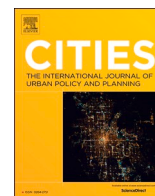




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Covid-19 as a chance for more food democracy in European cities? The responses of actors within Vienna's urban food system to the pandemic

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ABSTRACT

Actors within European cities had to respond to the Covid-19 crisis to maintain their urban food systems' basic functions. In this article, we ask whether these responses merely remedied the immediate challenges and maintained the status quo or the window of opportunity created by Covid-19 was used to transform urban food systems towards food democracy. We combine the food democracy framework and multi-level perspective to examine how actors of an urban food system – from niche and regime levels – reacted to the Covid-19 crisis and to explore the meaning of those responses for food democracy. Using Vienna as a case study, we conducted a media analysis (198 articles) and 11 interviews with niche actors to identify the impacts of the first Covid-19 wave and connected actors' responses. Results show that regime and niche actors responded differently to Covid-19 and that not all responses proved conducive to a transition to more food democracy. Although some responses can contribute to a more just and sustainable urban food system, many actors focused on short-term crisis management and maintaining the status quo. If Covid-19 is to become an opportunity for a transformation towards food democracy, coordinated actions by regime and niche actors are needed.

1. Covid-19 as a chance for (urban) food systems?

Because of its severe impact on our health system, economy and daily life, the Covid-19 crisis has become the dominant topic in the public, political and, scientific discourse. The impact of the Covid-19 crisis has reminded us of the importance of food and food provisioning as a basic good and an essential activity. Despite the initial fears, food systems in Europe and the Global North have been able to maintain their functioning without collapsing. However, the pandemic has highlighted the pre-existent systemic vulnerabilities of global industrialized food systems and showed that “*our food systems have been sitting on a knife-edge for decades*” (see [IPES-Food, 2020:1](#)).

The negative effects of our food system on the environment have been scrutinized in the context of the pandemic ([Cazzolla Gatti et al., 2021](#)). Additionally, the Covid-19 crisis has revealed the difficulties of centralized food supply chains in the Global North to adapt to sudden changes in demand. They are less agile in responding to a widespread increase in demand across regions and food product categories ([Hobbs, 2020](#); [Petetin, 2020](#); [Power et al., 2020](#)). This translated into a decline in

the availability of certain foods in supermarkets. Meanwhile, food was being dumped due to the closure of the gastronomy sector ([Altieri & Nicholls, 2020](#); [Hobbs, 2020](#)). Furthermore, the Covid-19 heightened the growing inequalities in access to food, especially in cities – i.e., citizens without adequate income, mobility, and social support ([O'Hara & Toussaint, 2021](#); [Power et al., 2020](#)). The Covid-19 crisis has also exposed the dependency of the agricultural production sector and the food industry on precarious and vulnerable workers, particularly migrant farmworkers who suffer deep inequalities such as precarious living conditions, difficulty accessing health care, and lack of access to immigration pathways ([Haley et al., 2020](#)).

Like other pandemics and crises throughout history, the Covid-19 crisis has the potential to induce processes of social change ([Cohen, 2020](#)). For instance, the crisis connected to the destruction of the Fukushima nuclear power plant in 2010 served as a window of opportunity to start the transition of the German energy sector away from nuclear energy towards more renewable sources ([Strunz, 2014](#)). Similarly, Covid-19 disrupted existing structures and daily routines and has provided a window of opportunity for adaptation or transformation of

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urban food systems and, thus, a transition towards sustainability (Geels, 2004). As researchers have noticed, urban areas play a key role in transforming our food systems (Godfray et al., 2010; Kearney, 2010). Cities – where half of the global population currently live (UNO, 2014) – were especially on the frontlines of the pandemic and have already seen some shifts in the Global North, such as the increase in the demand of organic and local products, the preference for small and local businesses, and the use of online and direct marketing schemes like fruit and vegetable box schemes and food-cooperatives (Clapp & Moseley, 2020; Hobbs, 2020; Petetin, 2020). As argued by Petetin (2020, p. 333), “[b]y buying fruit and vegetable boxes and going to their local butchers and bakers, citizens are taking charge of their food consumption, choosing what they want to eat and building a democratic agri-food system.” Also, the direct contact of food buyer-supplier has been argued to produce strong and resilient food supply networks in the face of market power asymmetries, especially in times of crises like, for example, the Greek financial crisis showed (see Matopoulos et al. (2019) and Hobbs (2020)). Furthermore, the promotion of a more environmentally sustainable food provision, such as organic farming, is considered a caring practice essential for food democracy (López Cifuentes & Gugerell, 2021).

These effects and adaptive strategies dive into a long debate in transforming urban food systems into more socially just, ecologically resilient, localized, and democratic food systems. Thus, this article investigates if the window of opportunity created by Covid-19 was used to transform urban food systems by analyzing how different actors relevant for urban food systems responded to Covid-19 and analyzes if those responses promoted a restoration of the status quo before the crisis or a transition towards more food democracy. Using Vienna (Austria) as a case study, we draw on López Cifuentes and Gugerell’s (2021) framework for food democracy using a multi-level perspective (MLP). Based on data collected through a media analysis and interviews, we analyzed the impacts of Covid-19 on Vienna’s Urban Food System (VUFS) as well as the responses of actors at niche and regime levels and how these may contribute (or not) to a transition towards more food democracy.

2. Covid-19: a window of opportunity for more food democracy

In the research field of sustainable transitions, the variety of actors, activities, and effects connected to the task of nourishing a certain population have been frequently conceptualized as social-ecological systems (e.g., Ericksen, 2008; Ingram, 2011) or social-technical systems (e.g., Bui et al., 2016; Levidow et al., 2014). In both cases, food systems are seen as complex adaptive systems that can react to disturbances like Covid-19 (see Holland, 2006; Rivera-Ferre et al., 2021). Such disturbances can trigger a transformation of food systems and initiate a transition¹ to a fundamentally different state than the status quo (Geels & Schot, 2007; Walker et al., 2004). Yet, a transformation does not automatically happen if a crisis hits (Folke et al., 2005; Geels & Schot, 2007; Jacob & Ekins, 2020). To capture how a crisis can offer a possibility for the transformation of food systems, we conceptualize crisis as a “window of opportunity” for the food system, through which change in dominant existing structures is possible.

The window of opportunity concept is a significant element of the MLP – i.e., a core theoretical framework in the field of sustainability transitions (Geels, 2002, 2004, 2019; Scoones et al., 2020; Smith et al., 2010). The MLP argues that transitions are manifested through dynamic processes within and between three analytical levels: (i) at the macro-level is the landscape which includes global as well as local trends that shape and characterize (food) systems such as environmental and demographic change (Geels & Schot, 2007); (ii) the regime is at the meso-level of the system and is characterized by stable rules that govern

the structure of provision and consumption of food (Geels, 2004; Smith, 2007); (iii) finally, the niche-level represents the micro-level and is a place for experimentation, protected from the pressures of the dominant food regime, in which innovations emerge (Geels, 2004). In this theory, a window of opportunity represents a temporary situation in which a usually stable and institutionalized regime becomes unstable due to external – or internal – problems. There may be different reasons for these tensions and instability, such as changes in citizen preferences (e.g., due to concern about negative externalities) or effects on other systems (e.g., environmental impacts, health risks) (Geels, 2004). Following this theory, we argue that the sudden landscape perturbation by the Covid-19 crisis provides a window of opportunity for food system transition towards more food democracy.

Food democracy gives actors, such as farmers, citizens, and other marginalized actors of the food system, the opportunity and creates the mechanism for them to actively participate in how sustainable food systems are built (Johnston et al., 2009; Candel, 2022; Holtkamp and van Mierlo, 2022). The concept of food democracy was first identified as a force in bottom-up food policy that described the need to find a balance among citizens, state, and economic actors in the food system (Lang, 1999, 2005). Food democracy creates a framework that aims to empower citizens to guarantee equal opportunities for shaping the food system through participation and political engagement (Bornemann & Weiland, 2019; Friedrich et al., 2019; Hamilton, 2005; Pimbert et al., 2001; Prost et al., 2018). The Covid-19 crisis may have created a window of opportunity for food democracy, yet it does not lead to transformation in itself. Sometimes a window of opportunity is opened by problems that the existing regime actors then address. At other times, the problems persist and allow actors to challenge the established system at the niche level. In these dynamics, the interactions between the regime, the problem, and the niche competing to be the solution to the problem are central (Geels & Schot, 2007; Normann, 2015; Tongur & Engwall, 2017).

We draw upon the proposed framework of López Cifuentes and Gugerell (2021) that integrates an MLP to support a more holistic analysis of food democracy. For this purpose, the food system is understood as a socio-technological system, which is structured in three sub-systems. First, the resource sub-system represents the agri-food value chain. Second, the governance sub-system includes government and authorities, interest groups and businesses. Third and last, the citizens sub-system represents active citizens that may get somehow engaged in shaping the food system as well as those citizens that are more passive and consumption-oriented (López Cifuentes et al., 2021; López Cifuentes & Gugerell, 2021).

In these sub-systems, a distinction can be made between a regime and a niche level. Actors of the food system – i.e., discrete individuals, corporate or collective social units –, may belong to several sub-systems and can be either part of the regime or the niche level. We classify actors according to their main activity (e.g., supermarkets in the resource sub-system, although they may also play a role as lobbyists in the governance sub-system) (Fig. 1). The dashed line representing the sub-systems’ boundaries at the niche level show that such classification may not be possible at micro-level (López Cifuentes & Gugerell, 2021). We represent the urban food system within the city’s administrative boundaries and embedded in broader contexts (i.e., national, international). As the food system co-evolves with other social-technical systems (Geels, 2011), we differentiate between actors located outside the city, but that may influence the urban food system (e.g., national government) and those inside the city, even if their activities go beyond the city boundaries (e.g., supermarkets) (López Cifuentes et al., 2021) (Fig. 1).

We define four dimensions of food democracy (Fig. 1) (López Cifuentes & Gugerell, 2021): (i) *Collaboration towards food system sustainability* refers to the creation of opportunities for innovation, learning about one another and the food system (Hassanein, 2003). Collaborations are built at niche level (i.e., between actors within a niche network or between actors of different niches), at regime level (i.e., between

¹ We refer to transition as the processes and dynamics producing patterns of change; while transformation highlights ‘what’ changes from these patterns of change and what are outcomes at a systemic level (Hölscher et al., 2018).

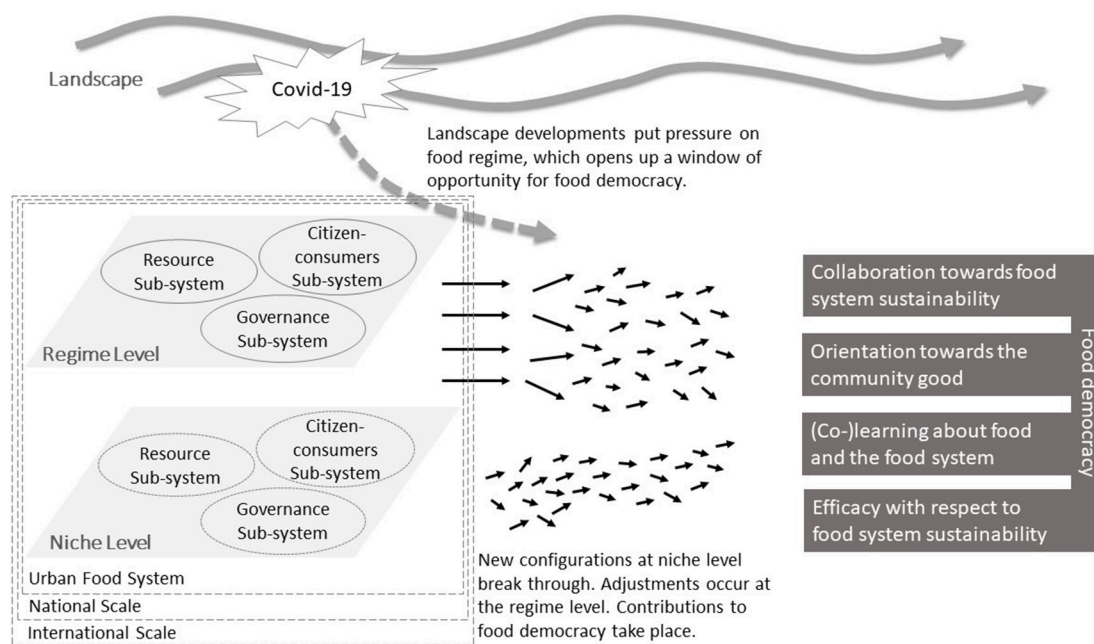


Fig. 1. Conceptual framework for food democracy (based on Geels and Schot (2007), and López Cifuentes and Gugereil (2021)). Continuous arrows: stability; dash arrows: changes; dashed lines: administrative boundaries.

actors of one or various sub-systems), between niche and regime actors, or between niche or regime level actors and society (López Cifuentes & Gugereil, 2021). (ii) *Orientation towards the community good* is the willingness to go beyond actors' own interests to promote the well-being of the community and sustainability of the food system (Hassanein, 2008). (iii) *(Co-)learning about food and the food system* allows for learning from one another about food and the food system (Hassanein, 2008; Levkoe, 2006). Actors in the food system at different levels (niche and regime) and sectors (sub-systems) may contribute to food democracy by extending citizens' and other actors' knowledge about food and the food system. (iv) *Efficacy with respect to food system sustainability* refers to the actors' capacity to determine and produce desired results that contribute to food system sustainability (Hassanein, 2008). This capacity can be determined by acting as agents of change – i.e., playing a significant role in initiating, managing, or implementing change and in raising citizen awareness about food and food system sustainability (Baldy & Kruse, 2019; Caldwell, 2003). Efficacy can also be determined by (sustainable) practices used, experiences made and expectations developed by actors (Baldy & Kruse, 2019). Furthermore, niche actors might develop efficacy towards food system sustainability through “out-scaling” (i.e., replication and diffusion of innovations) and “up-scaling” strategies (i.e., reconfiguration of innovations into a broader system) (Hermans et al., 2016; Moore & Westley, 2011).

3. The case study: Vienna's urban food system

We conducted a single case study (see Yin, 2003), in which we analyze the responses from actors of VUFS on the first Covid-19 wave in spring 2020. Vienna is the capital of Austria and is the fifth-largest city in the European Union (Lukacsy & Fendt, 2020). The growth is mainly caused by strong migration, making Vienna also a very diverse city. However, in contrast to other European cities, social and segregation patterns are not increasing in Vienna due to political integration measures such as communal housing across the city (i.e., 31 % of the Viennese live in municipal housing) (Benz, 2019). In general, the life quality in Vienna is regarded as very high (e.g., Mercer, 2018) and is one of the wealthiest regions in Europe (Stadt Wien – Wirtschaft Arbeit und Statistik, 2021). Vienna has a comparable strong urban agricultural sector, especially in vegetable production (Landwirtschaftskammer

Wien, 2017). However, like other European cities, Vienna's urban food system is highly internationalized and food industry and distribution are highly concentrated (Howard, 2016). In contrast, the city government and administration committed themselves to promoting sustainable urban food systems by signing the Milan Urban Food Policy Pact.

The first cases of Covid-19 in Austria were reported on February 25th, 2020. Case numbers started to rise beginning of March. On March 26th, the highest daily number of new Covid-19 cases during the first phase was measured. Beginning of April, the number of active Covid-19 cases reached its peak during the first wave. On March 16th, the Austrian Government commanded a strict nationwide lock-down, which lasted until April 14th. Afterward, the lock-down was eased step by step, but many accompanying Covid-19 related hygiene measures stayed in place. On May 15th, the gastronomy was able to re-open, and on June 16th, most Covid-19 related measures were lifted (Fig. 2).

4. Methods

4.1. Data collection

In this study a mixed methods approach was applied. We conducted a qualitative media analysis and qualitative interviews to identify and describe (i) the impacts of Covid-19 on VUFS, (ii) the responses of actors of VUFS to these impacts and (iii) the potential contributions of such responses towards food democracy of VUFS.

4.2. Media analysis

We conducted a qualitative media analysis (see Altheide & Schneider, 2013) of newspaper articles. A qualitative analysis was necessary because quantitative content analysis is not able to capture the latent meaning and context of the text (Macnamara, 2005). The qualitative media analysis provided us with insights into the actual happenings of VUFS during the Covid-19 pandemic. Although news cannot provide an objective representation of reality (see Waisbord, 2018), as they are always framed in a certain way (Entman, 1993; Scheufele, 1999), and are influenced by interests of governmental and economic actors (Herman & Chomsky, 2010), they are, at least to some degree, reflecting societal developments. For this research, we assume

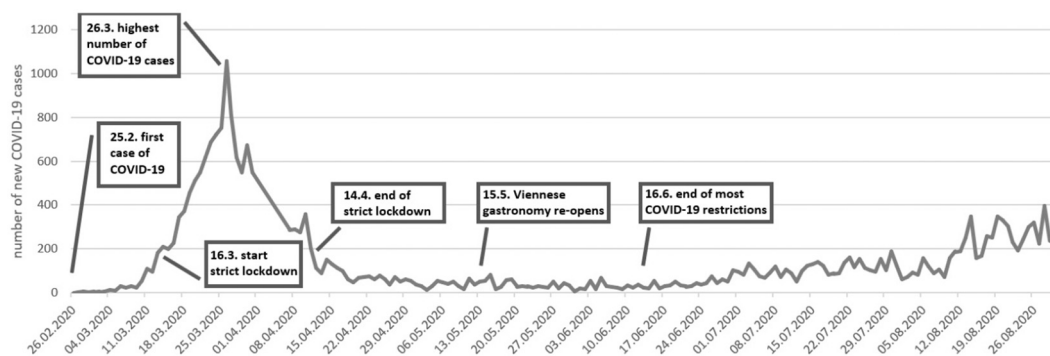


Fig. 2. Timeline of new Covid-19 cases in Austrian from 25.2.2020 to 31.8.2020 and important events. Source for Covid-19 numbers: AGES (2022).

that the coverage in high-quality, independent newspapers, which follow certain journalistic principles, can provide us with a somewhat balanced view of the happenings during the crisis.

We adopted a purposive sampling approach for the media analysis (Altheide & Schneider, 2013), reflecting the assumption about the importance of high-quality newspapers. We aimed for various viewpoints and included the largest high-quality nationwide daily newspapers with different editorial policies: Der Standard (progressive) and die Presse (conservative). We also included two other high-quality newspapers focusing on Vienna: The Wiener Zeitung (nationwide, daily newspaper, no particular editorial policy) and der Falter (a weekly regional newspaper, progressive). In addition to the newspapers, we included the Vienna’s municipality’s press releases – to cover Viennese-specific information that did not make it in the newspapers. The time frame for the media analysis was from the beginning of March till End of September 2020. This period encompasses the complete first wave of the Covid-19 pandemic and the related measures. It also includes the two relatively “normal” summer months that followed, which allows reflections about the happenings during the first wave.

To collect relevant articles, we conducted a keyword search in their respective online outlets for the given time frame. The online outlets of the newspapers include print articles and additional online-only information. The German key-words used were synonyms for the pandemic (Covid-19, corona) and words that indicate an aspect of the VUFS (Landwirtschaft (agriculture, farming), Lebensmittel (food), Handel (retail), Essen (nutrition, eating, meal), Gastronomie (gastronomy)). The query had the following structure [Vienna] + [Covid synonym] + [food system key-word]. Also, articles were retrieved in which the key-word was part of a longer word (e.g., Lebensmittelindustrie (food industrie) or Lebensmittelproduktion (food production)). The key-word search resulted in a total number of 770 articles (Standard 344, Presse 246, Falter 41, Wienerzeitung 63, City of Vienna press release 75). We reduced the number of articles and documents in two steps. First, we sorted out copies of articles. Second, we screened articles for valuable information for this research. To this end it was checked if the key words truly referred to the pandemic, food systems or the city of Vienna. Articles where Covid-19 or food issues were only mentioned as a side note or had no relevance for VUFS were sorted out. In the end, 198 documents remained for the data analysis.

4.3. Qualitative interviews

To better include the responses at the niche level in our analysis, we conducted qualitative interviews with key persons of selected initiatives and start-ups at the niche level. The guide consisted of three main, open questions (translated from German): (i) in your opinion, what were the most important influences of the Corona crisis on the Viennese food system? (ii) how did these effects of the Corona crisis influence your initiative/company? (iii) how did you/do you react to it or what

measures did you/do you take? Potential participants were contacted via email. Pending on their preferences, participants either participated in telephone interviews or were sent the questions per e-mail and answered them in a written (or audio recorded) form. If interview partners answered in a written form further correspondence took place to clarify unclarities. Interviewees were asked about the impacts of Covid-19 they observed in VUFS, the impacts that affected their initiative/start-up, and their responses. In total, 11 people participated in the research (Table 1),² eight choose to response in a written or audio format and three via telephone interviews. Due to Covid-19, face-to-face interviews were not possible. The material from the phone interviews was transcribed.

4.4. Data analysis

We conducted a qualitative content analysis of the selected articles, and the interview answers to identify and describe the responses of various actors of VUFS to Covid-19 impacts. The coding was done by two coders. The aim was to identify what type of responses to different impacts of the Covid-19 crises were carried out by what actors of the food system and how those responses affect the four dimensions of food democracy. The unit of analysis was an article (media analysis) and paragraph (interviews). It was possible – but very rare – that one article could contain the description of several responses. A combination of inductive and deductive coding of the text segments was then applied (Saldana, 2009). Deductive codes were derived from our theoretical framework. First, the concept of food system subsystems (resource,

Table 1 Interview partners.

Interview partner number	Type of organization
IP-1	Digital farmers’ market
IP-2	Novel food company
IP-3	Food cooperative
IP-4	Urban gardening and education organization
IP-5	Small café and organic grocery shop
IP-6	Food cooperative
IP-7	Food policy council
IP-8	Urban gardening organization
IP-9	Veggie-box and organic farmer
IP-10	Novel food company
IP-11	Novel food company

² The selection of initiatives is based on previous work conducted in the project “the future of urban food” (<https://urbanfood.boku.ac.at/en/>) (Gugerell and Penker, 2020) to which this research has some connections (see acknowledgements). In total 46 initiatives or umbrella groups, which represented a larger number of initiatives were contacted.

consumption and governance subsystem) was used to assess what part of VUFS was impacted by the Covid-19 crisis. Second, the subsystems were combined with the levels of the MLP (regime and niche) to identify what actors responded to the impacts. Finally, we used the framework of food democracy to identify which dimension is affected by the response of the actors (collaboration, orientation towards common good, co-learning or efficacy, see Fig. 1) and to assess, if the response affected food democracy positively, negatively or in an ambivalent way. Ambivalent in this regard means that a response could contribute to food democracy or diminish it, depending on other circumstances and the specific context. The type of responses and the type of Covid-19 impact that caused the responses were coded inductively. The initial coding framework was refined after a first test run and after the analysis's midpoint (Altheide & Schneider, 2013). An additional category that captures actors outside the city of Vienna was added, the categories to assess the impacts of the responses on the four dimensions of food democracy were simplified, and the other deductive categories were defined in more detail after the first test run. The inductive categories were re-structured and harmonized for the rest of the analysis.

In addition to this qualitative description, we also measured how often a specific response got covered in the newspaper articles and the interviews answers. Regarding the media analysis it is important to clarify that the number of mentions does not equate the truly greatest impact of Covid-19, but rather that to the perception and awareness of those impacts. The same is true for the responses to Covid-19. A large number of mentions of a particular response mean first and foremost that it was prominently covered in the media.

5. Results

5.1. Perceived Covid-19 impacts on VUFS

Our analysis found 198 newspaper articles and 23 interview passages in which impacts of Covid-19 on VUFS were mentioned. In total, we identified 35 different types of Covid-19 impacts. However, 17 impacts were only mentioned once, while 8 impacts were mentioned 10 times or more. The ten most prominent impacts accounted for 79 % of the total number of mentions:

1. Economic pressures on businesses (44 mentions in articles; 1 in interviews): negative economic effects on various businesses along the agro-food value chain. Most negative economic effects were caused by the lock-down that was put in place to hinder the virus's spread. Media shows a high focus on the negative effects on the gastronomy to which the negative effects on other businesses of VUFS are often related. Besides, farmers also faced negative economic effects because of the collapse of export markets.
2. Closure of gastronomy (24; 2): The Viennese gastronomy had to close from March 16th to May 15th. During this first lock-down, food delivery was still possible. The closure had indirect impacts on farmers delivering gastronomes and other related industries. Afterward, re-opening was possible under specific hygiene protocols. The closure of gastronomy had adverse effect on the economy as well as on social life of the Viennese citizens.
3. Infections and health risks (23; 5): The risk of infection and related health problems of Covid-19 provoked citizens' fear of getting infected and altered Viennese citizens' behaviors.
4. Increased demand for workers in retail, food industry, and agriculture (17, 1): During the first wave of Covid-19, many foreign seasonal field workers left Austria and the closure of national borders made the commute of foreign workers in the food industry impossible. Furthermore, increased food sales need to an increased demand for workers in the retail sector.
5. Increased demand for regional food (7; 7): The disruption of global supply chains caused an increased demand for regional products in Vienna.
6. Fear of food shortages (9; 2): During the beginning of the pandemic, people feared the disruption of global supply chains. The general uncertainty led to panic buying. In general, no real food shortages occurred in Austria. There were only shortages of specific products (yeast, pasta, or toilet paper) for a minimal timeframe.
7. Exhaustion and health risks for workers (10; 0): Employees in the retail sector belonged to the system-relevant workforce and therefore had to work during the strict lock-down. High workload and the risks of infection, led to exhaustion and health risks.
8. Social distancing and isolation (7; 2): With the lock-down, social gatherings were restricted.
9. Increased economic pressures on vulnerable citizens (8; 0): Due to the Covid-19 restrictions, many people lost their job or were not able to pursue their businesses. This led to economic pressures, and especially already vulnerable citizens were in danger of poverty.
10. Increased visibility of vulnerabilities of the food system (4, 3): The disturbances of Covid-19 raised awareness about existing challenges for our food system, e.g., bad working conditions for employees in the food industry, or vulnerability of farmworkers.

Our analysis shows that the media covered by far the most Covid-19 impacts on the resource sub-system (176 mentions). Impacts of the Covid-19 pandemic were perceived to affect the resource sub-system the most. Impacts on the citizen sub-system were mentioned far less (41), and impacts on the governance sub-system were almost not mentioned (2). We identified a multiplicity of responses to these impacts.

5.2. Responses of VUFS to Covid-19

5.2.1. Responses from actors outside VUFS

In total, 6 different types of responses from actors outside the VUFS were identified (Table 2, column 2). Those different types of responses were applied to counter 10 different impacts of the Covid-19 crisis (the number of unique impacts in column 4) resulting in 14 unique responses to specific Covid-impacts (the total number of impacts in column 4). The federal government was the most relevant actor from outside VUFS. Other actors from outside VUFS played a minor role in implementing hygiene measures or creating an online platform for regional commerce.

Most responses from the federal government to Covid-19 are classified as either measures to deal with the immediate crisis in the VUFS or as measures to mitigate the lock-down's connected negative effects. Responses of the first category are hygiene measures to stop the spread of the virus, the deployment of the military to address bottlenecks in the food distribution system, the establishment of an online platform where people could register to replace absent foreign field workers, and enabling that foreign workers in the food industry can cross closed national borders.

However, the most prominently covered governmental responses serve the mitigation of negative economic effects caused by the lock-down. Financial, governmental aid for businesses (especially gastronomy) that had to temporarily close due to the lock-down was the most prominent response in this study. The government provided different financial aids, such as subsidies for the fixed costs or tax cuts for consuming food and drinks after the re-opening of the gastronomy. The second major financial, governmental aid was measures that allowed people to maintain their jobs during the difficulties of the lock-down. For example, the introduction of "short-time work" allowed people to be employed for a fraction of their regular working hours, and the government covered the wage difference.

All the responses mentioned so far addressed the short-term direct or indirect impacts of Covid-19. They mainly are conservative and keep the

Table 2
Responses of actors outside the VUFS (mentioned more than once).

Responsive actor	Type of response	Potential contributions to food democracy dimensions					Type of impact originating response	Sub-system impacted	No. of mentions
		Effects	Collab.	Comm	Knowl	Effic.			
Governance	Government measure: financial aid & tax reduction	None					Economic pressures on business/farmers (14); sales collapse for businesses/farmers (2); increase poverty (1); workload and health risks for workers (1)	Resource (16); citizens (1)	17
Governance (4), resource (3)	Hygiene measures	None					Workload and health risks for workers (3); infection/health risks (3); closure gastronomy (1)	Resource	7
Governance	Government measure: job security	Positive (3) ^a ; positive (1)		x (4)		x (1)	Economic pressure on businesses/farmers (3); increase unemployment: gastro (1)	Resource	4
Governance	Military deployment	None					Increase job demand in retail and agriculture	Resource	3
Governance	Prioritization of basic needs sectors	None					Infection/health risks (1); supply shortage oil fuel (1)	Resource	2
Citizens (1); governance (1)	Government measure: support online (regional) commerce	Positive (2); ambivalent (2)	x (2, pos) ^b			x (2, amb)	Sales collapse for businesses/farmers (1); increase online shopping (2)	Resource	2

^a Numbers in brackets indicate the number of articles that characterized the response as contributing (positively, negatively or ambivalently) to this specific dimension. The same response can contribute to one or more dimensions.

^b The abbreviation behind the number of responses indicates whether the contribution was positive (pos) or ambivalent (amb).

existing structures of the VUFS running. Since they aim to maintain the status quo, they have very little effect on the dimensions of food democracy (Table 2). Still securing jobs and keep companies in business

can have some - but likely small - impacts on the dimensions 'orientation towards the common good' since harm and poverty of employees is avoided and sometimes also contribute to efficacy (Table 2). However, it

Table 3
Responses of actors of the VUFS at regime level (mentioned more than once).

Responsive actor	Type of response	Potential contributions to food democracy dimensions					Type of impact originating response	Sub-system impacted	Number of mentions
		Effect	Collab.	Comm.	Knowl.	Effic.			
Citizens	Raising public awareness	Positive			x		Various ^b	Resource (5); citizens (3)	8
Citizens	Panic buying	Negative		x			Fear of food shortages	Citizens	7
Citizens	Increase online shopping	Ambivalent				x	Fear: health/infection risks	Citizens	6
Citizens	Increase home cooking	Positive		x	x	x	Social distancing/isolation (3); closure gastronomy (1)	Citizens	5
Citizens	Help from aid organizations	Ambivalent		x			Increase pressure on vulnerable citizens	Citizens	4
Citizens	New use of public space	Positive		x			Closure gastronomy (3); fear of infection risk (1); vacation not possible (1)	Citizens	3
Governance	Gastro coupons	None					Economic pressure on businesses/farmers	Resource	13
Governance	Municipal support	None (4) ^a ; positive (1)				x (1)	Economic pressure on businesses/farmers (4); pressures on food initiatives (1)	Resource	5
Governance	Advertising campaign	None					Economic pressure on businesses/farmers (1); decrease of tourism (1)	Resource	2
Resource	Increase delivery services	Ambivalent				x	Closure gastronomy	Resource	9
Resource	Hiring temporal staff	None					Worker shortage in retail and agriculture	Resource	7
Resource	Increase (online) capacities	Ambivalent				x	Increase online shopping	Resource	5
Resource	Food donations	Positive	x	x			Closure gastronomy (4); increase food waste (1)	Resource	5
Resource	Raising public awareness	Positive			x		Visibility VUFS weakness: lack of self-sufficiency (1); economic pressure on businesses/farmers (1); closure national borders (1); decrease of tourism (1)	Resource	4
Resource	one-time payment	None					Workload and health risks for workers (3); worker shortage in meat sector (1)	Resource	4
Resource	Support via voucher scheme	Positive	x				Closure gastronomy	Resource	3
Resource	Increase regional food offer	Positive		x		x	Increase regional food demand	Resource	2
Resource	Hygiene measures	None					Infection/health risks	Resource	2
Resource	Increase sales big retailers	Negative				x	Fear of food shortages	Resource	2

^a Numbers in brackets indicate the number of articles that characterized the response as contributing (positively, negatively or ambivalently) to this specific dimension. The same response can contribute to one or more dimensions.

^b Challenges in meat sector: health risks (3); increase regional food demand (2); fear: food shortages (1); visibility VUFS weakness: working conditions (1); pressures on women during pandemic (1).

is hard to see how those little positive impacts could lead to a rapid promotion of food democracy due to the conservative nature of the responses. However, some other government activities supported raising awareness about the working conditions in the food industry (e.g., the establishment of an online platform for fieldworkers) and the relevance of consuming regional foods (e.g., the collaboration between government and business actors to create an online platform to push regional commerce). Such measures could foster knowledge about food production and origin among citizens as well as collaboration among actors and thus, could have positive impacts on food democracy.

To summarize, the response from outside VUFS was mainly from the federal government aimed to stabilize the current food system, and maintain its basic functions. Therefore, they have minimal impact on the transformation of the food system.

5.2.2. Responses from actors from the VUFS regime

The responses from actors of VUFS regime got the most newspaper coverage. We identified 6 different types of responses from the civil society sub-system (Table 3; column 2) that were used to counter 9 different Covid-19 impacts (the number of unique impacts in column 4) resulting in 13 unique responses to specific Covid-impacts (the total number of impacts in column 4); 3 types responses from the governance sub-system that aimed to counter 3 different Covid-19 impacts resulting in 5 unique responses to impacts; and 10 types of responses from the resource sub-system aimed to counter 13 different impacts of Covid-19 resulting in 16 unique responses to specific impacts. The majority of the civil society sub-system responses could have some positive effects on the transformation towards more food democracy. These responses mainly contribute to promoting an orientation towards the community good or increasing the knowledge about the food system (Table 3) – e.g., the increase of home cooking, increase demand for regional food and the new use of public city space for gatherings and socializing as a response to the closure of gastronomy. In addition, actors in this sub-system also raised public awareness about problems of VUFS, acted as agents of change, and contributed to creating knowledge about food and the food system.

Besides these positive actions, we also identified responses that could have a negative or an ambivalent impact on the transformation towards more food democracy (Table 3). The most prominent negative example was panic buying as a response to feared food shortages. Such actions can cause mistrust in a community and, therefore, negatively affect the orientation towards the community good. We identified two prominent responses with ambivalent effects on food democracy: increases of online shopping and the increased activity of help organizations. We regarded the first response as ambivalent because, while local and sustainable farms and businesses could benefit from increased online shopping; online shopping takes place at increasingly large and international platforms such as Amazon, which could have negative effects on the efficacy of the food system. The activities of aid organizations are, on the one hand, a positive indication of an orientation towards the community good in VUFS; but, on the other hand, they are also a sign that the state and the economy cannot ensure good livelihoods for all its citizens.

The responses of the governance actors of VUFS regime (i.e., city government and municipal authorities) did not contribute, or only to some extent, to food democracy, as they generally aimed the maintenance of the status quo (Table 3). The most covered response was the deliverance of gastro coupons to every Viennese household by the city government. The coupons were a response to Viennese gastronomy's dire economic situation and were introduced in the summer after the lock-down. Citizens could use the coupons to consume food and non-alcoholic beverages in Viennese restaurants for 25€ per person. Although this measure was heavily discussed and covered in the media, there are no connected effects to food democracy.

8 from the 16 responses to particular Covid-19 impacts of regime actors from the resource sub-system of VUFS had potential positive

impacts on food democracy (Table 3). Those responses affected mainly the promotion of collaborations among actors, followed by positive impacts on the system's efficacy, the creation and sharing of knowledge about the food system, and the orientation towards the community good. The most covered positive response was the donation of food to charities, which we regarded as positive for the community good and the collaborations between different actors. Other positive responses are technical and organizational innovations connected to the food industry's adaptation to the crisis. In this context, food retailers collaborated with researchers to identify risky bottlenecks in their supply chains or shared employees between companies to avoid a worker shortage. Finally, the increased offer of regional products in mainstream food retailers can also be seen as a positive response to increasing demand for such products.

In contrast, we identified other responses that had either no or ambivalent influence or even negative effects on the dimensions of food democracy (Table 3). The responses that had no effect on food democracy served either to cope with the new workload in the food industry and retail sector (e.g., hiring of temporal staff) or to address the infections risks of workers and employees (e.g., hygiene measures or testing). Responses that had negative effects on food democracy did not receive much coverage. Such responses often negatively affected the orientation towards the community good (e.g., pressures on employees in the retail sector to work despite health concerns), the efficacy of the food system (e.g., the increased sales of already dominant food retailers) or both (e.g., the food disposal of food manufactures). Responses with ambivalent effects on food democracy received more attention. The most prominent ambivalent responses were the increase of home delivery services because of the closure of the gastronomy and the increase of food retailers' e-commerce activities, due to the bigger demand of online shopping. As mentioned earlier, increased e-commerce capacities can be a double-edged sword, which, on the one hand, could provide opportunities for smaller, local, sustainable producers, but, on the other hand, could also reinforce the trend towards global, highly integrated food supply chains. The increase of home delivery helped the Viennese gastronomy to survive during the lock-down, while the working conditions in the food home delivery sector are often problematic.

5.2.3. Responses from actors from the VUFS niches

Some niche actors perceived the Covid-19 crisis as a chance that allowed them to up-scale due to increased demand for regional food and the fear of the costumers of infection risks, when buying food via conventional retail channels. This growth permitted the professionalization and expansion of niche actors' innovations by optimizing niche internal structural processes such as logistical organization of distribution (IP-1, 9), by opening new market opportunities such as online shopping and delivery services (IP-2) or by developing new products (IP-2, 10, 11). The growth of these initiatives and start-ups seems to be beneficial for a transformation towards more food democracy due to their contribution to efficacy and the other dimensions of food democracy (Table 4). Yet, one interviewee highlighted that this development was possible because "[they] structured themselves well and developed well and were well organized and so [they] were well prepared even before this Corona crisis, but this situation gave us a tailwind [to grow]" (IP-9).

Interviewees also mentioned their active role in social media during the Covid-19 crisis to raise awareness among citizens about their initiatives and food system sustainability (IP-1, 2, 7). Particularly, the Viennese food policy council used this opportunity to create an awareness campaign about food system's vulnerabilities highlighted by Covid-19 and perceived that "when it comes to nutrition: People have seen [during the pandemic] how diverse the system actually is and have bought their groceries elsewhere (e.g. farmers markets, organic boxes, online...)" (IP-7). Another interviewee perceived that "this longing for regional enjoyment has also increased the willingness of many customers to spend more money on the value of regional food" (IP-2).

One interviewee pointed out how the Covid-19 crisis provided an

Table 4
Responses of niche actors within the VUFS.

Responsive actor	Type of response	Potential contributions to food democracy					Type of impact originating response	Sub-system impacted	No. of mentions
		Effect	Collab.	Comm.	Knowl.	Effic.			
Resource (8); citizens (1)	Niche growth	Positive	x (4) ^a	x (2)		x (8)	Increase regional food demand (5); fear of health/infection risks (3)	Resource (6); citizens (3)	9
Citizens (5), governance (2); resource (1)	Raising public awareness	Positive			x		Increase regional food demand (2); visibility FS weaknesses (2); worker shortage in retail and agriculture (1); fear of food shortages (1); disruption everyday economics (1); social distancing/isolation (1)	Citizens (4); resource (3); governance (1)	8
Resource	Increase (online) capacities	Positive	x	x		x	Fear of health/infection risks (3); social distancing/isolation (1)	Resource	4
Citizens (1), resource (2)	Innovation: food distribution/marketing	Positive	x		x	x	Increase job demand in retail and agriculture (1); economic pressure on businesses/farmers (1); sales collapse for businesses/farmers (1)	Resource	3
Citizens	Increase interest on food growing	Positive		x	x		Increase regional food demand	Citizens	2
Citizens	New use of public space	Positive		x			Closure gastronomy (3); decrease of tourism (1); fear: health risk infection (1)	Citizens	2
Resource	Innovation: new products/raw materials	Positive				x	More available time; lack of raw materials	Resource	2

^a Numbers in brackets indicate the number of articles that characterized the response as contributing (positively, negatively or ambivalently) to this specific dimension. The same response can contribute to one or more dimensions.

opportunity to build new relations with citizens (IP-5). Interviewees also mentioned the increase in commitment of the members of their initiatives, showing self-transcendent values and thus contributing to the community good (IP-3, 5, 7). Moreover, actors perceived an increase in interest among citizens in their products (i.e., organic and local foods) (IP-1, 2, 9) or activities (i.e., gardening, food cooperatives) (IP-3, 4, 5, 8). For instance, IP-4 mention that *“the need to grow vegetables myself has increased due to the Covid crisis - how can I feed myself in times of crisis; also more interest from educators in gardening workshops for children about vegetable cultivation and ecological relationships.”* Finally, due to the closure of gastronomy sector and the risks of infection indoors, also niche actors used public space more often and new ways (e.g., for dining, cultural events, or socializing) (IP-1, 11).

Besides those positive responses, actors at the niche level also had to respond to the immediate disruptions of the crisis and hire temporal staff, implement hygiene and social (physical) distance protocols, or change their raw materials due to the lack of availability of certain products which, though contributing to the dimension of efficacy, have no relevant long-term effects on food democracy, as they were punctual responses during the first wave of the pandemic (IP-1, 9).

6. Discussion

Our results show that the various actors from the different sub-systems responded contrarily to the crisis. Established governance actors from the municipal or federal level tried to mitigate the negative effects of the lock-down and maintain VUFS’ status quo. These reactions, such as the introduction of gastro coupons to subsidize the struggling gastronomy sector did not aim to trigger fundamental change and, therefore, are not likely to promote food democracy, which requires a change of structures (Hassanein, 2003, 2008). Actors in the resource sub-system reacted more dynamically. However, not all of those responses pushed VUFS towards more food democracy. On the contrary, some of them –such as increase sales of big retailers– seem rather to maintain the status quo rather than starting a transformation. This may be due to the market-orientation and capitalist-alignment of actors of the resource sub-system, especially at the regime level, that prioritize economic profit over other dimensions (Feola, 2020; Hassanein, 2003; Lang, 1999; López Cifuentes & Gugerell, 2021).

When looking at the responses that were favorable for a transition towards more food democracy, we see that the only very few responses had positive effects on the dimension collaboration and (co-)production

of knowledge (Tables 2, 3 and 4). Still, the local and federal government did collaborate with other actors during the first wave of the Covid-19 and contributed to awareness-raising about the relevance of consuming regional food and the workers’ working conditions in the food system. Actors at niche and regime level also contributed to creating and sharing knowledge as well as raising awareness. Although it is too soon to assess to what extent such contributions had an impact on citizens, we consider the introduction of these topics in the general public debate a step forward towards the transformation of the food system due to the relevance of individuals’ knowledge about food and the food system for the transformation capacity of urban food systems (Hassanein, 2003; Levkoe, 2006; Wolfram, 2016). Moreover, collaborations that emerged from these activities could lead to new forms of collaboration towards food sustainability in the future. However, scholars argue that a transition towards food system sustainability, requires multiple types of cross-level collaborations (e.g., niche-regime) that create new democratic spaces in which actors can learn about one another (Friedrich et al., 2019; Hassanein, 2003; Norwood, 2015). Such spaces were not found in our study – and neither before the crisis in VUFS (López Cifuentes & Gugerell, 2021).

Actors outside VUFS and at the regime level seem to have contributed primarily to the orientation to the community good by, for example, ensuring job security, making new use of public space or increasing the offer of local food (Table 2). Citizens consumed more regional food and did more cooking which we consider contributed to caring practices – i.e., “caring about both the human and non-human communities of place we inhabit” (Hassanein, 2008: 291). Interviewees perceived that such activities were enabled by the increase of citizens’ free time which highlights the interaction of the food system with other systems (Geels, 2011) and the relevance of time for citizens to be able to participate in the food system actively (e.g., Tregear, 2011). This is in line with other studies that found that due to the closure of the gastronomy sector in many countries and the sudden time availability, people started to cook more and, in some cases, be more conscious about the food they purchased (see, for example, Hobbs (2020), Ferreira Rodrigues et al. (2021), and Molina-Montes et al. (2021)). Actors from the regime sub-system also contributed to the community good, e.g., by donating food after the gastronomy sector’s closure so it would not go to waste (resource sub-system) or directly donating gastronomy vouchers (citizens). Although we consider (food) donations and help from aid organizations a symptom of the food system’s incapacity to feed everyone and thus a negative response, in this specific case, we assessed

this response as a caring practice as actors were collaborating to avoid food waste and supporting people in need. Such interactions and responses may raise awareness about the food system's vulnerabilities (i. e., food waste and access to food) and promote future collaborations.

Finally, reactions from actors at the regime and niche level primarily contribute to efficacy positively (Tables 3 and 4). For example, municipal authorities supported actors at the regime and niche level to continue their activities which resulted in the up-scaling of several start-ups that aim to contribute to food system sustainability. This highlights the relevance of municipal authorities and local governments' support for niche initiatives (López Cifuentes & Gugerell, 2021). Furthermore, interviewees highlighted that these start-ups were able to grow during the Covid-19 due to their previous established position and developed internal structure and logistic systems. Otherwise, they may not have been able to take advantage of this window of opportunity to grow (Geels & Schot, 2007).

Further insights could have emerged from a longer-term study that included not only the first wave of Covid-19, but the ones that followed. However, by the time this study was conducted, the second wave had just begun. Therefore, this study cannot analyze the long-term repercussions of Covid-19 for food democracy. Nevertheless, the findings still show how various actors reacted to the first wave and if their responses aimed to trigger fundamental changes in VUFS that could lead to more severe long-term changes. Another limitation of our study is fact that the main results are based on a media analysis which raises the need to be aware that the findings represent how certain events were covered by (high quality) media and that these events have not been observed directly. Furthermore, the number of interviews is comparable small since the interviews were added to the research design when it became clear that the niche level was underrepresented in the media. Due to time constraints and the still on-going pressures of the pandemic on niche actors, only a limited number of interviews were conducted. However, the findings of the interviews provide a rich picture of the activities of the niche level and are also in line with the findings of other academic literature – as argued before.

7. Conclusion

This study indicates that while the window of opportunity opened by the first Covid-19 wave served to partially foster niches with sustainability aims to grow and contribute to a change towards more food democracy; a coordinated effort of actors across different levels and sectors to transform the urban food system has not taken place. Instead, actors from the governance sub-system adopted conservative measures that served to maintain the status quo before the crisis (for example, financial aid) instead of aiming for more innovative and transformative measures. In the light of such evidence, we conclude that food system transformation do not automatically happen if a crisis occurs (Geels & Schot, 2007). Actors of the food system need to be matured to be able to exploit windows of opportunities and initiate long-term transformations (Geels & Schot, 2007). Knowledge and visions for change have to be built in advance, and networks of change-agents need to be in place when the crisis hit (Folke et al., 2005). Otherwise, governmental actors are caught up in the crisis's short-term events and focus on remedying the immediate effects, while the already dominant regime actors will emerge stronger from the crisis. Our study confirms this and shows that, for example, governmental actors tried to maintain existing structures with financial aid and dominant actors in the value chain used the crisis to strengthen their position by innovating and investing into future markets (e.g., retailers entered online marketing and home delivery).

How can urban food systems be "prepared" for managing transformative change in the face of a crisis like the Covid-19? Wolfram (2016) calls for the fostering of urban transformative capacity in order to enable cities to initiate and perform transitions. This capacity is built through inclusive multi-level governance and cooperation across levels and scales; transformative leadership and visions about a sustainable

future; empowered community of practices and a culture of experimentation with disruptive solutions, innovation, reflexivity and social learning.

Although the first wave of Covid-19 did not trigger a transformation towards more food democracy in Vienna, the crisis could be at least a starting point for the nurturing of transformative capacity. Already before Covid-19, politicians on the city and the federal level committed themselves to create more sustainable and just (urban) food systems.³ The pandemic created public awareness about our current food system's shortcomings and, hence, provides legitimacy for activities and political measures to change it. However, these measures would have to look different from the policy responses of the first wave of Covid-19. A transformative policy approach seems necessary to nurture transformative capacity and support the different stages of a transition to more food democracy. Such policy includes creating a knowledge base for innovations and beneficial trends, promoting social innovations, developing pools of institutional innovations through experimentations, fostering visions for alternative system configurations, supporting actors who provide services in those alternative configurations, and organizing exnovation out of incumbent systems (i.e. the active phasing out of problematic technologies, practices etc.) (Jacob & Ekins, 2020). Food policy councils and other civic food initiatives such as citizen tribunals, hackatons or citizen summits emerging around the world can bring different actors together and push for democratic innovations (Candel, 2022). If they are correctly supported by transformative politics they can contribute to the building of urban transformative capital and become a catalysator for the establishment of new transformative policies. For example, Holtkamp and van Mierlo (2022) recently showed how a local movement paved the way towards the democratization of local food systems through the mobilization of local actors, the introduction of legally binding referenda and the creation of new networks. As emphasized in the MLP, if the pressures of the landscape – such as a pandemic – should function as a leverage point for positive transition, actors from the regime and niche level have to interact to leverage the potential of niche innovations and change regime structures. Thus, we consider that the recently founded Viennese food policy council could function as an intermediary between established and novel actors in order to build much needed urban transformative capacity before the next crisis hits.

Covid-19 was not a one-time event in the spring of 2020, but rather turned out to be an ongoing challenge for our cities. The question arises, if the ongoing windows of opportunity opened by the pandemic can lead to positive change of food systems. Crisis as chance has become a buzzword. Often we wish that a sudden disruption changes our structures and routines and enables a fresh start from scratch. In contrast to this popular view, our findings suggest that a crisis does not provide a clean sweep, but rather can trigger slower transition processes that have to be actively prepared and managed. More research is needed to understand the long-term effects of Covid-19 fully. However, a transformative policy approach to promote urban transformative capacity appears to be critical to harnessing future crises to realize a possible transition path to more food democracy.

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Availability of data and materials

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

CRedit authorship contribution statement

Both authors contributed equally to the study and writing of the paper – i.e., conceptualization, methodology, formal analysis, writing and revision.

Declaration of competing interest

The authors declare that no competing interests are present in the research.

Data availability

Data will be made available on request.

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Appendix A. Supplementary data

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References

- AGES – Österreichische Agentur für Gesundheit und Ernährungssicherheit. (2022). AGES dashboard COVID19 [Online]. Available: <https://covid19-dashboards.ages.at/> [Accessed 44.08.2022].
- Altheide, D. L., & Schneider, C. J. (2013). *Qualitative media analysis*. Sage Publications.
- Altieri, M. A., & Nicholls, C. I. (2020). Agroecology and the emergence of a post COVID-19 agriculture. *Agriculture and Human Values*, 37, 525–526. <https://doi.org/10.1007/s10460-020-10043-7>
- Baldy, J., & Kruse, S. (2019). Food democracy from the top down? State-driven participation processes for local food system transformations towards sustainability. *Politics and Governance*, 7, 68–80. <https://doi.org/10.17645/pag.v7i4.2089>
- Benz, M. (2019). *Die meisten Wiener leben in einer geforderten Wohnung. Was paradiesisch klingt, taugt dennoch nicht als Vorbild in der Wohnungspolitik*. Neue Zürcher Zeitung.
- Bornemann, B., & Weiland, S. (2019). Empowering people—Democratising the food system? Exploring the democratic potential of food-related empowerment forms. *Politics and Governance*, 7, <https://doi.org/10.17645/pag.v7i4.2190>
- Bui, S., Cardona, A., Lamine, C., & Cerf, M. (2016). Sustainability transitions: Insights on processes of niche-regime interaction and regime reconfiguration in Agri-food systems. *Journal of Rural Studies*, 48, 92–103. <https://doi.org/10.1016/j.jrurstud.2016.10.003>
- Caldwell, R. (2003). Models of change agency: A fourfold classification. *British Journal of Management*, 14, 131–142. <https://doi.org/10.1111/1467-8551.00270>
- Candel, J. J. L. (2022). Power to the people? Food democracy initiatives' contributions to democratic goods. *Agriculture and Human Values*. <https://doi.org/10.1007/s10460-022-10322-5>
- Cazzolla Gatti, R., Menéndez, L. P., Laciny, A., Bobadilla Rodríguez, H., Bravo Morante, G., Carmen, E., Dorninger, C., Fabris, F., Grunstra, N. D. S., Schnorr, S. L., Stuhlträger, J., Villanueva Hernandez, L. A., Jakab, M., Sarto-Jackson, I., & Caniglia, G. (2021). Diversity lost: COVID-19 as a phenomenon of the total environment. *Science of the Total Environment*, 756, Article 144014. <https://doi.org/10.1016/j.scitotenv.2020.144014>
- Clapp, J., & Moseley, W. G. (2020). This food crisis is different: COVID-19 and the fragility of the neoliberal food security order. *The Journal of Peasant Studies*, 47, 1393–1417. <https://doi.org/10.1080/03066150.2020.1823838>
- Cohen, M. J. (2020). Does the COVID-19 outbreak mark the onset of a sustainable consumption transition? *Sustainability: Science, Practice and Policy*, 16, 1–3. <https://doi.org/10.1080/15487733.2020.1740472>
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43, 51–58.
- Eriksen, P. J. (2008). Conceptualizing food systems for global environmental change research. *Global Environmental Change*, 18, 234–245. <https://doi.org/10.1016/j.gloenvcha.2007.09.002>
- Feola, G. (2020). Capitalism in sustainability transitions research: Time for a critical turn? *Environmental Innovation and Societal Transitions*, 35, 241–250. <https://doi.org/10.1016/j.eist.2019.02.005>
- Ferreira Rodrigues, J., Cunha dos Santos Filho, M. T., Aparecida de Oliveira, L. E., Brandenburg Siman, I., Barcelos, A., de Paiva Anciêns Ramos, G. L., Almeida Esmerino, E., Gomes da Cruz, A., & Arriel, R. A. (2021). Effect of the COVID-19 pandemic on food habits and perceptions: A study with Brazilians. *Trends in Food Science & Technology*, 116, 992–1001. <https://doi.org/10.1016/j.tifs.2021.09.005>
- Folke, C., Hahn, T., Olsson, P., & Norberg, J. (2005). Adaptive governance of social-ecological systems. *Annual Review of Environment and Resources*, 30, 441–473.
- Friedrich, B., Hackfort, S., Boyer, M., & Gottschlich, D. (2019). Conflicts over GMOs and their contribution to food democracy. *Politics and Governance*, 7, 165–177. <https://doi.org/10.17645/pag.v7i4.2082>
- Geels, F. W. (2002). Technological transitions as evolutionary reconfiguration processes: A multi-level perspective and a case-study. *Research Policy*, 31, 1257–1274. [https://doi.org/10.1016/S0048-7333\(02\)00062-8](https://doi.org/10.1016/S0048-7333(02)00062-8)
- Geels, F. W. (2004). From sectoral systems of innovation to socio-technical systems: Insights about dynamics and change from sociology and institutional theory. *Research Policy*, 33, 897–920. <https://doi.org/10.1016/j.respol.2004.01.015>
- Geels, F. W. (2011). The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environmental Innovation and Societal Transitions*, 1, 24–40.
- Geels, F. W. (2019). Socio-technical transitions to sustainability: A review of criticisms and elaborations of the multi-level perspective. *Current Opinion in Environmental Sustainability*, 39, 187–201. <https://doi.org/10.1016/j.cosust.2019.06.009>
- Geels, F. W., & Schot, J. (2007). Typology of sociotechnical transition pathways. *Research Policy*, 36, 399–417. <https://doi.org/10.1016/j.respol.2007.01.003>
- Godfray, H. C. J., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., Nisbett, N., Pretty, J., Robinson, S., Toulmin, C., & Whiteley, R. (2010). The future of the global food system. *Philosophical Transactions of the Royal Society Biological Sciences*, 365, 2769–2777. <https://doi.org/10.1098/rstb.2010.0180>
- Gugerell, C., & Penker, M. (2020). Change Agents' Perspectives on Spatial-Relational Proximities and Urban Food Niches. *Sustainability*, 12(6), 2333. <https://doi.org/10.3390/su12062333>
- Haley, E., Caxaj, S., George, G., Hennebray, J., Martell, E., & McLaughlin, J. (2020). Migrant farmworkers face heightened vulnerabilities during COVID-19. *Journal of Agriculture, Food Systems, and Community Development*, 1–5. <https://doi.org/10.5304/jafscd.2020.093.016>
- Hamilton, N. D. (2005). Food democracy II: Revolution or restoration? *Journal of Food Law and Policy*, 13.
- Hassanein, N. (2003). Practicing food democracy: A pragmatic politics of transformation. *Journal of Rural Studies*, 19, 77–86. [https://doi.org/10.1016/S0743-0167\(02\)00041-4](https://doi.org/10.1016/S0743-0167(02)00041-4)
- Hassanein, N. (2008). Locating food democracy: Theoretical and practical ingredients. *Journal of Hunger & Environmental Nutrition*, 3, 286–308. <https://doi.org/10.1080/19320240802244215>
- Herman, E. S., & Chomsky, N. (2010). *Manufacturing consent: The political economy of the mass media*. London: Random House.
- Hermans, F., Roep, D., & Klerkx, L. (2016). Scale dynamics of grassroots innovations through parallel pathways of transformative change. *Ecological Economics*, 130, 285–295. <https://doi.org/10.1016/j.ecolecon.2016.07.011>
- Hobbs, J. E. (2020). Food supply chains during the COVID-19 pandemic. *Canadian Journal of Agricultural Economics/Revue Canadienne d'agronomie*, 68, 171–176. <https://doi.org/10.1111/cjag.12237>
- Holland, J. H. (2006). Studying complex adaptive systems. *Journal of Systems Science and Complexity*, 19, 1–8. <https://doi.org/10.1007/s11424-006-0001-z>
- Hölscher, K., Wittmayer, J. M., & Loorbach, D. (2018). Transition versus transformation: What's the difference? *Environmental Innovation and Societal Transitions*, 27, 1–3. <https://doi.org/10.1016/j.eist.2017.10.007>
- Holtkamp, C., & van Mierlo, T. (2022). Paving a way towards food democratisation: Mechanisms in contentious niche development. *Sustainability*, 14(3), 1553.
- Howard, P. H. (2016). *Concentration and power in the food system. Who controls what we eat? Contemporary food studies: Economy, culture and politics*. London (UK): Bloomsbury Academy.
- Ingram, J. S. I. (2011). A food systems approach to researching food security and its interactions with global environmental change. *Food Security*, 3, 417–431. <https://doi.org/10.1007/s12571-011-0149-9>
- IPES-Food. (2020). COVID-19 and the crisis in food systems: Symptoms, causes, and potential solutions. In *The international panel of experts on sustainable food systems*.
- Jacob, K., & Ekins, P. (2020). Environmental policy, innovation and transformation: Affirmative or disruptive? *Journal of Environmental Policy & Planning*, 22, 709–723. <https://doi.org/10.1080/1523908X.2020.1793745>
- Johnston, J., Biro, A., & MacKendrick, N. (2009). Lost in the supermarket: The corporate-organic foodscape and the struggle for food democracy. *Antipode*, 41, 509–532. <https://doi.org/10.1111/j.1467-8330.2009.00685.x>
- Kearney, J. (2010). Food consumption trends and drivers. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365, 2793–2807. <https://doi.org/10.1098/rstb.2010.0149>
- Landwirtschaftskammer Wien. (2017). *Landwirtschaftsbericht 2017* [Online]. Available: Wien: Amt der Wiener Landesregierung <https://wien.lko.at/wiener-landwirtschaftsberichte+2500+2090042+5804>. (Accessed 24 March 2021).
- Lang, T. (1999). Food policy for the 21st century: Can it be both radical and reasonable? In M. Koc, R. Macrae, L. J. A. Mougeot, & J. Welsh (Eds.), *For hunger-proof cities. Sustainable urban food systems*. Ottawa: International Development Research Centre.
- Lang, T. (2005). Food control or food democracy? Re-engaging nutrition with society and the environment. *Public Health Nutrition*, 8, 730–737. <https://doi.org/10.1079/phn2005772>

- Levidow, L., Pimbert, M., & Vanloqueren, G. (2014). Agroecological research: Conforming—or transforming the dominant agro-food regime? *Agroecology and Sustainable Food Systems*, 38, 1127–1155. <https://doi.org/10.1080/21683565.2014.951459>
- Levkoe, C. Z. (2006). Learning democracy through food justice movements. *Agriculture and Human Values*, 23. <https://doi.org/10.1007/s10460-005-5871-5>
- López Cifuentes, M., Freyer, B., Sonnino, R., & Fiala, V. (2021). Embedding sustainable diets into urban food strategies: A multi-actor approach. *Geoforum*, 122, 11–21. <https://doi.org/10.1016/j.geoforum.2021.03.006>
- López Cifuentes, M., & Gugere, C. (2021). *Food democracy: Possibilities under the frame of the current food system*.
- Lukacsy, M., & Fendt, C. (2020). *Statistisches Jahrbuch der Stadt Wien* [Online]. Available. Wien: Stadt Wien, Wirtschaft, Arbeit und Statistik <https://www.wien.gv.at/statistik/pdf/jahrbuch-2020.pdf>. (Accessed 24 March 2021).
- Matopoulos, A., Didonet, S., Tsanasis, V., & Fearn, A. (2019). The role of perceived justice in buyer-supplier relationships in times of economic crisis. *Journal of Purchasing and Supply Management*, 25, 4. <https://doi.org/10.1016/j.pursup.2019.100554>
- Macnamara, J. R. (2005). Media content analysis: Its uses, benefits and best practice methodology. *Asia Pacific Public Relations Journal*, 6. <https://doi.org/10.3316/ielapa.200705762>
- Mercer. (2018). Quality of life ranking [Online]. Available: <https://www.uk.mercer.com/newsroom/vienna-tops-mercer-20th-quality-of-living-ranking.html>. (Accessed 4 January 2021).
- Molina-Montes, E., Uzhova, I., Verardo, V., Artacho, R., García-Villanova, B., Guerra-Hernández, E., J. Rodríguez-Pérez, C., ... (2021). Impact of COVID-19 confinement on eating behaviours across 16 European countries: The COVIDiet cross-national study. *Food Quality and Preference*, 93. <https://doi.org/10.1016/j.foodqual.2021.104231>
- Moore, M.-L., & Westley, F. (2011). Surmountable chasms: Networks and social innovation for resilient systems. *Ecology and Society*, 16. <https://doi.org/10.5751/ES-03812-160105>
- Normann, H. E. (2015). The role of politics in sustainable transitions: The rise and decline of offshore wind in Norway. *Environmental Innovation and Societal Transitions*, 15, 180–193. <https://doi.org/10.1016/j.eist.2014.11.002>
- Norwood, F. B. (2015). Understanding the food democracy movement. *Choices*, 30. <https://doi.org/10.22004/ag.econ.212510>
- O'Hara, S., & Toussaint, E. C. (2021). Food access in crisis: Food security and COVID-19. *Ecological Economics*, 180, Article 106859. <https://doi.org/10.1016/j.ecolecon.2020.106859>
- Petetin, L. (2020). The COVID-19 crisis: An opportunity to integrate food democracy into post-pandemic food systems. *European Journal of Risk Regulation*, 11, 326–336. <https://doi.org/10.1017/err.2020.40>
- Pimbert, M. P., Thompson, J., Vorley, W. T., Fox, T., Kanji, N., & Tacoli, C. (2001). *Global restructuring, agri-food systems and livelihoods*. International Institute for Environment and Development.
- Power, M., Doherty, B., Pybus, K., & Pickett, K. (2020). How COVID-19 has exposed inequalities in the UK food system: The case of UK food and poverty. *Emerald Open Research*, 2, 11. <https://doi.org/10.35241/emeraldopenres.13539.2>
- Prost, S., Crivellaro, C., Haddon, A., & Comber, R. (2018). Food democracy in the making. In *CHI conference on human factors in computing systems. Montreal, Canada*.
- Rivera-Ferre, M. G., López-i-Gelats, F., Ravera, F., Oteros-Rozas, E., di Masso, M., Binimelis, R., & El Bilali, H. (2021). The relation of food systems with the COVID19 pandemic: Causes and consequences. *Agricultural Systems*, Article 103134. <https://doi.org/10.1016/j.agsy.2021.103134>
- Saldana, J. (2009). *The coding manual for qualitative researchers*. London: SAGE Publications.
- Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication*, 49, 103–122.
- Scoones, I., Stirling, A., Abrol, D., Atela, J., Charli-Joseph, L., Eakin, H., Ely, A., Olsson, P., Pereira, L., Priya, R., van Zwanenberg, P., & Yang, L. (2020). Transformations to sustainability: Combining structural, systemic and enabling approaches. *Current Opinion in Environmental Sustainability*, 42, 65–75. <https://doi.org/10.1016/j.cosust.2019.12.004>
- Smith, A. (2007). Translating sustainabilities between green niches and socio-technical regimes. *Technology Analysis & Strategic Management*, 19, 427–450. <https://doi.org/10.1080/09537320701403334>
- Smith, A., Voß, J.-P., & Grin, J. (2010). Innovation studies and sustainability transitions: The allure of the multi-level perspective and its challenges. *Research Policy*, 39, 435–448.
- Stadt Wien – Wirtschaft Arbeit und Statistik. (2021). Wien in Europa, Europa in Wien – Statistiken [Online]. Available <https://www.wien.gv.at/statistik/wien-europa>. (Accessed 4 January 2021).
- Strunz, S. (2014). The german energy transition as a regime shift. *Ecological Economics*, 100, 150–158. <https://doi.org/10.1016/j.ecolecon.2014.01.019>
- Tongur, S., & Engwall, M. (2017). Exploring window of opportunity dynamics in infrastructure transformation. *Environmental Innovation and Societal Transitions*, 25, 82–93. <https://doi.org/10.1016/j.eist.2016.12.003>
- Treger, A. (2011). Progressing knowledge in alternative and local food networks: Critical reflections and a research agenda. *Journal of Rural Studies*, 27, 419–430. <https://doi.org/10.1016/j.jrurstud.2011.06.003>
- UNO. (2014). *World urbanization prospects 2014: Highlights*. United Nations Publications.
- Waisbord, S. (2018). Truth is what happens to news. *Journalism Studies*, 19, 1866–1878. <https://doi.org/10.1080/1461670X.2018.1492881>
- Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resilience, adaptability and transformability in social-ecological systems. *Ecology and Society*, 9, 5.
- Wolfram, M. (2016). Conceptualizing urban transformative capacity: A framework for research and policy. *Cities*, 51, 121–130. <https://doi.org/10.1016/j.cities.2015.11.011>
- Yin, R. K. (2003). *Case study research design and methods: Applied social research and methods series* (5th ed.). Thousand Oaks, CA: Sage Publications Inc.