

Social inclusion through a ‘SuperCoop’? Addressing exclusion by organisational innovation in alternative food provision schemes

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DOI 10.3217/978-3-85125-976-6-28

Abstract. Over the past years, in Graz (Austria), like in many other urban areas with a traditional agrarian hinterland, a variety of market- and community-based alternative food networks (AFN) have been established, including farmers’ markets, box schemes, food coops, community supported agriculture initiatives (CSAs) and community-owned grocery stores. Given their overarching objective to sidestep conventional trade and market relations, both food activists and academics have seen a potential in AFN to transform food systems to become more democratic, socially just and ecologically sustainable. At the same time, it has been an open secret ever since that AFNs are still quite socially exclusive, appealing mainly to people that are relatively well-educated, well-informed and/or particularly well-off. In short, on the one hand, AFN members and customers have a relatively discerning and demanding idea of ‘good food’ and they can afford it. Low-income consumers or people with migrant backgrounds, on the other hand, are clearly underrepresented in AFN, whatever the form. This can be attributed to multiple and interlinked causes, which the authors have been exploring through various methods primarily in the context of two research projects: the first, ‘Climate-friendly local supply in the Triester district’⁸⁴, focussed on the accessibility and possible improvements of a farmers’ market; in ‘CoopsForFood’⁸⁵ barriers to access to ‘good food’, in particular to participating in AFNs have been further explored to develop suggestions on how to foster social inclusion in food provision. To this end, the model of a multi-level AFN cooperative (‘SuperCoop’) was developed, connecting the concepts of food hub⁸⁶ and multi-

⁸⁴ <https://www.ifz.at/en/projekt/climate-friendly-local-supply-triester-district>; project report is not publicly available.

⁸⁵ "CoopsForFood: Diverse economies of food: From mainstream alternatives to the alternative mainstream" was implemented by RCE and IFZ in cooperation with Raiffeisenverband Steiermark. The project received funding from the Climate and Energy Fund Austria within the Energy Transitions program (2020-24) under the grant number: 883516

⁸⁶ There is a wide array of definitions currently used (see. Horst et al. 2023). Our conceptualisation of a food hub is broad as well – following the general definition from Morley et al. (2008) “on the simplest level

stakeholder cooperative – with a clear focus on how to eventually implement it in practice. The starting point of this effort was the identification of those dimensions that currently prevent (or abhor) people from getting their food from AFN. The discussion of these ‘factors of exclusion’ (or inclusion) on different dimensions is at the core of the present paper.

1 Introduction

Alternative food networks (AFN) offer options for distributing food that are going beyond capitalist retailers. These fall into two categories. First, market-based AFN such as farmers’ markets, farmers’ shops, box schemes and on-farm selling circumvent mainstream distribution channels by creating and operating niche markets; second AFN engage communities in food production and distribution without market exchange. To this latter form food coops, community supported agriculture (CSAs), community gardens and community-owned grocery stores belong. As in many other cities (Jarosz 2008) both market- and community-based AFN have been developed in the city of Graz, Austria. In academic literature as well as within food activism, AFN have been claimed to have potential to transform food systems (e.g. Edwards 2016).

Interest in regional food supply schemes such as AFNs has further increased due to the COVID pandemic that has destabilised food supply chains (Aday and Aday 2020, Thilmany et al 2021), demonstrating that global food chains are not resilient (Hoobs 2020). In addition, this also adds a long-term trend within urban populations to (re-)connect with nature. Many people started gardening and growing their own food during the pandemic (Nicola et al. 2020, Mullins et al. 2021, Page 2021).

Yet it has been questioned in the literature whether AFNs are indeed able to unlock transformative potentials since in many cases, they remain socially exclusive, for instance regarding people with migration backgrounds and/or low educational attainment and/or low-income households (e.g. Kirwan et al. 2013). This weakness is becoming increasingly important since rising inflation challenged especially low-income households that had already been food insecure before (Chepeliev et al. 2023). For instance, the number of customers of the 'Wiener Tafel' food bank in Vienna increased by 40 % between 2021 and 2022.⁸⁷

the Food Hub can represent any kind of organizational model where food sourcing and supply is coordinated, and may be contrasted with a wholly dispersed market system (becoming more credible through internet shopping) comprising of [sic] direct links between the producer and the consumer” (p. 3)

⁸⁷ <https://wienertafel.at/lebensmittelrettung-gegen-armut/>

The transdisciplinary research project *CoopsForFood* aimed at exploring how to bridge the gap between small-scale producers and processors organised within AFNs on the one hand and households with low income and/or educational level and/or migrant backgrounds on the other hand that are often not taking part in AFNs. Together with two neighbourhood centres, which were partners in this project, the general conditions in three neighbourhoods of Graz⁸⁸ were examined more closely in order to identify barriers to participating in AFN. Against this background, we developed AFN models that shall take into account the lived realities of those social groups that are rarely participating in AFNs as well as of potential suppliers that may not be addressed by usual types of AFN.

To this end, *CoopsForFood* was to design a cooperative food provisioning network that included elements of various AFNs, in very individual, modular ways, in order to address specific local needs of the communities that support it – and that should be supported by it. This 'SuperCoop', as we called it, should explicitly be open, supportive and attractive to disadvantaged groups. In our research, we therefore assessed 1) the access to 'good food' by reflecting the concept of 'food deserts' to AFNs, and 2) the conditions for participation of disadvantaged households in cooperative provisioning schemes, based on both, an analysis of historical and existing cases such as CSAs and food coops.

In the following, we will first outline our conceptual approach to identifying dimensions and causes of exclusion to access of AFNs taking stock of the literature on food deserts. Next, we discuss the potential role of AFNs in transforming food systems as it has been claimed in the scientific literature in view of access to healthy food. Building on these theoretical considerations, we then describe in more detail the research project *CoopsForFood* that investigated exclusion to access to AFNs and aimed at developing an organisational AFN model that has better chances to operate in socially more inclusive ways and combat food desert phenomena. In the discussion of our results, we highlight practical challenges to making AFNs more inclusive and thus to unlock their transformative potentials towards healthy food for all. In this way, we are contributing to the growing literature on food system transformation with a special focus on disadvantaged population groups, which have so far been somewhat neglected in scientific research and Austrian food activism.

⁸⁸ In Graz there are 17 districts, which have their own elected council as representation of interest, but no separate administration. The neighbourhood in our sense is not formally defined, but is historically grown, or created for certain purposes like community development/social work or place marketing.

2 Context and Background

2.1 Restricted access to good food

Good food is understood differently by various social groups (Exner & Strüver 2020), and is not equally accessible to everybody. Adopting a nutritional understanding of good food in terms of healthy food, the concept of a 'food desert' is often used to identify a lack of access. Food deserts describe food insecurity in a certain area, where access to healthy (fresh, nutritious, little processed/unprocessed) food is limited. Correspondingly areas with a high proportion of fast and junk food shops are often called 'food swamps' (Rose et al. 2009).

Food deserts are usually assessed with spatial-statistical methods (e.g., by counting the number of shops providing healthy food in a certain area, measuring the distance to shops, the availability of mobility options, price, and product variety) and related to the socio-economic features of residents such as income, education, ethnicity, and age (see for example Jaskiewicz et al. 2016).

Shaw (2006) developed a typology of food deserts that show the complexity of the dimensions and causes of food deserts relating to ability, assets, and attitudes.

An ability-related food desert describes the lack of physical access to healthy food, which is not only determined by spatial distance but also by topography (slopes, hills), means of transport, carrying capacity of consumers and weight of purchase, the capability to move, which is limited for the elderly or people with general mobility restrictions, as well as barrier-free shops and motoric skills (e.g. opening of packaging). In this sense, the food desert is a relational concept pertaining to the characteristics of specific population groups. To illustrate the complexity of this food desert dimension, Wang and Qiu (2016) came to the conclusion that access to fresh food could theoretically be better in socio-economically deprived neighbourhoods since the distance to the next retailer might be shorter than in wealthier areas that often show lower population density and thus have lower retailer density. Under these premises, the availability of public transport (and the possibility to use it) is key to improving access to fresh food, assuming that residents lack access to cars (Wang and Qiu 2016, Wang et al. 2016). Other possibilities to remedy ability-related food deserts thus are e.g. car sharing or (private) provision services (Conveney and Dwyer 2009).

Accordingly, Ver Ploeg et al. (2015) make a strong case to take more into account individual measures of food access as compared to commonly used statistical area-

based measures since limited access to healthy food can also occur in higher-income areas that include low-income households.⁸⁹

Asset-related food deserts (Shaw 2006) are caused by lack of financial access, since healthy food might be more expensive than unhealthy food and thus is not affordable for certain social groups. This type has also been referred to as 'food mirage' (see e.g. Short et al. 2006, Everett 2011, Sullivan 2014), which denotes areas where enough food is available, but prices are beyond the means of low-income households, impeding access. Not only the affordability of the food is relevant in this regard, but also related costs, such as fees for delivering, and the financial capacity to afford appropriate and sufficient storage and cooking facilities have to be taken into account (Shaw 2006).

Attitude-related food deserts refer to knowledge, awareness, values and other socio-psychological aspects that prevent people from accessing healthy food. This type of impediments is in part captured by the notion of 'food literacy', which "is a collection of inter-related knowledge, skills, and behaviours required to plan, manage, select, prepare and eat food" empowering individuals and households to make their food choices according to their needs (Vidgen and Gallegos 2012, p. 54). Most food literacy definitions include either or both, critical knowledge (information) and functional knowledge (skills) (Truman et al., 2017). The lack of access to healthy food (Matheson et al. 2008; Congdon 2019) and the existence of 'food swamps', which Cooksey-Stowers and colleagues (2017) consider a more accurate term rather than 'food desert', contributes to obesity, malnutrition and other health problems. Daily routines, visceral understandings of taste, and corresponding mind sets embody this type of knowledge, being expressed in e.g. average time dedicated to cooking or food preferences. One example described in the literature refers to migrants favouring specific vegetables and fruits being unavailable in local markets (Shaw 2006).

Although the concept of food desert is offering a useful analytical grip on dimensions and causes of the underprovision of healthy food, it has been criticised for implicitly assuming space to be a mere container for social relations, naturalising societal structures and processes, and how these are inherently intertwined with the production of space. On an empirical level, this theoretical weakness, for example, undermines appropriately reflecting work and everyday mobility that affect how food is regionalized through daily routines (Shannon 2014). Correspondingly, the food desert concept is ill-equipped to acknowledge and approach analytically how different dimensions of social disadvantage interconnect (Corcoran 2013, Shannon 2014, Reynolds and Cohen 2016, Tornaghi

⁸⁹ This specific situation is of relevance for our case study in Graz, since Graz has in terms of income very heterogeneous neighbourhoods – although there are tendencies of certain income groups living in specific areas.

2017). In this perspective, combating food deserts requires more than simply raising the density of supermarkets or grocery stores, as for example Cummins et al. (2014) have shown empirically in a case study on Philadelphia. To better capture how different dimensions of social exclusion from access to healthy food intersect, it has been suggested to replace the term food desert with food justice (Purifoy 2014) or the notion of food apartheid (Joyner et al. 2022, Shannon 2014).

Rejecting the individualisation of health and other issues of social inclusion, an understanding of the systemic causes of unequal access to healthy food appreciating the perspectives and needs of different social groups is crucial to empower communities and establishing or enhancing food democracy (see Hassanein 2003, Shannon 2014, Holt Giménez and Shattuck 2014, Tornaghi 2017).

Food system transformation has been repeatedly connected with AFNs (e.g. Marsden et al. 2018; Sonnino and Marsden 2006). While this discussion has mainly been focused on AFNs' potential to change economic and ecological food relations towards a higher degree of sustainability, issues of food justice have been rarely addressed so far in this regard. However, food justice is not only important in itself, in particular with respect to the claim of fostering food democracy associated with AFNs (Levkoe 2006, Hassanein 2003), but also regarding the question of whether AFNs can indeed create new economic and ecological food relations, which requires the possibility to appropriately address the needs of broader swaths of populations than AFN are currently able to do.

2.2 Alternative Food Provision Schemes

As an alternative to the corporate food regime based on capitalist supermarkets and industrial food production (McMichael 2013), various AFNs arose in recent years, such as food coops, CSAs, community-owned grocery stores, and community gardens. A considerable body of research since then has discussed their potential to contribute to the transformation of the current global food system in the context of social movements and grassroots innovations (Sage 2014, Sage et al. 2020). This entails a conflict between different rationalities of food provision that go along with specific spatial characteristics, corresponding with structures of the built environment, broader issues of urban planning, as well as daily routines and mindsets of consumers. Supermarkets are usually located at places with a high potential for reaching as many paying customers as possible, with sufficient space for the store itself and for parking, and convenience in terms of traveling time and proximity to complimentary shops. Based on these fundamentals that have also been supported by marketing and consumer research (Jaravaza & Chitando 2013), supermarkets have become the main and by far most important places of food provision in industrial countries. AFN, on the other hand, follows a very different logic. They are linked to the re-embedding of food provision to local communities beyond capitalist

market relations (Goodman et al. 2012). They are therefore also operating beyond well-engrained and institutionalised arrangements of food distribution structures. Farmers' markets are seen as an additional form of food provision in the food desert debate (Wang et al. 2014, Larsen and Gilliland 2009). Yet this also holds true for other short food supply provision schemes such as CSA, food coops, community gardens and farms, community-run resp. -owned grocery stores or public kitchens operated by citizens actively go beyond capitalist producer-consumer market relations. However, unlike farmers' markets, these approaches require the participation of their members in organising food production and/or distribution and/or consumption.

Mainstreaming these alternatives is challenging. Apart from financing and logistics that are becoming increasingly demanding when upscaled, many of them do not perform well regarding social inclusiveness (Guthman 2011). Even though the AFN movement originally evolved in response to food inequity and aimed to solve issues of access to healthy food for disadvantaged social groups by means of locally-based bottom-up solutions (Allen 1999), in practice it turns out that they tend to be quite elitist and exclusive (Goodman et al. 2012, Exner & Schützenberger 2018). Initiatives are often lacking social diversity, mainly addressing people of medium and higher socio-economic status (Reynolds and Cohen 2016, Guthman 2009). People participating in AFN are often well educated, have a high level of food literacy and consider themselves active citizens (often referred to as 'ceatizens' or 'food citizenship': Wilkins 2005, 'food democracy': Hassanein 2003). Moreover, instead of actually producing social justice, AFN in reality often reproduce hegemonic relations of defensive localism that neglect structural inequalities (Winter 2003, DuPuis & Goodman 2005). Julie Guthman (2004) even indicates that organic food production and consumption and corresponding food movements are racialized (Holt Giménez & Shattuck 2011, Allen et al. 2003).

Against this backdrop, we investigated food access in three neighbourhoods in the Austrian city of Graz, and explored conceptual possibilities to re-organize AFNs to foster social inclusion by engaging in a transdisciplinary research process with various stakeholders.

3 Methodology and research design

A participatory research design was applied to assess the options, prerequisites, and limits of the model of a multi-level AFN cooperative ('SuperCoop'). The suggested model should not only integrate the perspective of consumers but also the needs of producers, processors and suppliers. To develop a context-specific SuperCoop model, we first investigated shortcomings in the current supply situation in our three case study areas in

terms of accessibility and inclusiveness, which we clustered along the dimensions listed in the table below.

As a basis for drafting the SuperCoop model, we analysed existing AFN types along their supply chains to identify their characteristics, strengths and weaknesses. Good practice examples were then identified and analysed in more detail mainly through literature work, for some we also carried out exploratory interviews with key actors.

As a basis for the identification of 'good practices' we first needed to define what we would consider as AFN and what not. We took a normative and positive definition of ALN as a starting point, which sufficiently exhaustively and clearly identifies its ideal characteristics in contrast to the conventional food system. The lack of such a definition or the mostly purely negative and vague definition of ALN as "non-conventional" was also criticised by the most comprehensive meta-analysis on the use of the term ALN to date (Forssell & Lankoski 2015). Based on this and a review of more recent literature (cf. for example Michel-Villarreal et al. 2019), we developed an analytical perspective that distinguishes between four central dimensions, each with three separate criteria: 1. *Re-Socialisation*, which refers to relationships, values and governance; 2. *Re-Localization*, which implies physical, geographical aspects, transparency and information flows; 3. *Re-Naturation*, referring to the relationship with nature and farming practices; and 4. *Re-Skilling*, which implies the re-acquiring of traditional practices, or the adaptation of skills and knowledge in line with contemporary requirements. This conceptual framing was associated with the normative aspects of the social form of a cooperative (genossenschaftliche 'Sozialform' see Flieger 1997), which matches particularly with the idea of re-socialising the food system. Consequently, for the inventory of 'good practices' we also included the following core principles of cooperatives as analytical categories: subsidies, solidarity, democracy, and identity.

In the scope of the closer investigation of the good practices, we were particularly interested in two aspects: a) the business model of a SuperCoop and b) what types of food hubs might be relevant for our context. Both dimensions of the SuperCoop were initially drafted and consequently discussed with various practitioners and stakeholders, including representatives of farmer cooperatives, neighbourhood centres and their clients/visitors. This helped to refine the SuperCoop model and to better understand its potential benefit for the envisaged target groups, how it should and could work, and potential problems. This work also laid the foundation to have a closer look at the dimensions of social exclusion.

For our analysis, we started with the three-dimensional typology of the concept of food desert developed by Shaw (2006), and added aspects of individual food barriers. In addition to spatial-statistical assessments, we clustered dimensions and causes bottom-

up based on Ver Ploeg et al. (2015) and Shaw (2006), following an iterative process of induction and deduction, to identify relevant indicators.

As a starting point barriers were analysed along spatial-statistical indicators, e.g. the presence of grocery stores within a certain area. The resulting set of dimensions was then extended to include other dimensions such as finance, belonging, food literacy and meal culture.

<i>Dimension</i>	<i>Indicators</i>
Space	<ul style="list-style-type: none"> ● geographical/spatial distribution of AFN ● mobility of individuals
Time	<ul style="list-style-type: none"> ● opening hours ● individual time budgets
Finance	<ul style="list-style-type: none"> ● income, available budget ● pricing of products
Belonging: identity, social ties and community	<ul style="list-style-type: none"> ● socio-economic aspects different kinds of values (regarding group formation but also quality aspects of food) ● (social) experiences linked to food provision
Food literacy	<ul style="list-style-type: none"> ● knowledge about food (regarding nutrition, cooking, sustainability etc.) ● skills to prepare and conserve food ● awareness about ethical aspects
Meal culture	<ul style="list-style-type: none"> ● eating habits and preferences (incl. dietary styles) ● cultural and religious norms ● intolerances and other health aspects ● available product variety

Space and Time

We investigated space on the one hand in regard to the distribution of grocery shopping/sourcing facilities, and on the other hand concerning the distance to be covered to procure food – whether shopping, food-sharing or sourcing food from a garden. Distance also includes a temporal dimension, which refers to the individual capacity of mobility. Additionally, we looked at other temporal aspects such as opening hours and investigated obstacles regarding the individual time budget.

Finance

The financial dimension was put under closer scrutiny in the Triester neighbourhood: food products were chosen according to their availability at the Triester farmers' market. Prices from the Triester market were compared with another farmers' market of category

²⁹⁰ to check the representativeness, and then compared with those of discounters and a regular supermarket in the neighbourhood (Langmaier 2023).

Belonging

Another aspect of the analysis concerned the participation of consumer members in food coops, CSAs and cooperative shops, pertaining to belonging. Both, the overall socio-economic aspects of community building as well as interpersonal relationships were considered as relevant aspects in regard to belonging. For the exploration of socio-economic factors, a literature survey was conducted that provided information on the socio-economic background of consumers in AFNs. Interviews with CSA operators and other producers complemented the information. Community and interpersonal relationships were also examined through interviews and exploratory conversations with key actors from neighbourhood centres.

Food Literacy

The assessment of food literacy is definitely of relevance in the context of AFN participation, as the majority of the available products provided in AFNs are fresh and unprocessed, which requires knowledge about food and processing or preparation (Truman et al. 2017). However, this aspect was not explicitly in the focus of our analysis from the beginning, and further empirical work will be necessary to draw more specific conclusions for the given case.

Meal Culture

Finally, we presume that aspects of 'meal culture' (Teherani-Krönner, 2014) are of relevance as well. This particular issue is still underway within a follow-up project⁹¹ (see Czeglédi et al. 2023 forthcoming), and only some illustrative preliminary findings can be presented in this paper.

3.1 Methodology

To gather data various methods were applied, which are briefly described below. More detailed descriptions of the methods, can be found in the final report of the CoopsForFood project to be published by the End of 2023 (Exner et al. upcoming 2023).

⁹⁰ Farmers' markets in Graz are divided into two categories by the municipality: Category 1 markets are located in the city centre and in better-off neighbourhoods, and the product prices in these places are higher than those of category 2. Stand fees are also higher in category 1.

⁹¹ The project 'Culture.Kitchen' is a intercultural cooking activity managed by Transition Graz together with neighbourhood centres, inspired by the "Kitchen for all", where food is cooked and served for free and donations finance running costs. In practice, on each date, the chef changes, so different people cook their favourite dishes.

SURVEYS

School survey

As part of a course at Graz University⁹², a multilingual (4 languages) survey (n=141) was conducted with parents in the elementary school in the Triester Viertel⁹³ and as a reference in the Waldorf school in Waltendorf⁹⁴, where parents formal education and income might be considered higher compared to the district of Triester. The aim of this survey was to explore how parents conceptualise 'healthy food', its importance and which food qualities relate to that, their shopping habits, and cooking behaviour. Additionally, the children (n=48) in both school documented their favourite dishes and eating habits in a diary (photos of lunch boxes).

Street Survey Triester (further referred to as 1st street view)

The first multilingual survey in the Triester neighbourhood (7 languages) was carried out with the support of two students, who based their Bachelor Thesis on the data (see Langmaier 2023, Janezic forthcoming 2024) and the Neighbourhood Centre Triester during summer 2021. Local residents (n=62) were asked about their satisfaction with the food supply in the neighbourhood and about shopping and food preparation habits.

Street Survey in Three Neighbourhoods (further referred to as 2nd street view)

The second street survey was implemented by students in spring 2023 in the scope of an interdisciplinary course⁹⁵. Residents from three neighbourhoods were approached: Triester (n= 85), Grünanger (n= 96) and as a control group Eggenlend (n= 136). The questionnaire included questions about shopping habits, their relation to ALN, and barriers to access ALN in their districts.

EXPERT INTERVIEWS

Interview with political representatives

In 2021 interviews with local politicians (3 district councillors, 1 local councillor; n=4) connected to the Triester neighbourhood were implemented. They were asked about their viewpoints on the current situation of food supply in the neighbourhood and their perspectives in regard to (possible future) direct marketing offers.

⁹² IP Food Justice in Sustainable Food Systems: Wie können fair & ökologisch nachhaltig produzierte Lebensmittel für alle erschwinglich sein?

Lecturers: D. Steinwender, S. Karner, D. Raith. Winter Term 2021/22, Uni Graz. https://online.uni-graz.at/kfu_online/ee/ui/ca2/app/desktop/#/slc.tm.cp/student/courses/682821

⁹³ <http://www.vs-triester.at/wp/>

⁹⁴ <http://waldorf-graz.at/>

⁹⁵ IP Food Justice (Inwieweit kann sich Graz nachhaltig und sozial gerecht durch verschiedene Formen der urbanen Lebensmittelproduktion versorgen?).

Lecturers: D. Steinwender, S. Karner, Anita Thaler (IFZ). Summer Term 2023, Uni Graz https://online.uni-graz.at/kfu_online/ee/ui/ca2/app/desktop/#/slc.tm.cp/student/courses/738939

Interviews with AFN practitioners

The farmers of the Triester neighbourhood farmer's market (n=6) were interviewed in spring as part of the "Climate-friendly local supply in the Triester district" study.

During the winter term 2021/22 further expert interviews were carried out by students (see footnote 9) with farmers, who do direct-marketing through a farm shop (n=4) and with a processing farmer (n=1), who also sells online, about their understanding of "good food", supportive and challenging conditions of their current marketing and their perspectives on sustainable and just food system.

In the scope of the student's course at Graz University in spring 2023 (see footnote 12), further expert interviews (n=6) were carried out with actors from Graz based alternative food networks, which included a CSA farm, a self-harvesting business, a foodcoop, a permaculture garden designer, Foodsharing Graz and a shop for regional products. The interviews addressed questions about their practices, supportive and challenging framework conditions and experiences with their customers.

Moreover, constant exchange was carried out through the whole project (between May 2021 and August 2023) with a representative of the Styrian Chamber of Agriculture on the needs of farmers, innovative agricultural cooperatives and his assessment of CoopsForFood results and proposals.

Interviews with Kitchen Operators

Further expert interviews (see footnote 9) were carried out with the central community kitchen of Graz (n=1) and a small locally sourcing restaurant (n=1) in order to explore processes and requirements for kitchens, such as sourcing and supply, marketing, and the serving respectively delivery of food.

Interviews with Charity Institutions and neighbourhood centres

In autumn 2022 interviews (n=2; see footnote 9) were implemented with representatives from charity institutions, the Tafel Graz (operated by the Red Cross) and the Vinzmarkt. The aim was to gain insights about organisational framework conditions, food supply practices and socio-economic aspects in regard to their clients.

Throughout the project, constant exchange with the two involved neighbourhood centres (Triester and Jakomini) was carried out. Additional exchange happened with the neighbourhood centre Eggenlend.⁹⁶

⁹⁶ Which also services the control group neighbourhood of the street survey.

Interviews with Representatives from the Health Sector

Due to the close relation of the food to health topic, interviews were also carried out with representatives (n=2; see footnote 9) from the health sector about the current situation of nutrition-related challenges they see or anticipate, measures to address and support citizens with a particular focus on vulnerable groups, and strategies for future developments.

FOCUS GROUPS

Focus Group Food Supply Triester

In spring 2021 a focus group comprising a representative from the neighbourhood centre, some residents and local political representatives (n=6) were invited to discuss the local food supply situation in the Triester district. The aim was to collect participants' perspectives on the current situation and to discuss ideas for improvements, particularly focussing on short food supply options.

Additionally, a focus group with residents (n=4) of the Triester neighbourhood was conducted in autumn 2021 to explore their viewpoints on the farmers' market and other alternative modes of local food. Participants were asked which barriers they experience in buying via direct sale, and what would need to be improved to make short food supply modes more accessible respectively attractive (Langmaier 2023).

WORKSHOPS

'Lunch Table' Workshop

This half day workshop invited local residents (n=12) of the Jakomini district to explore their point of view on the framework conditions (willingness, preconditions, etc.) that would make the participations attractive respectively possible in an alternative supply structure such as a CSA. The workshop was linked to the 'Lunch Table' ('Mittagstisch') that is regularly organised by the Social Medical Community Centre Liebenau (neighbourhood centre Jakomini) and well established. The 'Lunch Table' is a joint cooking and eating activity, which also serves as important social gathering. Residents can join in the cooking or just come to eat. Those who eat pay a small symbolic fee of 1-2 Euro.

Stakeholder Workshop TdK III

In the scope of the transdisciplinary conference 'Transformation durch Kooperation III' (TdK III) in Sept 2021 a workshop⁹⁷ was held with different stakeholders (n=21) from the ALN field (food production, processing and logistics) and interest groups (cooperative, NGO). The aim was to explore current practices of cooperative food initiatives with regard to logistics, financing and organisational structures, and to discuss potential requirements for a SuperCoop.

PARTICIPATORY OBSERVATIONS

Exploratory District Walks

The research team walked through the Triester neighbourhood several times to gather data and experience the environment to gain a deeper understanding of the area. Twice representatives from the neighbourhood centre guided and accompanied the research team. During these walks, they explained how certain areas are used, and what residents regularly tell them, where there is a need for improvement in the area, or where they perceive unpleasant conditions.

In the neighbourhoods Jakomini und Grünanger virtual round walks with Google StreetView were organized in autumn 2021 together with a university course (see footnote 9).

GEO-SPATIAL ANALYSIS

For the spatial and temporal dimension, a Geographical Information System (GIS) analysis was conducted using the Open Route Service⁹⁸, in which the catchment area of supermarkets and farmers' markets was calculated including three isochrones. The locations of the supermarkets were extracted from OpenStreetMap and missing entries were added. The isochrones were determined according to walking times of 3, 5 and 10 minutes, assuming the average walking speed for non-handicapped persons. This analysis was carried out city-wide to explore in which respect the situation in the three case study areas differs from other parts of the city. Small and/or ethnic shops were not recorded, since there are none in the three target areas.

⁹⁷ Chancen und Herausforderungen für genossenschaftliche Vermarktung. Summary Report available at <https://www.xn--ernhrungssouvernitt-iwbmd.at/wp-content/uploads/2022/03/Tdk3-Nyeleni-Herbst-2021-Bericht-final.pdf>

⁹⁸ <https://openrouteservice.org/>

4 The CoopsForFood Project

The project 'CoopsForFood' had two main, interlinked objectives: to explore the reasons for social exclusion in AFN and to develop an innovative AFN model, the so-called 'SuperCoop', and to explore its potential to improve the accessibility to healthy food for all.

4.1 Case study areas

We chose three target areas in Graz, which were investigated more closely to identify the barriers to participating in existing AFN.

Two of the target areas ('Triester' and 'Grünanger') are neighbourhoods that are a bit remote from the city centre, but not peripheral at the very edges of the city located. Both are low-income neighbourhoods with a high percentage of people with migration backgrounds. Both areas provide quick, nearby access to green spaces such as parks or riversides.

The third target area of the CoopsForFood project is situated in the centre of the Jakomini district which is socio-economically more diverse regarding its residential structure. The access to supermarkets is better compared to the other two neighbourhoods. There are also a few small speciality shops, but these are not attractive for low-income households. There was also a farmers' market nearby, which recently has been discontinued except for one stand delivering on a pre-order basis.

All three neighbourhoods are focal points of the Graz model of community social work. Respective neighbourhood centres are reaching out to support disadvantaged people, offering various services to promote social inclusion, health and sustainability.

4.2 The 'SuperCoop' model

The SuperCoop, at its base, is a model for a multi-stakeholder and multi-level cooperative that aims to combine the benefits and potentials of AFNs (such as CSAs, food coops and community-owned stores) while at the same time making them more inclusive, i. e. accessible, supportive and attractive to low-income households (see chapter 5). The basic rationale of the SuperCoop concept in view of food system transformation towards a higher degree of social inclusiveness relies on scale and network effects. Community-based AFN should become more accessible through pooling resources, e.g. in terms of workload and price, and by making democratic structures more inclusive through opportunities for participating in decision-making that more properly take into account values, attitudes and spatial-temporal constraints of members from various social groups.

Moreover, the model should be able to integrate a broader range of food system actors as AFN usually achieves to do. In this way, the potential transformative impact should be maximised by engaging a variety of stakeholders to restructure supply chains within the urban food system in a more holistic way. Variants of such a cooperative were developed, including different business models and stages of expansion in terms of a number of links in the supply chain and the design of “food hubs” at its end.

For both dimensions (business model and hub), the SuperCoop model was to develop characteristic but scalable ideal types of possible implementations and describe them in as much in detail as possible. This approach was based on the experience of many practitioners that there is no one-size-fits-all model (even in three variations), but that any successful innovation in how AFN operate, such as the SuperCoop model, must consider the specific local needs of those that shall start and run it. Thus, a broad range of options in view of a SuperCoop exist that will eventually consist of a mix of those ideal types and/or their modular elements.

Three typical business models of a SuperCoop were developed, based on its supposed purpose/function:

- 1) A comprehensive production and marketing cooperative, similar to German CSA cooperatives⁹⁹ in which agriculture, processing and logistics are united under one umbrella.
- 2) A marketing cooperative including elements of cooperative supermarkets or food hubs with one or more locations.
- 3) A platform cooperative for sharing a common infrastructure, be it logistical or digital.

Similarly, three ideal types of food hubs were defined, based on local needs and resources:

- 1) A cooperative grocery store including elements of existing models, many of them recently founded¹⁰⁰.
- 2) A solidary farmers’ market inspired specifically by the Zeybu market in Grenoble, France.¹⁰¹
- 3) A food and cooking cooperative that extends existing practices of food coops and activities of neighbourhood centres.

⁹⁹ See <https://solawi-genossenschaften.net/> for further information

¹⁰⁰ E.g. La Louvre Paris <https://cooplalouve.fr/> or MILA Vienna (<https://www.mila.wien>)

¹⁰¹ https://www.lesamisduzeybu.fr/?page_id=332

Food Hubs can generally be placed in different facilities, including neighbourhood centres, schools, retail and other companies or restaurants.

The 'Lebensmittelpunkte'¹⁰² in Berlin represent a practical example worth following as this initiative fulfils a number of functions. It provides a kitchen that can be used for communal catering, neighbourly cooking and cookery courses, a dining area, a depot, a business space/market hall, a commercial catering facility also available for educational purposes, an event space and a gardening area – facilities that are, not least, meant to facilitate activities in the community. They could be easily adapted for other purposes as well, such as open cooking, sharing and educational events on food on a regular basis – similar to the *Culture.Kitchen* format mentioned earlier.

As a result, a food hub could accommodate – as a one-stop shop – a variety of issues linked to food, from communal culinary events and cooperative provisioning to nutritional and health information. As an element of community work, neighbourhood centres could receive a corresponding (public) mandate to include this in their core work – true to the recognition of food as a 'total social phenomenon' (Mauss et al. 1954) that's as diverse, divided and possibly unjust as society itself, but also has the power to bring people together.

5 Results

In the following, we first present our results regarding the dimensions and causes of food insecurity in the three case study areas. Consequently, we relate these findings to the SuperCoop model, laying emphasis on how this model is expected to alleviate these causes in view of transformative, inclusive food system change.

5.1 Finance

Regarding the financial dimension of access to healthy food, several aspects operate as potential barriers for participating in AFN. The most important factor is product price. Not surprisingly, discounters usually charge the cheapest price, followed by supermarkets and AFN. However, unprocessed seasonal products can sometimes be cheaper through direct sale, e. g. at the Triester farmers' market, than in shops (see table 1 in Annex 2). The prices of participating in a CSA cannot be compared with product prices of other schemes.¹⁰³ Two existing CSA harvest share prices were compared having a difference

¹⁰² <https://ernaehrungsrat-berlin.de/lebensmittelpunkte/>

¹⁰³ Though no such thing exists in a regular CSA in the usual sense of a commodity produced for a market, since CSAs replace conventional commodity exchange by pooling financial means of

of 25 % per week, which sounds significant but does not say anything about the eventual volume and quality of products received in return.

When it comes to energy-price induced inflation lately, prices of organic products and AFN prices have not increased that much, compared to conventional food products, due mainly to the lower dependence on fossil fuels and materials (RollAMA food basket study 2022¹⁰⁴).

According to a survey conducted among parents of pupils from the Triester elementary school and the Waldorf school, the total amount spent on food per household does not diverge very much, but wealthier households spend considerably more on food per capita.

Based on a review of literature and good practices to find ways of enabling access to AFN for low-income households, we found two types of 'solidarity mechanisms': 1) internal redistribution (including contributions from farmers and consumers) and 2) support through public funding (Exner et al. upcoming 2023). The first option of internal redistribution according to income among consumers implies that those with higher income pay more, and thereby co-finance the participation of members with less income, e.g. through solidarity boxes or graduated prices for products or shares. This is already practised in several CSAs on a voluntary basis.¹⁰⁵ Equally conceivable would be a contribution from producers for 'loyalty' in purchasing, as for example 'Les Amis de Zeybu' in Grenoble¹⁰⁶ does. The latter also involves cooperation with a social market, which guarantees anonymous purchasing and anonymity in terms of need to avoid stigmatisation (Edwards 2021, Hoggins & Fraser 2017). Likewise, public subsidies for food-distributing institutions, certain businesses or even adapted forms of social assistance (e.g. voucher system) could lower the price level for low-income customers (Nicolini and Milanese 2016).

consumers, planning production collectively, prepaying produce, and then receiving these, often mediated through voluntary work.

¹⁰⁴ According to the RollAMA food basket study for the first half of the year 2022 prices for conventional food rose for 7,8%, while organic food increased only for 3,5% compared to 2021 (<https://amainfo.at/>).

¹⁰⁵ Sees for example http://www.xn--ernhrungssouvernitt-iwbmd.at/es-wiki/images/3/32/CSA-Broschuere_AT_Kons.pdf, p. 17

¹⁰⁶ https://www.lesamisduzeybu.fr/?page_id=332

5.2 Space and time

In our analysis we compared two kinds of grocery shopping facilities: a) supermarkets, since they represent the main shopping facilities for food, and b) farmers' markets, because they are widespread and have a long tradition in Graz.¹⁰⁷

As Figure 1 below shows, supermarkets cover a much higher catchment area than farmers' markets within 5 resp. 10 minutes walking distance. Supermarkets also cover almost the whole city within the 10-minute isochrones, except for a few gaps representing certain industrial zones as well as the mainly hilly outer districts, which are less densely populated.

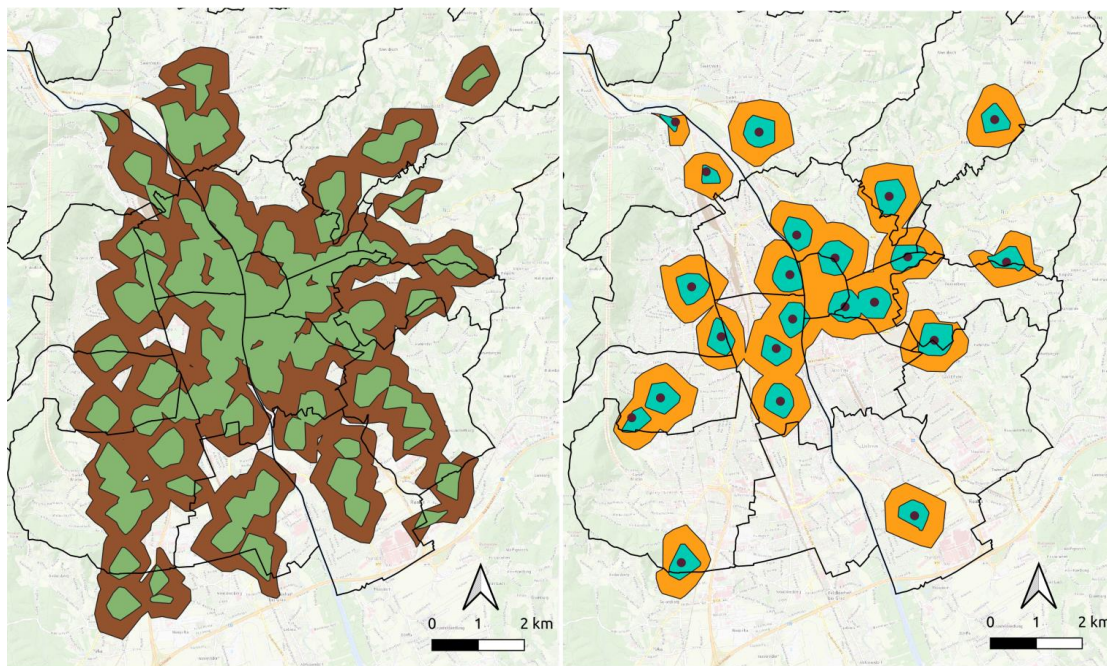


Figure 1: supermarkets excl. small shops and ethnic stores, isochrone: 5 minutes (green) and 10 minutes (brown) walking distance (picture in the left); farmers market, isochrones: 5 minutes (cyan), 10 minutes (orange) walking distance (picture in the right).

For people with limited mobility, not only the lengths of the distances to be covered are relevant, but also the path to be travelled in itself. This may imply hurdles which healthy people might not consider as a challenge, e.g. larger streets without traffic light controlled or barrier-free foot crossings, hilly terrain resp. steep slopes and stairs. Moreover, the individual perception of safety is relevant as well. According to information from the manager of the neighbourhood centre Triester, some people do not feel confident e.g. walking on certain paths alone in the dark.

¹⁰⁷ Also CSAs use these markets to distribute their harvest shares.

Such barriers can be found in the Triester neighbourhood, where the majority of respondents stated that they do their shopping on foot. Supermarkets are situated mostly at the edges of the neighbourhoods, and other services and shops for daily needs have become rare. Given the increasing number of places selling unhealthy foods (e.g. fast food places, bars), the centre of the Triester neighbourhood is at risk of becoming a 'food swamp'. While the future of the farmers' market, that offers fresh regional food twice a week, looks grim, there is, however, a home-delivery service established by the farmers during market operating hours. This service provides fresh farm products to long-time and well-known regular customers - mainly non-mobile elderly people from the neighbourhood, who have difficulties visiting the farmers' market. This is, however, not a regular service. Such a home delivery service could alleviate on the one hand the mobility barrier, but on the other hand, it would imply additional costs.

In the Grünanger area, there is only one supermarket at the edge of the settlement and a milk dispenser, but there is no AFN nearby. There is also a small community garden and an allotment garden colony in this area, but related food production does not play a considerable role.

In Jakomini, there are supermarkets and an organic shop as well, but from certain points in the neighbourhood distances are very long, and some busy main roads need to be crossed, which was explicitly addressed in the scope of the 'Lunch Table' workshops.

Opening hours and product variety were not taken into account in the isochrones maps, as it is obvious that supermarkets have much longer opening hours and also a much higher range of products. The limited operating hours of farmers' markets represent a significant obstacle, which was not only confirmed by representatives from the Triester and Eggenlend neighbourhood centre, but also by residents participating in the related focus group. Many people have to work during the operating hours of farmers' markets. In Graz they are usually operated between 7:00 and 12:00 AM (mainly on two days a week between Mo and Sa), and only a few markets are open during afternoons (2:00-6:00 PM). The number of stands and corresponding product variety, which loosely varies along with the number of farmers offering products, is usually higher on Fridays and Saturdays than during the week.

5.3 Belonging and Participation

Apart from farmers' markets, many AFNs are community-based, such as CSAs, food coops, community gardens and cooperative supermarkets. They mainly represent communities of choice, e.g. defined by shared values, lifestyles and trust (Exner & Schützenberger 2018, Zoll et al. 2018, Thorsøe/Kjeldsen 2016, Battisti et. al. 2022). However, we also reflected on other motives for joining such initiatives based on

explorations of good practices via literature research and interviews with key actors (Exner et al. upcoming 2023). The lowest common denominator of group formation might be pragmatism or motives for getting access to certain qualities of food at cheaper prices (Pascucci et al. 2016), but this does not pave the way to social inclusion (e.g. Exner & Schützenberger 2018). While the value basis in relation to food procurement clarifies the common basic interest, e.g. sourcing food exclusively from certified organic agriculture, other value attitudes – with or without reference to the common basic interest in obtaining food – can significantly affect the dynamics of group formation and cohesion within these groups, ultimately impacting their ability to achieve collective goals and promote social integration.

Particularly for community based initiatives it is important to define certain organisational framework conditions, which concerns, e.g., the decision-making and the distribution of tasks. Decisions have to be taken upon different wishes and needs regarding the kind of products, ethical issues and product standards. On the one hand, there is the question of which quality criteria (should) play a role, e.g. organic, fair trade, (un)processed, animal-based food (yes/no). On the other hand, it is about how these criteria are formulated in detail, their prioritisation, and which standards are to be applied: whether certification is necessary (and which one), whether small or large-scale farms are supported, etc. At the ‘Lunch Table’ workshops held in the Jakomini neighbourhood centre, an illustrative example was discussed: participants’ opinions differed considerably as to whether a wide range of affordable standard varieties or rather agro-biodiversity supporting rarities should be offered in a box scheme.

Producers participating in AFNs (CSAs, direct selling farmers, etc.) indicated in interviews that the consuming members mainly represent households with a higher income and educational level; e.g., the farmers' market in the Triester neighbourhood largely attracts customers from the better-off neighbouring Südtirolersiedlung. Moreover, many of the customers come from the neighbouring neighbourhoods.¹⁰⁸ The community gardens, which are run by neighbourhood centres, exemplify exceptions as they mainly address low-income households. However, to date they provide rather a social meeting space, and food production in terms of quantity does not play a significant role in these gardens yet.

As often described in literature and confirmed during the TDK III Workshop, many CSAs or food coops rely on voluntary work from their ‘eaters’, they can often only exist due to the idealism of a few people who regularly contribute their labour force on a voluntary

¹⁰⁸ A few of them also come from further distances within the city. They either used to live in the Triester neighbourhood and/or value that the market is less crowded compared to others. They come back to the neighbourhood especially and only for visiting the farmers' market. A few reported that they have moved because of the demographic change, which is driven by an increase of residents of migrant backgrounds.

basis. The willingness to actively participate varies among participants, and if not obligatory, there are also 'eaters', who remain consumers solely by just picking up their groceries. Some members are simply not interested in on-farm work, others also lack time because of other obligations (e.g. care work or long working hours), such as reported for the Park Slope Food Coop (Fourat et al. 2020), and confirmed in our stakeholder interviews. The CSA farm we investigated in Graz reported as well that they often lack community help, while other examples experience the opposite or even require a certain amount of community work per year, such as the Ortoloco cooperative in Switzerland¹⁰⁹. Another strategy is to employ people for certain tasks to reduce the burden of voluntary work and/or if certain skills are needed. For instance the cooperative grocery store 'Ums Egg'¹¹⁰ has an employee to guarantee certain opening hours, for self-management and to assist shoppers, e.g., with the self-service cash register (Raith et al. 2022).

A completely different group setting is given, if neighbourhood centres connect to AFNs. Their primary goal is to serve social needs, e.g. to support people in need or address loneliness. For example, residents of Jakomini use services such as the 'Lunch Table' not only to access healthy and fresh food for little money¹¹¹, but also to socialize with other people. In the Grünanger area they provide the same service as a brunch every two weeks. In the Triester and Eggenlend neighbourhood, the *Kultur.Küche* does similar and explicitly tries to attract residents with migrant backgrounds. In all these examples the social aspect (e.g. creating opportunities to meet others, combating loneliness) is highly relevant. Likewise, producers at the Triester farmers' market highlighted in the interviews that they value direct contact with their customers, and they tend to reject stationary collective solutions such as a food hub or a farmers' shop.

Considering the neighbourhood centres' assignment to support especially vulnerable groups, as well as their activities that aim to promote social inclusion, linkages to food hub facilities would be appreciated by consulted representatives. They think that this could make AFN generally more accessible, in particular for their target groups.

5.4 Food Literacy

Food literacy describes two basic aspects: on the one hand knowledge about food in general, which includes skills and know-how about how to prepare meals and process food (Truman et al. 2017), and, on the other hand, knowledge about food systems and

¹⁰⁹ <https://www.ortoloco.ch/>

¹¹⁰ <https://ums-egg.at/>

¹¹¹ A weekly low-threshold community cook-and-eat event offered usually once per week by some neighbourhood centres, where only a small symbolic fee of 1-2 Euro is to be paid there. Those who join cooking eat for free. <https://www.smz.at/mittagstisch/>

alternative food provision options. Being food literate is supposed to empower the individual to make informed food choices (Cullen et al. 2015).

Knowledge about food and its ingredients was rated differently in our study depending on the social group. Most of the parents' survey respondents – irrespective of their socio-economic status – stated that 'health' was an important aspect of good food for them. This was the case for both schools, where the survey was carried out. However, the understanding of what exactly a 'healthy diet' meant to them, varied considerably, particularly in the relative weight given to 'meat' or else 'vegetables' as ingredients to such a healthy diet. For parents from the Triester neighbourhood meat was considered to be of greater importance in connection to 'healthy diet' compared to those from the Waldorf school. We conclude from this that the definition of a healthy diet primarily follows one's own assessment rather than official recommendations, such as those of the Austrian food pyramid.¹¹²

Understanding information on production about the nutritional value of products and the variety of labels is also a challenge for many people (Henderikx 2017, Sunstein 2021). The (very) importance for more transparency was stated by 50 % in the Triester neighbourhood survey, while the others consider it little important or not important at all. Wishes for transparency and simplification of product labelling were mentioned in workshops and interviews, but often only when we specifically addressed this issue.

The ability to prepare food is often linked to people's time budget and in many cases limited to simple dishes or convenience food (for the U.S.: Wolfon et al. 2019, Virudachalam et al. 2014). Our 1st street survey in the Triester district showed that more than 80 % of the respondents stated that they cook more than 3 times a week – the highest number was even 7 times, and most respondents answered that they never consume processed convenience products. Those consuming such products indicated that this would be the case up to three times a week at maximum.

Finally, when it comes to the second dimension of food literacy initially mentioned, a big obstacle for certain types of AFNs is certainly their visibility in the neighbourhood as well as the missing information about how they function. The 2nd street survey that was conducted in Eggenlend, Grünanger and the Triester neighbourhood revealed that local AFN offers were little or not at all known. Even the farmers' market in the Triester neighbourhood was not well known by residents, which is – according to our analysis – mainly due to a lack of promotional activities in general, and the use of wrong communication channels that don't reach the local residents (Janezic upcoming 2024). As knowledge about the functioning of certain types of AFN, particularly concerning CSA

¹¹²<https://www.ages.at/mensch/ernaehrung-lebensmittel/ernaehrungsempfehlungen/die-oesterreichische-ernaehrungspyramide>

models, is not widespread, the participants of the 'Lunch Table' workshops were quite reluctant when being asked if they would be interested in joining a CSA.

5.5 Meal culture

Regarding meal culture we refer to the cultural-ecology concept of Teherani-Krönner (2014) which tackles the cultural aspects and values of certain practices and gender roles in food production, preparation, and consumption. Her framework allows to analyse the challenges of changing food consumption trends and related developments, such as an increase in take-away, fast food, and out-of-home consumption. As already mentioned above, for our cases this aspect has not been investigated in depths so far, thus we only can reflect on some preliminary findings from interviews with farmers (in regard to food demand) and neighbourhood workers (and regard to their food related activities with their clients),

We came across aspects of meal culture at several occasions, which we would like to illustrate below by some examples.

For instance, for the planning of pilot activities that were conducted in the Triester neighbourhood, such as the *Kultur.Küche*, eating habits and preferences (incl. dietary styles), cultural and religious norms and intolerances and other health aspects needed to be taken into account. Religious norms and traditions played a crucial role, thus it was not possible to shop meat at the Triester farmers' market, since only pork is offered there, whereas a few of the invited residents only eat kosher or halal food and reject pork meat. In this case, meat needed to be shopped at a specialised butcher they trust.¹¹³

Another example concerns the 'Lunch Table' in the Jakomini neighbourhood centre. A vegan neighbourhood worker took over the coordination of this project and changed to meatless dishes, which took some time, but was finally accepted by the recurring visitors. Notably, this change also went along with shopping more often at the farmers' market than before.

Intolerances and allergies certainly also need to be taken into account in these projects of the neighbourhood centres, especially in Jakomini and Grünanger, since the umbrella organisation¹¹⁴ is from the socio-medical field.

In the CoopsForFood project we also explored challenges and potential solutions for sustainable community catering, which could be relevant for a SuperCoop. The different demands and wishes of various eater groups as mentioned above are not only a

¹¹³ In the Triester Neighbourhood, halal meat is also a precondition for many to come to festivities with (grilled) food. Ahmed (2008) emphasised trust as the central motive to buy at halal food stores over supermarkets in the UK.

¹¹⁴ <https://smz.at/>

challenge for AFNs to supply single individuals, but this is of high relevance for community catering as well. The central community kitchen of the City of Graz¹¹⁵, for example, supplies all the primary schools in Graz and also homes for the elderly. In the case of the Triester elementary school, where approx. 90% of the kids have migrant backgrounds, a wide variety of dietary needs come together. As confirmed in the interview with a representative from the central community kitchen, this ultimately represents a (manageably) challenge for procurement and the variety of dishes offered.

6 Discussion

6.1 Learnings

Our intention in developing the SuperCoop model was to address and tackle as many barriers to accessing good food as possible. Issues linked to time, space, and money, were to be solved through organisational and logistical measures. Issues related to 'softer' and broader socio-economic and cultural factors that are not within the immediate sphere of influence of an AFN need to be clearly identified and addressed in a context-specific inclusive, welcoming environment.

Regarding price, two different - and sometimes conflicting - interests need to be taken into account: sufficient/fair income for food producers (farmers, food processors and employed staff) and affordable/ cheap food for consumers. In addition, costs for logistics, which include transport facilities, storage, inventory and staff of food hubs have a clear impact on price. Therefore, scaling up an AFN, will only reduce unit costs through economies of scale when surpassing a certain threshold in size.

The transformation of food systems towards more sustainable production methods would require an internalisation of external costs (Reganold & Wachter 2016). This can be an advantage for AFN that already offer products, e.g., from organic farming, which internalise these costs. Recently, this has become obvious with the convergence of prices for organically and conventionally produced products due to soaring fossil energy prices.

Internal solidarity mechanisms can help to some extent to lower the price for low-income consumers, but we believe that better inclusion of socially disadvantaged groups also requires public subsidies. The pursuit of sustainable food policies should not only be seen in the context of food resilience but also take into account food justice. So price is not the only lever to make AFN more socially inclusive.

¹¹⁵ https://www.graz.at/cms/beitrag/10024761/7761766/Kueche_Graz.html

Accessibility in regard to time and space (locations and distribution of AFNs, distances to be travelled) can be seen as the biggest organisational challenge for AFNs compared to traditional delivery systems, such as supermarkets. Persons with disabilities (Shaw 2006) face spatial and temporal barriers stronger than others, and this needs to be taken into account in the social inclusion practices and policies of AFNs. Participation in most AFNs is relatively difficult for people with limited time resources or who lack flexibility. Under conditions of tightly scheduled workdays and care obligations, it is difficult to do shopping at the farmers' market, for example, but time-independent pick-up points could be a welcome option.

For those, who (need to) do their grocery shopping by car (for reasons of mere physical accessibility or convenience), limited parking options, such as at the Triester farmers' market, makes shopping there unattractive. In terms of sustainable urban development, however, shopping by car may only be granted to those who depend on it. Expanding the offer of affordable mobility alternatives (e.g. cargo bike and wheel rickshaw services) and making existing options more attractive (footpaths, cycle paths, public transport) need to be considered in the context of developing socially inclusive AFN models as well.

People might also lack time and skills to prepare unprocessed food (Vidgen and Gallegos 2012), which makes AFNs, that mainly provide unprocessed food, unattractive. The knowledge on vegetable and fruit varieties is often limited to the standard range offered in supermarkets, while AFN usually put specific emphasis on the diversification of varieties, and the re-introduction of traditional old varieties.

A certain degree of convenience in terms of shopping effort and available products might therefore be necessary to make AFN more attractive.

The information currently provided by CSA farms or other AFNs about their produce and recipes to cook is too little for customers, who are not familiar with these products. The interviewed neighbourhood centres also emphasised that it would not be sufficient to give people information about food and how to prepare it. Rather, the preparation of food must be learned hands-on, and related skills need to be established step by step (e. g., in cooking workshops). Such activities are considered very useful, not only in terms of enhancing food literacy but also as a means to build social capital.

Another barrier regarding the product range is the absence of culturally appropriate products and meals. If AFNs do not offer kosher or halal food, for example, they might be unattractive for certain ethnic groups. Additionally, the absence of traditional foods from migrants' countries of origin (e.g. certain plants, including spices) might also a reason to not participate in AFNs. Community gardens in turn offer opportunities to also grow varieties favoured by migrant groups.

Against this short fall, shifting dietary styles (e.g., vegan and vegetarian) and the trend towards healthy products as well as the increase in intolerances (e.g. gluten intolerance) might suit AFNs. They could offer affordable alternatives, especially when the prices for these products were higher in the supermarkets.

Another constraint for low-income households comes along with the technicalities of storage and preparation (Shaw 2006, Teherani-Krönner 2014). For example, a larger meat package as usually offered by farms engaged in direct marketing requires appropriate cooling facilities, which are sometimes difficult to afford, especially for low-income households with small dwellings.

6.2 Implications for the SuperCoop model

We may conclude that there is not just a single cause of social exclusion in AFN, but an intersection of many dimensions. There are no simple categories like rich or poor that can be formed when it comes to increasing accessibility to AFN. The ambition of realising a SuperCoop aiming at social inclusion is thus extremely high. In this sense, we see both, some promising potential in the model, which would need to be proven through implementation and testing in practice, but also limitations.

Considering the temporal and spatial challenges of AFN, we conclude that their services need to be locally available in the neighbourhoods. The cooperation with social organisations such as neighbourhood centres was valuable for our research and we consider them important partners for the implementation of such a SuperCoop as well. At the same time, synergies can be achieved with regard to the goal of neighbourhood work to build social capital and support people in need. To increase the access to AFNs in general, and to our SuperCoop in particular, we introduced the idea of a local food hub situated and embedded in the respective neighbourhoods. The framing of these food hubs will need to be adapted to specific local needs, which also concerns organisational support and considerations about meal cultures. Instead of third parties conceptualising local food hubs for local residents, we suggest involving them in participatory processes to co-design these hubs. Equally important is the provision of tailored information that actually reaches the target groups (different channels/media, appropriate language, etc.).

In our model, food hubs can however be initiated and operated by very different (existing) institutions addressing different target groups. Besides neighbourhood centres (or with their support), food hubs could also be set up by other social organisations, schools or companies. A food coop or a cooperative grocery store with its own legal personality also could constitute a food hub. All these different arrangements of various legal and organisational settings imply different requirements and possibilities when it comes to funding, decision-making, and operational activities. Fundamentally, resource provision is a crucial point.

The SuperCoop serves as an umbrella structure (in the form of a multi-stakeholder cooperative) to link food hubs in different locations and to create the legal framework, even if certain aspects are difficult to implement due to existing regulations, such as trade licences. Hygiene standards also need to be met, which often poses challenges in practice, e.g. when trained staff is not available.

Finally, the need for economic viability applies to the SuperCoop as it does to other AFNs. This requirement carries risks and potential drawbacks in making access to good food more socially inclusive. In particular, there is a risk of segregation between 'profitable' and 'unprofitable' locations in low-income neighbourhoods, which may then have to close again. Certain organisational arrangements can be made to prevent such undesirable effects, e.g. by ensuring a certain degree of diversity within the umbrella structure and independence of the food hubs. However, the implementation of such arrangements depends not only on the availability of various resources, but also on effective solidarity between members. This would mean that the wealthier members (ideally on a voluntary basis) pay a much higher share across all food hubs than the poorer members.

7 Conclusions

We were able to identify some important factors that constitute barriers to participation in AFNs, which proves that these are not single aspects but a multi-faceted picture of what constitutes social exclusion in the context of AFNs. Consequently, an intersectional perspective on these dimensions is essential to adequately address the existing deficits.

A basic limitation of the significance of our results is that CoopsForFood was not a research project to comprehensively explore possible exclusion factors per se. Rather, it was conceived as a thought experiment on the extent to which known barriers to participation in AFNs could be addressed with different concepts of a SuperCoop. Therefore, empirical results from several projects were combined for this article, which sometimes weakened the interpretational clarity of the data.

Nevertheless, we were able to create a picture that shows the existence of something like 'AFN-food deserts' in both aspects, spatially-statistically (GIS analysis) as well as in terms of individual factors, which then are reflected in the socio-economic structures of the investigated AFNs: it is primarily socio-economically better-off people who participate.

Food supply via AFNs alone is not enough to create social inclusion, but people also need appealing offers going beyond that. Neighbourhood work offers a good anchor and community centres represent a valuable cooperation partner for this – presumably also

other social organisations and educational institutions. They can create various services for their target groups that ultimately (thesis) also could make the cooperative food provision interesting.

Socially inclusive AFNs must also take into account the diversity of food cultures prevalent among residents and offer different services. When advocating for the introduction of inclusive alternative food practices, it is important to avoid aligning them with elitist norms and morals (c.f. 'white desires', Guthman 2008). Instead of approaching the subject with the good intention of 'making good food more accessible to others', it is crucial to involve people directly in the AFN conceptualisation, especially people with migrant backgrounds or disabilities resp. their stakeholders. Persons with any attitude- and ability-related restrictions (Shaw 2006) will experience spatial and temporal barriers much stronger than others, which should also be considered in AFN related food policies. In this regard, there is still a need for further research.

8 Acknowledgements

The work underlying this paper was carried out with the help of many hands and heads, who assisted in the data collection and processing. We included results from the bachelor thesis of Anna Langmaier and Marija Janezic and empirical work from three interdisciplinary practical courses, which were conducted from 2021 to 2023 with 58 students in sum. A special thank you is dedicated to the managers and members of the three neighbourhood centres for the very fruitful long-time cooperation.

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