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Social innovation and food provisioning initiatives to reduce food insecurity during the Covid-19 pandemic

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ABSTRACT

This paper examines food provisioning initiatives that were implemented to reduce food insecurity during the period of the spread of Covid-19. Food insecurity increased sharply during this time, particularly among those who contracted the virus and had to remain in quarantine, and those who suddenly lost their jobs. As a possible solution to alleviate the problem, voluntary organisations collected food from stores with surplus produce (such as restaurants that were forced to close, supermarkets, etc.) and redistributed it to people in need. This redistribution occurred in several Italian cities, including Cremona, which was one of the first towns in Italy to be dramatically affected by the pandemic.

Looking through the lens of social innovation theory, this paper analyses redistribution initiatives in this town and assesses their capacity to enhance their impact on social wellbeing and to involve local society in response to social challenges. Thanks to desk research and interviews with several volunteers, it demonstrates that these initiatives are good examples of social innovation, as they address emerging social challenges and generate benefits for the entire society (not just food aid recipients), reconfigure previous aid models, actively involve local population, and assume educational and social assistance purposes.

1. Introduction

Social innovation has recently captured keen academic attention, as it is a mobilisation-participation process with outcomes that lead to improvements in social relations (e.g., [do Adro & Fernandes, 2020](#); [Milley et al., 2020](#); [Repo & Matschoss, 2020](#); [Tracey & Stott, 2017](#)). 'Innovation' in this sense does not refer to a technological improvement of an existing process ([Bock, 2016](#); [Grimm et al., 2013](#)). Rather, it is the originality with which the local population adopts bottom-up approaches to resolve local problems autonomously, stimulates cultural change, and re-socialises social risks (see, e.g., [Moulaert, 2013](#); [Schäfer & Kieslinger, 2016](#)). As a vehicle for developing new solutions that address societal need, this type of innovation has been trialled, especially in areas where local government-provided public services are inadequate or to solve a crisis or an apparently intractable problem (e.g., [Avelino et al., 2019](#); [Ratten, 2020](#)).

The Covid-19 pandemic falls into this latter field of intervention ([Cattivelli & Rusciano, 2020](#)). The spread of the virus triggered a massive increase in uncertainty during the early months of 2020. The main uncertainties were around the infectiousness of the virus and the capacity of healthcare systems to cope with extraordinary efforts to

counteract the contagion. Other concerns included short-term impacts on the economic system (e.g., the prospect of firm survival) and a list of factors that affect productivity over the medium and long term (e.g., [Altig et al., 2020](#); [Baker et al., 2020](#); [Koffman et al., 2020](#); [Rutter et al., 2020](#)). Concerns related to resilience also included predictions about the reaction and recovery capabilities of food systems ([Béné, 2020](#); [Blay-Palmer et al., 2021](#)).

Food systems appeared increasingly vulnerable to the strong interconnections among operators along the food chain. This was seen in the dominance of a small set of retailers, the reliance on just-in-time supply chains, and a dependence on imported food ([Zurek et al., 2022](#)). Stringent lockdown measures fuelled short-term food shortages and caused supply restrictions, food wastage, and volatile prices from demand-supply feedbacks ([Harris, 2020](#)). The subsequent difficulties in managing food flows at both global and local levels generated a food crisis caused not by reduced volumes of food but disruption in the supply chain and farm trade activities ([Torero, 2020](#)). These issues also posed several challenges for cities and local governments in terms of food security for the local population ([FAO, 2020a](#); [Garnett et al., 2020](#)). Difficulties in providing food – coupled with job losses, reduced income, and rising food prices – exposed a greater portion of the population to

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food insecurity. As a result, pre-existing inequalities were exacerbated and there were serious negative repercussions among the most vulnerable groups, which resulted in more marginalised people having reduced access to food (Bellamy et al., 2021; Naidu-Ghelani, 2020). These developments worsened inequalities among territories, with the most heavily affected being those that were already living with lower levels of food infrastructure, such as areas that have only small shops or with very few stores (Cattivelli, 2022c; Wilkinson et al., 2020).

To combat food insecurity, local governments created assistance programmes to support individuals with food purchases and income support rather than to improve productivity for farms (Bertoluzza, 2021; O'Hara & Toussaint, 2021; Rice, 2021). Almost simultaneously, local volunteering associations and population mobilised themselves to create several food provisioning initiatives at local level (e.g., Rose & O'Malley, 2020; Tarra et al., 2021). It appears that these latter initiatives could be considered as examples of social innovation, as their realisation depends on the local community's mobilisation to restructure the local food network and resolve local food supply difficulties through sustainable solutions. However, to our knowledge, no studies have yet verified this hypothesis.

Cremona was one of the cities most exposed to the social and economic effects of the spread of the Covid-19 pandemic in Italy. In the early days of the pandemic, the number of infections among the resident population was among the highest in Italy (ASST, 2021), and local health structures were incredibly stressed. A large proportion of the population was forced into a long period of social isolation and experienced difficulties in accessing food stores. Being primarily geared up for the primary and tertiary sectors (ISTAT, 2021), the local economic system was particularly exposed to the consequences of restrictive measures adopted to mitigate the spread of the virus. A large portion of the area's tertiary firms are involved in nonessential services (e.g., restaurants, bars, hairdressers, beauticians) and therefore faced operative restrictions that led to them closing for long periods. Firms involved in essential services had to reorganise their business to continue operating safely or faced supply chain interruptions (Comune di Cremona, 2022). As a result, both categories of firms suffered losses in turnover (ibid.). Farms are equally numerous and continued to operate, but they faced the initial interruption of supply chains and their subsequent reorganisation (Coldiretti, 2021). Many workers lost their jobs or were laid off.

To help a growing number of people living under temporary quarantine measures or with economic difficulties resulting from job losses or temporary closures in 2020, voluntary associations, private citizens, local institutions, and small farmers became immediately active in promoting initiatives to distribute food to them.

This paper puts its focus on these initiatives created in Cremona during 2020. Applying social innovation theory as a framework, it briefly describes them and tests their correlation with the necessary pillars of a typical social innovation experience defined within the SIMRA Horizon 2020 project, one of the most quoted projects on the theme of social innovation in recent years (SIMRA, 2017).

With this aim, the paper contributes to the current debate on social innovation in food supply initiatives and develops it further.

Currently, studies of the pandemic's consequences on the food chain structure generally focus on the global level (e.g., among the first, Swinnen & McDermott, 2020; Laborde et al., 2020; Rejeb et al., 2020; Galanakis, 2020). Because they adopt a global and macroeconomic approach, their attention to local changes in the food chain is rather limited. The few studies that do address this area focus on the reorganisation of the food chain at the level of metropolitan areas (e.g., Blay-Palmer et al., 2021; Cattivelli, 2022a; Salinas-Navarro et al., 2021). In contrast, this paper shines the light at a lower territorial level – that of a small/medium-sized town – and contextualises limited evidence from short-term initiatives in a longer-term dynamic perspective.

However, recent studies have investigated the pandemic's effects on the relationships among several actors that operate along the chain globally (such as producers, distributors and consumers) (e.g., Ali et al.,

2022; Sarkis, 2020). Diverging from this already-examined relationship, this paper explores the perspective of other actors that operate locally, such as the local communities, citizens' groups and voluntary associations.

Finally, to improve knowledge of bottom-up initiatives activated locally, the paper deepens them under the lens of social innovation theory. The use of this theory represents a novelty in the current debate, as this theory has only recently been applied to the frame of food-related initiatives and specifically to those based on a community-empowering approach to consumption (among the most recent and quoted, Cattivelli & Rusciano, 2020).

The remainder of this paper proceeds as follows. The second section illustrates the theoretical background behind this article. After reporting some findings from the most recent studies and the results of the SIMRA project, it describes some possible implications of the spread of Covid-19 and its effects on food insecurity at the local level. It also reports some examples of grassroots and citizen-led initiatives that arose in response to food access difficulties resulting from the pandemic. The third section describes the test area (Cremona) and the reasons for its choice as a case study. The following part details the method adopted in the present study, which combines desk research analysis and semi-structured interview processing. The fifth section describes the food provisioning initiatives developed in Cremona, while the last two discuss the results of their characterisation as social innovation initiatives and draw conclusions.

2. Background

2.1. A brief overview of social innovation

Although some debate abounds, 'there is no universally accepted definition of social innovation and ambiguity surrounds the term' (de Bruin, 2012, p.373). In exploring its foundations, Zapf (1991) formulated the first generally recognised definition, which delineates social innovation as "new ways of doing things, especially new organisational devices, new regulations, new living arrangements, that change the direction of social change, achieve goals better than older practices, become institutionalised, and prove to be worth imitating". Being the result of complex globally oriented changes, Zapf emphasises the innovativeness of the practices, devices and rules, and their institutionalisation. He also underlines the positive effects they introduce, which result in improvements to previously implemented practices. Approaching the subject in this way, he defines social innovation based upon its *process* and opens the doors to the assertion by Mumford (2002) that social innovation is "the generation and implementation of new ideas about how people should organise interpersonal activities, or social interactions, to meet one or more common goals" and Tracey and Stott (2017, p.51) defining it as "a broad range of organisational and inter-organisational activity that is ostensibly designed to address the most deep-rooted 'problems' of society".

Beyond its process, Heiskala (2007: 74) adds a further characterisation, defining social innovations in terms of *instrument* as "changes in the cultural, normative or regulative structures of the society which enhance its collective power resources and improve its economic and social performance". With this, the scholar accentuates the drive for change that generates a socially innovative initiative and its stimulus for activating collective resources and improving social and economic development. At the same time, he introduces two new perspectives. The first is related to the cultural dimension. Social innovation stimulates, but does not generate, collective resources thanks to a change in the local cultural structure. Cultural change is therefore recognised as the catalyst for an overhaul of the organisational structure and the driver of development. The second one extends the general aims of social innovation practices by also adding positive economic consequences.

Within the TEPSIE H2020 project, social innovation is defined in terms of *outcomes*, as a set of "new solutions (products, services, models,

markets, processes, etc.) that simultaneously meet a social need and lead to new or improved capabilities and better use of assets and resources. In other words, social innovation is good for society and enhances society's capacity to act" (Caulier-Grice et al., 2012). Based on this definition, initiatives configured as being socially innovative should offer new solutions consisting not only of previously untested models and processes but also of innovative services and products. As a result, they should produce positive effects to resolve local problems and simultaneously improve the capacity of the local population to improve their capabilities to resolve future complications.

Using all the key characteristics mentioned here, the most complete definition that inspires the present paper is that developed within the SIMRA H2020 project. Accordingly, social innovation is "the reconfiguration of social practices, in response to societal challenges, which seeks to enhance outcomes on societal well-being and necessarily includes the engagement of civil society actors" (SIMRA H2020 report, 2017). Therefore, its pillars are: "(1) the reconfiguration of social practices, (2) the existence of societal challenges for which social innovation initiatives try to give solutions, (3) the attempts to enhance outcome on social well-being, (4) the engagement of society."

To be delineated as socially innovative, an initiative should reconfigure existing social practices. This hypothesis enables us to define social innovation as a process that changes practices that already exist and are practiced in a certain place. In parallel, the initiative should address improvements to a specific societal challenge. The use of the term challenge rather than emergence is significant, as it reinforces the perception that these initiatives should also respond to problems that persist for a long time, without solution, as well as short-term emergency situations. The preference for the term 'societal' is motivated by the fact that this challenge affects the entire community and not just a specific social subgroup. The implementation of this socially innovative initiative is considered to be an attempt to provide a solution to this challenge. This implies that the initiative does not automatically guarantee the full resolution of the challenge or represents a new approach to social policy-making whereby top-down, centralised and bureaucratic welfare state interventions are phased out due to being unable to solve the problem. To solve this problem, the initiative should improve social well-being outcomes among the wider local population. This means that the initiative should reduce "exclusion, deprivation, alienation, lack of well-being" [...], and also contribute "to those actions that contribute positively to significant human progress and development" (Moulaert et al., 2017 p.16). Within the initiative, "citizens are engaged in decisions that directly affect their daily lives" (Avelino et al., 2020). Their engagement is inspired by a community-level approach and results in collective actions, harnessing citizens' participation in service provision (ibid.). Its impact may result a rebalancing of power relations that enable people to take more control over their situations, to be the initiators of possible solutions and make themselves less dependent on the central government actions. Transferring responsibility for welfare to citizens is, however, contested by those who consider it as an attempt to justify phasing out the welfare state (e.g., Sinclair & Baglioni, 2014) or call for greater clarity in defining the role of institutions (Steiner et al., 2021).

In a certain way, the absence of unanimity about the definition of 'social innovation' reveals the diversity of the contexts in which its practices are implemented (Caulier-Grice et al., 2012).

Recently, there has been a growing trend in healthcare, education and housing services (see, e.g., Freire & Sangiorgi, 2010; Kumari et al., 2020; Marchesi & Tweed, 2021; Husebø et al., 2021). A similar discourse also emerges in the agri-food sector. As an example, Chiffolleau and Loconto (2018) and Rossi et al. (2021) describe some social innovation initiatives that address the traditional food access channels, and improve their social sustainability at a local level. Pellicer-Sifres et al. (2017) describe some social innovation initiatives trialled within grassroots activities in Spanish cities and note that they are based on a strong engagement among local society, which participates actively in each

phase of the initiatives, from design to development into concrete actions. Finally, some cases of social farming in marginal areas – such as certain southern Italian regions – have turned out to be rather innovative, as they contributed to the mobilisation of farmers and local communities against dramatic problems like the presence of the Mafia organisations (see, e.g., Musolino et al., 2020).

The absence of unanimity about the definition also reflects the diversity of actors involved.

The studies and the examples previously mentioned outline the relevant involvement of local communities. They prove that they emerge as community-level phenomena that harness citizens' participation in service provision through collective actions (Avelino et al., 2020). Social innovation initiatives are not necessarily a substitute for the welfare state. Certain initiatives emerge where local governments do not have the required resources or to address governmental and market failures (ESPON Bridges, 2018), while others flourish when supported by policymakers through local welfare mechanisms (Brandson et al., 2016) or public funds (Temmerman et al., 2021). On the role of the institutions, Temmerman et al. argue that public institutions should support social innovation initiatives, particularly to generate tangible social value, provided that they change top-down structure into more collaborative relationships. Therefore, changes in power relationships are prerequisites for the success of the initiative. Steiner et al. (2021) demonstrate that social innovation initiatives flourish when there is some form of collaboration among government, civil society and private actors, and a shared commitment to creating better social conditions. They also document that these initiatives require multi-stakeholder approaches, and show that a lack of mutual understanding or adaptability among partners can hinder success. The most successful projects are those where civil society is asked to design and co-design solutions, but only where there is a commitment of resources to establishing ideas.

Beyond public support, social innovation initiatives can be also stimulated by other actors, particularly NGOs and social enterprises. Describing a potential role for a social enterprise involved in refugees' integration in Sweden, Kraff and Jernsand (2021) found a space for social innovation, as this organisation places people at the centre of the innovation process, with participants' opinions and knowledge considered as crucial. They also describe this approach in contrast with excessive bureaucracy and reveal that overly rigid public systems may hinder social innovation from flourishing. However, more freedom to experiment with service provision runs counter to traditional public sector operation methods and may clash with excessive bureaucracy (ibid.). Drawing on evidence from social innovation initiatives in German rural areas, Martens et al. (2020) conclude that initiatives finalized to maintain infrastructure frequently arise from emergencies at the local level and are initiated essentially by civil society sectors. Conversely, those that are activated to build new infrastructures tend to be driven by emerging public sector programmes and are initiated by private actors. All the quoted authors emphasise the importance of local context and the inability to successfully transfer projects 'wholesale' from one area to another.

2.2. Some possible implications of Covid-19 diffusion and their effects on food insecurity at local level

Access to food is an evident sign of how well society distributes its wealth, as well as the level of commitment to ensuring the right to food (Dreze & Sen, 1990). Related difficulties depend on food infrastructure deficiency and economic factors, such as income disparities, unemployment, and economic downturn (see, e.g., Niles et al., 2020; Kar et al., 2021) which are causes of social inequalities among the local population (Pollard and Booth, 2019). Some believe that difficulties in accessing food are common only in developing countries. On the contrary, they are also present in developed countries (Hossain et al., 2021), including Europe (Penne & Goedemé, 2021) and Italy (Marchetti & Secondi, 2022), even before the outbreak of the recent pandemic. Pre-

existing inequalities refer to food injustices among people, and result in serious repercussions for the most vulnerable groups (Abigail & Zheng, 2021; Bellamy et al., 2021; Naidu-Ghelani, 2020) and territories. These issues are exacerbated by an uneven distribution of food, especially in remote and peripheral areas, and the increased extension of food desert and isolation (Loopstra, 2020; Wilkinson et al., 2020).

The rapid spread of the Covid-19 virus aggravated these inequalities and exposed a larger part of population to the risk of severe and/or extreme food insecurity (Lal, 2020). According to FAO (2020b), food insecurity has risen considerably around the world and more than 2 billion people do not have regular access to sufficient, safe, and nutritious food. In Europe, this problem has affected almost 9 % of the local population, with peaks of 10–15 % in certain regions, and includes food-poor people and those living under temporary lockdowns or similar situations (Carrillo-Álvarez et al., 2021).

This recent rise results from the vulnerability of food systems to pandemic shock along the global food chain. Its magnitude varies according to the interconnections among operators and the informality of their structures and relations, as well as the dominance of a small set of retailers, reliance on just-in-time supply chains and dependency on imported food (e.g., Béné, 2020). Vulnerability at the local level consists of the risks related to interruptions and disruptions caused by supply chain and farm trade activities, rapid shifts in demand and short-term food shortages (see, e.g., Kitz et al., 2021; Boyacı-Gündüz et al., 2021). Problems were also fuelled by panic buying to lessen the risk of becoming infected during grocery shopping or being left without sufficient food products (UN, 2020). This behaviour developed during the most critical months of the pandemic and caused food waste, volatile prices from demand-supply feedback (Harris, 2020), and a strong preference for short-term and/or online purchases (Hall et al., 2021). The amount of purchases was then counterbalanced by a rise in the number of people experiencing low incomes due to job and profit losses or who could not buy directly at grocery stores because they were required to isolate after contracting the virus.

2.3. Some examples of grassroots and citizen-led initiatives that arise in response to food access difficulties resulting from pandemic

As an answer to Covid-19 challenges, local governments created assistance programmes to support individuals or associations for food purchases and income support rather than incentivising productivity at the farm level (FAO, 2020a). In parallel, certain community groups changed their methods of interaction and took innovative actions to meet shared and unmet needs. These emergent acts spontaneously connected in new forms of social relations to empower, enrich, and engage community members. Because of these characteristics, these initiatives are likely to be illustrative of social innovation.

Examples of these initiatives include the promotion of the distribution of excess food to centres feeding vulnerable people and food banks, sometimes in collaboration with foundations (e.g., Cattivelli & Rusciano, 2020; Dekkinga et al., 2022; Tarra et al., 2021). These initiatives connect people in need, volunteers, voluntary associations, and small producers locally. They re-organise the food chain and food aid systems by collecting excess food from farms and redistributing it to people in need. As well as farms, they have also mobilised canteens, supermarkets, and restaurants to donate food that would otherwise have been thrown away during lockdown periods. These mutually beneficial initiatives improve assistance for people in food need because volunteer associations were already aware of people in difficulty and small- or medium-sized companies that were experiencing difficulties in reducing waste costs. Adopting a more systemic perspective centred around communities' power encourages a rethink of how volunteering systems could be restructured around the effective needs of people. Its adoption also helps to improve social well-being and cooperation between population, local associations, and food operators (Turetta et al., 2021).

In addition to these initiatives, alternative food networks have been

seen as one of the most prominent methods of food provision based on a more fair, more responsible, and socially controlled approach to consumption, either as an alternative to traditional channels or an integration. In particular, Alberio and Moralli (2021) illustrate how these initiatives address the issue of food security through alternative social practices, thus creating innovative narratives and actions. Here, they reveal the embedded creative capacity of social movements involved in producer-consumer relations and interaction, as well as the constraints these actors face. Nemes et al. (2021) reveal the positive contribution of these practices to the resolution of solidarity and food justice, despite also being affected by the turbulence of supply chains. As an answer, they reconfigure their structure to be more incisive in their assistance – i. e., they experiment more frequently with technical and social innovation, and particularly the digitisation of physical markets, the organisation of local logistics and the mobilisation of a higher number of potential purchasers (Fei et al., 2020).

Among other initiatives, urban gardens appeared to have become a lifeline and helped some people cope with food hardships during the pandemic (see, e.g., Cattivelli, 2022a, 2022b, 2022c; Egerer et al., 2022). Although they were initially closed, these places reopened in mid-April 2020. Their cultivation is also practicable with respect to physical distancing challenges imposed by mobility restrictions. Gardeners perform their work without having any contact with others and can remain at the recommended safe distance to avoid infection. In certain countries, including Italy, they were allowed to travel to their gardens outside of their home neighbourhoods as local governments recognised the cultivation of these plots as a key strategy for sourcing food outside traditional retail channels.

As reported by FAO (2020a), all these initiatives contribute to the adoption of multi-stakeholder and multi-scalar (from local to national) food governance mechanisms involving various local actors (e.g., community associations, slum associations, the informal food sector). However, to be determinant to alleviate local sufferance, they should be coordinated locally with cross-sectoral national- and local-level plans, benefit from appropriate resources, and identify and rapidly contact local key-stakeholders.

3. The test area: Cremona

Cremona is a small town in Lombardy, located near Milan (Fig. 1). The choice of this small town as a test area is motivated by three factors: (i) the high incidence of contagion among the total local population, (ii) the economic structure, which was strongly influenced by restrictions imposed to limit the contagion, (iii) the large presence of volunteering associations and their focus on short supply chains and forms of circular charity.

Concerning (i), Cremona experienced the infection outbreak earlier and more seriously than other towns in Lombardy and elsewhere in Italy. From the start of the pandemic, with the first case revealed on 21 February 2020, municipality-wide infections totalled 3148 (on December 2020), while deaths reached about 257 (at the same time) among 71,000 inhabitants (Regione Lombardia, 2021). Compared to the average of the previous five years (2015–2019), the number of deaths showed the highest increase of any area in Lombardy for the first months of 2020 (+60.75 %) (ISTAT, 2021).

The local economic structure was highly exposed to unexpected vulnerability (ii). Cremona mainly specialises in agriculture and services. Around its province, 4000 farms operate locally in the confectionery, dairy and pig sectors and rely on the provincial capital for outlet markets and supply of services. These farms faced interruption of the supply chain, reduction in labour availability, and declines in exports. Those who supplied open-air markets or catering or sold their products directly to citizens experienced food waste, a drop in sales, and a collapse in profitability (Coldiretti, 2021). Even those working for large retailers had to revise their previous agreements and reorganise their supply on daily basis or experiment with alternative ways to

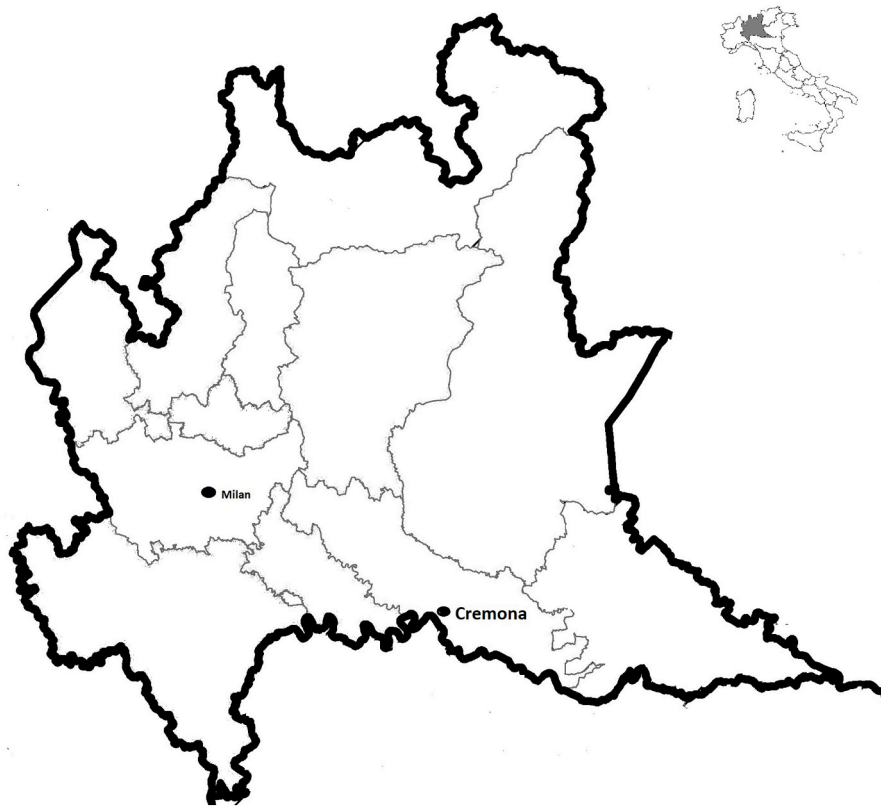


Fig. 1. The localisation of Cremona. Source: own elaboration, 2021.

commercialise their products (for example, by expanding e-commerce or participating in alternative food networks) (ibid.). Firms in the tertiary sector count for about 3800 out of 5400 business and local units at the local level, and therefore represent the largest part of the municipal entrepreneurial system (CCIAA Cremona, 2021). Those operating in non-essential sectors like recreation firms, catering, etc. were forced to close, resulting in substantial economic losses. Those active in essential services had to reorganise the way they delivered services, experimenting with alternatives to the traditional channels and massive digitalisation. Not all have been resilient in the face of these unexpected challenges. The closure of several of them has been reflected in a consistent rise in the unemployment rate, which further exacerbates food access difficulties among the local population (ibid.). In 2020, the number of families who turned to the Diocesan Caritas Centre to access emergency food services rose to 562 (+175 %) compared to 204 in the previous year. Just under half of them have a foreign background, while 23.69 % are single people, with or without children. People in difficulty include those without jobs (43.31 %), low-paid workers or those with poorly protected contracts (47.23 %), while the rest were unable to leave their home because they were sick or in quarantine (Diocesan Caritas Centre, 2021).

The various voluntary associations in the area immediately came to their aid. Locally, volunteerism is widely practised (Regione Lombardia, 2016) (point iii). A large part of this volunteering involves organisations supporting some forms of circular economy and charity. An example of these organisations is *il Centro del Riuso*, the Reuse Centre, which operates municipally to collect and sell second-hand goods at low prices. Its aims are to widen the diffusion of a no-waste culture and improve access to goods for the most fragile members of society. During the pandemic outbreaks, *il Centro* intensified the collection of used goods and their distribution – especially to people in quarantine, lonely people and those in financial difficulties.

Another type of local volunteerism involves some forms of supporting local and solidarity food production (such as ‘Botteghe solidali,

Solidarity stores - Non solo noi’), while others work in the medical field, supporting patients and families. All these associations have been at the forefront during the lockdowns. Those involved in food production intensified food production and distribution in local solidarity stores. Those working in the medical field experimented with some innovative forms of e-health assistance and medication distribution. Both considerably increased the number of interventions in support of people in need, as well as the consistency of hits, orders and views on social profiles compared to 2019 (Cremona municipality, direct contact, 2021).

4. The method

The current study explores the initiatives for food provisioning that emerged during the first waves of the pandemic (March–May 2020 and Autumn 2020), using the municipality of Cremona as a case study. In line with that theorized by Yin (2009) on the subject of case studies, the investigation includes several activities. To list the initiatives, we conducted desk research by analyzing local newspapers (*LaProvincia di Cremona and Mondo Padano*) and websites specialising in local news (*Cremonaoggi.it, Cremonasera.it*) to collect some preliminary information. Later, we got in touch with the *Centro Servizi per il Volontariato* (Centre of Volunteering Services, CSV¹), the association that locally

¹ Service Centres for Volunteers have been active since 1997 to support and qualify voluntary organisations and promote the culture of solidarity. They are places where associations and citizens can ask questions, find answers to their needs, develop skills and knowledge, and connect with others and with the territory through services and professionalism aimed at supporting the development of the common good.

coordinates non-profit firms and volunteer associations. We also contacted *Coldiretti Cremona*, the Cremona branch of the association *Coldiretti*, which brings together farmers at national level.² Both organisations provided information about two well-known initiatives that emerged during that period: *CremonaAiuta* and *Coldiretti's Food Box* delivery. To assess them as social innovation initiatives, we elaborated a semi-structured interview, which is articulated into two parts. The first one includes questions that aim to collect information related to the type of interventions carried out and the characteristics of the recipients. The second one comprises check questions whose answers should help to characterize the initiatives and test their correspondence to the pillars delineated as essential characteristics of a social innovation initiative by the SIMRA project.

These pillars may be defined as follows.

- (1) The innovative character, outlined by their capacity to reconfigure existing social practices.
- (2) The existence of societal challenges to which the initiatives try to give a solution.
- (3) The attempts to enhance outcome on social well-being underlined by their activities and aims.
- (4) The engagement of society, that is, the presence of society, which is not just the beneficiaries of the initiatives, but also the promoter and/or the protagonist of the initiatives '(SIMRA, 2017).'

The check questions are reported in [Table 1](#).

Some characteristics are considered necessary for an initiative to be considered socially innovative. Others are desirable because they are characteristics that the initiators hope their initiative will have, but whose output is uncertain. Others are possible but not necessary; i.e., they are conceivable, but their presence is not obligatory to configure an initiative's social innovativeness. Finally, some characteristics are possible but not sufficient and context-dependent because they depend expressly on the context in which the initiative is implemented and are essential to describe the social innovation connotation of the initiative.

Respondents who answer these questions positively reveal that the initiative presents the characteristics delineated by each pillar and therefore can be considered to be social innovative. In the case of negative answers, the initiative is not considered as social innovative. Respondents can integrate their answers with some brief comments and clarifications, whose text is reported entirely in the paper.

The semi-structured interviews were submitted to *Coldiretti's Cremona* office, which detailed the *Coldiretti Food Box* initiative. They were also sent to the project officers of five volunteer associations and the Municipality of Cremona, who outlined the *CremonAiuta* initiative. All relative answers were collected at the end of 2020 and transcribed some weeks later.

5. The food provisioning initiatives during Covid-19 pandemic in Cremona and their social innovativeness

Two food provision initiatives emerged in Cremona at the municipal level to re-organise the distribution chain and connect people in need, volunteers, voluntary associations and small producers.

The first initiative described here was realised by *Coldiretti Cremona*, the local office of the farmers' association. In line with the solidarity campaign at national level, the Cremona office began preparing food boxes to distribute to families in need. These boxes initially included only long-life foods produced by local farms, such as pasta, rice, etc. During the second pandemic wave, in autumn 2020, food boxes also contained products provided by *Coldiretti* non-partner farms and

² *Coldiretti* is the largest association representing and assisting Italian agriculture. It represents about 70 % of farms nationwide. It is of similar importance in the province of Cremona.

Table 1

The list of check questions and the level of requirement (Source: *SIMRA project, 2017*).

Check Question	Level of Requirement
Social innovation as process–Pillars 1–2	
Is there a process of reconfiguration of social practices (e.g., relationships/collaborations/networks/institutions/governance structures) in response to societal challenges	Necessary
Does the novelty/reconfiguration take place in new geographical settings or contexts, or in relation to previously disengaged social group(s)?	Necessary
Does the process of novel reconfiguration involve members of civil society as active participants?	Necessary
Does the process of reconfiguration result in new social practices that increase the engagement of civil society actors?	Possible but not necessary
Does the SI arise as a result of a crisis or apparently intractable problem?	Possible but not necessarily
Can a public agency be the initiator and/or driver of social innovation?	Possible but not necessarily
Can social innovation be initiated by a private sector agency?	Possible but not necessarily
Is the social innovation process driven by certain values and ethical positions?	Possible but not sufficient and context-dependent
Social innovation as product–Pillar 4	
Do new social practices engage voluntarily civil society actors (in relationships/collaborations/networks/institutions/governance structures) as a result of the social innovation?	Necessary
Outcomes/Impacts arising from social innovation–Pillar 3	
Do these reconfigurations enhance outcomes on societal well-being, i.e., in relation to society, economy, environment or any combination thereof?	Desirable, but not necessarily happens
Are trade-offs between types of benefit or beneficiaries likely to arise as a result of social innovation?	Possible but not necessarily

other local firms operating in the food sector. By the end of 2020, more than 100 boxes had been distributed throughout the municipal territory. *Coldiretti* acted as the initiator and driver of the initiative. It collected information related to situations of discomfort among local citizens from the municipality, parishes, voluntary associations and then delivered the products received from the farms directly to the needy or the same institutions. At the same time, it economically supported the farms with surplus agricultural products by buying products from them to put in the boxes. It then mobilised *Campagna Amica*,³ which specifically deals with the distribution of agricultural products from small producers through the initiative of 'Suspended spending' (*Spesa sospesa* in Italian). Within this initiative, people who used to buy food products can buy extra products and then leave them with *Campagna Amica*, which distributes them to people in need. Customers can also leave small cash donations, which are used by *Campagna Amica* to buy products not supplied by local farms and thus supplement the box. Before the Covid-19 outbreaks, *Coldiretti* and *Campagna Amica* promoted voluntary initiatives; however, these initiatives were sporadic and unstructured.

The second initiative considered to be self-organized food provisioning is called *CremonAiuta*. *CremonAiuta* is an initiative promoted by the municipality of Cremona to coordinate volunteering initiatives to combat the pandemic emergency. Within this framework, more than 30 local associations were involved. From the beginning, the associations that joined were *Associazione NO SPRECO*, *AVAL Cremona*, *Arci Cremona Comitato Territoriale*, *Amici di Gianni e Massimiliano*, *Associazione La Citta' dell'Uomo*, *Lions Torrazzo Cremona*, *Filiera Corta*

³ *Campagna Amica* is a foundation strictly related to *Coldiretti*.

Solidale and Auser Cremona. These groups specifically promoted and coordinated the emerging self-organized food provisioning initiatives, their initiatives and those of other local associations, and the efforts of many volunteers. Together, they rationalize the collection of food and its distribution to families in need. The volunteers collected requests from these families by phone; they then prepared cards with the list of products to be purchased and included in food boxes. To reduce the time spent in the supermarket, the products to be purchased were listed in the order in which they appeared on the shelves. For fresh products such as fruit or vegetables, the shopping was instead done with local, organic, and km0 farmers. The food boxes also included unsold products that were given away free from two supermarkets in the city. Once reopened, even the city's fruit and vegetable markets offered their surpluses for these boxes. The products purchased were then distributed to families in need directly at their homes in food packages that were balanced in quantity and nutritional elements. When compiling the lists, the volunteers immediately became aware of the various eating habits of the families and how they differed in terms of religious beliefs, health choices, etc. However, they immediately understood that many of these habits are not always healthy. Unhealthy habits included the preference for junk or unhealthy foods or for those that are not balanced in their intake of various nutritional elements. While delivering food, volunteers got in touch with these families, built relationships, and listened to their needs and difficulties. During these moments, they often understood that poor food choices are dictated by scarce information or low income. These constraints inevitably led poor people to choose inexpensive and low-quality products, or not to investigate their origin. Thanks to the advice of a nutritionist, the volunteers drew up 'complete food packages' – i.e., packages that include products which result in a balanced diet and are adapted to the number, age and sex of family members and their nutritional needs. Based on these indications, volunteers continued to prepare and deliver personalised packages to all people in need throughout 2020 and 2021. During autumn 2021, requests for additional funding were submitted to the Lombardy Region and other local authorities to finance the project. Until now, the calibration and delivery of packages has been financed with resources from the municipality of Cremona and Fondazione Comunitaria (another local association) along with donations from private citizens. In particular, the latter could buy shares 'of the suspended box' at Filiera Corta Solidale and donate in this way. The recipients of these food boxes are single seniors, single-income, and single-parent families, including foreigners. Among them are people who had no problem doing their daily shopping before the Covid-19 outbreak. This help does not solve their situation, but it does alleviate some of their discomfort. Their names have been collected by the municipality, volunteer associations and parishes, and have been made available online to all operators. Some associations have proposed the creation of a platform for the sharing of people's data to prevent them from receiving excessive aid or, on the contrary, from lacking it. For privacy reasons, this proposal has not yet been implemented.

6. Are they experiences of social innovation?

All these initiatives are favourable environments where social innovative experiences can be tested. Their characterisation and testing, based on the four SIMRA pillars, reveal that these initiatives clearly contribute to solving a current social challenge – i.e., the recent problems in food access (physical distancing, mobility restrictions and income barriers) through innovative organisational changes in service provision. These operations also demonstrate that they reconfigure existing social practices and, in turn improve social well-being outcomes.

More detailed findings of the application of this theoretical background to the initiatives identified in Cremona are described in the next subparagraphs and [Table 2](#).

Table 2

The answers to check questions offered by Coldiretti and CremonAiuta. Source: own elaboration, 2021.

Check Question	Level of Requirement	Coldiretti	CremonAiuta
Social innovation as process–Pillars 1–2			
Is there a process of reconfiguration of social practices (e. g., relationships/ collaborations/ networks/ institutions/ governance structures) in response to societal challenges	Necessary	Yes, there is. Coldiretti succeeds in reorganizing the collection of food for solidarity purposes from its member farms, in collecting requests for intervention from volunteer actors with whom it did not work before.	Yes, there is. The city of Cremona is the leader of a group of associations that for years, individually, were already engaged in the collection of unsold food and their redistribution to the neediest. By coordinating their action, the municipality manages to gain the trust of a growing number of aspiring volunteers.
Does the novelty/ reconfiguration take place in new geographical settings or contexts, or in relation to previously disengaged social group(s)?	Necessary	Yes, it does. It takes place in previously disengaged social groups (people in need). However, these groups expand to include infected or disabled people who cannot leave their homes, people who have lost their jobs because of Covid	
Does the process of novel reconfiguration involve members of civil society as active participants?	Necessary	Yes, it does. It involves parishes, volunteer associations, and farms and businesses throughout the agricultural supply chain.	Yes, it does. It involves more than 30 associations and 500 volunteers. Their number so 'high and' dictated by the strong desire to help, perhaps a little 'unconsciousness, but especially the coordination operated by the municipality and the associations that allowed not to disperse the energies.
Does the process of reconfiguration result in new social practices that increase the engagement of civil society actors?	Possible but not necessary	Yes, it does. Although in the drama of the moment and the uncertainty that resulted, both experiences have supported the participation of many associations, volunteers, business. Their number has increased compared to the past. In CremonAiuta, volunteers aspire to continue the initiatives that could be financed with resources from regional calls.	
Does the SI arise as a result of a crisis or apparently intractable problem?	Possible but not necessarily	Yes, the spread of the pandemic, and the resulting disruption.	
Can a public agency be the initiator and/or driver of social innovation?	Possible but not necessarily	Yes, it can. Coldiretti.	Yes, it can. The municipality of Cremona.
Can social innovation be initiated by a private sector agency?	Possible but not necessarily	No, it can. But the participation of associate farms was immediately positive.	No, it can. But the participation of associations was immediately positive.
Is the social innovation	Possible but not sufficient	Yes, those of solidarity and aid.	

(continued on next page)

Table 2 (continued)

Check Question	Level of Requirement	Coldiretti	CremonAiuta
process driven by certain values and ethical positions?	and context-dependent		
Social innovation as product–Pillar 4			
Do new social practices engage voluntarily civil society actors (in relationships/collaborations/networks/institutions/governance structures) as a result of the Social Innovation?	Necessary	Yes, local farms, but also those operating in the same agricultural chain, voluntary associations, parishes.	Yes, with volunteer associations and individual volunteers.
Outcomes / impacts arising from social innovation–Pillar 3			
Do these reconfigurations enhance outcomes on societal well-being, i.e., in relation to society, economy, environment or any combination thereof?	Desirable, but not necessarily happens	Immediate discomfort is sought to be alleviated. Coldiretti also wants to help farms in the area by distributing their production that due to the difficulties of destruction would be at risk of waste.	We hope that the initiative will continue in the future. Based on experience, some respondents would like to request additional funding to continue.
Are trade-offs between types of benefit or beneficiaries likely to arise as a result of social innovation?	Possible but not necessarily	No, they are not.	

6.1. Findings from Coldiretti's initiatives

During pandemic outbreaks, Coldiretti helped associated farms sell their unsold products and adapt their production choices to the changing needs of large retailers and alternative food networks. It also intensified its collaboration with companies that operate in the later stages of the supply chain to diversify outlets and promote alternative markets, including those that had already been digitalised. While supporting agriculture, Coldiretti also intensified its aid activities in support of people in distress. In the past, this organisation had already dispensed food aid to needy families, but sporadically and without any precise planning at the local level. With the arrival of the pandemic, Coldiretti structured this intervention in a more efficient way and with the collaboration of several partners. Beyond farmers and other actors along the food supply chain, it also collected requests for intervention from parishes or voluntary associations with whom it had never previously worked. Together with them, it acquired surplus produce to redistribute.

Therefore, the reconfiguration of existing social practices passes through the strengthening of relations with associated farms, but also through the creation of relations with new actors and thus the enlargement of institutional networks. In fact, "The reconfiguration refers to the collaborations with these actors, as well as in the reinforcement of the existing network with new or consolidated associations", says the interviewed person n.1.

The innovation also takes place in relation to previously disengaged social groups and arises to resolve their food provisioning-related problems. Normally, people with food needs were low-income people

and single-income foreign families. Because of the pandemic, needy groups have grown and include those who have lost their jobs or cannot get to the grocery store because are isolated, suffering from illness or in quarantine. Identifying and helping these people, as well as supporting local agricultural businesses, are the social challenges to which Coldiretti's efforts attempt to provide a solution. The reconfiguration partially involves some members of civil society. Volunteers are few and generally operate in partner organisations. Private citizens participate marginally, only paying a portion of the suspended expense. Beneficiaries receive the food boxes, but they do not collaborate with Coldiretti and other actors in the organisation of the aid system. Coldiretti remains the only initiator and driver of the initiatives. The private sector, represented by local farms, is particularly active as they are the suppliers of the agricultural products included in the food boxes. The drivers of this reconfiguration are the attempts to improve social well-being outcomes among food box beneficiaries, as well as to support local farms to distribute their produce. Beyond economic reasons, their motivations are related to solidarity values and ethical positions, according to the interviewed person n.1.

6.2. Findings of CremonAiuta

CremonAiuta reconfigures solidarity activities along the food chain that were already active in the months before the Covid-19 emergency. However, these initiatives were realised singularly by the associations, and rarely collaborated within a network at municipal level. During the pandemic, a reconfiguration of social practices was carried out by strengthening relations and establishing networks among associations. Interviewed person n.3 confirms that the need to cooperate with other associations and the willingness to act in a network, rather than as a single association, was immediate: "In the first days of the emergency, the volunteers who normally operate within the associations that already dealt with the fight against food poverty questioned themselves on which interventions to adopt to respond to this societal challenge. They were aware of how important it was to adopt a concerted approach." The reconfiguration also passes through the review of the governance structure of the intervention. Increased networking among associations requires certain forms of coordination, which was achieved by setting up a steering committee in which the municipality and the most representative voluntary associations worked closely together. The push for the initiative came directly from volunteers, but it was adopted by associations and then coordinated by the Cremona Municipality, which proposed itself as the leader of the initiatives. "The municipality has collected the need to intervene from more entities and this has generated cohesion of purpose between the associations and the active citizenship. It then allowed the creation of a framework that in turn attracted additional volunteers and resources and increased the engagement of civil society actors," adds the same interviewed person, outlining the role of the municipal administration. "An 'unexpected graft', a sudden call to commitment and collaboration for all organisations, usually accustomed to acting outside an emergency context and especially without the stringent need for coordination with dozens of other realities," suggests interviewee n.4. As a result, there was consistent involvement of the municipal administration, associations, volunteers, small producers and traders. More than 30 volunteer associations actively participated. However, certain realities remained excluded, including urban gardens. Their produce was not collected and distributed to people in need, for reasons related to the safety of the agricultural products and the scarcity of controls to determine it. Supermarkets located in the municipal area rarely participated. "For this reason, I hope that the drafting of a food policy at the municipal level will resume. Based on the results obtained thanks to this concerted experience, I hope integrating all the actors in the supply chain and promoting their collaboration," concludes person n.2.

Increased collaboration is a new social practice that stimulates further long-term projects beyond the pandemic emergency. "We are

thinking about proposing this project to the Lombardy Region and other institutions to obtain resources to be used in the coming year,” continues person n.3. “The idea is to provide scientific support to all those solidarity organisations that are involved in the delivery of food parcels – parcels that usually, if we think about it, rely on dry and canned goods, leaving aside fresh food, fish and meat. This is our way of continuing to collaborate to give back to the community the fruits of the experience that has seen us together in the period of greatest emergency,” confirms person n.2.

All of these efforts inevitably lead to reflection on the responsibilities of local municipalities and voluntary associations. Here, different positions emerge. CremonaAiuta had the municipality of Cremona as a driver, not an initiator, while the private sector was only partially involved. While respondent no. 2 points out that the former cannot delegate its responsibilities to the latter and must be more precise and rapid in identifying needs and satisfying them, respondent no. 3 believes that a hybrid system – in which there is no clear distinction between the two actors, but rather a common action – is more effective. More sceptical about the role of the municipality is respondent No. 5, who believes that it is more important that it is engaged in the network, which itself should be expanded. On the other hand, the municipality is positive about this initiative.

“The first few months were very hectic. We are used to seeing people in difficulty and building a medium- to long-term path with them. The emergency forced a review of our way of doing things. We decided not to work alone but to collaborate with other voluntary associations. With the three most representative associations, we organised online meetings every day. When it was then communicated to the other associations and volunteers. We had to try every day to understand the needs of people in need. Similarly, we could not coordinate more than 500 aspiring volunteers,” declares the project officer of the Municipality of Cremona. He also states that municipal funds were initially used to meet expenses and transferred to the associations. Within the municipality, all social workers, local police, and civil service volunteers were mobilised. The former groups collected and managed requests for help, while the latter distributed security devices. The education sector collaborated with kindergartens and primary schools to reorganise education delivery and with CSV to distribute tablets to needy families. “There was a call to arms. Cremona’s citizens wanted to donate so many products, but the municipality or associations had never before managed such a large amount of aid,” says the municipal project manager. At the end of the first wave of the pandemic, the municipality reflected on the organisational management of the emergency. It valued the adoption of smart-working and more flexible forms of collaboration between its own sectors and with other agencies. These vertical relationships were replaced by leaner and more flexible forms of collaboration within formal and informal working networks. “The risk we have identified is that some interventions overlap. However, we benefit from the best collaboration and the opportunity to exchange information and knowledge from associations in real time,” says the same project officer. In fact, it is not easy to understand the needs of the territory and the situations of fragility. “Some situations of ‘floating, or latent needs’ have emerged, and we can then manage them. This new working method has helped us to be closer to citizens in difficulty,” continues this person.

All the people interviewed applauded volunteers. “There were many, many young people joining. It was difficult to organise the various activities and the shifts of volunteers,” says one. The adoption of a structure to coordinate them was the key to inducing more people to give their availability to help (more than 500). Perhaps animated by a desire to help in such an emergency, or perhaps because of a lack of awareness of the danger of infection, many young people joined the ranks of volunteers who were already involved, who were mostly retired. They were driven by certain values and ethical positions as well as an unconscious desire to help. These values were then recognised by the beneficiaries: “Many people understood that we were driven by a sense of gratuitousness, of giving ourselves to others without ulterior motives and that

cheered us up,” says interviewee n.4. However, once normal work and school activities resumed, the number of volunteers decreased.

As with Coldiretti, municipalities and associations found themselves operating within groups that were previously disengaged. This group includes those who had difficulty shopping for economic reasons even before the pandemic, but also people who lost their jobs due to the closure of their businesses, and lonely and/or elderly people who could not leave their homes. “Before the pandemic, we would deliver unsold food and give it out free to people in need twice a week. Our recipients before were disabled, people in momentary food difficulties. During Covid, we delivered it every day and to people I never imagined meeting in these situations. In addition to disabled people, we helped middle-class people who lost their jobs because of Covid or people who contracted the virus and so could not get out,” affirmed interviewee n.3.

Networking efficiently supports interventions and innovative approaches to assistance. Its aid did not just alleviate a temporary situation of distress, but also had re-educational purposes. “We realised that the help they were giving before with food parcels was not efficient.”

As evidenced by all those interviewed, the promoted reconfiguration enhances outcomes of societal well-being and was inspired by solidarity values and an ethical position. To the initial idea to resolve food insecurity was quickly added the ambition to improve the beneficiaries’ quality of life. Within this integration, there are no trade-offs between types of benefit or beneficiaries. “A great big but beautiful effort,” and “one that may soon result in another new project dedicated to good nutrition and health” are the answers of interviewees n.2 and 3. Based on all interviewees’ answers, it seems that there are no trade-offs between types of benefits and beneficiaries.

Social well-being increased thanks to the decision to structure food boxes to help people to alleviate their food needs in a sustainable and nutritionally correct way. With these boxes, “we don’t just want to help families with their grocery shopping, we want to educate them on a more sustainable diet. We understand that in a difficult time like the pandemic, even food can have comforting power, perhaps for children who left school, or that we can overindulge in fat and other unhealthy foods. However, by balancing the items in the box, we want to teach the importance of healthy eating,” says the interviewed person n.2. Interviewee n.3 adds: “The kind of food assistance we used to provide was important because it alleviated the hardship of many families, but it was not a quality aid. They redistributed everything that came in, mostly dry and long-lasting products, without realizing that we were impoverishing the diet that gives them to us.” The food delivery became an occasion for sharing and building relationships. “When we delivered food, we always tried to exchange a few words with the recipients. We couldn’t talk to those who had Covid-19 or who could not move because of disability, but we always tried to ask about someone’s health, their mood. We noticed situations of deep loneliness that we tried to remedy, even if only with a few simple words,” suggests person n.4. “Before Covid, we would make deliveries, say goodbye to people and leave. With this project, we started to listen more to people instead. First, to understand their dietary needs, then to understand the origin of their discomfort, and then to help them choose the most balanced and healthy foods,” adds the first person. “Through the delivery of packages, relationships are created between families and volunteers, and we notice the behaviour of hardship, economic insecurity, and poor nutrition education. During the second wave, we administered a questionnaire to understand more about these forms of hardship and collaborate with a nutritionist” says interviewee n.3. Person n.4 adds that “in certain case of evident economic marginalisation, we even paid the bills for some people in need”.

7. Discussion

This article has shown that food-related initiatives in Cremona that originated in response to new or increased food (related) needs represent good examples of social innovation initiatives. Their realisation

reconfigures existing social practices as it proposes organisational changes in food collection and redistribution, based on stronger cooperation among population, local associations and institutions, and food operators. Reducing food insecurity of the people most exposed at risk of marginalization, it also enhances outcome on social well-being of people in need locally. Adopting a more systemic perspective centered in communities' power, it also encourages a rethinking how relations in food systems could be restructured more democratically.

More in detail:

1. Both initiatives have innovative characteristics and reconfigure existing social practices. The distribution of food to the needy people occurred even before the Covid-19 emergency. However, it was organized autonomously by each association individually. Each of them signed specific agreements with local supermarkets and restaurants, and other institutions / organisations and surplus stores. They also took care of specific situations of difficulties in food access that had previously been identified through referrals from social services and the personal knowledge of individual volunteers. The initiatives also showed that there is an increased awareness that food distribution is more efficient when organized together with all local associations and in strict collaboration with local actors that operate locally along the food chain. They also suggest the importance of the coordination of one or more organisations for their success (in our cases, offered by the Municipality of Cremona and the Coldiretti department in Cremona). This coordination appeared essential to integrate local initiatives into cross-sectoral national and local level plans, and allocate appropriate resources locally. Reinforcing linkages with multiple scales (productive and territorial) and actors, it has also offered the opportunity to experiment a new way to govern food systems, based on temporary, multi-stakeholder and multi-scalar food governance mechanisms involving various local actors (e.g., associations, farms, volunteers). This new way to govern food systems has supported the challenges of local population, promoted forms of people-centered consumption, and enhanced local democracy through a redistribution power for resilient supply chain, and the right to grow sustainable healthy food. Its experimentation has educated policy makers to manage measures to prevent temporary difficulties in food access from becoming systematic and long-term problems and prepare to manage long-lasting transformations (eg those induced by climate change). It also induced these actors to rationalize investments in structural changes to reduce persistent inequities in food access and to promote effective collaboration with other actors in the food chain. With the aim to align public actions with broader territorial goals and civil society involvement, it also evidences the importance of insisting on collecting information, good practices and sharing them across sectoral offices. Additionally, this experiment has outlined that the close contact of the associations with the territory and the appropriate knowledge of its needs have been essential. The distribution of excess food appeared to be more organized and efficient thanks to the collaboration of many organisations than before the pandemic.

This reconfiguration take place in relation to the previously disengaged social groups represented by those resulted most effected by the negative effects of pandemic and the relative containment measures. It also involves actively civil society, which pushed for the experimentation of aid and assistance practices. However, the municipality and Coldiretti Cremona were the initiators and drivers of the initiatives. They intervene because they intercept an existing need, that of the community, to reduce food insecurity and coordinate common efforts. With their interventions, they do not address governmental, or market failures as outlined in other contexts by ESPON Bridges. Oppositely, they drive, and support welfare mechanisms as evidenced by Brandsen et al., experiment a change in their top-down structure into more collaborative relations and balance the power relationships more towards the civil

community and its associations. In other terms, the assumptions of Steiner et al. find confirmation here. Multi-stakeholder approach, mutual understanding among partners, participation of civil society in co-design solutions are elements which characterize the initiatives implemented in Cremona in 2020 and here analyzed. They represent a new typology to add to those delineated by Martens: initiatives finalized to improve the existing infrastructure that arises from emergencies at the local level, initiated by civil society, and activated by the representative associations of public authorities and farms.

2. Both initiatives have clear the societal challenges to which they try to give a solution. Social challenge is represented by difficulties in food access due to restrictions imposed to limit the spread of Covid-19. Restrictions to mobility and economic difficulties induced by the pandemic represented a challenge for Cremona, and specifically for that part of the population at risk of economic and social marginalization because it operates in nonessential sectors or in quarantine. From the outset, all involved actors took note of the economic impacts of Covid-19 as not an intractable problem and assumed interventions could last for months. Inspired by solidarity values and ethical convictions, they have operated throughout 2020. Because they are convinced that food insecurity will continue in the future, they aspire to capitalize on the experience gained during the emergency period and submit requests for additional funding to continue for the next years.
3. Both initiatives reveal the attempts to improve the outcome of social well-being underlined by their activities and goals. Food distribution has reduced food insecurity in people at risk of marginalization for economic or health reasons. In addition, it has become an opportunity to provide psychological support to alleviate the sadness that isolation and uncertainty have brought, and educational assistance to review food habits for healthier choices of consumption. It has also supported economically local farmers and promoted their access to new distribution channels. Outcomes are particularly related to the society and economy, less to the environment. Implications on this are limited and refer to the reduction of food waste and its circulation for charity reasons. The outcomes also include new ideas, social interactions, in line with that theorized by Munford, Tracey, and Stott, and changes in cultural, normative, or regulative structures of the involved organisations, as suggested by Heiskala. Between types of benefit and beneficiaries there is no sort of trade-offs.
4. Both initiatives show the engagement of society, that is, the presence of society, which is not just the beneficiaries of the initiatives but also the promoter and/or the protagonist of the initiatives. These initiatives try to resolve these difficulties through volunteer activism. Doing so, they in fact attempt to enhance outcome on social well-being and improve the cooperation among population, local associations, and service providers. Relations among associations, population and local administrations change becoming stronger and more focalized on societal challenges. Operating under the municipal/Coldiretti coordination has attracted more volunteers/farms than previous initiatives which involved the singular association. Volunteers were also driven by a strong desire to help and perhaps a bit of recklessness about the risk of contagion, but they proved instrumental in overcoming the emergency. They did not wish to lead the initiative but not to dissipate efforts. Uncertainty remains as to how to involve volunteers in the future. After the emergency ended, many people returned to their daily activities of study and work. The continuation of the initiatives will require some actions of territorial animation. The involvement of GDO operators and urban gardeners was limited during all 2020.

Table 3 summarizes, for each pillar, how the initiatives advance social innovation and the challenges and the aspects that may not correspond to social innovation, or be controversial.

Table 3
How the initiatives advance social innovation and the challenges.

Social innovation pillars by SIMRA	How to advance social innovation	Challenges/Controversial aspects
(1) The innovative character, outlined by their capacity to reconfigure existing social practices	<p>The reconfiguration of social practices remains one of the essential elements of this kind of initiative. In turn, its essential element is cooperation among actors</p> <p>Cooperation is also possible through the presence of a coordinator.</p> <p>Temporary, multi-stakeholder and multi-scalar/sectorial governance mechanisms involving various local actors (e.g., associations, farms, volunteers) are appreciated. The social dimension should not be the only considered dimension</p> <p>Social innovation initiatives democratize the governance arena at the local level.</p> <p>If the coordinator is a public institution, the social innovation initiative contributes to align public actions with broader territorial goals and civil society participation.</p> <p>Initiatives do not only emerge where local governments do not have resources to do so or to address governmental and market failures.</p> <p>Reconfiguration of practices requires knowledge in any phase. The social challenge is represented by the difficulties in food access.</p> <p>Once the challenge is over, the drive for innovation does not necessarily die out but forms the basis for further projects</p>	<p>The reconfiguration of existing practices can transcend to the only collaboration among actors.</p> <p>Some difficulties in actors' identification are possible</p> <p>This coordinator is often a public institution or a large organisation. This can be in contrast in an initiative which starts as stimulated firstly by the collectively</p> <p>Difficulties in realizing multi-sectoral initiatives</p>
(2) The existence of societal challenges to which the initiatives try to give a solution	<p>Both initiatives evidence these attempts</p> <p>Once the challenge is over, the drive for innovation does not necessarily die out but forms the basis for further projects</p>	<p>Could social innovation develop even in emergency conditions?</p>
(3) The attempts to improve the outcome on social well-being underlined by their activities and aims.	<p>Both initiatives evidence these attempts</p>	<p>What if the initiative satisfies all the other pillars but does not lead to a significant improvement in well-being? Does it have to be considered non-innovative?</p> <p>Difficulties in quantifying the outcome on social well-being</p>
(4) The participation of society, that is, the	<p>This engagement is essential and also</p>	<p>Uncertainty remains as to how to involve volunteers</p>

Table 3 (continued)

Social innovation pillars by SIMRA	How to advance social innovation	Challenges/Controversial aspects
presence of society, which is not just the beneficiaries of the initiatives, but also the promoter and/or the protagonist of the initiatives.	confirmed in both considered initiatives	in the future, also at the end of the initiative.

Source: Own elaboration based on literature analysis and desk research, 2021.

8. Conclusions

This paper analyses the initiatives for food provisioning implemented in Cremona in 2020 to counteract food insecurity.

The results of the investigation demonstrate the correspondence of the analyzed initiatives (Coldiretti and CremonAiuta initiatives) with the four pillars that characterize a social innovation initiative based on the SIMRA project. Both experiences demonstrate an innovative character, which results outlined by their capacity to reconfigure existing social practices in food assistance, and the desire to resolve a societal challenge. They also involve several categories of actors, such as citizens, associations, and institutions. The contribution of citizens and associations is relevant and prefigures a change in the power relations balance. It reinforces their protagonism and control over their situations. On the other side, their increased protagonist reduces dependence on the central governments, which assume more frequently the role of coordinator and less that of initiator of collective actions and service provision. Additionally, both experiences include attempts to enhance outcome on social well-being, and specifically the number of potential beneficiaries of food aids, their sense of food security and inclusion.

Rather than other research, this paper focuses on the experience of a small-medium town and adopts a micro-economic approach. This implies its significant innovativeness within the current debate on the effects of pandemic in food provisioning initiatives and generally on local changes in the food chain. With the same results, it transcends the analysis of the relations among producers, distributors and consumers that operate along the food chain at global level. With a local perspective, it permeates the boundaries of a system of relations that operate at lower territorial level, such as the local community, groups of citizens and voluntary associations. A further element of innovativeness is that the paper adopts the social innovation theory as a lens for analysis. This theory has only recently been applied to the context of food-related initiatives and appears relevant for analyzing their social innovativeness.

Finally, the paper innovates the current debate with its four conclusions.

The first conclusion is the importance of the knowledge of the local community, groups of citizens, and voluntary associations that operate locally to enhance outcome on social well-being. Decentralization towards more localized systems as an answer to food vulnerability offers the opportunity to redesign the food chain. As immediate effects, it shortens short supply chains, reduces dependence on food imports, and reconnects locally producers and consumer demands. At the same time, decentralization innovates global-local relations among operators, as it attributes more power to small producers, consumers, voluntary associations that operate locally and democratizes food chain. However, to be effective, this induced democratization of the food chain requires more information on the characteristics of formal food sector operators and the integration of the relative information with a those related to the informal operators. Knowledge of this latter actors is essential as they represent a consistent group along the food chain and specifically that part that is more interested in addressing social issues like food security and solidarity.

The second step is strictly connected to the second conclusion. In

more detailed terms, this suggests that democratization success depends on the capacity of local actors to design and coordinate effective initiatives and strategies across sectors and among stakeholders. Evidence suggests that coordination is possible through a clear analysis of the characteristics of the food aid system (especially of its operators and food aid recipients) and the identification of concrete actions to improve effective interventions. Coordination also results fostered thanks to the reduction of ambiguity in the competences attributions. The clear definition and the common adoption of certain food-related multi-stakeholder mechanisms resulted from this case study facilitate the mutual agreement among involved actors, makes the intervention more effective, and forms the basis for further projects in the future. The effectiveness and the rapidity of the transition towards more cooperative and inclusive decision-making process depends on the adoption of new alliance schemes, which in turn are influenced by the preparedness of local governments to shift decision-making from administrative procedures to strategic and concrete actions, as well as on the attention of citizens towards food related issues. The case of Cremona is an example in this sense. The municipality of Cremona and Coldiretti Cremona coordinate the efforts of local actors and delegate them consistent tasks and responsibility. Local volunteering associations and private citizens urgently desire to improve the existing aid infrastructure and immediately experiment new forms of interventions. Practically, the latter initiates the change in the food aid infrastructure and stimulates experimentation, learning from failure, adaptation, and continuous learning.

As third conclusion, evidence from this article suggests that specific territorial-based initiatives are more likely to have success. Each of these initiatives has originated and evolved in the specific context where actors operate and depend on the characteristics of the aid infrastructure, the existence and orientation of the local volunteering sector, as well as the characteristics, responsibilities, and attention of local institutions. Despite the greater understanding of the numerous benefits that result from social innovation practices, multiple factors negatively could influence their future developments. These constraints include the lack of attention paid by public institutions or the voluntary world to certain issues, the absence of the fuse given by the grassroots activism of the population, the rigidity of relations between all these actors. Not surprisingly, innovation is rife to overcome these obstacles. Methods for innovating these practices to be trialled might move from technical, organisational, and social aspects. Disseminating knowledge among consumers, diversifying productions, networking among operators, targeted investments with strong territorial impact at local level are some of the examples of such methods to advance.

The last conclusion reminds us that having enough food in a food system does not protect people from hunger and food insecurity. Concerns are related to the production, but also extend to current food distribution systems, which appears inefficiently structured in certain territories and not very resilient to sudden events.

Further studies could extend this analysis to other Italian small-medium towns or verify the continuation of these initiatives beyond the Covid-19 emergency. They also include some investigations on the role of public institutions and structured organisations and how their presence promotes or hinders the implementation of social innovation initiatives. Regarding other important actors in food security, it will be interesting to analyse the contribution of urban gardeners and food banks to the promotion of similar initiatives. Finally, it will be interesting to analyse how current legislation on food security hinders the circulation in similar food charity initiatives.

CRedit author statement

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Data availability

No data was used for the research described in the article.

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