the kitchen, an offer from the initiative to work as a gardener, which she happily takes on until she finds a new job. We are busy preserving wild garlic as pesto and start to realize that the blender we are using is not ideal for the large number of wild garlic leaves we intend to process. After a few rounds of blending the device heats up so much that we decide to briefly put it in the freezer to cool it down. Luckily, one volunteering member offers calling her husband and asking him to bring us their private blender. This causes a discussion among all the participants about the best and most powerful blender. The husband arrives with a Vitamix, and we continue our work without further interruption. During the coffee break, our discussion on blenders continues, and someone starts googling more information on blenders. She later shares the results of her Internet search via the chat app Signal. We all receive a link providing access to a website comparing different Vitamix models.

Once a year, *Solveg* hosts the so-called general assembly on the farm. During this mandatory meeting, the core group presents a review of the year and last year's accounts, the upcoming budget is voted on, new people are elected and other open points are discussed. All members are invited by email. Although this is a formal seated event with presentations and votes, the official part is introduced and followed by social events, where members can mix and mingle during lunch or subsequent afternoon coffee prepared from vegetables grown by the initiative and cakes that members bring.

It is the general assembly in November 2021 after a summer with low crop yields. The core group got many complaints from members regarding the quantity of vegetables they received, as during the summer, when the baskets are usually bursting with vegetables, there were only a few items in the baskets. They decided to address this during the general assembly. The reason was heavy rainfall, which resulted in flooded fields. Farmers in the region have spoken in the local media of a 50% crop loss. For *Solveg*, it was 40% compared to the average amount of vegetables from the last years, as a detailed Excel file containing the amounts of vegetables distributed in the last few years revealed. At the end of the month, the only time it is possible to cancel the membership, the moment of truth follows. Three times as many members as usual decided to cancel the subscription.

All three vignettes exemplify how solidarity is done in practice. They show that solidarity at *Solveg* unfolds in three different ways: **social inclusiveness, sharing and responsibility**. On the individual member's level, solidarity is often rooted and exemplified in **sharing practices** across the cooperative, which are deeply rooted in the vision of CSAs in general. These sharing practices are mainly centered around sharing *work, infrastructure and risk* to grow and, ultimately, share the produce. The sharing of *risk* by all members forms the basis of all activities at *Solveg*. Sharing the risk of harvest damage or loss, each member provides planning certainty to the farm by paying for the yearly vegetable consumption upfront and agreeing to back fluctuations in the harvest. The actual vegetable harvest results from shared *work* processes; conducted by all members of *Solveg*, including the core group and members and is supported by gardening employees. Sharing is also important regarding the required *infrastructure*, such as farm equipment and the farm kitchen.

Many of the above mentioned sharing practices were already identified in the 1990s (Fieldhouse, 1996; DeLind, 1999). However, the organization of sharing at *Solveg* changed drastically due to the introduction of digital technologies. Collaborative *work* is enabled by a planning software in order to prepare the cropping plan, among other things, and to know when the gardening team needs support from members. These work sessions are advertised over the community's website, and members can enroll over the linked Doodle survey. To better understand how the digital enrolment for the work unit has changed work sessions, we need to consider the origin of *Solveg*. In 2009 a group of like-minded people—centered around three gardeners—living in a shared house with a large garden decided to take a first step towards self-supply, as we learned from interviews with three members of *Solveg* who were involved very early on. The longest active member of the core group tells us “that [the shared living] was always strongly connected with the farm: ‘I live there, and I am a vegetable gardener,’ they [the gardeners] were explicitly asked to live there”⁶ (interviewee 1, 14.02.2020). Being physically close to the fields, the work needed was always visible and a few people were easily found to do it. Important decisions were made during the house meetings. While this vision of self-supply was never fully realized, the idea attracted a growing number of people from others in the neighborhood. The shift to using a digital platform for work enrolment meant that only a few people now are responsible for keeping track of the farm work and are in charge of finding people taking on the work. If no one enrolls, it is always the same people stepping in and acting as a back up. Often during field research, we waited in vain for people, who had registered for a work assignment via Doodle. A core group member also stated during a general assembly that it is more successful to contact members of the initiative directly when she needs support than to create a Doodle and promote it through the newsletter. Nevertheless, it is important to mention that coordinating work sessions without digital technologies would be challenging today, as *Solveg* is no longer a project among a group of friends but a CSA serving 151 households.

Independent of the size of the initiative, its ideology builds on shared **responsibility**. Members need to work at least 12 h for the

community (e.g., working on the field, harvesting, distributing the harvest, or helping out with communication tasks). If this requirement is not met, members need to compensate for these hours financially. A look into the yearly accounting reports of the initiative reveals that approximately 20% of members compensate their hours financially. This number remained stable from 2016 to 2020 and doubled in the year 2021.⁷ The financial responsibility is strengthened through the digital sign-up process and membership management. Responsibility for engaging in solidarity practices, on the other hand, decreases simultaneously. This can be seen, for example, in the complaints received, which, according to the communications manager, come largely from people who financially compensate for hours they did not work. One interviewee underlines this with the following statement: “There are those who did not deal with this community, who then report back: ‘This week I got 200 grams less vegetables’” (interviewee 5, 19.02.2020). She is sure that a person who has packed the vegetables into the baskets him- or herself would not make such a statement. However, the subtle badmouthing by active members of those opting for financial compensation can become a burden for some members. It can even be the reason for leaving *Solveg* and for not renewing the membership, as the following quote from a former member in his thirties illustrates: “Sometimes you take the easiest option and that's why I did not sign up again” (interviewee 2, 15.02.2020).

The CSAs farm properties not only serve as a production facility, but also as a place for social interactions and **social inclusiveness**. The initiative employs people who are social welfare recipients and reacts to critiques that view CSAs as elite; the price is set at a level that can be paid even by people that only receive disability pensions. In addition to this, the initiative fosters exchange between its members. The CSA, therefore, provides a space to discuss certain topics during input talks or guided walks along the farming properties, and to learn more about the food one consumes while working in the field. Especially for knowledge sharing, digital technologies play a crucial role. Participants of *Solveg* do not only use platforms to acquire knowledge (e.g., regarding the preparation of certain foods or the identification of certain vegetables), or to enroll for a work task, many members also join and get access to this initiative through online networks. Finally, digital technologies enable the exchange of ideas with like-minded people. This exchange is crucial for many members, and this is also true for a member in her thirties supporting the online communication channels of the initiative “I got more and more in contact with people, to exchange [opinions], because they are very exciting people, who are behind it, who have the same values [as me], because for me it is also a question of values, what is important to you in your life?” (interviewee 9, 02.03.2020). These exchanges can go beyond food-related topics. During the fieldwork, we participated in an activity to preserve zucchinis. Thereby, a small group of women started a very honest and touching conversation about miscarriages. Since then, they have been in a WhatsApp group and support each other in any kind of life situation.

⁶ The fieldwork was conducted in Swiss German, thus the verbatims were translated by the author.

⁷ It was also the year 2021 were the initiative reported an influx of new members and the highest deregistration rate at the end of the year. In addition, during Covid-19, all work-related activities could be carried out as planned, since most of the work is done outside or can be done individually at home.

Nevertheless, most members perceive digital technologies as incidental, which coincides with the perception of the members of the “Gruppi di Acquisto Solidale,” an Italian AFN studied by Grasseni, who allocate little importance to ICTs (Grasseni, 2014). However, members only get access to *Solveg* through a digitally automated sign-up process. Afterwards, digital technologies take on a mediating and enabling role. They are very important for coordination, especially to facilitate digitally mediated sharing practices, ensuring information flow and to spread the ideology. To conclude, we want to state that each member of a CSA is dependent on digitally mediated sharing practices, such as the enrolment for work units over Doodle, as this is shaped by solidarity practices on a systemic level. The extent, especially on the individual level, can vary, as we will elaborate on in the following paragraphs.

4.2. Varying forms of food citizenships within the initiative

As Grasseni mentions, there is no one way in which solidarity is embedded in the practices of the AFN she studied, so-called solidarity purchase groups; rather, each group interprets it differently (2014). However, for many members, the degree of solidarity and personal relationships decreases with the growing number of members within a group. Therefore, most of the groups aim to maintain a limited size (Fonte, 2013). Even in small communities, it can be a challenge to foster solidarity among members, which is crucial for collective action (Forno and Graziano, 2014). In our initiative, *Solveg*, we saw that the above-mentioned sharing practices mediated by digital media do not play out identically for all members; rather, members practice a specific form of food citizenship, which comes with varying shades of solidarity. In addition, the understanding can change over time, as the following quote of a highly engaged member shows: “I liked the idea behind it, that it’s a cooperative, that you are a consumer and a producer, and at first I was only a subscriber, and then I started to get more involved and then wanted to be more active” (interviewee 5, 19.02.2020). Thus, she evolved from being a pure subscriber or consumer-citizen to becoming a prosumer.

All the members are recipients of a weekly vegetable box. Thus, all are participating in a network that is seeking alternative ways of food provisioning. Some members mainly participate in order to get local, organic and fresh food and, thus, become a form of consumer-citizens or limited food citizens who mainly vote with their wallets. As all other members joining the initiative, these food citizens can be described as subscribers. Thereby, they mainly support systemic solidarity practices. On a systemic level, solidarity is rooted in the ideology, the core of the CSA initiative. We found that it is always an act of balance between acquiring sufficient members to being able (financially) to realize the ideology and to follow the ideology consistently. By buying share certificates at first to become a member, the systemic solidarity principles in the form of the CSA’s shared ideology are transactionally adopted. Thereby, basic aspects of solidarity, mainly sharing the risks, are met. However, besides the anonymous weekly vegetable pick-ups, CSA members only engage in digital practices, comparable to commercial transactions for regular food provisioning through digital platforms.

Other members engage in additional solidarity practices on an individual level. This ranges from joining community events,

exchanging information with like-minded people, or supporting the initiative with work hours, whereby these members become prosumers (Boddenberg, 2018, p. 134). For some members, food citizenship goes far beyond the initiative, for instance, by participating in local politics to contribute to a more sustainable food system. By adding more physical encounters, practices of solidarity become embodied in members’ everyday actions. The physical involvement is crucial to understand the responsibility towards such initiatives. Members who regularly work in the field report enhanced appreciation towards food in general. One member in her fifties who regularly volunteers explained to me that her relationship with food “has changed in such a way that it has become even more valuable. It has gained in content and ingredients; it was already taboo before to be thrown away, something is made out of everything and that is of course much stronger now” (interviewee 4, 18.02.2020). Therefore, active participation in a CSA can lead to developing a new relationship to food and its production. The new relationship is accompanied oftentimes by a higher sense of responsibility towards food and those who (co-)produce it, compared to conventional food purchasing. In this sense digital technologies contribute to a socio-material reconfigurations of food production and consumption, thereby supporting new cooking and eating practices.

Members voting with their wallets are increasing in number at *Solveg* with the growing use of digital technologies. Through the visibility of the global solawi-network and search engine optimization (SEO) work on the initiative’s website, the initiative attracts more and more members who can easily join through an online onboarding process. Thereby members who see *food-as-end* are also attracted; they resemble subscribers of other delivery services such as meal kits. Through the lens of these food citizens, AFNs resemble platform solutions that provide *alternatives within the markets*. In a follow-up discussion with a member of the core group responsible for membership management, we learned that compared to members who joined after physical contact, the fluctuation among the subscribers who found the initiative online is much higher. Through an increased digital presence, the recruitment of new members as subscribers grows and blurs the understanding of *food-as-end* or *-means*. In addition, we could identify a shift in the initiative from being a pure AFN to a niche player in the SSE.

5. Conclusion

In this paper, we foregrounded the continuum of food citizenship in AFNs in order to explore solidarity practices and the manner in which digital platforms re-mediate these practices. Based on an 8-month ethnography and additional semi-structured interviews, we were able to show that members of *Solveg* take on different forms of food citizenships. By becoming a member, one becomes a food citizen in the form of a subscriber mainly voting with one’s wallet. Additionally, all subscribers have the possibility and duty to engage in farm work or financially compensate for it. If practices around work are strengthened, the subscriber tends to become a prosumer. Each member has a different understanding of *food-as-means* or *-end*; members who see themselves as pure subscribers tend to relate to *food-as-end*, while those active in the core group relate to *food-as-means* as a solidaristic vision of a future food system. As we showed

and discussed, members' practices and the respective form of food citizenship within the initiative can also change over time.

Physical contact with the initiative, food production or preservation, or other forms of active engagement on the farm are important for enhanced feelings of responsibility towards food and other beings, a crucial aspect of solidarity in practice. Our study also identified two additional aspects of solidarity practices: social inclusiveness and sharing. Sharing, risk, work and infrastructure are at the core of many solidarity practices. Each practice that goes beyond the subscription, such as working in the fields or joining community events, enlarges the scope of solidarity by supporting social causes and by taking on some voluntary responsibility serving the community. Thus, each member engages in a different set of practices around food citizenships, depending on existing household and food practices. Through new food, household, or work practices, different socio-material reconfigurations of everyday life take place, which can lead to a shift in values. This is not only the case with AFNs, but also with other food providers added to a household's food routine, such as Farmy.ch or meal box schemes, the platforms mentioned in the introduction. However, they have different affordances than digital technologies used to support an AFN, and thus enable different forms of food consumption or citizenship.

Digital technologies are not perceived as important by the members of the study's CSA initiative. Nevertheless, neither the digital spaces nor the physical spaces can be treated as detached; rather, they are co-existing and co-constituting entities of the CSA. Digital technologies foster solidarity practices, as they ease communication and coordination among members, ranging from the online onboarding process, through the search for recipes for unknown vegetables, to the enrolment for working hours. In addition, the number of subscribers increases through digital technologies, transforming *Solveg* from an *alternative to the market* to an *alternative within the market*. Digital technologies blur market boundaries and move this CSA slowly towards being a player in the SSE. Thus, our study contributes to the emerging field of digital food studies by showing how solidarity is digitally enabled and negotiated in CSAs and how this impacts food citizenship.

Data availability statement

The datasets presented in this article are not readily available because we have assured study participants as part of the informed consent process that their data will not be shared with third parties. However, based on a formal request, we can evaluate on a case-by-case basis if partial qualitative data can be made available to interested

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researchers. Requests to access the datasets should be directed to Aline Stehrenberger, aline.stehrenberger@unisg.ch.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

Author contributions

AS and TS collaborated on the conception and design of the study. AS conducted the field work, analyzed the gathered data, and discussed it with TS. TS closely supervised and supported the data-gathering process. AS and TS wrote different sections of the manuscript and contributed to manuscript revision, read and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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