



Will the small be feeding us all? An Analysis of Alternative Food Networks in Austria

Joana Beck

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Leglise

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Abstract

Title: Will the small be feeding us all? A social innovation analysis of Alternative Food Networks in Austria

Author: Joana Beck

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Social innovation has gained growing relevance from policymakers, civil society, organisations and the scientific community to address the pressing problems of today. Especially our current food systems are environmentally, economically and socially unsustainable and in desperate need of change. Factors like growing consumer distrust and economic and political crises urge the need to change global food chains. AFNs are considered a bottom-up response to those deficiencies. Scholars have stressed the need to investigate the practical implementation and impacts of SI initiatives, especially in the agricultural sector.

Moreover, the practical nature and the conceptual ambiguity of SI have stressed the need for more empirical research to derive valuable insights into how these initiatives can help transform the agro-food system. The research question for this study is: *“How can alternative food networks produce social and environmental outcomes?”*

The results show that AFNs are producing SI outcomes, especially in terms of returning to traditional practices, enhancing biodiversity and soil health. Due to the close relationship with their consumers, these initiatives also promote participation and knowledge-sharing. Communication and transparency are crucial factors for success, an AFNs could benefit from improving their online presence in order to share their values and mission. Moreover, the study shows that knowledge structures and organisational capabilities need to be implemented.

Resumo

Título: Serão os pequenos a alimentar-nos a todos? Uma análise de inovação social das Redes Alimentares Alternativas na Áustria

Autor: Joana Beck

Palavras-chave: AFN, Inovação social, análise de impacto, Áustria

A inovação social ganhou uma relevância crescente por parte dos decisores políticos, da sociedade civil, das organizações e da comunidade científica para abordar os problemas prementes da actualidade. Especialmente os nossos actuais sistemas alimentares são insustentáveis do ponto de vista ambiental, económico e social e carecem desesperadamente de mudança. Factores como a crescente desconfiança dos consumidores e as crises económicas e políticas exortam à necessidade de mudar as cadeias alimentares globais. As AFN são consideradas uma resposta da base para o topo a essas deficiências. Os académicos sublinharam a necessidade de investigar a implementação prática e os impactos das iniciativas do SI, especialmente no sector agrícola.

A natureza prática e a ambiguidade conceptual do SI sublinharam a necessidade de mais investigação empírica para se obterem conhecimentos valiosos sobre como estas iniciativas podem ajudar a transformar o sistema agro-alimentar. A questão da investigação para este estudo é: "Como podem as redes alimentares alternativas produzir resultados sociais e ambientais?"

Os resultados mostram que as AFNs estão a produzir resultados SI, especialmente em termos de regresso às práticas tradicionais, de melhoria da biodiversidade e da saúde do solo. Devido à estreita relação com os seus consumidores, estas iniciativas também promovem a participação e a partilha de conhecimentos. Comunicação e transparência são factores cruciais para o sucesso, uma AFN poderia beneficiar da melhoria da sua presença em linha, a fim de partilhar os seus valores e missão. O estudo mostra que as estruturas de conhecimento e as capacidades organizacionais têm de ser implementadas.

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List of abbreviations and acronyms

AFN- Alternative Food Networks

CAP- Common Agricultural Policy

CSA- Community Supported Agriculture

SDG- Sustainable Development Goals

SI- Social Innovation

1. Introduction

The world's population will increase by over a third (2.3 billion people) by 2050. The current food system has achieved high efficiency due to the implementation of farming methods that increase yield and produce a high amount of food. However, this fact has also led to detrimental environmental and social crises, like food waste. In 2019, the total food waste generated was 931 million tonnes (United Nations Environment Programme, 2021). These circumstances stress the need to rethink and change food systems for a more sustainable provision of food for all of us.

Social innovative practices refer to critical modifications in how societal transformations happen, structures are altered, and ethical norms are rethought (Phills et al., 2008).

The current system of our globalised world has its emphasis predominantly on economic innovation (Bund et al., 2015). But the awareness for measuring, analysing and evaluating not only economic but also social and environmental implications has gained growing attention from international organisations, policymakers and companies (Alomoto et al., 2022).

To rise above this negative state of the current food system, it is crucial to determine what mechanisms or practices enhance human livelihood and determine what socio-political dynamics need to be implemented to make social innovation processes successful in different industries (Moulaert et al., 2013). According to Neumeier, this grants further examination into patterns that can be detected by actors in these industries. Growing relevance has been given to SI by policymakers, civil society, organisations and the scientific community to develop new concepts and processes that can help solve future problems. Thus, it is vital to systematically inquire about what impacts those processes and ideas have on their environment to make them successful in different industries (Neumeier, 2012; Ravazzoli et al., 2021). The need for more environmentally friendly food systems has been stressed within the social innovation research leading to new configurations of food systems, strategies and interactions between critical actors (Rossi, 2017). Emphasise should be made that SI is not a concrete, tangible improvement in its output. It concerns the transformation of beliefs, behaviours and/or perceptions that give rise to new forms of collaborative action that make the desired improvement feasible (Neumeier, 2012). AFNs have innovative capacity, as they rebuild social, technological and

infrastructure that are intrinsic to production practices, distributions and consumption and which can drive social change (Rossi, 2017).

The literature on SI is scarce; firstly, researchers have defined a gap in the literature regarding the practical implementation and impact of SI initiatives when it comes to industries like agriculture and forestry (Angelidou & Psaltoglou, 2017; Ravazzoli et al., 2021). Secondly, it has been stressed that AFNs should be considered sources of social innovation. Finally, due to the practice-led nature of SI and the conceptual ambiguity of the concept, scholars are calling for more empirical research to understand better how these concepts play out in real-life (Kessari et al., 2020). Especially because SI can have a substantial impact on the vital dynamics of communities, organisations, policymakers, and the overall global economy, conditions for more investment in this area of research must be created (Martins et al., 2022).

Social innovation has no coherent agenda to explain or categorise the great variety of practices. This furthermore underlines the need to invest in scientific research that can contribute to the creation of a number of fundamental indicators and the generation of sustainable best-practices examples that can be used as a basis for further development and innovation (Howaldt et al., 2017). Seeing AFN as a bottom-up response to the deficiencies of the current agro-food system, the purpose of this research is to capture and assess the potential of AFN regarding social innovation processes and derive valuable insights for fostering innovative approaches for the transition to a more sustainable food system. This study concentrates explicitly on the outcome level of social innovation in rural areas. The research question for this study is:

How can alternative food networks produce social and environmental outcomes?

2. Literature review

While the scientific community proposes various interpretations of social innovation, it is often seen as a way of finding new solutions to society's most pressing problems. The literature stresses the importance of involving many actors like authorities, civil society and the scientific community to find new solutions to deeply entrenched challenges.

The following section will provide a comprehensive overview of the current knowledge in the social innovation field and identify gaps in the literature that this study will address.

I. Social innovation as a potential for a more sustainable and socially equitable food system

According to Phillips et al. (2008), two criteria must be met for a process to qualify as an innovation. Firstly it needs to be new, hence the idea doesn't need to be new but should be unique to the recipient, context or utilisation. Secondly, is a need for the process to show improvement in comparison to alternatives, i. e more efficient or effective (Phillips et al., 2008). In addition to traditional forms of innovation, there is growing interest in the importance of Social innovation.

In academic research, there are many definitions and concepts of social innovation, but there is little consensus on a singular one. The different interpretations the scientific community proposes bring forth a broad and incoherent spectrum of meanings. Due to the evolving nature of the term, it is all too easily used as a rhetorical "catchphrase" in a multitude of practices (Moulaert et al., 2013). Social innovation is frequently defined as finding novel solutions to societal problems or hardships that have proven to be more effective, efficient, sustainable, and non-discriminatory than existing ones (Phillips et al., 2008).

As SI is a complex phenomenon, it should be emphasised that it should not just be a renaming or rebranding of already existing structures, even if they may have a social component to their business model (Agnes, 2010). SI research is a very dispersed concept with a high level of "conceptual ambiguity"(Angelidou & Psaltoglou, 2017; Cunha et al., 2021).

While social innovation has been defined in various ways by different scholars, we adopt the definition proposed by Neumeier, as it aligns closely with the focus of our research. Neumeier (2012) defines SI as a transformation in the attitudes, actions, or perceptions of a set of people bound together in a collaborative network with aligned interests that yield new and enhanced possibilities for collective action within and beyond the group (Neumeier, 2012).

But who exactly is starting social innovative processes? A single individual cannot initiate SI outcomes, only if individuals share mutual interests and concerns that make them work in highly collaborative interaction and, in return, generate SI outcomes (Neumeier, 2012). These outcomes can spring from all actors of society: public actors, private individuals, the civic sector, small groups of individuals and more significant communities. Hence, SI outcomes can happen within or outside of public services (Agnes, 2010). In this context, private individuals and customers no longer serve as sources of input or feedback about their wants and needs but are also involved in designing these new approaches to their needs (Howaldt et al., 2017).

The basis of all innovation is an acute recognition of present needs that are not addressed, coupled with an outline of how these needs could be met (Martins et al., 2022). These social innovative practices can emerge in different disciplines and social contexts. (Howaldt et al., 2017). Their development should aim to generate value primarily for society and communities rather than private beneficiaries or corporations. In other words, it refers to critical modifications in how societal transformations happen, structures are altered, and ethical norms are being rethought (Phills et al., 2008).

Social innovation is not only a subject of interest in the scientific field but is also gaining importance on the global political agenda. The European Common Agricultural Policy (CAP) was launched in 1962¹ to support farmers financially, support the maintenance of Europe's soil quality, enhance ecological diversity and implementation of rural development initiatives. The CAP initiative has been financed by extensive investments of €386.6 billion², aiming to design, replicate and execute innovative agricultural solutions at a large scale. However, the program has been criticised for promoting unsustainable farming practices and intensive agricultural methods.³ In response to these critics, the European Union has tried to change policies, like the Leader approach, which is part of the CAP. The Leader program is an initiative of the EU that

¹ https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-glance_de

² https://agriculture.ec.europa.eu/common-agricultural-policy/financing-cap/cap-funds_en

³ <https://www.theguardian.com/environment/2019/may/22/eu-ignoring-climate-crisis-with-livestock-farm-subsidies-campaigners-warn>

aims to improve rural development by promoting social innovations. Its focus lies in strengthening local identity and collective participation in relation to cultural events or sports programs. Many of those actions generate positive spillovers in various spheres of social innovation, such as developing entrepreneurial ventures that find novel solutions to social issues (Nordberg et al., 2020).

Lastly, the Union responds to the diverse economic, environmental and social challenges (3 pillars of sustainable development) and aims to improve the well-being of all Europeans (European Union, 2022). Therefore, the EU has attempted to promote innovative social solutions in the market and put social innovation as the source of growth and employment. Furthermore, it aims at promoting knowledge-sharing about social innovation topics in the EU.⁴

Involving many actors, such as state authorities, civil society, the scientific community, and corporations, is essential to find new responses to our society's deeply entrenched challenges. However, emphasis should be put on the fact that these "new" configurations or solutions can also mean returning to old practices and reintroducing institutional forms that were once abandoned and changed for new ones (Moulaert et al., 2005).

Despite efforts made by public actors and governments, the increasing needs and shrinking public budgets are widening the gap between citizens' needs and expectations and the scope of social services and available assets and capabilities (Martins et al., 2022). Herefore, the need to further research into social innovative practices and their results is vital as these initiatives are reactions to the dynamics of the current economic system of the 21st century. Moreover, by understanding these practices, we can identify which mechanisms enhance human livelihood and what socio-political dynamics need to be implemented and changed to make social innovation Processes successful in different industries (Moulaert et al., 2013).

As social innovation gains growing interest, assessment and evaluation of the effectiveness of these initiatives becomes crucial for meeting global environmental and social goals.

The growing interest in social innovation also stresses the need to develop appropriate methods of assessing and measuring social innovations outcomes and outputs. Critically observed, the development of social innovation metrics comes with interconnected hurdles due to research being in its adolescence stages, and social innovation theories are perceived to be complex and highly integrated into their social context (Bund et al., 2015). Moreover, insufficient or missing

⁴ https://single-market-economy.ec.europa.eu/industry/strategy/innovation/social_en

legislative frameworks present a hurdle in assessing and measuring social innovation (Martins et al., 2022).

Some empirical research studies have concentrated on the measurement and evaluation of SI. Some have focussed on spatial units, meaning cities or regions, to measure SI practices' capacities. For example, Bund researched case studies concentrating on migrant integration at the local level. The study revealed that there were four core factors for SI processes, "social need structures, financial resources, political support and social capital and networks" (Bund et al., 2015, p. 73); Chiodo et al. have been investigating collaborative processes in rural villages in Argentina and Italy and have identified key indicators, like the incorporation of resources and level of commitment and collaboration (Chiodo et al., 2019). Only a little research has been done on the actual results of SI processes (Mulgan, 2010; Santini Pigatto & Brunori, 2021).

To accurately assess the influence or impact of an organisation's activities, it is essential to distinguish between social innovative outputs and outcomes. Social innovative outputs are related to the activities of the organisation, outcomes refer to the changes that result from those activities. They relate to the "real" changes that are generated (Mulgan, 2010).

Santini Pigatto and Brunori designed the theoretical framework used in this study and it aims to measure SI- impact in agriculture from an outcome-level perspective. The study proposes three different dimensions of measurement (Santini Pigatto & Brunori, 2021):

-Social resources

-Social capital

-Environmental and natural resources

Social resources are characterised as shifts in attitudes toward traditional practices involving production and the protection of the natural environments (Santini Pigatto & Brunori, 2021). SI has shown to have an impact on rural areas, as demonstrated by Carra et al.(2018). The study examined how communities can change when adopting SI policies. The Quartiere Bene Comune, issued by the Reggio Emilia municipality, aimed at implementing a "collaborative city" co-design, where citizens are viewed as active parts of the policy-making process and encouraged to adopt a driving role in public activities in planning and coordinating duties. Results from this study revealed that "changes in relational characteristics" are an essential part of SI. This study shows especially an increased level of community participation, the openness

to engage in new relationships and the level of contentment of each involved party (Carra et al., 2018). Other researchers emphasised traditional farming systems and other deep enrooted artisanal activities. Gobattoni et al. argue that these "old "practices should be undergoing suitable adaptations to current contexts and cultural and technological developments. Hence, they are valuable, and their preservation proves that sustainable human-nature interaction is indeed possible (Gobattoni et al., 2015).

Part of the process level of SI entails deepening the alliances between actors, in contrast to organisations concentrating on their sole performance. In addition, developing solutions tailored to the needs of local communities is considered an essential factor in SI process dimension (Agnes, 2010). Human and social capital is an integral part of SI processes through effective communication, remodelling and improved knowledge transfer (Moulaert et al., 2005).

Social capital and the establishment of solid interconnections plus the creation of knowledge networks between relevant stakeholders have been identified as essential factors in the success of SI concepts (Temple et al., 2018). Hence, cohesion among citizens and institutions should be encouraged to strengthen the sense of community belonging and the formation of local networks and knowledge infrastructures (Gobattoni et al., 2015). Emphasising sustainable agricultural development has favourable effects on socio-economic factors. Additionally, it positively influences natural aspects like agrobiodiversity and the landscape. Furthermore, it allows actors to get involved with tourism activities and will enable them to enlarge their community feeling (Gobattoni et al., 2015).

Overall we can conclude that the involvement of relevant stakeholders and the integration in building up processes can lead to a stronger feeling of belonging and relation to the location. Improvement of well-being and inclusion of individuals and the emergence of new forms of organisation has a positive effect on the social value of stakeholders and the community (Santini Pigatto & Brunori, 2021).

Environmental and natural resources refer to agriculture's "perceived positive effects" on the landscape. This means that agriculture has traditionally been carried out with minimal use of natural resources. Furthermore, they have a minimal impact on the landscape. Thus, they are specifically adapted to the climate, geomorphology and soil quality of the region. In short, we can say that the less invasive agriculture is on the landscape, the less it harms the environment (Gobattoni et al., 2015)

Social innovations are, by definition, critical modifications in deeply embedded structures are happening (Rossi, 2017). This resonates with the fact that AFNs are only emerging because social actors need more sustainable and social food systems.

II. Alternative food networks as a possible solution for a more sustainable food system?

In this following section, I will discuss the concept of AFN and its potential to drive change and link it to the pressing problems of today's agro-food systems. Additionally, I will investigate potential reasons behind the emergence of such organisations and their positive and negative effects on communities and individuals. Finally, I will explore the rise of AFN as a response to environmental and social challenges.

III. Defining Alternative Food Networks: Implications for Sustainable Food Systems

Alternative Food Networks are defined by Feenstra as "local food systems that are rooted in particular places, aim to be economically viable[...], use ecologically sound production and distribution practices, and enhance social equity and democracy for all members of the community" (Feenstra, 1997). AFNs are characterised by shorter supply chains compared to conventional agri-food systems (Food and Agriculture Organization, 2009) In scientific research, AFNs are also referred to as "sustainable food systems", short-food supply chains or "sustainable food chains" (Malak-Rawlikowska et al., 2019) The emergence of AFN is attributed to a growing public concern about challenges of the current agri-food chain, such as "ecology, health and animal welfare" (Renting et al., 2003, p. 395) We can say there is an "increasing cultural and spatial gap between production and consumption" (Matacena, 2016, p. 50)

In the rural development literature, scholars agree that AFNs favour socio-economic benefits, predominantly by effectively using endogenous or internal resources and capital. Thus, communities will profit from their internal resources rather than relying on external ones (Renting et al., 2003; Tregear, 2011) Moreover, due to reduced intermediaries and direct selling, costs are being reduced for the producers, which leads to fairer remuneration for their products. At the same time, consumers can benefit from easy access to fresh and healthy foods (Alberio & Moralli, 2021; Forssell & Lankoski, 2015) Supporters argue that AFNs are more sustainable than conventional food systems as the proximity between producer and consumer is short. Fewer food miles for transportation are reducing the carbon footprint of products (Tregear, 2011)

AFNs have various positive effects on communities and individuals, but there is also a body of researchers that argue the solely positive impact of such AFNs. AFNs are also dependent on conventional markets and compete with traditional food systems. This means they are also susceptible to price pressure and will need to consider financial effectiveness and social and environmental goals. High pricing, resource control and owning property contradict the objective of creating social bonds and community (Guthman, 2008). Some argue that "localised food initiatives may maintain rather than overturn pre-existing inequalities" (Goodman, 2004; Tregear, 2011, p. 419)

The concept of AFNs is constantly evolving and trying to fulfil the needs of the participants, meaning it is constantly changing to better meet the requirements of all people involved. Therefore, AFNs are known to be effective in "driving change" (Rossi, 2017)

AFNs are initiatives that are constantly developing and changing, with the aim to transform the entrenched ways of producing and distributing food (Higgins et al., 2008) They are trying to fulfil the needs of participants to better meet their requirements. AFNs are recognised for having the potential to propel change (Rossi, 2017)

IV. The Rise of Alternative Food Networks: A Response to Environmental and Social Hurdles?

In the forthcoming chapter, I concentrate on potential underlying consequences that lead to the emergence of AFN. Recognising these rationales can provide a clearer understanding of the underlying needs that lead to the emergence of alternative food systems.

The European food system has attained a high level of food security with many different options for the consumer to choose from. But this level of food security and a wide variety of food choices comes at a cost. Furthermore, the current food systems are defined by ample food supply chains favoured and supported by agribusinesses and retail companies (Higgins et al., 2008).

While the spotlight still lies in the expansion of the quantity of food production, there have been alternative systems of food production that have emerged all over the world. These alternative systems are defined by "shorter" food-supply chains and can be led back to many interacting reasonings. These emerging alternatives are drawing attention to the deficiencies and

malpractices that the current food-producing and consumption patterns have shown and the need for finding alternatives. AFNs have experienced widespread acceptance and diffusion in different "social and geographical" contexts (Rossi, 2017) The current agro-food system is environmentally, economically, and socially not sustainable. Continuing with current food systems will eventually and has already jeopardised natural resources, human health and the economy (European Union, 2020) Regarding achieving the goals set in the global sustainable development policy, agriculture and interlinked food system have been recognised as critical players in accomplishing the Sustainable Development Goals defined by the UN in 2015 (United Nations). According to the Food and Agriculture Organization, the world needs to increase food production by 60% in 2050 to ensure food security for the continuously expanding world population. The population is estimated to grow by 34% in 2050 (Food and Agriculture Organization, 2009). According to the UN's statistical calculations, the world needs to prepare for population growth of 2 billion people in the next 30 years, from the current 8 billion (estimated on the 15th of November 2022)⁵ to 9.7 billion in 2050, with a tendency to increase.⁶ The emergence of AFNs can be seen as a response to the inadequacies of the current agro-food system in meeting the needs and concerns of society. The following section provides an overview of the main themes that may give rise to these initiatives. Consumer Distrust

There has been extensive research on the relationship between consumers and emerging AFNs, and many scholars are trying to find answers to the questions of why some consumers are taking part in those new forms of agricultural systems. One reason could be that an increasingly growing consumer group has lost their trust in the quality of food originating from conventional agriculture. Trust in regard to food systems refers to consumers' belief that the consumed food will not have harmful consequences for their health (Jonge et al., 2007).

Natural resources

Conventional food systems have had an impactful effect on the environment. Through conventional production approaches, there have been many adverse effects, among other things, soil degradation due to the extensive use of chemical fertilisers and pesticides. In addition, monocropping, which is the norm for most commercial agriculture, has led to biodiversity loss.

⁵ <https://www.un.org/en/dayof8billion>

⁶ <https://www.un.org/en/global-issues/population>

These factors all play a role in the increased vulnerability of global agricultural production concerning environmental changes and climate change in general (Kirchev & Petev, 2021).

Insecurities due to crisis

The global pandemic hit the world with one of the biggest health crises that have been documented. Many supply chains were interrupted due to lockdowns in most European countries. The pandemic has not only had health implications for the population but has also greeted enormous supply chain gaps. Especially in Europe, the agri-food system relies on Western European workers for harvesting. The borders being closed led to crops rotting on the fields and creating a shortage of agricultural commodities. These implications have led to people losing jobs, especially in low-income households (Eurostat, 2020). The COVID-19 pandemic has led to a systematic crisis, where food provisioning is no longer safe, and rising prices are risking affordability for part of society (Dasgupta & Robinson, 2022; Toffolutti et al., 2020).

As noted in the preceding section, food systems urgently need transformation to meet the requirements of the SDGs and achieve a more environmentally friendly and socially just food system. The calls from researchers like Desa and Jia (2020) highlight a gap in the literature, emphasising the need to view food and agricultural systems as sources of social innovation, economic prosperity, and environmental sustainability rather than merely as niche sectors with limited economic potential (Desa & Jia, 2020). As mentioned by Angelidou and Psaltoglou (2017), a significant research gap has been identified by scholars regarding the practical implementation and impact of SI initiatives in sectors like agriculture and fisheries (Angelidou & Psaltoglou, 2017). Due to the conceptual ambiguity around social innovation and the fact that it is a practice-led area, scientists call for more empirical research into how social innovation unfolds in practice. Identifying sustainable food systems that promote social innovation and contribute to sustainable development goals is crucial to protect the planet's resources and ensuring the well-being of all people. To achieve this goal, it is essential to promote collaborative interaction from all stakeholders, including policymakers, researchers, producers and consumers, to create a more sustainable and equitable food system that meets the needs of current and future generations.

This scientific paper aims to evaluate the social innovation potential of alternative food networks. The research question for this paper is: *"How can alternative food networks produce*

social and environmental outcomes?" The study aims to give valuable insights to help the development of innovative approaches to form the transition to a more sustainable food system.

2. Methodology

Research design

For this study, qualitative research methods were used. This type of research is often used because it provides a more holistic and relatable approach to studying a complex social situation (Corbin, 2015; Rynes & Gephart, 2004). Social innovation is still in its early stages and is regarded as deeply embedded in their social context (Bund et al., 2015). The complexity and dynamic nature of the research object at hand necessitated an applied research and qualitative approach (Birkinshaw et al., 2011). Additionally, qualitative research can be a powerful tool to bring abstract ideas to life, which enhances their credibility and persuasiveness (Graebner et al., 2012). Qualitative research is often applied due to a lack of prior research on the specific topic of investigation, aiming to generate a novel theory or simply due to the researcher's vivid interest in the field (Graebner et al., 2012).

Data collection

I performed the primary data collection through semi-structured interviews as they make more effective use of the knowledge that lies in the interchanging communications between two actors. Semi-structured interviews allowed me to actively participate in a dynamic dialogue rather than being confined to a strict predefined interview guide (Svend Brinkmann, 2017). Furthermore, I visited all cases personally and collected field notes and researcher discussions and thoughts. The selection criteria for the decision on the interview partner has been derived from the definition of Feenstra (1997), the organisations must have a "short food supply chain", which means that they have a maximum of one intermediary. Furthermore, the organisations must be "rooted in particular places", meaning they must act within their local surroundings and mostly produce food for the communities that do not necessitate long transportation ways. Moreover, "ecological production" in this context means that they make efforts to use natural resources efficiently and consciously, like minimal water usage, and minimal or no use of chemical fertilisers and is considered about the quality of the soil and the improvement of biodiversity (Feenstra, 1997).

Additionally, the organisations are required to be located in Tyrol. All the cases qualify for the criteria "rooted in particular places, as none use external logistics to sell their products and act in their immediate environment, a maximum of 50km from the production sites. I choose Feingrün because of the novel agricultural vertical farm, as it allows minimal water use and doesn't need fertilisers to grow the plant. Furthermore, their products are exclusively sold locally and on farmers' markets. I selected Solawi Thurnfeld due to their focus on social matters, such as unemployment, awareness and unemployment, coupled with the production of fresh products. This combination earned them a nomination for a social innovation prize (Sozial Marie).⁷ Genusspechte Wipptal and Gabis Spezerey are concentrating on promoting local and seasonal products and operate on-site sales and one common point-of-sale in the town of Wipptal. Like the CSA Thurnfeld, they have a strong collaborative component to their business model. Additionally, they are committed to reducing carbon emissions due to reduced transportation ways and the sole use of local producers' products.

In addition to primary data collected through interviews and field observations, this study also utilised secondary data sources such as internal documents, newspaper publications related to the cases, and video publications. These secondary data sources were gathered to provide additional context and insights into the studied cases. However, it was challenging to find multiple publications about the subjects. This challenge can be traced back to the small size of AFNs and the characteristic of operating primarily locally.

When selecting the experts, the first thought process was to consider which actors in AFNs were most obviously involved in innovative practices. A strong interest in agricultural practices enabled me to gain an overview of the given work situation, which also helped me select experts later. The interviewees were chosen because of their specific and deep knowledge of the research subject (Gläser & Laudel, 2010). Based on this definition and the fact that AFNs often have small employee numbers, it seemed apparent to concentrate on the founders and leaders of AFNs. They will be the actors with the most understanding of the general practices in their respective agricultural organisations.

Data analysis

For the data analysis, the initial step was to review the primary data collected through semi-structured interviews and the collected field notes. In the first step of the analysis, I reviewed the transcribed materials and transferred the transcripts to a coding program (MAXQDA). In

⁷ <https://www.sozialmarie.org/de/projects/8652>

the second step, I scanned it with the lens of the theoretical framework from Santini Pigatto and Brunori(2021)The majority of the categories used in the data analysis are derived from the theoretical framework. However, one category emerged that was not addressed explicitly in the framework and came up many times during the interview process. This category was identified deductively. Overall, the data analysis was guided by a rigorous approach ensuring the reliability and validity of the findings.

3. Empirical setting

The following section will discuss the cases studied for this empirical study. The first case study is about Solawi Thurnfeld. This community-supported agricultural organisation aims to promote sustainable and mindful interaction with nature while also providing assistance to people that go through substance abuse therapy. The second case study discusses Feingrün, a startup that offers microgreens known for their high nutritional value and low use of resources. The third case study highlights the Genusspechte Wipptal and Gabis Spezerey, which focus on enhancing regional bonds and promoting local products. The last case Sandls Hofmanufaktur, concentrates on factors like biodiversity and the conversation of old varieties of seeds.

I. Case 1 Solawi Thurnfeld

The Solawi Thurnfeld is a community-supported agricultural organisation that is situated in the middle of the village Hall in Tyrol with about 13.587 inhabitants. The organisation is located in a once closed-up monastery. The monastery has been carrying out conventional farming methods for the past 50 years, and then a non-profit organisation named Emmahaus had the opportunity to take over the land.

Emmaus supports and accompanies women and men who have no home and no work and who were previously heavily dependent on addictive substances. This NGO allows clients to work and become financially independent. They mainly offer work around the house and garden and have been doing so for the past 20 years. Emmahaus offers job employment, community living in the old monastery, psychotherapy and support by social workers, for example, for bureaucratic activities, family-related issues or applications. When the opportunity arose to rent the old monastery, Benedikt Zecha, founder of the community-supported agriculture, investigated possible business models that correspond to the social nature of Emmahaus. The

aim was to find a business model that would fit the resources and capabilities they already had in the association and not expand by bringing in new employees. The aim was to rethink the economy on a small scale and become an active actor to help shape the future and practice sustainable and mindful interaction with nature. The idea was to create a community project where the members share costs, risks, and responsibilities equally. Another aspect of their initiative is to sensitise members on questions about ecological agriculture, regionality and seasonality of products and a general understanding of how food can be stored and waste management.

In the following Table, I give an overview of the core principles that are at the basis of the community-supported agriculture Thurnfeld.

4 pillars of Solawi Thurnfeld

Table 1 Pillars of Solawi Thurnfeld

I. Social	Provide assistance to people who have successfully undergone therapy for their substance abuse disorder and are pursuing employment, housing, and support in sustaining their sobriety.
Organic farming	Working with legislatively defined standards controlled by Austria Bio Garantie ⁸ . (They will be certified in 2023 after a conversion period from conventional agriculture)
Regenerative agriculture	Soil and biodiversity should benefit and improve through farming practices For example: Keeping land area permanently greened, green manuring mixtures

⁸ <https://www.bio-garantie.at/de/dokumente>

Agroforestry	Planting of crop trees and multi-use hedges between the main fields promotes biodiversity
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Source: internal document

II. Case 2: Feingrün

Feingrün is a small-scale startup that offers microgreens. These are harvested young and full of flavour and vitamins. They are known to have a better nutritional value than their grown counterparts and improve human health. Furthermore, microgreens are fast-growing green as their harvest time, depending on the variety, can go from 7 to 21 days (compared to many months of growth, depending on the variety), which in comparison to their "big" counterparts, is a short growth-time. In differentiation to sprouts, only the overground part is harvested, not the roots. Depending on the variety, harvesting is done at the cotyledon pair or at the first proper leaf pair of the plant embryo. Thomas Farbmacher, Feingrün's owner, has worked in mechanical engineering for most part of his life. From a young age, he got interested in sustainability and agricultural topics. He started his journey as a farmer step-by-step by renting a small field and selling fresh products to neighbours and friends. Wanting to change his life after working 13 years in similar positions in 2 different companies, he started researching different business models and products. He found out that microgreens are a big market in the U.S. and decided to start his own company. In 2022, with the help of a government startup initiative, he set up his company in less than two months. The government categorised the business idea as a sustainable initiative, so he had the opportunity to rent a room in Werkstätte Wattens, which is an international business and creative centre for founders, startups, as well as manufacturing and service companies in various stages of growth. They lay their focus on companies that have a background in technology, innovation, regional development or sustainability. The Werkstätte Wattens is in Wattens (17,3 km from Innsbruck city) and has approximately 7.200m² space for founders and entrepreneurs to work in.

Starting to sell at local farmers' markets, he quickly expanded to the gastronomy sector. The owner now has different fixed partners that purchase his products and make weekly subscriptions for microgreens. Feingrün now sells different kinds of microgreens like peas,

sunflowers, buckwheat, broccoli, radishes, mustard and arugula. The different microgreens have variant nutritional benefits and can help with specific health problems.

Feingrün is still in its early stages. Founded in 2022, the company is currently selling about 15 kg per week and has reached its break-even point early. Cultivating microgreens doesn't demand high financial investments as it is an easy crop, is space-saving and doesn't need much artificial light.

III. Case 3: Genussspechte Wipptal and Gabis Spezerey

Genussspechte Wipptal translates into enjoyment woodpecker or pleasure woodpecker. The starting point for the initiative was a group of people who wanted to tighten the regional bond and, through cooperation and networking, improve the connection between producers and restaurateurs in the region of Wipptal (located 27km from Innsbruck City). The organisation integrates producers from different fields, agriculture, handicraft, art and culture, shops, workshop and courses and gastronomy. The Wipptal Valley has about 20.000 Citizens and is known for its good ski area, which attracts many tourists every year. In 2022 the initiative had 35 members.

The initiative is also funded by the LEADER initiative, which is part of the European rural development program, which focuses on finding solutions for pressing future problems such as climate change or generational change. It supports farmers' transition to a more sustainable and competitive industry. Within the framework of their third LEADER project, "Further development of the Genussroute Wipptal", the Genussspechte Wipptal has established a central networking point, created training courses and tours, as well as a modular cookbook and produced a short documentary on the initiative itself.

The chairwoman, Gabi Gatscher, is the owner of Gabis Spezerey, a restaurant that focuses on local and sustainable food and the chairwoman of the Genussspechte. Miss Gatscher was awarded a hood by the "Gault Millau" for their previous restaurant but then decided to change the restaurant's concept as she didn't want to produce so much food waste. She agreed that the à la carte was not the right way if it meant throwing away that much food. That's when she decided to start her "Gabis kleine Spezerey".

IV. Case 4: Sandls Hofmanufaktur

Sandls Hofmanufaktur, which translates into "manufacturing farm", is located in Lans, about 7km from Innsbruck City. Before the renaming, the farm's name was Kösslerhof, and it is well embedded in the local community of Lans, which has only about 900 citizens. The grandfather of Sandra Kössler has managed the farm from 2003 on, as his parents couldn't carry on the work due to their age. Sandra's father, Sepp Kössler, eventually took over the farm business in 2003. He managed the farm as a side business with dairy cattle. In 2021 Sandra had to take over the farm due to her father's health issues. The owner had no passion for working with kettle and soon looked for alternatives to lead the farm and keep it viable. The experimental garden with saffron, poppies and herbs that has already been built up over the years was now the farm's main focus. After working with an agricultural innovation expert, the family started planting 105 plants of lavender, poppy and saffron. The seeds were purchased by the national gene bank and they only used old varieties of seeds that benefit the environment and improve biodiversity. The use of old varieties is called agrobiodiversity conversation. Old varieties are often more resilient and adapted to local climates than newer ones. This is why it is so important to invest in old varieties before they die out.

For clarity the Table 2 will give the reader an overview of all the cases studied in this paper.

Table 2 Overview AFN

	Solawi Thunfeld	Feingrün	Genusspechte Wipptal	Gabis Kleine Spezerey	Sandis Hof Manufaktur
Model	Community Supported Agriculture Organization	Direct-sales and local market sales	association from local producers to improve collaboration between members and collective selling points in 2 different areas sharing marketing-costs	Restaurant with local products from the region cooking, herb, preparation workshops	small structured family farm
Location	Hall, Tirol (8km from Innsbruck city center)	Wattens, Tirol (17km from Innsbruck city center)	Grieß am Brenner, Wipptal	Grieß am Brenner	Lans, Tirol
Starting Year	2020	2022	2014	2021	2021
Sales	Weekly boxes for members (picked up from the farm)	100g Boxes sold at local markets and through direct-sales to gastronomy & customers	direct-marketing shops online-shop farmers markets	direct-marketing shops online-shop farmers markets	direct-sales through on-farm automated vending machine (coming January 2023) Genusspechte Matrei (Cooperation of local farmers) Bauernkiste (subscription boxes with local products)
Land	8a rented from the Social Enterprise Emmahaus	vertical indoor farming 30m2	x	small house garden 40m2	10a
Leaders	Farm-owner + agricultural expert	Vertical farm owner, start-up	Gab Gatischer	2 Managers	1 manager
Employees	5 employees that are working on the farm and getting therapy on site for recovering from substance abuse	x	2	0	0
Members	About 150 households	x	35 businesses	0	0
Volunteers	Regular volunteering days (on big harvest days) WOOFERS (volunteering program for learning on organic farming practices)	x	occasionally	0	0
Revenue streams	Vegetable box subscription (yearly bases) & program for lower income families (payment can be chosen by the member)	Direct sales	direct-marketing shops online-shop farmers markets	catering in-house-eating selling merchandise (prepared foods: jam, syrup, sausages, bread, vinegars) workshops (herbs, food preservation, cooking and vine)	on farm sales Bauernkiste (subscription model) Genusspechte Wipptal
Financial support	Financial support from state agencies for the employees that also participate in the recovering program but no external financial support for the farm itself	Financial support from the local government in first 3 months Start-up program	Raiffeisenbanken im Wipptal Tirol Agrarmarketing wipptal (only marketing)	x	x

Source: the author

The following table gives an overview of the conducted interview partners and their areas of expertise to understand the following findings chapter.

Table 3 Abbreviations and Expertise

Abreviation	Position and area of expertise
A1	Founder and manager
A2	Founder and manager
A3	Founder and manager
A4	Founder and manager
B1	Agricultural expert
B2	Agricultural expert
B3	Agricultural expert
C1	Client and employee
C2	Customer

V. Findings

The following chapter will give an answer to the following research question: "How can alternative food networks produce social and environmental outcomes?"

In the following section, I will introduce the aspects that could be detected in AFNs and the possible implications why. Lastly, the conclusion is presented and put in relation to the literature discussed during the first section of this work.

This study aims to investigate the social innovation outcomes that spring from AFNs in Austria, which is seen as a response to the shortcomings of the current agro-food system. Although AFNs have also economic objectives, they also have social and environmental aspects to quantify. As a result, this study aims to evaluate the potential of AFN for promoting social innovation outcomes and to provide valuable insights that can facilitate the transition to a more sustainable food system.

The following findings are structured based on the theoretical framework employed .

I. Social resources

Return to old practices

In terms of sales channels, not all the cases studied play a role in the conventional market. They are satisfying niche markets and opting for unconventional or traditional means to sell their products. Two of the 4 cases are selling their produce on the local market "Twice a week I am present at a farmers market, where I offer and promote my products." (Interview, A2). All cases opt for a direct-marketing and have close contact with their customer base, with different values

behind their decision. "Direct marketing for me, is the only sustainable solution" (Interview, A2) implies that with transport costs and environmental implications, selling produce directly is the most sustainable option. Others are having their focus on the financial side. "Through discussions with all the family members, we came to the conclusion that if we are engaging in agriculture, and reselling it to a middleman, then we have nothing left. That's why we decided to go into direct marketing" (Interview, A3). Another motivation for the direct-sales is the conviction that only the farmer or producer can market their products accordingly. "You can always market your product better than anybody else". The CSA organisation has a box refilling system, where members can pick up their vegetable boxes in different areas, and the members are advised to bring back their boxes when picking up a new one each week. "We are always encouraging our members to bring back their boxes, of course sometimes they don't, but that's the good thing about having a limited amount of customers, you always know who didn't bring them back." Three cases have on-farm selling. Sandlshofmanufaktur is currently investing in an automated vending machine. Currently, the farm has a self-serving shop and the payment functions on a trust basis, "The vending machine is a big investment for a small farm like ours, but I am sure that it will help with sales and with the selling experience in general. People want to buy things when they want and how they want." (Interview, A3). Gabis Spezerey is selling their produce in a shop is located in the family house. They stopped having opening hours and having customer drop-ins in the restaurant, "We do not have opening hours like regular restaurants and shops; the a la carte business is a waste. Time-wise and in regards to the food waste that in naturally produces" (Interview, B2).

Furthermore, the Genussspechte are trying to incentivise its consumers to eat more seasonally and locally. By offering a cooking book that provides recipes for specific months of the year with information on where the products can be bought locally, "The Kochkistl is our latest project. We offer a recipe for each month of the year with information on where to get the products. The recipes are as traditional Austrian as it can get. The goal was to bring people closer to the products." (Interview, A4)

Shifting consumer habits is also mentioned as the interview partners have the sense that consumers are going back to older purchasing patterns. "In the past there was no such thing as big supermarkets, you went to the farmer and got the milk, eggs and meat straight from the producer. That has changed in the meantime and now I have the feeling that people want to go back to the old model". Gabis Spezerey is also referring to a similar idea, she sees a shift in the mindsets of consumers and believes that consumers are developing a sensibility to the origin of

their food and that they are no longer supporting food that originates from remote locations "...People do not need grapes from Chile these days, I believe people are more conscious than that. But of course I can be wrong" (Interview, A4). This opinion is also shared by another interviewee, "More and more people are aware of the fact that it can't be environmentally friendly to import products all over the world" (Interview,A2). Statistically, we can say that most crucial importer of food in Austria is adjacent Germany, but the second largest one is China, with a 13,1 Billion Euro⁹ market value of imports in 2021. This shows that Austria is still very much engaged in food imports, which has significant CO2 emissions

Customer engagement and community

"Another aspect is, that we are a social enterprise which offers maintaining services around the house and garden. The CSA is a part of these activities. It is also the newest area, we just started last year.", "(Interview, A1). The Solawi Thurnfeld is offering members the possibility to engage in a year's subscription to fresh vegetables. The members are incentivised to contribute to the organisation and engage in dialogues and decision-making processes. "The community aspect is one of the most important pillars. We are there for each other, we try to understand each other, and most importantly, support each other in whatever life stage we are in" (Interview, B1). The organisation has a strong focus on community, as they are working with subsidiaries that have had a history of substance abuse, and they have a strong focus on providing support.

Furthermore, they also integrate financially disadvantaged families by offering a pay-what-you-can subscription model. Families with this kind of subscription do not need to show proof of low income. The CSA initiative have a strong community sense, "One reason why we decided to adopt this model was also that now we have a group of people behind us, who want us to survive as farmers" (Interview, B1). Furthermore, there is the possibility for the subsidiaries to stay in the company when they finish their therapy, "There are also many that come from very bad situations and then build themselves up here and are now permanent members of the farm team. They have worked their way up here for a long time" (Interview, A1).

One of the interviewees is chairwoman of an association, that seeks to connect producers of different areas and strengthens their power as a collective. She sees the strength of the association in supporting one another, especially in regards to promotion. She wishes that the participation of all the 32 members would be even stronger and that all producers would buy

⁹ <https://de.statista.com/statistik/daten/studie/217602/umfrage/wichtigste-importlaender-fuer-oesterreich/>

products from one another and market them, as a collective "Ideally people all producers from the Genussspechte should buy the product of the other ones and also market them. This for me is the essence of this initiative" (Interview, A4). The organisation has a collective identity and share a common vision for all of their businesses together, "These are all people that have a vision and a strong passion for what they do" (Interview, A4). When starting the organisation, she mostly looked for quality and traditional productions, "Important for me was the quality, that the people who participate are also fanatical about their job. We are lunatics in a way" (Interview,B2). The ability to obtain in-depth, face-to-face, and trustworthy information about the products increases customers connection and participation with the AFN.

II. Social capital

In regards to social capital, important facets have been identified in the literature, such as trust and reciprocity, interconnectedness and effective network-building. Lastly having collective norms and a collective goal are crucial for the functioning of collective action (Crespo et al., 2014) Social capital is referred to as a stabilising factor for the agricultural innovation process, this furthermore ensures the development to sustainable food systems (Furness et al., 2022)

Investment in knowledge

The transition to more sustainable agriculture requires new knowledge structures with new knowledge content and forms, as well as the implementation of new ways of learning

"I am a trained soil expert myself. When I started this journey, I know I had to educate myself on important topics concerning agriculture. For me the soil is the basis of all good agriculture" (Interview, A1).

"We had no prior knowledge of agriculture in general, we taught ourselves everything" (Interview,B3). Sandls Hofmanufaktur has started the agricultural business after her father couldn't keep the kettle farm anymore. Through experimentation with rare and old varieties, she taught herself all the needed skills, from farming to grinding in their old mill.

All the farmers and producers have had no academic background on their respective area. They all are self-taught and have gathered their information either because they have had familiar connections to agriculture, through connections with other farmers or through the internet.

Sustainable agriculture and production is still a niche market, and individuals rely on alternative support and knowledge networks.

Networking and communication

Networking and communication refers to the relationships and connections that are happening within the organisation and outside of the organisation.

As two of the cases have only a small number of actors in their organisation, the communication part is irrelevant for inter-organisational communication because the individuals are all living under the same roof and can communicate at any time.

"Since the pandemic and the communication between us all has been taking place in a WhatsApp group, there is a lot of room for interpretation and miscommunication in such a big group" (Interview, A4). The CSA organisation primarily coordinates through a collective WhatsApp group, which has been a hurdle for organising collective actions, such as when help is needed or in decision-making processes. Emphasising the communication in CSA movements has been shown to grow relational trust and institutional trust between the members (Furness et al., 2022)

All the four examined cases have strong relationships with their members or consumers. They have been able to build strong connections and interactions due to the proximity between the consumers and producers. Shared pick-up stations for the CSA organisation, entail that there is extensive face-to-face interaction. Other communication channels are carried out by email or simply direct messages and still a considerable amount of phone calls.

In regards to communication, an unneglectable medium is social media communication as it is an crucial marketing and communication tool in the modern world. Two of the cases do participate in social media networks and have had positive experiences with it, "I am just now starting with my Instagram page, I got a lot of questions in the past few months about why I am not posting anything. People are almost expecting this nowadays" (Interview,A2). When asking the other initiatives on the non-existent social media, they mentioned mostly missing financial and organisational resources to build a sustainable social media channel "We don't have a social media because we don't have the capacities to sustain it" (Interview, B1).

All in all we can say that the most communication happens over face-to-face interaction and Whatsapp groups. For marketing purposes, Feingrün and Sandshofmanufaktur are concentrating on social media gaining customers attention and marketing their products.

Trust

The indicator trust refers to the level of trust that AFN have in relation to external actors, such as institutions and local actors. Many of the farmers and producers have had negative feelings towards authorities. All have mentioned enormous bureaucratic hurdles in working in collaboration with state agents. "Austria is constantly increasing the requirements for the farmers; therefore we stopped all the collaborations with state authorities. That has been ultimately more work for us than help" (Interview,B3).

"We were pretty happy because we didn't have to work with the government to start the CSA. There are a lot of restrictions on what you can plant and when if you want to have financial help. This hasn't been an option for us, as we want to move freely" (Interview,B1).

"We are not getting any help financially, the only thing we received was help with marketing, flyers and such things. But it has been really difficult, when you have one word different from what they expect, they are stopping the whole process. It was too much work." (Interview, A4).

One of the interviewees mentioned the feeling of losing power over business decisions and the feeling of having limited leeway, "I had the feeling that I am only a number and that I no longer have too much to decide about my business.

II. Environmental and natural resources

Perceived positive impacts

Almost all the producers have strong values that stand behind their business, which gives them the assurance to do good in their community and in relation to the environment. The perceived positive impacts imply social components in regrouping people who have similar beliefs and motives. But also a deep embeddedness to the local environmental resources and the aim to keep them viable for a long future. This also resonates with the theoretical findings, which imply that there must be solutions specifically tailored to the needs of communities and consumers. This means that the more embedded and tailored the food provision is, the more it resonates with the clients and fills their gap (Agnes, 2010)

"Our only big goal is to offer our customers high-quality and healthy foods. And maybe give them an incentive to make products themselves." (Interview,B2)

"I think it is really important to have local food systems that can help support the vitamin supply of the surroundings" (Interview, A2).

A broader view of environmental sustainability

Among all producers, a strong sensibility for the environment and the resources that are used is noted, but they all have different focus points. The CSA initiative is concentrating strongly on the development of their community and social aspects of their initiative. For them it means to create a "Enkeltaugliche Zukunft", which translates into a future that is liveable for grandchildren. "Sustainable for me means to leave behind more, I mean that you manage in such a way that nothing is lost. That nothing becomes less" (Interview,B1).

"My system works in an internal and closed system but on a vertical structure, so that I can grow a lot of microgreens in a minimal area. Furthermore they don't need much water and artificial lighting." (Interview, A2). The microgreens farm owner sees his business as an innovative solution, because this farming technique is requiring frugal use of resources with a more nutritious outcome than conventional vegetable farming. Microgreens do have a higher value of nutrients in comparison to the mature plants (Sharma et al., 2022)

"The small ones will be the ones who can feed the world. Because such farms value aspects such as soil quality and regionality" (Interview,A1). One of the interview partner is sure that small scale farming is bringing more proximity and therefore more respect for the environment.

"We use regenerative agriculture, which is one step further than pure organic agriculture. Organic is more about the quality of the food, regenerative agriculture is about bettering the existing natural environment." (Interview, A1). The CSA initiative is concentrating on building up humus and strengthening biodiversity. Furthermore they use special digging techniques that ensure a healthy soil. Furthermore they always leave their fields green with special manuring crops that put nutrients into the soil.

Other aspects that were mentioned, were concerns about animal-well-fare in conventional livestock farms and concerns about food waste in general. "The animals in factory farming are unhappy and crammed into a small space. It can't be good to eat that" (Interview,B2).

A fifth of all bought food in Austria is thrown away. Estimations say that during the production of food, a third of all produced food is lost in the supply chain (Gudowsky, 2020). "If you look a little bit on how much products are thrown away every day. The a la carte business is so unpredictable and we wasted a lot of food in these years. It's just not sustainable and conflicts

with my values (Interview, A4). In regards to the a la carte business, the owner mentioned "I couldn't reconcile myself with that, and that's why I advocate that it is not possible to always have everything. In this case the customer is not king" (Interview, A4).

Financial distress (not part of the framework)

Many producers are worried about rising prices in the sector, on the other hand two of the producers mentioned that they have concerns for the future of their industry, especially in regards to small scale organisations, like theirs. "Gastronomy in Austria is simply too cheap and that puts enormous pressure on restaurateurs. If that doesn't change, the sector will not be viable anymore" (Interview, B2).

Only the CSA initiative is acting isolated from the free market, which allows them to move freely and not depend on externalities to cover their costs. "We have extreme planning security, we know exactly how much income we will be earning in the next year. I know exactly how much money I need for us to survive next year." (Interview, B1). As CSA initiatives are not taking part in the free market, they are producing for a reliable and trustworthy market. The producers are guaranteed an entire season or half season of supply by a collective group of consumers (Samoggia et al., 2019)

VI. Discussion

The necessity to find novel solutions to entrenched socio-environmental problems related to the conventional food market is urged by governments, academics and researchers. It became clear that SI as a form of innovation is essential in creating sustainable business models, encouraging meaningful societal change and value creation.

All of the analysed cases in this research are adopting traditional practices, which can be led back to the fact that traditional agricultural practices have inferior negative environmental impact. Another aspect worth mentioning, is the fact that most of these long-established practices are deeply interwoven with inherited cultural values. This intrinsic knowledge is embedded in the local environment and has proven to function for the specific geographies. Moulaert discusses this topic, and states that innovations do not need to be "new" in order to be innovative, they can also be a return to old or traditional practices (Moulaert et al., 2005).

In regards to social resources, especially the CSA initiative and the local producer cooperation, strongly focus on member participation and integration. For the CSA initiative, the relation

between producer and consumer is tight, with weekly pick-ups. This strengthens the sense of community and the proximity to the opinions and concerns of all members. This also relates to the findings of the LR and the proposed definition by Neumeier, which deems the collaborative action within a group as a key factor of SI initiatives. Furthermore, the expertise and know-how of the socially oriented team lays the foundation for enhanced social connections most employees have, which will probably have a positive effect on the ability to build strong social connections to members (Neumeier, 2012).

The emergence of new organisational forms is seen in both CSA initiatives and local producer networks. For the *Genusspechte Wipptal*, the regrouping of small local producers has potential in strengthening their influence on local policies in comparison to individual small-scale production entities. Institutional change is the source of all social change, without it, actors remain trapped in traditional mindsets and actual change in systems is not provided (Diepenmaat et al., 2020, p. 2).

Proven by data collected on the CSA initiative, one can say that they already or plan to apply circular economic practices. Currently, full circularity is not yet achieved, as they still introduce manure from local farms. Starting next year, they plan on using their own composting facilities to be fully self-sustainable and circular. Self-sustaining circular agricultural businesses can be seen as a social innovation (Diepenmaat et al., 2020, p. 2).

The CSA initiative strongly concentrates on the community-development and social aspects of their initiative. For them, it means to create a "Enkeltaugliche Zukunft", which translates into a future that is liveable for grandchildren. "Sustainable for me means to leave behind more, I mean that you manage in such a way that nothing is lost, that nothing becomes less" (Interview, B1). The idealism, vision and the deeply rooted values of these AFN will eventually put them in a situation where there will be tensions between intrinsic values and pragmatism (Poças Ribeiro et al., 2021, p. 503). One can clearly see in the case-study of the *Genusspechte*, that the owner mentions growing conflicts between the gastronomy and hotelier sector. Growing consumer demand puts producers in a position to have more options and a greater variety of produce. Furthermore, the heightened price pressure due to growing tourism and rising prices for consumer goods and putting enormous pressure on local producers and farmers.

VII. Conclusion

The aim of this thesis was to analyse the SI outcomes that spring from AFN in Austria. To do so we used a qualitative multiple-case study examination with 4 different cases.

How can alternative food networks produce social and environmental outcomes?

The results from this study show that there are SI outcomes that are being produced by AFN.

In this SI-outcome analysis, we can conclude that especially the return to traditional practices can be observed. The CSA initiative is working without heavy machines and is putting effort into augmenting biodiversity and soil health. Furthermore, they all have a proximate relationship with their consumers and can, therefore, better estimate the level of community well-being. They can project their values and explain them to customers more accurately than if the proximity wouldn't be there. Sandls Hofmanufaktur is using old varieties from the seed bank and is also waiving at heavy machines. Gabis Spezerey is concentrating on processing local products and selling them. Furthermore, the business is offering cooking courses and processing courses to enhance local consumption and fight food waste. The techniques used were learned mostly through family traditions.

Participation of members or consumers can be observed strongly in the CSA initiative, they have a strong social orientation and have a background in working with struggling individuals. These capabilities lie deep in the concept of CSA and are improving communication and especially integration of all members and marginalised people. The CSA initiative is also giving low-income families the ability to contribute to the extent they can. It is the only initiative that integrates these kinds of individuals.

In terms of knowledge, it can be concluded that all farmers are self-taught, and the information that is within those organisations relies only on informal information. This makes these AFNs dependent on employees or members of the community. This entails that the organisation is strongly dependent on individuals; hence the organisation is running the risk of losing these talents and not being viable anymore. Recommendations would be to invest in knowledge structures and ensure that the knowledge is documented explicitly. This implementation would also help the organisation make better decisions and maintain and increase performance.

Communication and transparency are seen as important success factors in AFN (Bernardi et al., 2020). Networking and communication are mostly carried out through face-to-face interactions

and WhatsApp messages. Two of the cases started their social media and are currently sharing their experiences and values with their followers. With deeply embedded values and missions behind the cases, my recommendation would be to share that online if resources allow it. Connecting to members and potential clients in the digital area is crucial these days and can furthermore improve interactions and improve the transparency of organisations.

As for environmental and natural resources, we can conclude that all of the cases assume that their businesses are having positive effects on communities and the environment. Through the provision of healthy foods that are mostly organically grown, the acknowledgement of boundaries within the natural system, the processing of local foods and experimenting with new and old varieties of crops.

Potential limitations for this study could be the number of interviews, more data could potentially give more insights into these AFN and the social innovative outcomes that they produce. Moreover, it could have been beneficial to include policymakers in order to get more of a "professional terminology" on the topic of social innovation.

As the sample was selected by me, it is a non-probability sample that is subjected to bias because the interviewees were consciously sampled. This can lead to inaccurate results because of outliers, which may limit the ability to generalise the results obtained (Etikan, 2016, p. 4).

Further research suggestions would be to further develop more specific indicators for SI. The concept is still not fully developed, and with the growing interest in non-economic aspects of businesses, it could help to quantify the social and environmental impacts of organisations. Furthermore, this research revealed that there is a lack of knowledge systems in AFNs, I would suggest further research in developing how such a system could be developed and implemented in AFNs to encourage knowledge-sharing and building.

References

- Agnes, H. (2010). *Empowering people, driving change: Social innovation in the European Union*. https://ec.europa.eu/migrant-integration/library-document/empowering-people-driving-change-social-innovation-european-union_en
- Alberio, M., & Moralli, M. (2021). Social innovation in alternative food networks. The role of co-producers in Campi Aperti. *Journal of Rural Studies*, 82, 447–457. <https://doi.org/10.1016/j.jrurstud.2020.10.007>
- Alomoto, W., Niñerola, A., & Pié, L. (2022). Social Impact Assessment: A Systematic Review of Literature. *Social Indicators Research*, 161(1), 225–250. <https://doi.org/10.1007/s11205-021-02809-1>
- Angelidou, M., & Psaltoglou, A. (2017). An empirical investigation of social innovation initiatives for sustainable urban development. *Sustainable Cities and Society*, 33, 113–125. <https://doi.org/10.1016/j.scs.2017.05.016>
- Bernardi, P. de, Bertello, A., Venuti, F., & Foscolo, E. (2020). How to avoid the tragedy of alternative food networks (AFNs)? The impact of social capital and transparency on AFN performance. *British Food Journal*, 122(7), 2171–2186. <https://doi.org/10.1108/BFJ-07-2019-0537>
- Birkinshaw, J., Brannen, M. Y., & Tung, R. L. (2011). From a distance and generalizable to up close and grounded: Reclaiming a place for qualitative methods in international business research. *Journal of International Business Studies*, 42(5), 573–581. <https://doi.org/10.1057/jibs.2011.19>
- Bund, E., Gerhard, U., Hoelscher, M., & Mildenerberger, G. (2015). *A Methodological Framework for Measuring Social Innovation*. <https://doi.org/10.12759/hsr.40.2015.3.48-78>
- Carra, M., Levi, N., Sgarbi, G., & Testoni, C. (2018). From community participation to co-design: “Quartiere bene comune” case study. *Journal of Place Management and Development*, 11(2), 242–258. <https://doi.org/10.1108/JPMD-06-2017-0046>
- Chiodo, E., Adriani, H., Navarro, F., & Salvatore, R. (2019). Collaborative Processes and Collective Impact in Tourist Rural Villages—Insights from a Comparative Analysis between Argentinian and Italian Cases. *Sustainability*, 11(2), 432. <https://doi.org/10.3390/su11020432>
- Corbin, J. M. (2015). *Basics of Qualitative Research* (4th edition). SAGE Publications.
- Crespo, J., Requier-Desjardins, D., & Vincent, J. (2014). Why can collective action fail in Local Agri-food Systems? A social network analysis of cheese producers in Aculco, Mexico. *Food Policy*(46), 165–177.
- Cunha, J., Ferreira, C., Araujo, M., Nunes, M. L., & Ferreira, P. (2021). Understanding the Linkage Between Social Innovation and Sustainable Development Goals: Some Insights of Field Research. In *2021 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)* (pp. 1142–1146). IEEE. <https://doi.org/10.1109/IEEM50564.2021.9672961>
- Dasgupta, S., & Robinson, E. J. Z. (2022). Impact of COVID-19 on food insecurity using multiple waves of high frequency household surveys. *Scientific Reports*, 12(1), 1865. <https://doi.org/10.1038/s41598-022-05664-3>
- Desa, G., & Jia, X. (2020). Sustainability transitions in the context of pandemic: An introduction to the focused issue on social innovation and systemic impact. *Agriculture and Human Values*, 37(4), 1207–1215. <https://doi.org/10.1007/s10460-020-10129-2>

- Diepenmaat, H., Kemp, R., & Velter, M. (2020). Why Sustainable Development Requires Societal Innovation and Cannot Be Achieved without This. *Sustainability*, 12(3), 1270. <https://doi.org/10.3390/su12031270>
- Etikan, I. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1. <https://doi.org/10.11648/j.ajtas.20160501.11>
- European Union. (2020). *Towards a Sustainable Food System: Moving from food as a commodity to food as more of a common good*. Scientific Opinion. Directorate-General for Research and Innovation. https://ec.europa.eu/info/sites/default/files/research_and_innovation/groups/sam/scientific_opinion_-_sustainable_food_system_march_2020.pdf
- European Union. (2022). *SECOND PILLAR OF THE CAP: RURAL DEVELOPMENT POLICY*. https://www.europarl.europa.eu/ftu/pdf/en/FTU_3.2.6.pdf
- Eurostat. (2020). *Covid-19 labour effects across the income distribution*. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=COVID-19_labour_effects_across_the_income_distribution
- Feenstra, G. W. (1997). Local food systems and sustainable communities. *American Journal of Alternative Agriculture*, 12(1), 28–36. <https://doi.org/10.1017/S0889189300007165>
- Food and Agriculture Organization. (2009). *FAO's Director-General on How to Feed the World in 2050*.
- Forssell, S., & Lankoski, L. (2015). The sustainability promise of alternative food networks: an examination through “alternative” characteristics. *Agriculture and Human Values*, 32(1), 63–75. <https://doi.org/10.1007/s10460-014-9516-4>
- Furness, E., Sanderson Bellamy, A., Clear, A., Mitchell Finnigan, S., Meador, J., Mills, S., Milne, A., & Sharp, R. (2022). Communication and building social capital in community supported agriculture. *Journal of Agriculture, Food Systems, and Community Development*, 1–16. <https://doi.org/10.5304/jafscd.2022.121.009>
- Gläser, J., & Laudel, G. (2010). *Experteninterviews und qualitative Inhaltsanalyse: Lehrbuch*. VS Verlag.
- Gobattoni, F., Pelorosso, R., Leone, A., & Ripa, M. N. (2015). Sustainable rural development: The role of traditional activities in Central Italy. *Land Use Policy*, 48, 412–427. <https://doi.org/10.1016/j.landusepol.2015.06.013>
- Goodman, D. (2004). Rural Europe Redux? Reflections on Alternative Agro-Food Networks and Paradigm Change. *Sociologia Ruralis*, 44(1), 3–16. <https://doi.org/10.1111/j.1467-9523.2004.00258.x>
- Graebner, M. E., Martin, J. A., & Roundy, P. T. (2012). Qualitative data: Cooking without a recipe. *Strategic Organization*, 10(3), 276–284. <https://doi.org/10.1177/1476127012452821>
- Gudowsky, N. (2020). *Reducing Food Waste*. <https://epub.oeaw.ac.at/0xc1aa5576%200x00324478.pdf>
- Guthman, J. (2008). Neoliberalism and the making of food politics in California. *Geoforum*, 39(3), 1171–1183. <https://doi.org/10.1016/j.geoforum.2006.09.002>
- Higgins, V., Dibden, J., & Cocklin, C. (2008). Building alternative agri-food networks: Certification, embeddedness and agri-environmental governance. *Journal of Rural Studies*(1), 15–27. <https://doi.org/10.1016/j.jrurstud.2007.06.002>
- Howaldt, J., Schröder, A., Butzin, A., & Rehfeld, D. (2017). *Towards a general theory and typology of Social Innovation*. https://socialinnovationexchange.org/wp-content/uploads/2022/01/SI-DRIVE-Deliverable-D1_6-Theory-Report-2017-final-20180131-1.pdf
- Jonge, J. de, van Trijp, H., Jan Renes, R., & Frewer, L. (2007). Understanding consumer confidence in the safety of food: Its two-dimensional structure and determinants. *Risk Analysis : An Official*

- Publication of the Society for Risk Analysis*, 27(3), 729–740. <https://doi.org/10.1111/j.1539-6924.2007.00917.x>
- Kessari, M., Joly, C., Jaouen, A., & Jaeck, M. (2020). Alternative food networks: good practices for sustainable performance. *Journal of Marketing Management*, 36(15-16), 1417–1446. <https://doi.org/10.1080/0267257X.2020.1783348>
- Kirchev, D., & Petev, A. (2021, December). Sustainability of the Food System: Contemporary Challenges and Problems for Bulgaria. *Izesstia, Journal of the Union of Scientists*.
- Malak-Rawlikowska, A., Majewski, E., Waş, A., Borgen, S. O., Csillag, P., Donati, M., Freeman, R., Hoàng, V., Lecoeur, J.-L., Mancini, M. C., an Nguyen, Saïdi, M., Tocco, B., Török, Á., Veneziani, M., Vittersø, G., & Wavresky, P. (2019). Measuring the Economic, Environmental, and Social Sustainability of Short Food Supply Chains. *Sustainability*, 11(15), 4004. <https://doi.org/10.3390/su11154004>
- Martins, T., Braga, A., Ferreira, M. R., & Braga, V. (2022). Diving into Social Innovation: A Bibliometric Analysis. *Administrative Sciences*, 12(2), 56. <https://doi.org/10.3390/admsci12020056>
- Matacena, R. (2016). Linking alternative food networks and urban food policy: a step forward in the transition towards a sustainable and equitable food system? *International Review of Social Research*, 6(1), 49–58. <https://doi.org/10.1515/irsr-2016-0007>
- Moulaert, F., MacCallum, D., & Hillier, J. (2013). Social Innovation: Instuition, precept, concept, theory and practice. In F. Moulaert (Ed.), *The international handbook on social innovation: Collective action, social learning and transdisciplinary research* (pp. 13–23). Elgar.
- Moulaert, F., Martinelli, F., Swyngedouw, E., & Gonzalez, S. (2005). Towards Alternative Model(s) of Local Innovation. *Urban Studies*, 42(11), 1969–1990. <https://doi.org/10.1080/00420980500279893>
- Mulgan, G. (2010). Measuring Social Value. *Stanford Social Innovation Review*.
- Neumeier, S. (2012). Why do Social Innovations in Rural Development Matter and Should They be Considered More Seriously in Rural Development Research? *Sociologia Ruralis*, 52(1), 48–69. <https://doi.org/10.1111/j.1467-9523.2011.00553.x>
- Nordberg, K., Mariussen, Å., & Virkkala, S. (2020). Community-driven social innovation and quadruple helix coordination in rural development. Case study on LEADER group Aktion Österbotten. *Journal of Rural Studies*, 79, 157–168. <https://doi.org/10.1016/j.jrurstud.2020.08.001>
- Phills, James A., Kriss Deiglmeier, & Dale T. Miller (2008). Rediscovering Social Innovation. *Stanford Social Innovation Review*, 2008(6), 34–48. <https://web.p.ebscohost.com/bsi/pdfviewer/pdfviewer?vid=1&sid=67ddae8c-406a-4d41-ae6-ff6a09131917%40redis>
- Poças Ribeiro, A., Harmsen, R., Feola, G., Rosales Carréon, J., & Worrell, E. (2021). Organising Alternative Food Networks (AFNs): Challenges and Facilitating Conditions of different AFN types in three EU countries. *Sociologia Ruralis*, 61(2), 491–517. <https://doi.org/10.1111/soru.12331>
- Ravazzoli, E., Dalla Torre, C., Da Re, R., Marini Govigli, V., Secco, L., Górriz-Mifsud, E., Pisani, E., Barlagne, C., Baselice, A., Bengoumi, M., Dijkshoorn-Dekker, M., Labidi, A., Lopolito, A., Melnykovich, M., Perlik, M., Polman, N., Sarkki, S., Vassilopoulos, A., Koundouri, P., . . . Nijnik, M. (2021). Can Social Innovation Make a Change in European and Mediterranean Marginalized Areas? Social Innovation Impact Assessment in Agriculture, Fisheries, Forestry, and Rural Development. *Sustainability*, 13(4), 1823. <https://doi.org/10.3390/su13041823>
- Renting, H., Marsden, T. K., & Banks, J. (2003). Understanding Alternative Food Networks: Exploring the Role of Short Food Supply Chains in Rural Development. *Environment and Planning a: Economy and Space*, 35(3), 393–411. <https://doi.org/10.1068/a3510>

- Rossi, A. (2017). Beyond Food Provisioning: The Transformative Potential of Grassroots Innovation around Food. *Agriculture*, 7(1), 6. <https://doi.org/10.3390/agriculture7010006>
- Rynes, S., & Gephart, R. (2004). From the Editors: Qualitative Research and the "Academy of Management Journal". *The Academy of Management Journal*, 2004, JSTOR Journals.
- Samoggia, A., Perazzolo, C., Kocsis, P., & Del Prete, M. (2019). Community Supported Agriculture Farmers' Perceptions of Management Benefits and Drawbacks. *Sustainability*, 11(12), 3262. <https://doi.org/10.3390/su11123262>
- Santini Pigatto, G. A., & Brunori, G. (2021). Social innovation in high-quality agricultural systems: metrics for assessing processes and outcomes. *Innovation: The European Journal of Social Science Research*, 34(2), 222–250. <https://doi.org/10.1080/13511610.2020.1867519>
- Sharma, S., Shree, B., Sharma, D., Kumar, S., Kumar, V., Sharma, R., & Saini, R. (2022). Vegetable microgreens: The gleam of next generation super foods, their genetic enhancement, health benefits and processing approaches. *Food Research International (Ottawa, Ont.)*, 155, 111038. <https://doi.org/10.1016/j.foodres.2022.111038>
- Svend Brinkmann. (2017). The Interview. In *The SAGE Handbook of Qualitative Research* (Vol. 5, pp. 576–600). SAGE Publications Inc.
- Temple, L., Barret, D., Blundo Canto, G., Dabat, M.-H., Devaux-Spatarakis, A., Faure, G., Hainzelin, E., Mathé, S., Toillier, A., & Triomphe, B. (2018). Assessing impacts of agricultural research for development: A systemic model focusing on outcomes. *Research Evaluation*, 27(2), 157–170. <https://doi.org/10.1093/reseval/rvy005>
- Toffolutti, V., Stuckler, D., & McKee, M. (2020). Is the COVID-19 pandemic turning into a European food crisis? *European Journal of Public Health*, 30(4), 626–627. <https://doi.org/10.1093/eurpub/ckaa101>
- Tregear, A. (2011). Progressing knowledge in alternative and local food networks: Critical reflections and a research agenda. *Journal of Rural Studies*, 27(4), 419–430. <https://doi.org/10.1016/j.jrurstud.2011.06.003>
- United Nations. *Do you know all 17 SDGs*. United Nations. <https://sdgs.un.org/goals>
- United Nations Environment Programme. (2021). *Food Waste Index Report*. Nairobi.

Appendix

Appendix 1 Coding Tree, Source: the author derived from the theoretical framework Santini Pigatto & Brunori

