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FARM T(HR)O(UGH) SCHOOL

THE ROLE OF PLACE-BASED EDUCATION IN SHORT FOOD SUPPLY CHAINS

Master Thesis

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Declaration of Originality

I hereby confirm that the submitted thesis is original work and was written by me without further assistance. Appropriate credit has been given where reference has been made to the work of others. The thesis was not examined before, nor has it been published. The submitted electronic version of the thesis matches the printed version.

Lund, May 24th, 2022

Pia Elisabeth Jahn

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A good number of people has been involved in bringing this thesis up to what it is now: A contribution to strengthening small-scale agricultural structures, integrating education into the local economy, showing students what their involvement can achieve, and presenting ways to implement close cooperation between consumers and producers. While remaining within the word limit.

I would therefore like to thank first and foremost my supervisor, Johan Miörner, for his extensive support during the writing process and very helpful feedback on my work! Our meetings have always been interesting and instructive.

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It is not just a job, a niche that needs to be established to pay off and provide an affordable living. It represents the *life* of these people. They deal with the fundamentals, the soil, and the fruits that are planted and harvested, that form our environment and ourselves. Their harvest is not just food, but conveys so many more values: Home, health, life, growth, harmony – this is, what regional and local agriculture is all about. The networks that are created, the social interconnections, the trust in each other and in customers, working together towards a common goal - this is the essence of local networks. Of this society. Of agriculture.

I would like to warmly thank the participants of the survey as well as the representatives of the educational initiatives, who spoke so lovingly about their activities, their projects, and their motivations, for taking the time to respond to my questions in such a detailed manner – in a way that was far away from being neutral, but rather captivating, aiming to transmit their commitment and enthusiasm. Unfortunately, I sometimes felt that this enthusiasm got "lost in translation". During the elaboration of the results, I often had a smile on my face, was proud to come from a country where our land is so appreciated and read passages from the surveys and transcripts out loud to whoever was around (and who ought to have a little thank you for listening, too).

Thank you All, for your time and help!

Abstract

FARM T(HR)O(UGH) SCHOOL – THE ROLE OF PLACE-BASED EDUCATION IN SHORT FOOD SUPPLY CHAINS

Present master thesis investigates the role of 4 chosen place-based educational initiatives in Austria which are actively engaged in local short food supply chains (SFSCs). Those supply chains are defined by close geographical and social relations between supply chain actors and a limited number of intermediaries. It aims to scrutinize to what extend such initiatives (can) foster *consumer-producer linkages*, to be able to elaborate on ways that lead to the potential upscaling of SFSCs as niches into the agro-food regime. To secure a valid and profound contribution, the thesis also aims to understand why and in how far a linkage of consumers and producers can support a sustainability transition in the Agro Food Sector in the first place.

The findings in terms of the place-based educational offer will be compared to present needs and challenges of actors in local food networks in Austria, which had been collected in the course of a qualitative survey, again with a focus on above mentioned *linkages*. The reasoning behind consulting both sides was to determine the current role of education in theory and practice when it comes to the generation and implementation of new social practices in aspects like supply chain management, alternative marketing, food shopping and consumer agency.

The analytical framework used to conduct the analysis consists of a combination of the multi-level perspective (MLP) in sustainability transitions as well as aspects of the social practice theory (SPT).

Mainly, this analysis elaborates which new social practices are formed by place-based education through the provided knowledge and competences and in how far those practices strengthen a linkage between consumers and producers. The taught practices most relevant for the establishment of a closer relationship between consumers and producers are *marketing*, *consumer contact*, *cooperation*, and *food shopping*. On a long run, this thesis contributes to a basis for an improved learning offer and forms of collaboration that will entail a positive impact on regional and local marketing, higher agency and, finally, support a sustainable transition in the agro-food sector.

Key Words: short food supply chains; local food supply; place-based education; sustainability transitions; multi-level perspective; hybrid actors; social practice theory

Word Count: 19994

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List of Abbreviations

AFNs	Alternative Food Networks
AH	Agrar-HAK Althofen
App.	Appendix
approx.	approximately
BS	Bioschule Schlägl
ca.	circa
ch.	Chapter
CSA	Community Supported Agriculture
ed(s).	editor(s)
e.g.	exempli gratia
etc.	et cetera
EU	European Union
Fig.	figure
ibid.	ibīdem; "in the same place"
i.e.	id est
LFS	Local Food Supply
MC	Montessori Campus Wien Hütteldorf
MLP	Multi-Level Perspective
n.d.	no date
p.	page
pp.	pages
PZ	HBLA Pitzelstätten
SFSC(s)	Short Food Supply Chain(s)
SNM	Strategic Niche Management
SPT	Social Practice Theory
SPs	Social Practices
TIS	Technological Innovation System
TT	Transition Theory
Tab.	Table

Definitions

Short Food Supply Chain	A supply chain characterized by a limited number of intermediaries (social proximity) and spatial proximity. SFSCs are mostly networks in a local food system, in which foods are produced, processed, and retailed in a defined geographical area, and are defined by social factors of trust, closeness and cooperation between producers, intermediaries and consumers.
Place-based educational initiative	In the context of this thesis, a place-based educational initiative is an initiative at a school that deals with subject matter of local food networks and alternative forms of marketing. Those initiatives are either active, applied and practice-oriented (the school runs a Food Coop, a Farm Shop, or markets products produced at the school) or more theoretical and indirectly influencing SFSCs (specializations, or specific subjects only available at that school)
Social Practice	Every practice that is performed is a social practice, like showering, cooking, or shopping. Those practices are made up of different elements, which can be impacted and changed over time. In the case of showering the practice can be made up of beliefs/images (being clean and hygienic), skills (knowing how to use which products) and materials (shower, shampoo).
Hybrid Actor	An actor who simultaneously performs in both, the niche as well as the regime. E.g., farmers that engage in local networks (sell through Farm Shops, Food Coops, etc.) but also supply supermarkets or diary factories to sustain their business; Or consumers which go to farmers markets, yet shop certain products at the supermarket (import goods, highly processed food, etc.)
Consumer-Producer linkage	A direct linkage between consumers and producers that lead to a tighter social relationship. This can be in form of producing food on demand (when consumers order it), crowd funding, producers involving consumers in decision making and product composition, consumers helping on the farm, etc.

1. Introduction

1.1. Purpose and Significance of Study

Conventional agricultural systems and the actions undertaken within their international supply chains are known to have increasingly unsustainable consequences – on an ecological just as much as social and economic perspective (El Bilali 2020; HLPE 2017; Köhler et al. 2017; Rosin/Stock/Campbell 2012; Spaargaren/Loeber/Oosterveer 2012). Intensive agriculture (e.g., the use of pesticides and other chemicals to increase yield, concentrated animal feeding and keeping animals enclosed in small spaces, planting monocultures and/or genetically modified seeds, etc.; FFAC 2021) leads to consequences such as land and water degradation, a loss in biodiversity, food waste and increasing greenhouse gas emissions. Moreover, the ongoing alienation of local production and distribution results in social struggles like food safety and sovereignty as well as economic pressures due to the paying of low prices to (especially small-scale) producers (Berti/Mulligan 2016; Hinrichs 2014; Lutz/Schachinger 2013; Markard/Raven/Truffer 2012; Watson 2012).

This problematic situation had not only been addressed by academia and actors of the agricultural domain, but also lead to consumers taking action. Especially within the last decade notions like "food democracy" or "food citizenship", which consider consumers' decision-making, have drawn attention by academics and the general public (John Hopkins n. d.; Kiss et al. 2012; Renting/Rossi/Schermer 2012). The demand to know the origins of products and, more importantly, to reconnect and build direct relationships with the farmers led to the strengthening of local food networks and an increased emergence of so-called short food supply chains (SFSCs, see ch. 2), which are defined by close geographical and social relations between supply chain actors and a limited number of intermediaries (Campbell/MacRae 2013; Chiffoleau/ Dourian 2020; Jarzębowski/Bourlakis/Bezat-Jarzębowski 2020; Nemes et al. 2021). This shift from a national or even global scale of supply towards a regional and local level represents a fundamental change in the geography of food supply chains in Austria and is subject of recurring debates in politics and the agricultural food industry (Schöttel 2021; Uni Linz 2020).

The thesis at hand contributes to research on SFSCs as niches in the agro-food sector and ways that lead to their potential upscaling into the agricultural regime. By analysing four chosen case studies, it aims to investigate the role of place-based education in SFSCs in Austria in terms of fostering a closer linkage between consumers and producers, for example with the generation of new social practices in supply chain management (e.g., in marketing) and food shopping.

To conceptualize this aim, the thesis follows the example of former publications and draws on a combination of the social practice theory (SPT) with transition theory, more specifically the multi-level perspective (MLP) in sustainability transitions (Bui et al 2016; Crivits/Paredis 2013; Hargreaves/Longhurst/Seyfang 2013; Hinrichs 2014; Rodríguez-Triana et al. 2020; Shove/Walker 2010). The reasoning to combine those two theories is based on some research gaps which had been identified in the field of sustainability transitions. Transition scholars applying a MLP have offered powerful conceptualizations of transformations in sectors such as energy, water, transport, and food (Geels 2002b; 2005; 2006; Grin/Rotmans/Schot 2010; Schot 1998; Smith/Voß/Grin 2010; etc.), nevertheless those studies and the concept of MLP (see ch.3.1) have the tendency for a "technological bias" when scrutinizing sustainability transitions, while rather neglecting the role of actors and social innovations (like new collaborations or relationships; see ch.3.1) Here, the SPT proves suitable, as it focusses on social practices which lead to such innovations (Genus/Coles 2008; Hargreaves/Longhurst/Seyfang 2013:404).

One of the gaps pointed out within transition studies is research on the above-mentioned *linkages* between consumers and producers (Berner et al. 2012; El Bilali 2019; Lutz 2017; Markard/Raven/Truffer 2012) and in how far these linkages could support the upscaling of niches. This deficit particularly applies to the agro-food sector, a sector which – according to El Bilali's (2019) *systematic review on sustainability transitions in agriculture, food, and rural areas* – "sustainability transition scholarship tends to overlook" (2019:2). Transition studies that indeed concern this sector, mainly focus on either the supply side regarding technological improvements and environmental issues (Shove/Walker 2010), or the demand side when it comes to shifts in nutrition and health aspects (Dixon 2009; Moberg et al. 2021). By contrast – in theory, practice, and education alike – transitions in supply chain management and the role of agency in emerging consumer-producer relationships in the agro-food sector had been rather neglected so far (Lutz/Schachinger 2013; El Bilali 2019). Even less attention had been paid to the potential role of education itself when establishing such cooperative relationships between the supply and demand side (Lutz 2017; Lutz/Schachinger 2013; Kurtsal 2021). Kurtsal (2021) points out, that ways of knowledge exchange in SFSCs as well as the learning outcomes resulting from those dynamics receive very little consideration in research on niche upscaling.

To explore these gaps, the thesis at hand will therefore contribute to transition studies by applying an analytical framework composed of the SPT and the MLP, considering the role of so-called "hybrid actors", which are actors that simultaneously engage in the niche *and* the regime; see ch.3.3). As outlined above, it will analyse selected place-based education programmes (i.e., school initiatives) in Austria, to investigate their contribution to foster

consumer-producer linkages within SFSCs. Furthermore, those findings will be compared to present needs and challenges of actors in local food networks in Austria which had been collected in the course of a qualitative survey, again with a focus on above mentioned *linkages*. By doing so, possible mismatches between the available education and needed knowledge in establishing active consumer-producer relationships will be identified and result in a suggestion of improvements with respect to the educational offer.

1.2. Societal Relevance

Examining the role of education in short food supply chains is important because it contributes to an interaction between (place-based) education and local food networks and has, therefore, the potential to assist in the upscaling of SFSC niches into the agro-food regime.

> "It is recognized that cooperation and "networking" are essential to upscaling transition pathways" (Lutz 2017:3).

A lack of knowledge (and its transfer) on both, consumer as well as producer side complicates it to create alternative food markets, as outlined by several EU initiatives and reports outside of academia (Augère-Granier 2016 Kiss et al.2012; SKIN n.d.). Evading the conventional industry and building local networks on one's own initiative without the necessary know-how is a risk and barrier for all involved actors - producers, retailers, and consumers (Lutz/Schachinger 2013). Education helps to be able to face said risk and is thus a good basis for establishing local supply chains, making contacts, processing, distributing, and marketing products on said local level as well as successfully building relationships with consumers (Lutz/Schachinger 2013).

From a consumer's point of view, knowledge that goes beyond nutritional or health-related questions and includes economic and environmental aspects as well as agency is a crucial point to understand the functioning of a supply chain, the profit distribution along the way and the value and origin of products (John Hopkins n.d.).

Scrutinizing the role of place-based education in SFSCs contributes to the above-mentioned research gaps on consumer-producer linkages, follows the call for social learning and agency and, ultimately, strengthens local economies and helps to maintain small family-run farms (Beers/Hermans/Veldkamp/Hinssen 2014; Fuenfschilling 2019; Sol/Beers/Wals 2013; etc.).

1.3. Research Questions

As identified above, this thesis seeks to add to the scientific debate about the role of education in short food supply chains (SFSCs), which are niches in the agro-food sector. More specifically, it looks at the aspect of consumer-producer linkages in those niches and explores in how far place-based education can build and strengthen such connections. To be able conduct a valid and profound analysis, the thesis also aims to present **why and how the linkage of consumers and producers support a sustainability transition in the Agro Food Sector.**

Since there is a lack of studies analysing the role of place-based education in local food networks (Lutz/Schachinger 2013; Kurtsal 2021), this thesis considers the perspective of both sides: The current contributions of place-based school initiatives when it comes to supply chain management, cooperation, alternative marketing, and agency; As well as the needs or contributions of intermediaries of such SFSCs towards education. In the course of this work, I intend to explore social practices, which are needed to develop or at least consolidate stronger consumer-producer linkages and reach, in the long run, a sustainability transition in the agro-food sector. This leads to following main research question:

What role does place-based education (initiatives, projects, place-specific programs/subjects) play in fostering consumer-producer linkages and agency in local short food supply chains and in which aspects in this context is more education needed?

In order to investigate this research question, following sub-questions are posed to serve as a guideline for the conducted interviews, the coding of the findings as well as the analysis section:

- Which **social practices** or elements of social practice relevant for the existence and functioning of SFSCs are formed or influenced by the examined educational initiatives?
- How do place-based educational initiatives actively approach the strengthening of consumer-producer linkages in SFSCs and what are the **outcomes** of those approaches?
- What are **barriers** that SFSCs are facing with respect to their upscaling into the regime of the agro-food sector and what problems do place-based educational initiatives face in their endeavours to interact with SFSCs and support said upscaling?

To go about the investigation of those questions, the thesis at hand is structured as follows: After presenting information about the niche of SFSCs and its societal importance in chapter 2, the next section (ch.3) is concerned with the development of an analytical framework based on a combination of a concept in transition theory (the multi-level perspective) and the social

practice theory. The methodology section (ch.4) outlines the data gathering process, which constitutes of an expert interview, four semi-structured interviews with representatives of place-based educational initiatives in Austria, as well as a qualitative survey that had been sent out to SFSC actors in the surrounding of the initiatives and a complementing review of secondary information. Chapter 5 consists of a presentation and analysis of the findings to investigate the role of place-based education in terms of consumer-producer linkages, applying the in chapter 3 developed framework. This section is followed by a brief discussion on the provided input and existing needs in the field (ch.6) and lastly, the thesis concludes by summarizing the conducted study and answering above stated research questions.

2. Background: Local Food Supply and Short Food Supply Chains

In recent decades, as health and nutrition have become increasingly important and sustainable lifestyles have been sought in response to the industrialization of food supply (Rezai 2012), there had been a so-called "organic movement" towards the producing and buying of natural and organic foods (Lutz/Schachinger 2013:4779) in the agro-food sector.

On one hand, this development demonstrates that the commercial market, too, responds to changes in consumer behaviour over time and that profits are being made with various overprized “organic” labels (Lockie/Halpin 2005; Miller 2019). On the other hand, however, it became clear that "environmentally friendly" production methods and their commercialization are not sufficient to enable an all-round sustainable food supply. "Food should not only be environmentally friendly but locally and fairly produced sourced, distributed, and consumed” (Lutz/Schachinger 2013:4779) in order to strive for sustainability in all aspects - environmental, economic and social (Lutz/Schachinger 2013). This, as well as external influences such as the Covid-19 crisis (Dudek/Spiewak 2021; Nemes et al. 2021; Thilmany et al. 2020), has led to an increasing demand for regionally and locally produced food (Kneafsey et al. 2013), which in turn results in the same conventionalism through commercial markets as the organic movement had experienced before. Lutz and Schachinger (2013) refer to this trend as “green capitalism”:

The launch of labels like "localized" and "Food from Here:" (*Herkunftsland Österreich*) let to a “greening” of production and distribution yet resulted in a conventionalization of processing and retailing local food. As Schermer (2015:130) gets to the point: “While the quality of food and the availability of quality food have undoubtedly improved, the basic mechanisms of the conventional agri-food system remain unchallenged”. The producers whose local food is marketed through commercial retailers still experience economic pressure in the form of “prize-

squeezes" – receiving low prices in relation to the production costs – and other power dynamics from the dominant food market (Lutz/Schachinger 2013; Renting/Marsden/Banks 2003:397).

Those conditions, as well as the urgent need to act in a socially, economically, and ecologically sustainable way and people's demand to eat clean and green (Jarzębowski/Bourlakis/Bezat-Jarzębowski 2020; Kneafsey 2013; Rezai 2012), explain the increased return to local marketing in the agro-food sector. In the following, I aim to distinguish different types of short food supply chains (SFSCs) that are relevant for this thesis.

Per definition proposed in the European rural development regulation 1305/2013, a *short supply chain* means "a supply chain involving a limited number of economic operators, committed to co-operation, local economic development, and close geographical and social relations between producers, processors and consumers" (European Parliament/Council of the EU 2013:499). A definition of the EIP-AGRI Focus Group of the European Commission includes that SFSCs are supply chains "involving no more than one intermediary between farmer and consumer" (EIP-AGRI Focus Group 2015:5).

Defining a *local* food system is, according to Augère-Granier (2016:3) "more complex", as 'local' can either be understood in terms of distance from the point of production to the point of sale, or in relation to a recognized geographical area as for example a county or national park. (Augère-Granier 2016). The Joint Research Centre JRC (Kneafsey et al. 2013:23) refers to *SFSCs and local food systems* as follows: "A local food system is one in which foods are produced, processed and retailed within a defined geographical area", which ranges within a 20 to 100 km radius and depends on the population density, accessibility, its urban-rural character and finally includes the social factor of closeness, trust and cooperation between producers and consumers (Augère-Granier 2016:3).

Those guidelines include several forms of local and regional networks, ranging from farm shops to roadside sales and (farmer's) markets as direct marketing (face-to-face) over online-distribution and local retailers to food cooperations, crowdfunding and community supported agricultures (CSAs), which actively involve consumers and public institutions (see Fig.1). A common classification, according to Kiss et al. (2012) are

- direct marketing of individual producers
- collective direct marketing
- collaborations

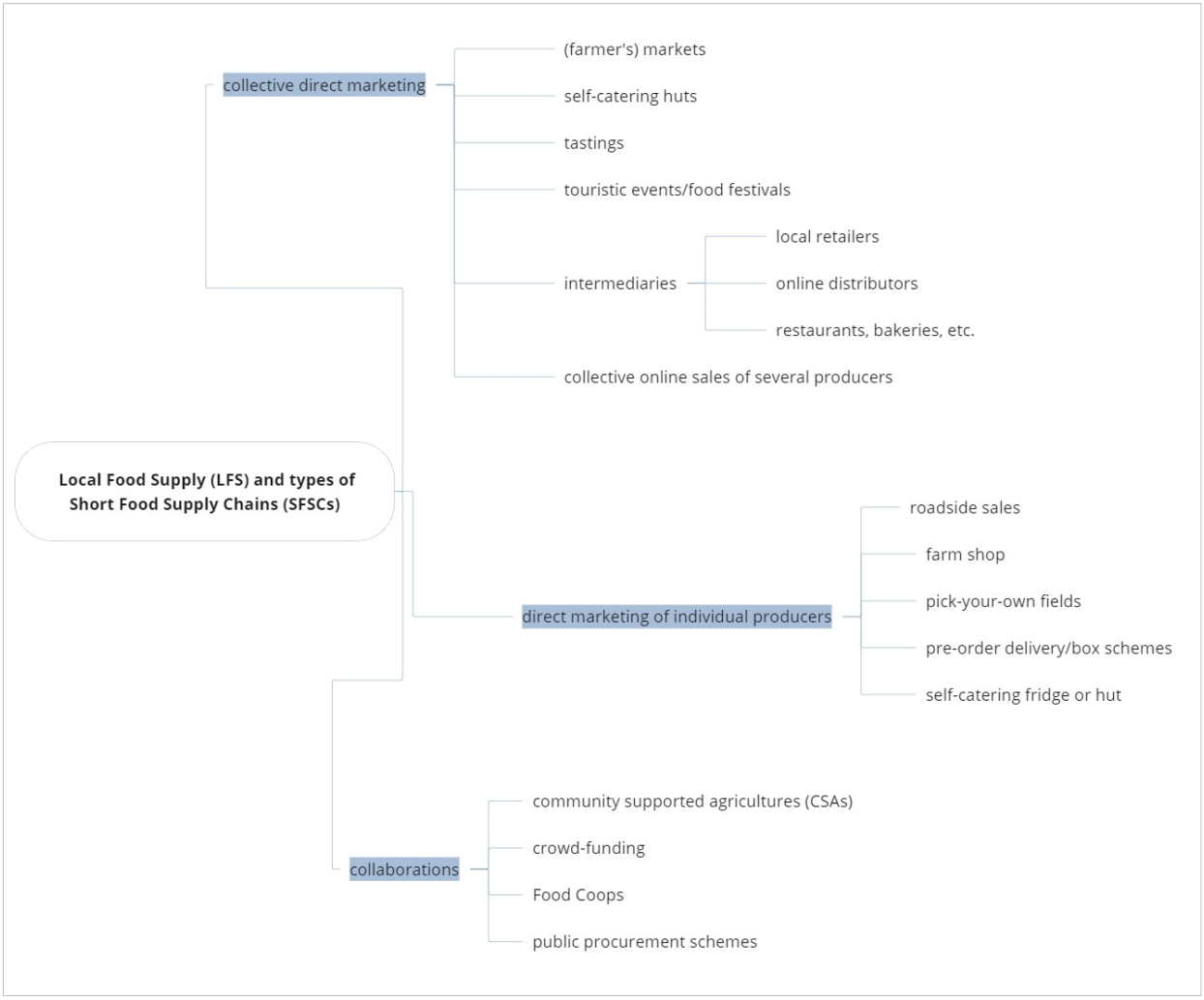

Fig.1.: Local Food Supply and types of Short Food Supply Chains; Source: own elaboration, information based on Kiss et al. (2012) and Kneafsey et al. (2013)

Another common notion is *alternative food networks* (AFNs) which covers, according to Renting, Marsden and Banks (2003:394) "newly emerging networks of producers, consumers and other actors that embody alternatives to the more standardized industrial mode of food supply". Those alternatives could refer to alternative economic models like natural exchange, crowdfunding, or community supported agricultures (Kneafsey et al. 2013) or, more generally, to direct selling as opposed to conventional marketing. Apart from that, it also involves alternative farming methods like agro-ecological or organic farming (Renting/Marsden/Banks 2003:394), which highlights that AFNs are used in a broader understanding than SFSCs and also, that SFSCs can be a part of AFNs. Since this thesis is concerned with supply chains, marketing, and agency rather than farming and modes of production, the notion of SFSCs is more concrete and suitable, because it concentrates more on the actors who are directly involved in food production, processing, distribution, and consumption (ibid.).

As mentioned above, some marketing methods rely on active engagement of consumers and therefore lead to strong linkages between consumers and producers. *Food Coops* for example are groups of consumers which collectively order from collaborating producers who provide them with a constant product range. The ordered food is delivered to a pre-defined location, where it can be picked up from the Food Coop members. Next to other benefits (see BIO-AUSTRIA OÖ 2022), these food networks result in less work for producers as they do not have to individually sell those products, they decrease transportation, facilitate the access to local food, minimize food waste and support social networks (BIO-AUSTRIA OÖ 2022). Another concept that engages consumers are *CSAs – community supported agricultures*. Those are farms financed through crowdfunding and result in a partnership between farmers and consumers in which they share responsibilities, risks, and crops of the agricultural production (Netzwerk Solidarische Landwirtschaft e.V. 2022). Dong, Campbell and Rabinowitz (2019) refer to CSA as a demand-driven „direct marketing arrangement“ in which consumers purchase “shares” from the farm and producers – in exchange – provide them at a set schedule with an “agreed amount” of typically fresh products produced thanks to the consumers direct investment (Dong/Campbell/Rabinowitz 2019:3).

Engagement in local food networks and SFSCs requires but also results in knowledge on economic aspects and supply chain management of regional food supply as well as critical thinking (Lutz/Schachinger 2013). Consumers need to understand the structures by becoming a part of them and taking agency themselves. Realizing the advantages and backgrounds, why one should prefer direct marketers or other alternative supply networks to “localized” products in the supermarket can potentially lead to a stronger linkage between consumers and producers.

3. Conceptual Framework

The theoretical setting in which this thesis operates combines two broad theories, both being applied by multiple disciplines such as economics, sociology, political or educational science, as well as natural sciences, technology studies or system science (Grin/Rotmans/Schot 2010). Those theories are on the one hand *transition studies*, more specifically the field of *sustainability transitions,* and on the other hand, the *social practice theory (SPT)*.

Transition studies concern how "societal functions such as transportation, communication, housing, [or] feeding, are fulfilled" (Geels 2002a:1257) and how those can be transformed through "long-term processes of radical and structural change" (Caletrío 2015). Sustainability transitions, more specifically, are transformations "towards a sustainable society in response to a number of persistent problems confronting contemporary modern societies" (Grin/Rotmans/Schot 2010) that lead to "more sustainable modes of consumption and production" (Fuenfschilling 2019:219) through adjustments in user practices, networks, regulations, infrastructure and symbolic or cultural meaning (Geels 2002a). They enrol on a social, economic as well as environmental dimension and often include technological innovations – so called *socio-technical transitions* (Caletrío 2015; El Bilali 2018).

Transforming our living environment and practices in order to react to impactful problems like "resource scarcity and climate change" (Caletrío 2015) is challenging in so far as our systems are 'locked' in long-practiced trajectories. To understand the dynamics behind those trajectories, systematically escape them and un-lock our routines, research around sustainability transitions use a range of conceptual frameworks that should facilitate and support transition efforts – such as Technological Innovation Systems (TIS), Multi-Level Perspective (MLP), Strategic Niche Management (SNM) or Transition Management (Fuenfschilling 2019; Geels 2002a; Hargreaves 2011; Markard/Truffer 2008; Shove/Walker 2010).

The concept chosen for the purpose of this thesis is the MLP, which traces its name back to the three levels (niche, regime, and landscape) of which it is composed and will be elaborated further in chapter 3.1. As outlined above (and motivated in ch.3.3), I aim to link the MLP in sustainability transitions with aspects of the SPT – a theoretical approach that already in previous studies had been used to analyse the human and agency[1] component of sustainability transitions (Crivits/Paredis 2013; El Bilali 2019; Hargreaves/Longhurst/Seyfang 2013).

[1] "An action or intervention producing a particular effect" or "a being or thing that acts to produce a particular result" (OED 2022, Agency) and the general "ability to take action or to choose what action to take" (Cambridge Dictionary 2022, Agency).

The decision to combine the MLP with the SPT – rather than applying SNM, Transition Management or the concept of TIS – is based on the justification, that the latter ones (although they have a strong focus onto agency, governance, and social learning) consider innovative development as a phenomenon, whose appearance is not limited to a niche, but rather "suggests that innovation occurs in the context of an entire system" (El Bilali 2020:1696). Due to the in chapter 3.1.1 outlined geographic embeddedness and place-specificity of agricultural niches (Vermunt 2020) – especially SFSCs, which are characterized by their local, small-scale, interwoven structures – and the innovations they entail, it can be argued that the concept of the MLP is more suitable to depict the process of upscaling of those particular niches. However, to ensure "soft factors" like agency and learning, which account as a deficit of the structure oriented MLP (Darnhofer 2015:23), a combination with the SPT is found useful.

3.1. Conceptual state of the Art: Sustainability Transitions

The scientific discourse around *sustainability transitions* initiated with the concept of socio-technical transitions from one socio-technical system to another (Fuenfschilling 2019:220), mainly in the fields of energy, communication, water supply, sanitation systems and transportation. The notion "socio-technical system" refers to a configuration of scientific knowledge, engineering practices, regulations, cultural meanings, networks, and technologies (Geels 2004:19) which are formed and embedded by the expectations and skills of actors, (institutional) structures, and infrastructure (Markard/Raven/Truffer 2012:957).

Socio-technical transitions are changes within those domains that run in "technological, material, organizational, institutional, political, economic, and socio-cultural" dimensions (Markard/Raven/Truffer 2012:958). They are caused by innovations and changed mind-sets, but do not necessarily result in a system that is more "clean" or "green" than its previous version (Hinrichs 2014:146). Smith, Voß and Grin (2010) point out, that early publications in the field investigate socio-technical transitions around historical examples such as the shift from gas light to electric light (see Schot 1998), sailing ships to steam ships (see Geels 2002b), the rise of the automobile (see Geels 2005) or of turbojets in aviation (see Geels 2006). Those forms of transitions mainly aimed for efficiency, technological progress, and (particularly named examples) a contribution to social mobility rather than "sustainability" per se – and so did scholars that researched them (Farla et al. 2012; Hinrichs 2014¸ Smith/Voß/Grin 2010).

Literature about *sustainability* transitions on the other hand – as clarified by Markard, Raven and Truffer (2012) – comprises publications that analyses such multi-dimensional

transformation processes that further lead to "more sustainable or environmentally friendly modes of production and consumption" (2012:959).

The „field of sustainability transitions research" devoted itself to a range of areas of society within the last 20 years, however, the focus on initial issues like energy supply and transportation remains. Food, but also water, textiles, housing, and other industries are considered to a lower, yet steadily increasing extent (Hinrichs 2014; Markard/Raven/Truffer 2012). This leads back to the fact that "the urgency of addressing many sustainability problems today […] takes centre stage in academia and politics" (Fuenfschilling 2019:220), and likewise to the growing public awareness for environmental issues such as land degradation, urban sprawl, loss of biodiversity, greenhouse gas emissions and other drivers for climate change (El Bilali 2019; Mancebo/Sachs 201; Markard/Raven/Truffer 2012).

Nevertheless, Fuenfschilling (2019) raises the question of what ultimately holds as sustainable and emphasizes that diverse interpretations of sustainability due to different interests, resources, skills, cultural expectations, or values make transitions "inherently complex and complicated" (2019:220). This accounts especially when trying to consider all three pillars of sustainability (environmental, but also social and economic sustainability; Jarzębowski/Bourlakis/Bezat-Jarzębowski 2020; Malak-Rawlikowska et al. 2019). While the existing literature body around the thematic shows a strong tendency to analyse sustainability transitions with an emphasis on innovation technologies, policies, and environmental issues, less attention had been paid to the role of management and agency as well as economic, political and governance aspects (Hinrichs 2014; Markard/Raven/Truffer 2012). To consider innovations in those aspects, the SPT could come at hand.

The notion of *innovation* had previously been defined and classified in several ways, as elaborated by El Bilali (2018). One common understanding that had been applied in the agro-food sector is a classification depending on the location within the value chain, namely product, process, marketing, and organizational innovations (Avolio et al. 2014). Other scholars include the dimension of social innovations, which takes place at all steps of the value chain (Murray/Caulier-Grice/Mulgan 2010; Osburg 2013). Social innovations are ideas, products, or services, that involve diverse forms of trainings and education, "meet social needs and create new social relationships or collaborations" (Murray/Caulier-Grice/Mulgan 2010:3) – as for example Food Coops or CSAs, but also educational offers which address the subject matter, which constitutes another research gap in the field.

Starting from a very general viewpoint onto transition studies, very few studies have elaborated on education and learning in sustainability transitions (Beers/Mierlo/Hoes 2016; Kurtsal 2021; Van Poeck/Östman 2021; Van Poeck/Östman/Block 2020) and "research on learning in transition initiatives is rare" (Van Poeck/Östman/Block 2020:298). This also applies when addressing the dynamics of SFSCs and their potential to contribute to a sustainability transition of the agro-food system. Kurtsal (2021) points out, that little attention had been directed towards mechanisms and ways of knowledge exchange in SFSCs as well as the learning outcomes resulting from those dynamics.

This research gap is rather surprising, as the realization of sustainability transitions requires creative problem-solving approaches, new forms of collaborations and "new knowledge, skills, values and capabilities" of which education and knowledge transfer constitutes a key driver (VanPoeck 2021, ECER Conference). As Beers, Mierlo and Hoes (2016) put it: "Sustainability transitions go hand in hand with learning" (2016:1).

Multi-Level Perspective – MLP

With the aim to conceptualize and capture processes of system innovation and sustainability transitions from a theoretical standpoint, several frameworks had been established and applied in research so far. As elaborated in the introduction of this chapter, one of the most common concepts is the so-called multi-level perspective (see Geels 2002a; 2004; 2011; Markard/Truffer 2008; Markard/Raven/Truffer 2012; Smith/Voß/Grin 2010; etc.).

Geels (2011) summarizes, that the multi-level perspective (MLP) is an analytical approach that tries to capture the multi-dimensional dynamics and changes in socio-technical systems and contains strands of thinking from evolutionary economics (path dependence, routines, and trajectories), neo-institutional theory (rules and "deep structures") as well as science and technology studies (innovation as a social process in a societal context). It interprets transitions of systems as "non-linear processes that result from the interplay of developments at three analytical levels" (Geels 2011:25), namely niches (micro-level), regimes (meso-level) and landscapes (macro-level), which are often seen as embedded within each other.

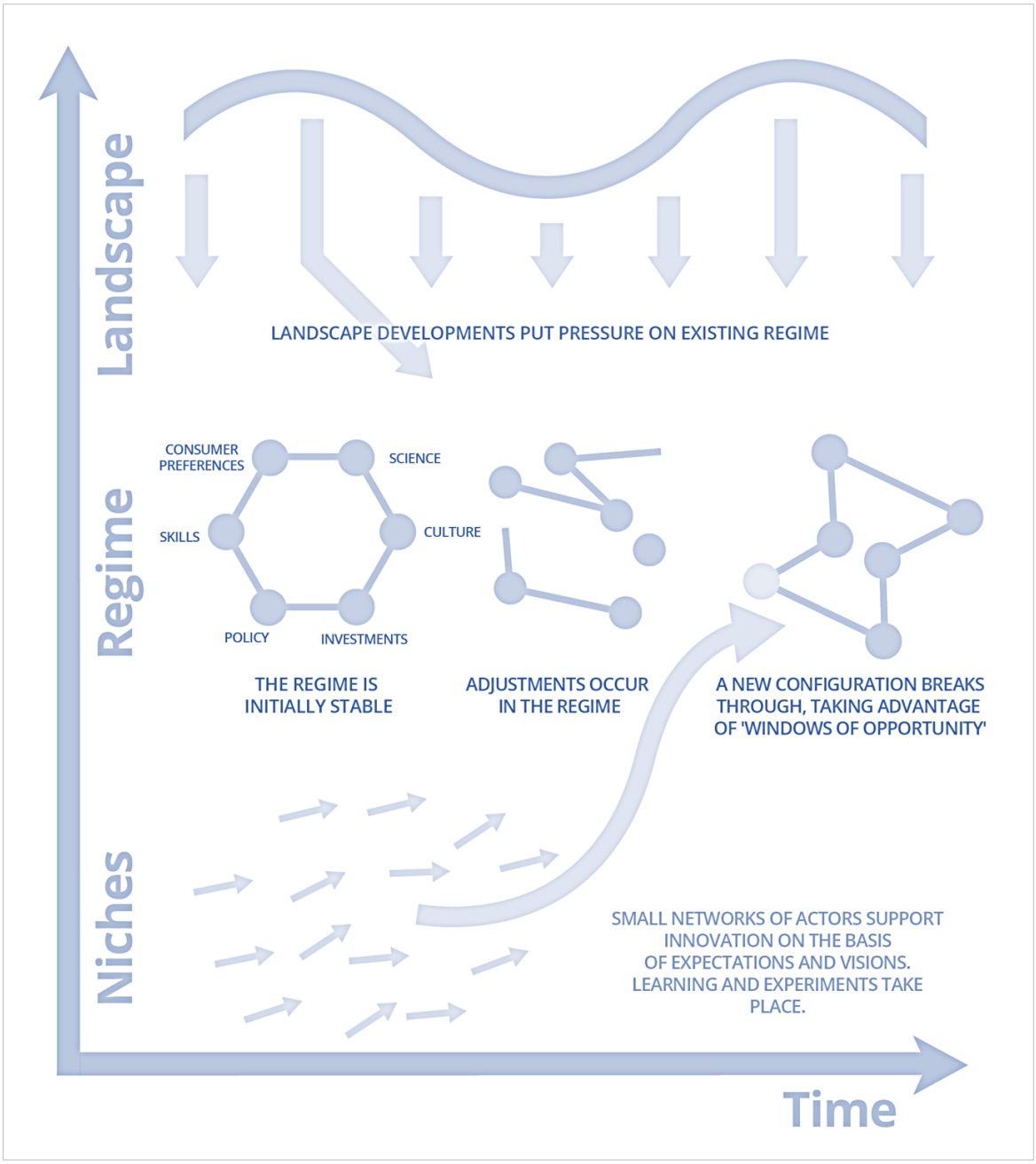

Fig.2.: The multi-level perspective on socio-technical transitions; Source: Geels 2002a, in: EEA n.d.

The *niche* is the level, where radical innovations and linked practices and rules are developed and protected until they are stable enough to scale up into the regime (Bui et al. 2016; El Bilali 2018; Geels 2011).

The *regime* is the level where established practices, rules and routines form and stabilize the dominant sociotechnical system, e.g., the conventional agro-food system (ibid.). It constitutes "a recognized area of institutional life, key suppliers, resources and product consumers, regulatory agencies, and other organizations that produce similar services or products" (Lutz/Schachinger 2013:4782) and is characterized by several dimensions of lock-ins (e.g., technological, institutional) that lead to path-dependency and only incremental processes of

change within the regime (examples in the agro-food context see ch.3.1.1). Radical changes are possible, if "windows of opportunity" open through landscape pressures (e.g., a changed mind-set due to a pandemic; Nemes et al. 2021) and enable niche innovations to break through (Geels 2002a).

Lastly, the *landscape* is a notion that stands for exogenous forces of environmental, economic, political, cultural nature (e.g., demographical trends, societal values, political ideologies) cannot be influenced by niche or regime actors in the short run and is typically the most stable of the three levels (Bui et al. 2016; Geels 2011; Morone et al. 2015).

Although there are many criticisms on the MLP – some of which will be taken into consideration when introducing the analytical framework of this thesis (see ch.3.3) – it aligns well with the structures of the agro-food sector. It represents a conceptual basis to depict the interwoven processes of Short Food Supply Chains which are niches that potentially could upscale into the agricultural regime (Bui et al. 2016; El Bilali 2018; 2019; Hinrichs 2014; Ingram 2018; Lutz/Schachinger 2013; Morrissey/Mirosa/Abbott 2014; etc.).

3.1.1. Niches in the Agro-Food Sector

A sustainability transition of the agro-food sector is defined as a transformation from a system which targets for ever higher productivity to one, which pursues the principles of environmentally friendly production and distribution, rural development, and food sovereignty. Contributions to such a transformation are innovative forms of agriculture and food distribution, which offer a way out of the conventional system (Ingram 2018).

So far, innovations in the agricultural domain "tend to concentrate on the introduction of new technologies and systems of supply" (Shove/Walker 2010:471) and extensively concern technical innovations on the production level to reach more efficiency and target environmental problems. Examples for such innovations are technologies to capture CO_2 and reduce greenhouse gas emissions, mechanization, precision agriculture, information, and communication technology as well as bio- and nanotechnologies (HLPE 2017, Vermunt 2020).

This led to the "marginality of social innovation in agriculture" as pointed out by El Bilali (2018:205), who advocates for the need of future agro-food innovations to increasingly consider the social scales of thinking and action:

> "In fact, social and organizational innovations are as central to sustainability transitions in food systems as any particular innovative technology" (El Bilali 2018:210).

Nevertheless, next to new technologies and production practices, Darnhofer (2015:17) determines other forms of niches - as for example "new configurations of actor groups, new beliefs and values, new networks, new policies".

In the context of this thesis, SFSCs and local food supply networks will be interpreted as a *niche* within the dominant "supermarket-driven food regime" (Hargreaves/Longhurst/Seyfang 2013:411). The *innovations* that led to the establishment of those SFSCs are social and organizational innovations in form of alternative retail systems, lobbying activities, and lessons about sustainability values, as well as educational inputs and visits (Hargreaves/Longhurst/Seyfang 2013).

This understanding builds up on the work of several scholars, who used the framework of the MLP when analysing the agricultural sector. In particular, El Bilali (2019), Bui et al. (2016), Konefal (2015) and Lutz and Schachinger (2013) provide some examples for the macro-, meso- and micro-level of this domain:

Niches, for instance, can be specific farming systems (e.g., organic agriculture or self-sufficient permaculture) or free range and grass-fed husbandry systems, but also urban agriculture, fair trade, and, finally, alternative or local food networks, e.g., Food Coops or CSAs (El Bilali 2019, Konefal 2015).

> "The concept of niche is very congruent with the definition of alternative food networks" (Bui et al. 2016:93).

The agricultural *regime* is "the intensive, conventional, industrial agro-food sector and its associated rules and practices" (El Bilali 2019:8) as for example policies, passed-on knowledge, technologies, market- and business relations, codes, logistics infrastructure, or food safety laws (Hinrichs 2014).

Some of those characteristics of the regime are sources of path dependence and constitute barriers for the upscaling of niches, especially SFSCs, into the regime – as elaborated by Kneafsey et al. (2013). Legislation policies and EU regulations signify obstacles for SFSCs, and so do the logistics of procurement and distribution as well as the organization of the accompanying cash flow (for producers, distributers, and consumers alike). The time effort and financial resources for technology which is needed if work steps cannot be outsourced represent difficulties, too (Kneafsey et al. 2013).

Lutz and Schachinger (2013:4782f.), whose research interest lies in food sovereignty, describe the regime as "dominated by transnational food-corporations and based on industrialized large-scale agriculture and food distribution". It had been created by the liberalization of the global

markets for agriculture and food and its interactions with the global financial and energy regime (Lutz/Schachinger 2013).

Therefore, the agro-food regime is exposed to a range of deep socio-cultural, economic, and political *landscape* pressures such as poverty, hunger, malnutrition, social inequality, energy prices, global financial instability, resource degradation and climate change, which are also fairly generated by the food regime itself (Lutz/Schachinger 2013, Morrissey/Mirosa/Abbott 2013). Landscape pressures have an impact onto the mind-set and actions of niche and regime actors. They lead to more conscious purchasing decisions and a change of social practices. Ultimately, this development can open "windows of opportunity" for niches to upscale and contribute to a sustainability transition of the regime (Geels 2002a, Darnhofer 2015).

As highlighted in the introduction, one major shortcoming of studies regarding sustainability transitions in the agro-food sector is, that they overlook production-consumption linkages (El Bilali 2019:9). Due to geographical embeddedness of agriculture that determines which actors are able to engage in change, niches in the agricultural sector are characterized by a "fixed actor constellation" (Vermunt 2020:245). In addition to this place-specific aspect, lock-ins like the financial dependency on the conventional system and food regulations make it difficult, particularly for small-scale farmers, to leave the regime (Lutz/Schachinger 2013, Kneafsey et al. 2013). Actors – especially producers, but also consumers – are therefore so-called "hybrid actors" (Darnhofer 2015:23) that perform in both, the regime (due to above mentioned reasons) as well as the niche and therefore link them together, respectively "anchor" the niche to the regime (ibid.). The building of new social networks and relationships between existing actors in the protected space of niches (as for instance local SFSCs) has the potential to "alter patterns of production, retailing, and consumption, and how they interact with one another" (Lutz/Schachinger 2013:4792). Being part of such networks can influence the behaviour of "hybrid actors" in their role as regime actors and therefore destabilize that incumbent regime.

3.2. Conceptual state of the Art: Social Practice Theory

The social practice theory essentially deals with the investigation of why and how societies change or stay the same. "Understanding novelty and persistence", so Shove, Pantzar and Watson (2012), can be approached with a concept that aims to "capture the dynamic aspects of social practice" (Shove/Pantzar/Watson 2012).

The SPT focusses on the *doing* of social practices and on the ways, those practices are organized in society (Hargreaves/Longhurst/Seyfang 2013:405). Also, it interprets the individual actor

(e.g., producer, intermediary, consumer) as a carrier of that social practice. Following Giddens (1984) theory of structuration, this means that social practices are neither merely formed by human activity and their personal beliefs, values, and attitudes, nor merely by social structures of rules and meanings, but by their interdependency, since "these structures are, at the same time, reproduced in the flow of human action" – conscious or unconsciously (Giddens 1984, as cited in Shove/Pantzar/Watson 2012:2).

But what, frankly, is "practice" – *what* is formed by a dualism of human agency and social structures? Reckwitz (2002:249) suggests that a social practice – like cooking, showering, driving, or shopping – is "a routinized type of behaviour which consists of several elements, interconnected to one other". Those elements can be physical and mental activities, things and their use, knowledge and know-how or emotion, and a practice forms a block of single actions "whose existence necessarily depends on the existence and specific interconnectedness of these elements, and which cannot be reduced to any one of these single elements" (Reckwitz 2002:249f.). More concrete is Shove and Pantzar's (2005) interpretation, who define the elements or 'ingredients' of practice as made up of *images* (meanings, symbols), *skills* (know-how, competences) and *materials* (artefacts, technologies), which are integrated through everyday performance (Shove/Pantzar 2005:58). Materials contains all physical aspects – the human body and artefacts – that are used when performing a practice. Leaning on an example given by Holtz (2014), the practice of driving to work by bus includes the bus, bus stop, ticket, bus driver, street, etc. The meaning of a practice are understandings, beliefs and emotions that give relevance to using said material (as for example the positive environmental effect of using public transport) and finally, competences refer to skills required when "doing" the practice. In the example at hand those would be the driving skills of the bus driver or the knowledge of the closest bus stop and the right bus number (Holtz 2014:2). Shove and Pantzar's (2005) model of the elements of social practice will be further elaborated and set into an agricultural and consumption context within the analytical framework in chapter 3.3.

Social practices are frequently discussed in the context of pro-environmental behaviour change (regarding e.g., energy, water, waste) and consumption patterns and lifestyle as well as learning and organization (Hargreaves 2011; Spaargaren 2011; Strengers 2012; Shove/Pantzar 2005; Brown/Duguid 2001).

When it comes to transitions towards more sustainability – regardless, if environmental, economic, or social – the social practice theory (SPT) interprets *innovations* as part of social practices that come into being due to the "horizontal circulation and integration of different

elements of practice" (Hargreaves/Longhurst/Seyfang 2013:402). But, instead of focusing on the innovation per se, the SPT focusses on performance (Shove/Pantzar/Watson 2012), or as mentioned above, the *doing* of the new social practice (e.g., producing, distributing, or shopping food). This social practice is then "new" in the sense that it both influenced and had been influenced by, but in any case, reflects said innovations (Hargreaves/Longhurst/Seyfang 2013).

In the context of local food supply networks, it is interesting to mention Shove, Pantzar and Watson's (2012) thoughts on the resurrection of former practices – or rather, elements of practices. Although the authors mainly refer to *artefacts* of former practices, which are either re-used (industrial buildings as loft-apartments) or made unavailable to its former practitioners due to a new practice (cycling/walking opportunities decreased due to car-driving activities), this idea of "resurrection" can be applied onto the return to food supply and regional consumption as well. Old *images* about the quality of regional and seasonal foods are picked up again, consumers value food sovereignty and the ability to be in contact with their producers and *skills* such as customer care are gaining in importance again (FoodPrint 2020).

Von Krogh et al. (2012), when analysing the field of software development, looked at different motivations and drivers that lead to new or adopted social practices and distinguished three main categories that "are based on different reasons that bring about human action" (von Krogh et al. 2012:652): *Intrinsic, extrinsic,* and *technological* motivations. Intrinsic drivers form of personal interests and joy in performing a certain social practice, whereas extrinsic are those motivations which aim to "contribute" and "obtain some separable outcome" (ibid.). The third type – technological motivations – include the "benefits derived from learning and working with a technology" (von Krogh et al. 2012:653), which does not merely have to be limited to technologies but can also be allocated to knowledge (practical and theoretical) and the competence to apply this knowledge.

Next to the motivation, which is needed for a practice to even evolve or be considered, the question arises of how to implement said practices. An important positive impact when initiating and implementing social practices has social learning and – to a certain degree – behaviour change. Rodríguez-Triana et al. (2020) – when dealing with the for this thesis especially relevant aspect of social practices in teacher knowledge creation – point out that networking and the collaboration with peers and experts lead to the emergence of new classroom practices due to social learning. Therefore, forms of collaboration (as for example consumer-producer linkages or collaborations between education and the agro-food supply) foster social learning processes and have the potential to result in new social practices.

Rodríguez-Triana et al. (2020) discuss three learning and knowledge creation practices which can be "assumed responsible for the successful adoption of an innovation" (Rodríguez-Triana et al. 2020:448). Those are *knowledge maturation*, *knowledge scaffolding* and *knowledge appropriation*. Maturation is the action of sharing ideas, new methods, or practices and further collectively developing and co-creating them, so they are reusable outside of a narrow community and can eventually become standard (e.g., national curricula). Scaffolding on the other hand side enables the individual application of new practices or methods in "concrete working situations" through the support and guidance of other peers or experts. Finally, the appropriation of knowledge is the sharing of the individual's awareness of problems and possible solutions within a community and its practices. It helps to understand said problems and alter practices accordingly. (Rodríguez-Triana et al. 2020)

Closing this chapter, I lastly aim to discuss the aspect of place-specificity for social practices. Citing Shove, Pantzar and Watson (2012:132), new practices might have physical limits and are influenced or restricted by "pre-existing practices and the traditions, meanings, material infrastructures and competences associated with them", e.g., the lifestyle of the resident population or the absence of expertise, which leads to "uneven landscapes of possibility". Dong, Campbell and Rabinowitz (2019) – when discussing the share of CSAs, which are set into being due to certain practices – highlight the positive role of population density for the occurrence of CSAs (see also Fig.5), as there generally is a higher demand for food. Further, the authors point out, that the demography of places has an influence on the emergence and execution of social practices. E.g., in the case of CSAs, a correlation between the formation of such farms and high-income households, more females, less seniors, and less children had been found (ibid.).

3.3. Analytical Framework to analyse the role of place based educational initiatives within SFSCs

To properly address the question of *linkage* as well as the in chapter 3.1 mentioned neglected dimension of social innovations, specifically speaking knowledge transfer, learning and education, applying the MLP as a standalone framework is not sufficient. El Bilali (2019:15) emphasizes the concept's lack of consideration for the aspect of agency and underlines that this has to be targeted. A change in consumer behaviour shows that people care about what they put into their body and that they want to have information on where their food comes from and how it is produced (Galli/Brunori 2013; Renting/Rossi/Schermer 2012; Rezai 2012; Spaargaren/Loeber/Oosterveer 2012), which underpins the strong potential impact of agency onto transition dynamics in the agro-food sector.

Ensuring the validity of my study, I therefore aim to adapt my approach by combining the MLP with the social practice theory (SPT), a concept that had been recommended and applied in the context of sustainability transitions previously, including the agro-food sector (El Bilali 2019; Genus/Coles 2008; Hargreaves/Longhurst/Seyfang 2013; Hinrichs 2014; Shove/Walker 2010). The configuration of specifically those two theories is justified by responding to three frequently raised criticisms on the MLP framework (Geels 2011):

1. As mentioned above, drawing on insights from the SPT aligns well with general argument that the MLP framework underplays the role of agency (El Bilali 2019; Genus/Coles 2008) as well as with Markard, Raven and Truffer's (2012) call for further research in sustainable transition studies when it comes to "consumer-related processes and the role of everyday practices" (Markard/Raven/Truffer 2012:962).
2. The social practice theory also links with another criticism on the MLP, namely that its hierarchical levels do not reflect the multiple relations and horizontal circulation of practices between different systems of society. It has to be considered that people are able to share, combine and reproduce technology, meaning, knowledge and skills, which circulate between their practices (Shove/Pantzar 2005). Hargreaves, Longhurst and Seyfang (2013), in this context, even identify social practices and their constant (re)configurations of elements as "transitions" themselves.
3. Lastly, the multi-level perspective had been called out for explaining regime changes with bottom-up processes like the upscaling of niche innovations, while rather neglecting contributing factors on the regime level or pressures and changes taking place in the landscape of the respective system (Berkhout/Smith/Stirling 2004:60). With this criticism in mind, I aim to avoid that "tunnel view" by specifically looking at interactions (through social practices) between the different levels, since actors in the agricultural domain (producers, processors, distributes and consumers) typically account as actors of both, the niche as well as the current regime. As elaborated within chapter 3.1.1, they can be interpreted as "hybrid actors" which adopt their social practices according to their involvement in the niche. (Darnhofer 2015; El Bilali 2019:12; Vermunt 2020)

The notion of SPT used in this context is building up on a definition of "practice" introduced by Shove and Pantzar (2005). Their viewpoint onto SPT focusses on the elements or

"ingredients of any one practice", which are *images* (meanings, symbols), *skills* (know-how, forms of competence), and *materials* or *stuff* (artefacts, technologies) (Shove/Pantzar 2005:58).

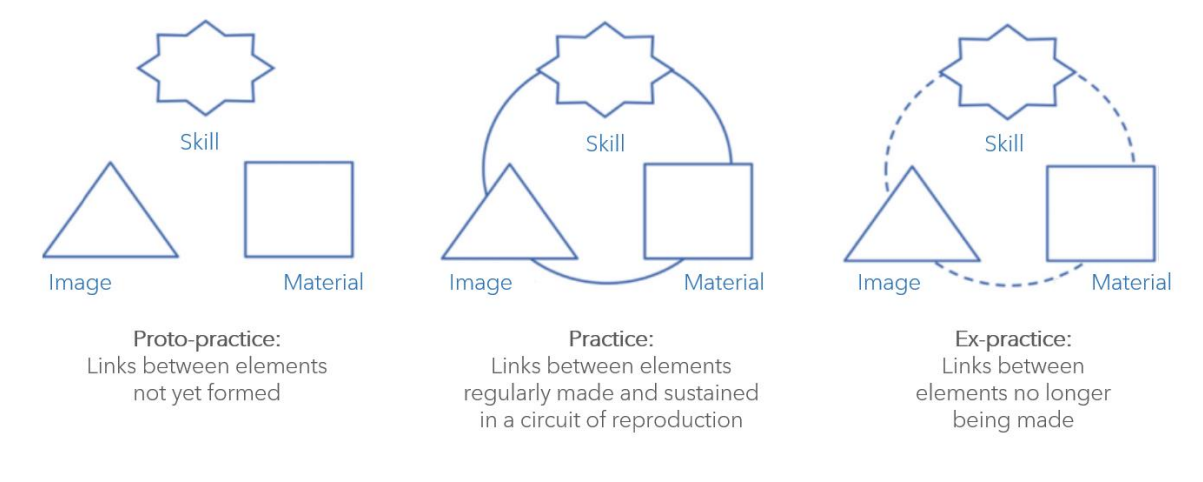

Fig.3.: The "ingredients" of social practices; Source: Pantzar/Shove 2010:450

This configuration of elements is constantly changing, which leads to the new forms of practices, reconfigurations or broken links and demised practices. (Shove/Pantzar 2005:58)

For example, the shopping of food in a conventional supermarket constitutes of the *image* of "aesthetically perfect" food due to selection and the standard of food presentation, easy access, convenience, and availability, as well as the "freedom of choice", the *material* of the social practice are supermarkets, carts and checkouts, and the *skill* is the ability to shop more or other types of products simultaneously (Hargreaves/Longhurst/Seyfang 2013).

This social practice results, amongst other consequences, in long transportation ways and higher emissions, which again caused a change in mind-set of a group of costumers that altered their social practice to buying seasonal and regional foods. However, the difficult accessibility of markets or farms influenced their initial intend and this "dualism of structure and agency" (Shove/Pantzar/Watson 2012) resulted in a new social practice of planning grocery shopping ahead and, for instance, joining a Food Coop (BIO-AUSTRIA OÖ 2022; Shove/Pantzar 2005).

Given example highlights, how the MLP can be linked with the SPT in practice: The regime of one system is upheld by a set of embedded social practices which are influenced by principles, norms and rules – and form habits. If a regime becomes less coherent, those practices are questioned and challenged by actors and their agency (Krasner 1982:189). Niches, on the other hand, emerge due to different forms of innovations, one of which could be social innovations (see ch.3.1), that are, essentially, new configurations of social practices. Since actors can be active in both, the regime as well as the niches (i.e., they are "hybrid actors", see Fig.4), they are able to combine or reconfigure their practices (Shove/Pantzar 2005).

A combination of the two theories does not only reflect on the above outlined critiques and ensures a higher credibility of the presented work, but also responds to the call for considering *the role of education* in sustainability transition studies (Lutz/Schachinger 2013; Kurtsal 2021; Van Poeck/Östman/Block 2020; Van Poeck/Östman 2021). Additionally, it enables reliable research of the notion of *agency* in SFSCs, specifically concerning the *linkage* between producers and consumers, which had been neglected by many scholars so far (El Bilali 2019:9).

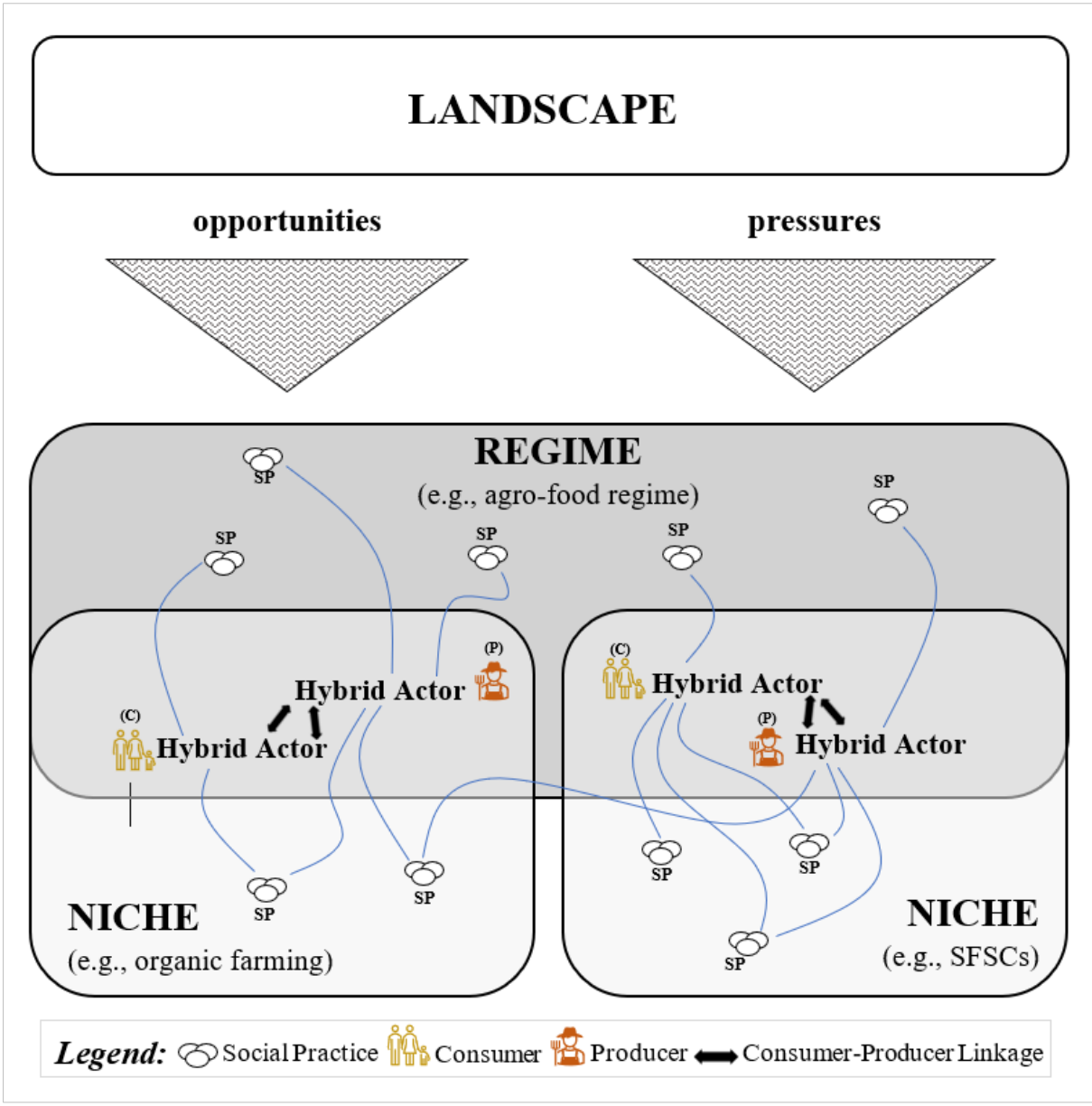

Fig.4.: The linking of niches to the regime through the practices of hybrid actors; Source: own elaboration, inspired by Darnhofer (2015:24)

Within the analysis of this thesis, I look at the role of four chosen educational initiatives when it comes to the generation of new social practices and examine, in how far those practices could foster consumer-producer linkages in SFSCs. As visualized in Figure 4, consumers and

producers are more likely to build up a relationship and share the same social practices (e.g., cooperating or marketing) in niches, than in the regime. Linking the supply with the demand side would not only connect niche actors among each other, but also with hybrid actors or even actors of the regime, whose practices they can thereby influence. The collected data from the place-based educational initiatives will be analysed and categorised using Shove and Pantzar's (2005) elements of social practice, which are *images, skills,* and *materials*. Before identifying those elements provided by education, the outcomes of implementing the resulting practices, as well as barriers caused by the regime, the motivations for such efforts will be analysed according to Krogh et al.'s (2012), *intrinsic, extrinsic,* and *technical* motivations for social practices (see ch.3.2).

To summarize my analytical framework and highlight its utility when conducting my analysis, it can be concluded that the MLP is a useful concept to locate my case studies within the agro-food sector and evaluate their potential to contribute to a sustainability transition, while the SPT is intended to be used when analysing the qualitative aspects and human drivers of social innovations.

4. Methodology

4.1. Ontological and Epistemological Position

The present study investigates the role of four chosen examples of place-based educational initiatives in local food supply networks, especially in terms of consumer-producer linkages. Looking at short food supply chains (SFSCs) from a multi-level perspective, they can be and had previously been considered as niches that eventually upscale into the agro-food regime (Bui et al. 2016; El Bilali 2018, 2019; Hinrichs 2014; Ingram 2018; Lutz/Schachinger 2013). SFSCs have the potential to change the procurement practices of conventional markets, incite changes on the demand side that turn passive consumers into involved actors of the agro-food supply and secure a transparent, short, and socio-economic sustainable supply network (Galli/Brunori 2013; Hyland et al. 2019; Vittersø et al. 2019). Those local networks, linked at several interfaces with other small networks as well as with its regime, represent a form of reality, which is depending on a set of current social practices. The reason that they are niches is because the current state of the art within our society constitutes of international markets, global supply chains and the ability and need to access every product at any time (Hargreaves/Longhurst/Seyfang 2013). SFSC-niches have the chance to upscale or at least solidify through an educational offer that potentially leads to new evolving practices (Kurtsal 2021). Having the choice to engage in local economies and influence the way in which food supply functions is – interpreted through the lens of critical theory – a form of "critiquing and changing society" (Crossman 2019).

Following up on those thoughts, the thesis at hand uses a critical realist perspective as a point of departure, which understands the world as mind-independent and "is concerned with the nature of causation, agency, structure, and relations." (Archer et al. 2016). Critical realists defend the idea, that the "real" world has to be distinguished from the "observable" world. This means, the real world cannot be observed (ontological statement), yet its existing structures cause events, which then are observable (epistemological statement). Consequently, "the social world can be understood only if people understand the structures that generate events." (Warwick 2020). To achieve this, critical realists aim to get as close to reality as possible, however, they recognize that reality is independent from the human perception of it and as a result, observation can never certainly reveal it (ibid).

Nonetheless, it has to be kept in mind that my analytical framework includes also ideas of the social practice theory (SPT). While this theory *can* be viewed from a critical realist standpoint

in the sense that new social practices arise from a critical standpoint towards the current structures (Archer 2002), I am aware that this standpoint is not the only option to understand social practice theory, and neither is the action of "learning", which "entails transformation of both the person and of the social world" (Packer/Goicoechea 2000:227).

I would therefore, as a reflective side note, like to point out another common ontology underlying the SPT, which is Constructivism (see Halkier/Jensen 2011). A social constructivist paradigm is "a philosophical view that says all knowledge is constructed from human experience" and social relationships as well as interactions with the world are creating our reality (Harvey 2012-2022). As Heigh et al. (2019) define it in simple words: "It rests on the view that what is real is what our individual minds 'make' real to us; reality is a construction – by and of the mind." (2019:2).

However, returning to my argumentation, the ontology of this thesis will remain critical realism, as it is a standpoint that aligns well with the sustainability transitions theory, viewing the need for more sustainable practices as a reality that does not depend on our own interpretation. Intensive agriculture and long transportation routes emit greenhouse gases and contribute to climate change, the loss in biodiversity, deforestation, socio-economic inequalities with malnutrition on one side and food waste on the other side – those are all existing facts that represent a reality that shows that, although it is also part of the solution, agriculture and agro-food supply is an "important part of the problem" (FAO 2017:4) and needs to be critically reflected.

4.2. Research Approach and Design

The methodological approach of my thesis is qualitative and inductive on an empirical (when evaluating themes and codes during the coding process), yet deductive on an operationalisation level (when applying Shove/Pantzar's (2005) categorisation of the elements of social practice). Data had been gathered in form of an expert interview, semi-structured interviews with actors of four case studies and the coding of qualitative criteria (values, skills, images, knowledge, …) as well as a survey with open-ended questions and, finally, in a descriptive approach of a review of secondary information about the existing educational offer in school curricula applied in the chosen initiatives, the schools' homepages and websites that deal with local food networks (IG Foodcoops 2022; Interessensgemeinschaft Solawi Leben n.d.). Although my methods include a survey that had been send out to a sample of actors of SFSCs, I do not follow a mixed methods approach but remain in a qualitative logic of inquiry (Creswell 2019). The way said survey had been designed made it possible to receive 14 qualitative, individual responses that partly let to

further conversations and engagement into the matter. Those conversations had been personal, and I did not transcribe them as they aligned with the survey answers, but they informed my understanding of the subject matter. This highlights that the survey participants had been more than "just numbers" and that the survey answers are suitable to be analysed in the same manner as the above-mentioned semi-structured interviews.

Ethically speaking, to collect data in ways that enables direct contact and conversation includes values such as confidentially, consent and mutual respect while still maintaining anonymity and finally the communication of the results, which might lead to a direct impact of my work.

Altogether, this research approach led to results of qualitative nature that have the potential to improve knowledge transfer and consumer-producer linkages in local food networks and support a sustainability transition in the agro-food sector.

4.3. Research Setting

In the context of *place-based* education and *local* food networks a common bias within transition studies will be targeted in this thesis. Markard, Raven and Truffer (2012) explicitly mention a strong "national focus" of former conducted research on transitions that is neglecting the global, regional, or local dimension (Markard/Raven/Truffer 2012:961). Although I take educational initiatives and SFSCs in different parts of Austria into account and therefore look at the *thematic* from a national viewpoint, *transitions processes* towards more socio-economic sustainability in the agro-food sector - as they elapse on local and regional levels - will be looked at considering the importance of place-specificity (Hansen/Coenen 2015).

4.3.1. Case Selection and Description

The selection of place-based educational initiatives is based on information that I got during my expert interview with a scholar in the field and SFSC actor (Montessori Campus) and from organisations like foodcoop.at (IG Foodcoops 2022) and Bio-Austria (BIO-AUSTRIA 2022), which I asked for information (Bioschule Schlägl). Further on, former students recommended two of the chosen examples (A-HAK and HBLA Pitzelstätten), and finally, I supported my choices through online research.

It has been found that the selection of the examples can be carried out very objectively due to the fact that not more initiatives that engage in SFSCs had been found or that those which my sources knew of are only in its initial phase and were missing a "showcase character". Hence,

I could narrow my research down to the four chosen place-based educational initiatives, because they serve as the only best-practice examples that were found suitable in this context.

Those initiatives are located within the three different provinces Vienna (1), Upper Austria (1) and Carinthia (2) – whereas the initiative placed in Vienna potentially has an influence onto SFSCs in parts of Lower Austria as well. Therefore, Lower Austria had been taken into account, too, when surveying participants of the local food networks (see Fig.5).

The educational initiatives in question are

- a Food Coop organised by the Montessori Campus Wien Hütteldorf, Vienna (a middle school and high school)
- a direct marketing initiative at the HBLA Pitzelstätten, Carinthia (high school)
- the specialisation "Agrarökonomie & Agrarökologie", taught at the agricultural high school Agrar-HAK Althofen, Carinthia
- an organic farmer's shop run by students at the agricultural school "Bioschule Schlägl" in Aigen-Schlägl, Upper Austria (vocational school focussing on ecological agriculture)

14 actors of SFSCs had been respectively surveyed in an area of 30-60 km around those initiatives (see Fig.5) and are active in networks as producers, local retailers, operators of Food Coops, online distributers, and engaged/involved consumers.

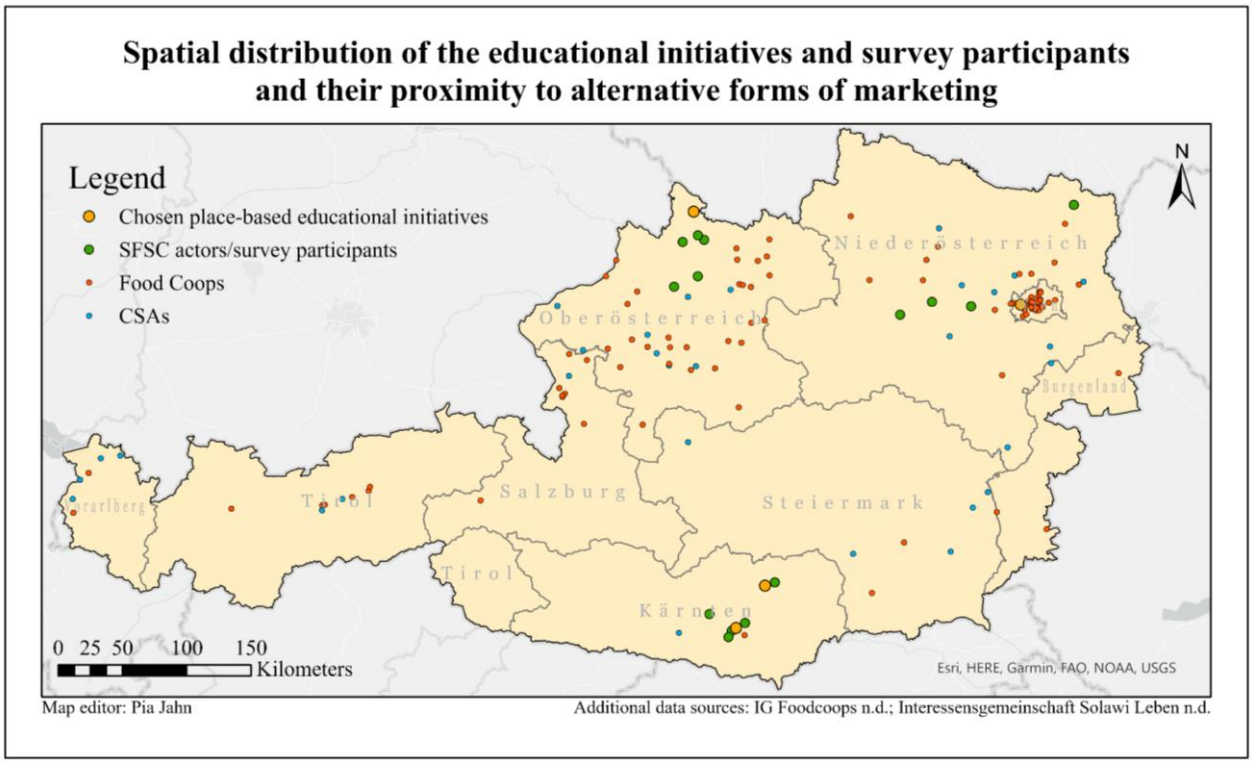

Fig.5.: Spatial distribution of the educational initiatives and survey participants and their proximity to Food Coops and CSAs in Austria; Source: own elaboration

4.4. Methods of Data Collection

The empirical data analysed in the course of this thesis had been collected in four different ways: An expert interview with a former researcher on SFSCs in Austria; Semi-structured interviews with representatives of four place-based educational initiatives; A qualitative survey including open-ended questions send out to actors of local networks; as well as an extensive review of secondary information (including the curriculum of the subject "Agrarökonomie and Agrarökologie").

4.4.1. Expert Interview

Prior to my data collection, as part of identifying the object of study, I conducted an expert interview with a former social scientist and ecologist who focussed her research on SFSCs and alternative food networks (AFNs) in Austria. She is actively involved herself in SFSCs as she set a local retailer with online shop into being. Having stopped her academic career somewhere along the way, she now devotes herself entirely to this business that she built up with two other women. Additionally, the interviewee used to be a teacher in one of the place-based initiatives that I investigate in the course of this study, where she participated in school projects that involved the collaboration with a local dairy farmer.

The motivation for carrying out an expert interview was to gain an expert's point of view and a structural context (Silverman 2013) concerning the upscaling of Austrian SFSCs as niches into the regime under the scope of sustainability transitions and how to start research in this field, but also for the sake of networking. The interviewee had, due to her job and former occupation as a teacher, recommendations, and contacts for initiatives as well as organisations that deal with the niche of local food supply. Apart from questions concerning the theory, research design and choice of case studies for this thesis, the interview guideline included some questions of the survey questionnaire as well as points covered in the semi-structured interview.

List of interviewees of the semi-structured interviews as well as the expert interview		
In-text Reference	**Initiatives/Roles of the interviewees**	**Date and length of interviews**
Interview #1	Representative for the direct marketing at the HBLA Pitzelstätten	24.03.2022; 00:40:48
Interview #2	Representative for the initiatives at the Montessori Campus Wien Hütteldorf	25.03.2022; 00:43:52
Interview #3	Representatives/Developers of the specialisation at the Agrar-HAK Althofen	29.03.2022; 00:59:44
Interview #4	Representative for the organic shop at the Bioschule Schlägl	31.03.2022; 00:43:25
Expert Interview	Former scientist, former teacher, and current actor in a SFSCs	06.02.2022; 01:17:23

Tab.1.: List of interviewees; Source: own elaboration

4.4.2. Semi-structured Interviews

Choosing semi-structured interviews as a means of data collection, I aimed to identify the role which the chosen initiatives currently play in and for local networks. Specifically, I wanted to gain knowledge in terms of how far they cover the thematic around different forms of consumer-producer linkages as well the question of agency.

Semi-structured interviews are built up on a structured guideline, which does not have to be followed strictly. An interview of approximately one hour can consist of 8 – 15 main themes or questions which are formulated and placed according to the flow and thematic direction of the conversation and possibly includes follow-up questions (Gläser/Laudel 2009:144).

In the present case, the guideline for the interviews was designed for conversations between 30 and 60 minutes, and although I made an individual guideline for each conversation depending on the specific type of initiative (Food Coop, direct marketing, focus subject), they had been generally structured as follows:

- Brief description of the initiative/specialisation in the context of the school: Origin, mode of operation and the interviewee's role within the project (personal aspect)
- Motivation behind setting up such a project; Aims of the initiative
- Extend of the interaction with local suppliers/actors; How is the educational initiative implemented into the local food supply network; what is their role in "real life"
- Which competences, skills and knowledge are taught? Are students seen as future consumers, producers, or distributers? Or all (or neither?)
- Are following topics covered? In which way?
    - Alternative marketing forms, short food supply chains
    - Agency (consumer agency *and* producer agency
    - Supply Chain Management
    - Consumer-producer linkages
- What is missing, what would the interviewee wish for?
- Does the interviewee consider his/her initiative as influential? In which way?

This selection is based on the gaps in sustainability transitions theory that I identified in the conceptual framework of this thesis, specifically speaking of the lack of research regarding consumer-producer linkages as well as the consideration of agency (El Bilali 2019; etc.).

The interview partners had either been chosen and forwarded to me by the school or I called them directly if they were listed as the leaders of the initiative and had accessible contact details.

4.4.3. Qualitative Survey including open-ended Questions

Having conducted the above-described semi-structured interviews, I proceeded with sending out a qualitative survey (see appendix) to actors of SFSCs to evaluate their needs in terms of knowledge, learning and the linkage between consumers and producers, as well as potential tangible influences of such educational initiatives or, in contrast to this, possible mismatches between their stated needs and the through the initiatives provided knowledge and skills.

According to Jansen (2010), a qualitative survey – in contrast to the general understanding of sample surveys for statistical analysis – does not aim to discover frequencies/means or tendencies within a given population, but to determine the diversity of the topic of interest within this population as well as the different values/meanings associated with those topics. Survey questions are designed in an open (inductive) way that enables participants to provide personal experiences or "ideas that widen the researcher's understanding of the topic of the study" (Albudaiwi 2018:1716). Respondents get to articulate opinion which might be extreme or unusual, express their needs and provide suggestions on the matter of subject (ibid.).

The survey had been sent out to 34 actors of SFSCs (producers, local retailers, operators of Food Coops, online distributers, engaged/involved consumers, bakeries, butchers, restaurants, or combinations of those) which are distributed evenly around the chosen place-based educational initiatives (12 in Carinthia, 10 in Lower Austria, 2 in Vienna and 10 in Upper Austria).

The selection of those actors was based on internet research, personal contacts, networking, and recommendations since some of them are in direct contact with the initiatives or had been recommended by the leaders of those initiatives as best-practice examples of local suppliers. Since I emphasised the fact that this survey does not aim for a quantitative but for a qualitative outcome, I received 14 elaborated responses, four of whom got into closer contact with me to forward me booklets or information about workshops, course offers, and funding programmes.

Table 2 (for additional information see appendix) represents those 14 respondents. For the sake of anonymity, they are referred to by the numbers 1-14 and their respective occupation in the supply chain. 10 of the respondents are producers/farmers, while 8 have indicated that they (also) act as local retailers, 3 as the operator of a Food Coop (whereas 6 are supplies of such) and another 5 as online marketers. 4 of the respondents see themselves as active and involved consumers. Contacted community supported agricultures (CSAs) or intermediaries like bakeries or restaurants did not respond to the survey.

Nr. of Survey Participant	Activity/Occupation in the SFSC/network	Type of local network(s)
Kärnten (Carinthia)		
Survey Participant #1	producer/farmer	direct marketing/farm shop; self-service hut
Survey Participant #2	producer/farmer; local retailer; involved/ active consumer	direct marketing/farm shop; local retailer
Survey Participant #3	producer/farmer; gardener; involved/ active consumer	direct marketing/farm shop; Food Coop; farmer's market
Survey Participant #4	producer/farmer; local retailer; online shop/online distribution	direct marketing/ farm shop; local retailer; Food Coop
Survey Participant #5	producer/farmer; local retailer; online shop/online distribution; involved/ active consumer	direct marketing/farm shop; online shop/online distribution; gastronomy
Niederösterreich (Lower Austria)		
Survey Participant #6	local retailer	local retailer; online shop/online distribution
Survey Participant #7	local retailer	local retailer; online shop/online distribution
Survey Participant #8	producer/farmer (organic farmer)	direct marketing/farm shop; local retailer; Food Coop
Survey Participant #9	"career changer": producer/farmer; local retailer; operator of a Food Coop	direct marketing/farm shop; local retailer; self-service hut; Food Coop
Oberösterreich (Upper Austria)		
Survey Participant #10	online shop/online distribution; involved/active consumer; operator of a Food Coop	Food Coop
Survey Participant #11	producer/farmer	direct marketing/farm shop; Food Coop
Survey Participant #12	producer/farmer; local retailer	direct marketing/farm shop; local retailer; self-service hut; Food Coop; online shop/ online distributor; farmer's market
Survey Participant #13	local retailer; online shop/online distribution; operator of a Food Coop	Food Coop
Survey Participant #14	producer/farmer (organic farmer)	direct marketing/farm shop; local retailer; Food Coop

Tab.2.: Information on participants of the survey "Farm t(hr)o(ugh) School: The role of place-based education in Short Food Supply Chains" (more information see App.); Source: own elaboration

4.5. Methods of Analysis

Having transcribed all data gathered with above-described methods, the qualitative content analysis (QCA) proofed to be an approach that provides efficient strategies to analyse the collected text-mass. The QCA, developed by Mayring (2000; 2014), is a systematic approach to code and categorize large amounts of textual information, to evaluate trends and – in my case – frequently mentioned needs or competences/skills and to detect relationships and underlying structures of the extracted information (Vaismoradi/Turunen/Bondas 2013).

The analysis had been divided into two parts: First, by conducting a QCA of the interviews as well as the qualitative survey. Here, I categorised the content into themes or so-called types of codes, inspired by a strategy of Bogdan and Biklen (1992:166-172, as cited in Creswell 2009:), who assigned their codes to setting and context codes, process codes, activity codes, relationship, and social structure codes, etc.

Following Creswell's (2009:174) statement, that "the traditional approach in the social sciences is to allow the codes to emerge during the data analysis", the coding of the semi-structured interviews and, if accessible, the corresponding curricula lead to following themes:

Themes/Types of Codes	Sub-Categories
Description and functioning of the initiative	
Initial phase	
Target group	
Financing, surplus revenue	
Drawing of foods	
Organisation	*Internal difficulties*
Motivation for the initiative	
Activity or integration in the local network/SFSC	
Active participation	*Marketing of own production*
	Distribution activity
Initiative or school as consumer	
In-school	
Addressing the issue of "SFSCs and alternative forms of marketing"	
Engagement with the topic of sustainability transitions	
Influences on the initiative	
External influences	
Personality of the teacher	
Impact; Imparted values	
Links to reality	
Difficulties, problems, barriers, and gaps	
Competences	
Methods	
Topics	
Consumer-producer linkages	
Consumer education	
Curriculum reference	*Marketing mix in the agricultural sector*

Tab.3.: Themes and Sub-Categories; Source: own elaboration based on conducted QCA

When analysing the survey on the other hand, it did not prove suitable to use the same coding scheme as outlined above, since the questions focussed on actual needs, barriers, and the actors' thoughts concerning the linkage of consumers and producers rather than on pedagogical aspects. Therefore, the coding resulted in the themes: *Needs*; *Difficulties/Problems*; *Experiences*; *Motivations*; *Consumer-Producer Linkages* and *Recommendations for actions.*

The language, in which the coding had been conducted, was German. Only in the end of the analysis of my gathered data did I translate the evaluated codes and quotes into English. The reason behind this was to avoid misinterpretations or wrong translations towards the end due to the process of changing codes and the formulation of them (Creswell 2009:173).

In the second part of the analysis, I aim to evaluate social practices, which are exemplified or conveyed by these initiatives. To set the obtained data into context with the social practice theory, I use Shove and Pantzar's (2005) model of the elements of social practice as part of my

analytical framework and categorise the previously identified codes through this lens into *images*, *skills* and *materials* (Pantzar/Shove 2010, see Fig.3).

Having portrayed this outcome, it becomes possible to explore (taking existing literature into account), which social practices formed by the investigated educational initiatives could (and do) foster linkages between consumers and producers, which are both so-called "hybrid actors" performing in both, the niche (SFSCs) as well as the regime (see ch.3.1.1).

Thus, viewed through the multi-level perspective, those linkages can be interpreted as windows of opportunity that are opened by such "hybrid actors" (Geels 2002a; Darnhofer 2015), which enable niches like SFSCs to upscale into the regime (the conventional agricultural food supply).

Ultimately, those windows of opportunity become visible and can be targeted in future!

4.6. Scope and Limitations resulting from the Research Design

One of the limitations of this research is the fact, that even though there are not much more educational offers in Austria actively participating in SFSC, my selection still constitutes a *sample* from which I draw conclusions. The gathered opinions are subjective and place-specific (Shove/Pantzar/Watson 2012) and can therefore not be directly generalised, however the analytical framework introduced in chapter 3.3 is applicable to other cases in the field of sustainability transitions. Finally, it is not certain and should not be assumed whether there is a direct link between the surveyed SFSC actors and the educational initiatives. In fact, even though they are distributed in the surrounding area of the initiatives, only two have a consumer-producer relationship with each other. Nevertheless, the other surveyed actors are indirectly influenced by the educational initiatives, as former or current students are personally involved in some of the reviewed SFSCs.

5. Results and Analysis

5.1. Cases and Contexts

5.1.1. Educational Initiatives

The following paragraphs briefly describe the four selected **initiatives** in more detail:

"Direktvermarktung Pitzelstätten" – direct marketing HBLA Pitzelstätten, Carinthia (PZ)

The direct marketing initiative of the HBLA Pitzelstätten is an interdisciplinary project happening 5 – 6 times a year. The school itself is a vocational high school for agriculture and nutrition which takes five years to attend. It includes an "agricultural and forestry training farm" to be able to convey competences in the areas of production and processing, as well as **a shop for the direct marketing initiative**. The above-mentioned school branch aims for the increased integration of the school farm and its processing and marketing facilities, which leads to lessons in production every 3rd week. (HBLA Pitzelstätten n.d.) The training farm, which also provides the direct marketing initiative with products, supplies the school kitchen to almost 100 per cent with its milk and meat production. Yet, the school does not want to increase the frequency of the direct marketing initiative in order to not *"be a competitor for direct marketers in the area"* ***(Interview #1, ~ Min.12:30)***.

Food Coop of the Montessori Campus Wien Hütteldorf, Vienna (MC)

Originally wanting to focus on **the school's Food Coop**, I discovered during my interview that the concept of the school as a whole is geared towards educating students about agricultural marketing and making them aware of the origin as well the work behind the food they buy, grow and consume. The Food Coop is just one of many small, ongoing projects – as for example the production of honey, propolis, natural cosmetics, jams, or juices which are sold weekly on markets or delivered to consumers, organising so-called lead studies dealing with the topics Food Coops, food sovereignty, CSA, etc., as well as their school kitchen, for which they source food from currently one regional wholesaler who itself sources from small local producers. Also, they run a garden as well as a small farm. Two years ago, the Montessori Campus used to obtain their milk and vegetables from two local farmers, but due to a fire and illness those collaborations ended. Even though they struggle with finding new local suppliers and therefore only run their Food Coop for their own demand as for now, the school aims to open it for *"neighbours and, um, also giving parents and teachers the opportunity to buy directly from small farmers"* ***(Interview #2, ~ Min.09:50)***

"Agrarökonomie und Agrarökologie" – specialisation at the A-HAK Althofen, Carinthia (AH)

The Agrar-HAK in Althofen, Carinthia is a vocational high school for marketing and business concerning the agricultural sector which takes five years to attend. It is a combination of two school types: The HAK (vocational trading school) as well as the agricultural college – a three-year training course concerning agricultural practices. **„Agrarökologie & Agrarökonomie"** (agro-economy and agro-ecology) is one of the four offered **specialisations/branches of the school** and covered by several subjects. It can be chosen by students in their third year. The curriculum is unique for this location in Austria and had been designed by my two interview partners, teachers of one school type each. Their aim was to develop *"a new educational focus that links our schools more closely"* ***(Interview #3, ~Min. 04:40)*** The specialisation uses the most theoretical approach among the four initiatives I am looking at, yet it still interacts with actors of SFSCs and therefore covers the topics most comprehensively.

„Bioladen"– organic shop of the "Bioschule Schlägl" in Aigen-Schlägl, Upper Austria (BS)

The **organic shop** of the Bioschule in Aigen-Schlägl – a three-year training course from 9th to 12th grade (~ age 15-19) to qualify as a professional agricultural worker – illustrates how schools can built up a network and be actively part of local food supply. In the course of this initiative, the students sell biological products from regional producers and organic farms to their costumers (i.e., people of the surrounding population). The school has made "holism" its principle and builds on interdisciplinary teaching with a curriculum that is thematically coordinated with the seasons and divided into four blocks. Due to this holistic approach, which includes product development and excursions just as much as marketing, "consumer contact and sales training" (BLWS Bioschule Schlägl n.d.) the organic shop had been established in 2018 to complement the production and processing (of grains, milk, meat and fruits) at the school. For the sake of financing this initiative, the school management and responsible teachers founded a "support association", which highlights the cooperation of the whole school in this aspect. In addition to the organic shop, which is opened Wednesdays, a **Food Coop** had been set up after the pandemic to enable demand-oriented production according to the number of orders. For the time being, this project is in a pilot phase, which means that it currently only offers its own products for sale but plans to market products from surrounding farms after an internal trial period.

5.2. Drivers and Motivations for actions leading to new or adapted Social Practices

In the following paragraphs, I aim to present motivations that led to the emergence of place-based initiatives dealing with the aspects of cooperation and supply chain management, as well as the drivers to be part of local networks and engage in the generation of new social practices.

When interviewing the leaders or responsible teachers of each educational initiative, they named diverse motives that led them to their projects/specialisations. Those can be, as shown in Fig. 6, of ideological, societal, and practical nature – which aligns with von Krogh et al. (2012), who categorise drivers that lead to new or adopted social practices into intrinsic, extrinsic, and technical motivations (see ch.3.2). Intrinsic motivations arise from personal interests and joy, which can be summarized as the *ideology* of the respective individual, while extrinsic motivations aim to contribute to something; Therefore, the evaluated *societal* motivations will be interpreted as extrinsic and finally, the technologies behind technological motivations – as described in chapter 3.2 – can be replaced by *practical* skills and knowledge.

Most frequently mentioned was the aim to provide a "comprehensive education" (i.e., ideological, practical) that links practice with marketing, or agricultural knowledge with skills for business management – so, basically, producers with consumers.

"I worked privately in a producer association, in the process of setting it up. I investigated, how farmers and consumers could be linked and that was kind of the decisive reason for the whole story." ***(Interview #3, ~Min. 04:10)***

Alternative marketing is a profession which demands for different knowledge and different social practices than the supply system of the agro-food regime requires (see ch.1.2).

"Because they should - in our opinion - be well educated, they should be comprehensively educated, and they should also be able to market what they produce." ***(Interview #3, ~Min 04:50)***

Direct marketers need to maintain customer contact, calculate prices, package, label and advertise their products, establish a clientele, find their place within the local market, and collaborate with other SFSC actors. Consumers, on the other hand, need to adopt their shopping habits and lifestyle to be able to plan their orders and collaborate with producers or other consumers (Interview #1–4; Expert Interview; Participant #1). All those skills are taught by the investigated initiatives and constitute social practices that will be discussed in chapter 5.3.

Other main drivers to set such projects into being are “raising awareness”, imparting values such as *regional* and *organic* and promoting sustainable solutions (i.e., ideological, societal).

“More and more people are buying organic products from the region. We want to emphasise the importance of these small but versatile structures and exemplify them in everyday school life. By linking the areas of "organic farming" and "regionality", our students receive the tools for successful direct marketing on their own farms” ***(Bioschule Schlägl n.d.)***

A more practically oriented motive, which had been stated, is the passing on of sales competences and – by means of the practical approach of the initiatives – demonstrating that direct marketing is profitable and a legitimate income alternative (Interview #1).

Lastly, initiatives stated the active involvement and citizen service (i.e., societal) as a motivation, and also, the opportunity to produce demand-oriented and to provide and education, which puts the *doing* in the first place (i.e., practical).

This means, we create the possibility for other people to order from these small farmers. ***(Interview #2, ~Min. 06:50)***

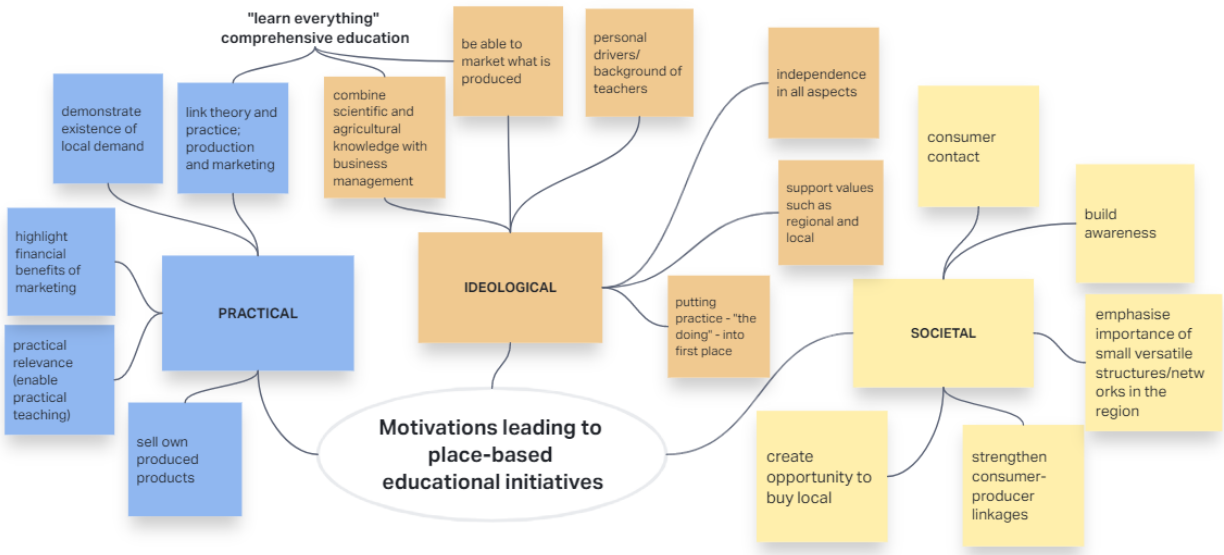

Fig.6.: Motivations leading to the emergence of place-based educational initiatives; Source: own elaboration

On the part of the surveyed SFSC actors, who are in contact with educational initiatives (Participants #2,#5,#14), following motivations to collaborate with education (and therefore to contribute to the generation of the students’ social practices) had been named:

- Ideological, practical: demonstrate the diversity and range of local food products
- Practical: provide a realistic overview of all tasks, services and focus areas

- Ideological: promote the appreciation of food; demonstrate an environmentally friendly bio-dynamic production
- Societal: convey an authentic image of the rural environment; pass on values like cohesion and collaboration; demonstrate invested time and work behind a product to comprehend pricing

"I would like to see more awareness on sustainable food production, to understand why different prices come about and why it makes a difference (beyond the inner quality of a product) how a food is produced." ***(Participant #3, producer/farmer, gardener and active/involved consumer)***

Motivations for retailers to engage in local networks are of extrinsic nature, *"to make everyday shopping regional and social"* ***(Participant #7, local retailer, and operator of an online shop)*** by selling regional, seasonal, and organically certified agricultural products. In order to effectively reach that goal, they respond to consumers' demand for high-quality food and its uncomplicated ordering (e.g., via the internet).

"To pick up their shopping, customers do not have to go to crowded, noisy supermarkets, but can receive their shopping ready packed in a relaxed atmosphere, find out about special offers and make product requests." ***(Participant #7, local retailer, and operator of an online shop)***

5.3. New Social Practices in Short Food Supply Chains

Types of Codes/Themes	Codes	Annotations
Competences	Cultivating; **Producing/purchasing;** Household management (cooking, beekeeping, animal husbandry) **Product design; Packaging; Labelling** **Business management; Accounting; Controlling (price calculation; Investment plans; Cost-benefit analysis; Location analysis; HR calculation); Evaluate funding** **Networking**; **Market analysis;** C**ollecting data**; C**ommunication policy; Distribution policy**; C**hoice of legal form; Marketing** and **marketing strategies (assess advantages and disadvantages** of marketing options); **advertising**; C**onsidering personal attitudes; Selling**/cash register; Mailing/**delivery of products** **Merchandise management** (purchasing/procurement costs; product composition) **Critical questioning** (of pricing, marketing, and production/business model); I**ndependence** (work division in the form of "chores"); T**ime management**; C**onsulting**	How do I get good soil? Which new products could I produce? What do I need for this? What does the processing cost, the material in addition? How do I calculate the price? What final price do I need? What is the risk margin to compensate for failures? What do I get out of it? Does it pay off? Where do I get packaging? If I invest in this, what will it cost me? What kind of fundings do we get? Do I need additional staff? Where can I make contacts? Which legal form do I choose? What would I market? How would I market it? What form would I choose? What is good for me, what suits myself? Are we an ecological farm, just because we farm organically?
Topics	Cross-sectional subject matter: **Merchandise management** (Purchasing/Procurement; Sales; Stock; Choice of Producers; Controlling); **Product design**; **Forms of marketing**; **Laws/regulations** (tax law; farm law; environmental law - quality labels); **Sustainability** (regional; organic); **Cost Accounting**; **Price Calculation**; **Requirements for direct marketing; Soil science; Cultivation (Biological requirements); Compost production; Production; Marketing;**	*Product design* includes packaging, labelling, price calculation and product creation; *Price calculation* includes price of processing, material costs, required final price, risk margin, failure rate)
Methods	**Interdisciplinary cooperation** (several subjects participate in initiative); **Excursions** to farms and Food Coops for information and training purpose; **Selling products at markets; Theory** (face-to-face teaching); **Project groups and project-oriented forms of teaching; Market studies; Setting up an internal supply chain; Account management of "microeconomics"** (MC); **Business case studies** (Final thesis)**; Guest lectures** of experts from business, science and agricultural chambers; **Scenario method; Role plays; Creation, production and marketing of own product; Blocked seminars; Vocational training; Traineeships**	
Consumer-producer linkages	**Collect feedback** from consumers, Consumer care interferes with time resources (in initiative); Existing **motivation to link up with schools**; **Work experience of teachers** in c-p-l (AH); **Acceptance in farming society** is problematic (crowdfunding); Difficult to **gain trust**; **Demand-driven production methods**; Food Coops as a linkage; Support of initiative by customers "for the sake of students"; **More informed consumers** are willing to pay more; **Marketing strategies** (CSA, crowdfunding); **Target group analysis; Advertising**	Which people do I target when I sell my products? Who do I want to reach? How do I get them on board? How can I bind them to my product/business?
Consumer education	"Consumer education goes along" → Independent, **critical thinking**; "Development of one's own position on economic-ecological-social issues including justifications"; **Indirect consumer education through negative experience** with consumers (realising that they lack awareness for pricing); Especially **for students without agricultural background**; **Market studies** (gathering numbers); "Warm-up" for dealing with the topic of marketing; **Consumer surveys**	
Curriculum references	"Deepening knowledge in the areas of **production, processing and marketing**"; "**Practice-oriented training in quality-, project- and marketing management [...]**";Linkage with "Natural Sciences", **"Political Education and History"**, **"Law"** and **"Economics"**; Integrated and circular economy; **Legal framework conditions**; **Eco-controlling** (improvement plans; cost-accounting models in agriculture; Using case studies; Investment calculation); **Asset evaluation**; **(Alternative) forms of direct marketing**; Environmental impact assessment (**EIA**); Business management in agriculture; **Funding system**; **Marketing-mix** in agriculture; Curriculum **coordinated with seasons**; **Product development; Sales training; Consumer contact**	*Asset evaluation* refers to assets like food shops, etc. *"Marketing-mix in agriculture"* refers to: Distribution policy (farm shop; farmers' market; organic discounter; procurement costs; footprint); Product design (labelling, packaging, legal requirements of declaration); Pricing; Communication policy

Tab.4.: Summary of competences, topics, and methods (see App.); Source: own elaboration

This chapter deals with the evaluated knowledge and competences that are imparted to students in the four investigated place-based educational initiatives (see Tab.4). It aims to identify and discuss, to which extend those knowledge inputs can build up or alter social practices commonly performed in the agro-food sector. With respect to the theoretical framework (see ch.3.2), social practices are generated, implemented, and stabilised through *exchange* (Holtz 2014), *social learning* and *behaviour change* (Rodríguez-Triana et al. 2020), which highlights, why schools and educational initiatives are an inception to investigate changing social practices.

As stated in the analytical framework of this thesis (see ch.3.3), each identified social practice will be introduced using a visual representation of the elements which constitute said practice (a model introduced by Shove/Pantzar 2005), including relevant key words. The practices evaluated are ***teaching*** as an overarching practice, ***producing***, ***marketing*** with its "sub-practices" *product design*, *accounting/controlling*, *consumer contact* and *cooperating* (a practice which is relevant when *shopping* as well) and finally, ***food shopping***.

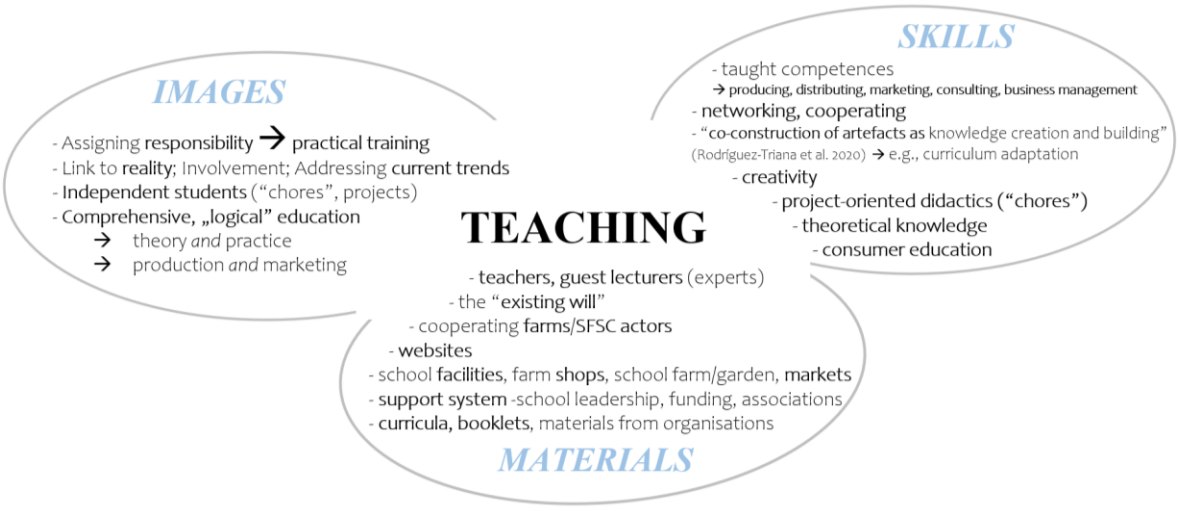

Fig.7.: Evaluated elements of the overarching social practice "teaching"; Source: own elaboration

Since the objective of this thesis is to investigate the role of place-based education in SFSCs, *teaching* (see Fig.7) constitutes as an overarching practice when generating new social practices (Interview #3). It needs to be considered critically to be credible of changing other social practices. Rodríguez-Triana et al. (2020) pointed out, that collaboration and knowledge sharing in teacher knowledge creation is crucial to adopt teaching practices (see ch.3.2). As the analysis of the extracted data shows, the representatives and/or teachers of the investigated initiatives stated networking and cooperating, more specifically seeking advice from experts of the agricultural industry and other economies, as a main part of their approach. From exchange within or in between schools (team-teaching; support of school leadership), over guest lectures and booklets from agricultural organisations up until excursions and farm visits the teaching methods covered a range of cooperating activities – not least the interaction with producers and

consumers, which the active involvement in diverse SFSCs entails. Behind the investigated teaching activities, and the images and beliefs of teachers that form such activities (educating responsible students, link to reality, addressing current trends, etc.), stands to attempt to link producers with students, and potentially consumers (Interview #2,#3,#4).

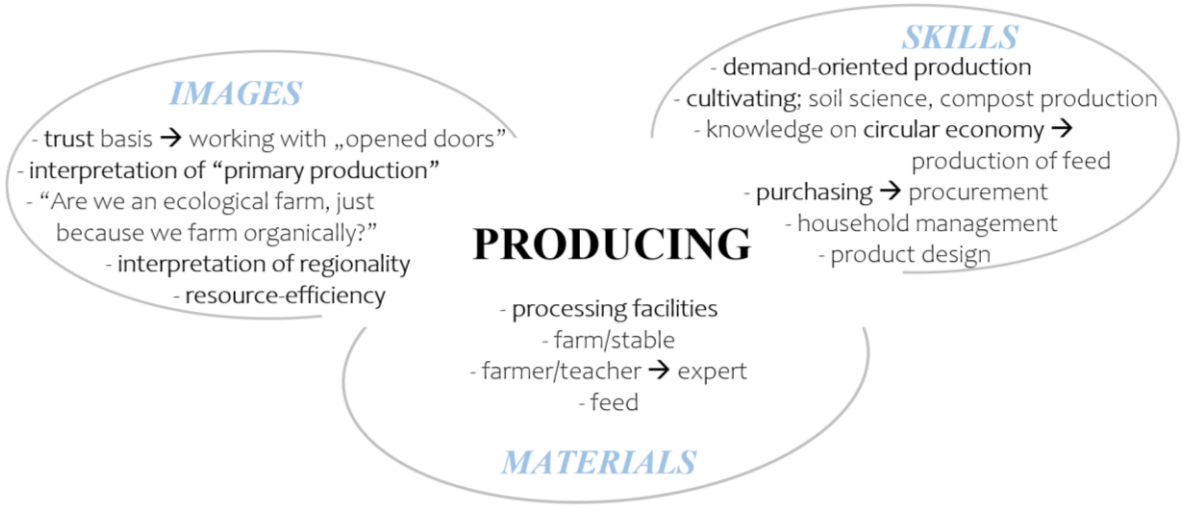

Fig.8.: Evaluated elements of the social practice "producing" in local food networks; Source: own elaboration

The social practice of *producing* (see Fig.8) conveyed by the reviewed educational initiatives differs from the common understanding of agricultural production in so far, as the processing is not outsourced, the trust of consumers is gained through transparency ("opened doors", Interview #1), and there is a direct connection to the consumers. If said connection is of an interactive nature, it is even possible to produce "demand-oriented" (Interview #2,#4), which requires more effort, but also leads to less food waste at the production stage. Demand-oriented production is possible with a good supply chain management and platforms of communication, as stated and actively practiced by two initiatives (Interview #2,#4). Following quote depicts one didactic approach, which is representative for an applied way, in which social practices like *producing*, *marketing*, *designing a product*, and *cooperating* can be covered by education:

"We have our own managers for each area, who apply every year. And there are also assistants. So, for example, there are label managers who design a label for the new product "raspberry jam" or something like that. There, the product managers of this raspberry jam of course have to say what exactly has to be written on it. We have the official guidelines, and they have to stick to them. Everything has to be on it, and it has to be written like that and yes... then they have to communicate with each other and agree on that. We also have market managers that say: " Well, we don't have any more jam on the market... please produce it again. So, then they have to produce again, then to the label managers say "Hey, we need new labels again" - So all that... [laughs] ***(Interview #2, ~ Min.25:15)***

Marketing is the most relevant social practice in the context of this thesis as it represents the stage in a supply chain which implies most interaction between consumers and producers. Alternative ways of marketing (direct marketing from the farm, farmers markets, self-service huts, Food Coops, local retailers, etc.) require a range of competences (see Fig.9, Skills) and include the social practices illustrated in Fig.10–13.

Fig.9.: Evaluated elements of the social practice "marketing" in local food networks; Source: own elaboration

As an introduction to the topic, the instructors of the initiatives aim to give "*a rough overview of all forms of marketing*" ***(Interview #3, ~ Min.13:16)*** and pick up on different types of cooperation (e.g., Food Coops and CSAs) through debates, "guiding studies" (6-week projects on a chosen topic, Interview #2), thesis projects (Interview #3) as well as excursions. Doing so, they discuss the pros and cons of those options in terms of environmental, economic, and social sustainability (Interview #2,#3,#4). Great emphasis lies on the ability of students to make reasonable choices and take their personal preference into account to ensure, what alternative (if any) works for them in their role as future producers, retailers, or consumers.

"It's not always the economic advantage that is the decisive reason why something is done. There is very often emotion involved! Why something is done, what is implemented…" ***(Interview #3, ~ Min.29:55)***

The students are educated to go with the seasons - not only when producing, but also when marketing (Interview #4) – and are able to calculate and therefore comprehend prices (*"consumer education goes along"*, ***Interview #3, ~ Min. 37:10)*** (see Fig.10,11), label products (see Fig.11) as well as advertise, cooperate, and communicate with consumers, producers, or intermediaries (see Fig.12,13). They know how to manage a business (see Fig.11), place orders, distribute products (see Fig.9) and have a realistic image of direct marketing and the effort that goes along, regardless of whether they turn out to be producers/farmers themselves – as roughly between 30 – 60 % of the students attending those schools (Interview #1–4) – or take another place in the supply chain.

As stated in the curriculum for "Agrarökonomie und Agrarökologie" (AH): The learning outcome is intended be the ability to *"apply a marketing-mix in the agricultural sector"*.

Fig.10.: Evaluated elements of the social practice "designing a product" in local food networks; Source: own elaboration

Fig.11.: Evaluated elements of the social practice "accounting/controlling" in local food networks; Source: own elaboration

Fig.12.: Evaluated elements of the social practice "consumer contact" in local food networks; Source: own elaboration

For the sake of students to be able to practice the above-described social practices in "real life", a cooperation and willingness to cooperate from the side of SFSC actors (producers, retailers, etc.) is as essential as money and time resources for the initiative.

"If you do that [note: teach these issues], you have to do it in a very practical way! "Practical" means, it's best to do it the same way it happens outside." ***(Interview #4, ~ Min.22:00)***

"Otherwise, it wouldn't work! So, if they - um - if they just pretend and "do as if", then it wouldn't work. It has to have a purpose." ***(Interview #2, ~Min. 26:30)***

This aligns with Rodríguez-Triana et al. (2020), who points out, that "knowledge scaffolding", the application of practices in *concrete working situations* under the guidance of experts or peers (see ch.3.2), can successfully lead to new social practices and the adoption of innovations.

Fig.13.: Evaluated elements of the social practice "cooperating" in local food networks; Source: own elaboration

Apart from the cooperation of the initiatives themselves with SFSCs, *cooperating* constitutes a social practice, which is indicative for alternative marketing and local food networks and is therefore, to varying degrees, taught by the initiatives under consideration. It is an essential part of the practice of *marketing* just as much as of *food shopping* and requires effort (i.e., agency) from all participants of a SFSC, including consumers.

With respect to the notion of "hybrid actors", who are simultaneously actors of the regime as well as the niche(s) of a system, the building of new social networks and relationships between existing (hybrid) actors does not only strengthen those small structures but has the power to destabilize the inclement regime (see ch.3.1.1 and 3.3).

Aspects that are taught and that – in practice – could lead to a higher linkage between consumers and producers (see ch.3.1.1 and 3.3), are demand-oriented production (Interview #4), the

communication with consumers and/or suppliers through online channels (Interview #2,#4), the consideration of consumer feedback and a constant dialogue (Interview #1,#3).

> *"That is why it is now marketed online, because we only produce what is needed. That's the good thing about this platform, about the Food Coop - people can order there and we have order deadlines. Let's say for Camembert: The last order must be received three weeks before the collection day, and then we can make the Camembert, which then ages for three weeks and then it is collected. That works great now, with the ordering platform! Because we... because we had the problem before! [...] fewer people came on a Wednesday, then we had things left over. What do we do with it then?"* ***(Interview #4, ~ Min. 35:00)***

Above stated quote highlights, that cooperation and communication contribute to a sustainable development through reducing waste. It improves the supply chain management in general and supports the idea of a circular economy (a concept covered by the curricula of all initiatives), as it enables a more coordinated waste management (e.g., returning reusable bottles, a problematic mentioned by participants #2 and #6 of the qualitative survey).

Fig.14.: Evaluated elements of the social practice "food shopping" in local food networks; Source: own elaboration

Food shopping in local food supply networks does not only mean to "passively" buy food from a shelf, but to find suppliers of certain types of foods, order those products, pick them up or collaborate with other consumers when it comes to logistical matters, plan ahead and comprehend the higher pricing as opposed to the conventional system – skills and images, which are imparted to the students mostly in theory (Interview #2–4). One case, though, deals with this matter in a more applied way, as students independently plan meals ahead and shop food for their school kitchen as part of their work tasks, so-called "chores" (Interview #2).

Holtz (2014:9) points out, that for social practices to change, "practicable alternatives should be provided [...] that do not demand too large a leap in behaviour and the associated required

competence". Applying this principle to shopping, this means that to facilitate it for people to shop local, it takes business models that are compatible with consumer's realities of life, clear and easy ordering systems, and consumer-friendly services (e.g., delivery by bicycle courier).

Essential, too, is the conviction that it is convenient not having to go to the supermarket but receiving seasonal and fresh products in one box and just picking that box up, yet still being able to "leave the house" and interact with other consumers (Participants #6,#7,#9,#13).

This aspect had been brought up during the expert interview as well. What is needed for SFSCs to upscale into the regime, and for local food shopping to turn into an established social practice, is a *"completely different lifestyle"* and a *"social change"* that encourages people to *"shop differently"* ***(Expert Interview, ~Min. 01:08:00).***

Setting up such marketing initiatives (the chosen example would be a Food Coop), the consumer education for the students "is included" (Interview #1 – 4), as they see why it is important to adopt one's lifestyle and can observe the benefits that come along with it.

5.3.1. Social Practices encouraging Consumer-Producer Linkages

The in the previous chapter described social practices deal with consumer-producer linkages, i.e., the linkage between the supply and the demand side, in one way or the other. However, the concept has proven most relevant to the practices *marketing, consumer contact, cooperation* (including *consulting*) and *food shopping* since those practices are better accessible and feasible for motivated but perhaps not fully committed "hybrid actors" (see ch. 3.1.1) than for example *producing*, which requires higher effort and dedication (Participant #9,#14). Concretely, those practices are implemented by the initiatives in form of demand-oriented production and marketing, the collection of feedback from consumers to lean back on their decision-making power in terms of the product composition, as well as the consulting service that students offer to farms in the framework of their final projects.

The results of the qualitative survey show, that in practice, too, consumer-producer linkages are valued. Local retailers and online distributors (Participants #7,#9) point out their ambition to build up personal relationships with their consumers, tell them stories about the farmers and production process and give them an insight into the living environment of regional organic farms. Also, they send out weekly newsletters about current offers and news about their collaborating farmers, who are interested to raise their customers awareness, too.

We inform the operators in detail about our motivation and ideology. They are happy to explain this to the consumers. Upon request, the operators organise visits to our farm where we can directly answer the consumers' questions. ***(Participant #9, producer/farmer, and local retailer)***

To place an order with them, one retailer pointed out, that it is necessary to register online, for them to be able to consult with consumers in case of uncertainties and changes. However, *"even if the order is placed via the web shop, the goods are always collected in person! In this way, the relationship with the customers is cultivated and individual wishes are catered for".* ***(Participant #7, local retailer, and operator of an online shop)***

As taught in school, demand-driven ordering systems had also been stated as common practice by actors of SFSCs. Local retailers and operators of online shops highlight, that only products which are ordered by customers are subsequently ordered from farmers, to reduce food surplus or even food waste (Participants #6,#7).

Nevertheless, there remains scepticism and critique in terms of consumers' active involvement, especially on the farm itself:

"R*omanticising tendencies of farm life must be eliminated, most consumers who want to help commonly cannot stand anything physically and psychologically. It is fine if they stay in their role. Cooperation from them is unnecessary, it is better if they pay for the products, and I can hire suitable helpers. Another difficulty is that the work always depends on the weather, so it can change every day. Nobody is that flexible."* ***(Participant #14, producer/ farmer with farm shop; participant of a food coop)***

5.4. Outcomes of the identified Social Practices and perceived Impacts on SFSCs

This section highlights the outcomes that above discussed social practices (SPs) can achieve in "real life". Having at least one kind of direct support for local networks and Short Food Supply Chains (see Tab.5) and therefore actively contributing to a sustainability transition was one of the main criteria for choosing the place-based initiatives. "Active" – in this context – refers to taking over marketing tasks and reducing the actors' workload when it comes to supply chain management and distribution, but also to research or consulting activities – all social practices which had been taught and strengthened by the educational initiatives (ch.5.3).

The impacts of those activities or applied social practices, which are already noticeable (Tab.5), are of emotional, economic, nutritional, environmental, and consulting/supportive nature, which are all aspects, that fall under the scope of the three pillars of sustainability (see ch.3.1) and thus lead to a more sustainable food system.

Two out of the four investigated initiatives make (or plan to make) an economic as well as environmental impact on our society in form of "distribution activities" (SP), i.e., they market products of surrounding local producers. One of those examples is the "Bioladen", the organic food shop led by students of the Bioschule Schlägl. Furthermore, this initiative as well as the Montessori Campus Wien Hütteldorf are in the process of implementing Food Coops, although the former is still in its initial "pilot phase" and functions school intern for the time being, while the latter faces difficulties in seeking out collaboration partners/collaborating farms, which are willing to take the effort of supplying a rather small project (see ch.5.5, *Barriers to the Implementation of new Social Practices*).

Why especially those two initiatives chose for Food Coops as marketing option could be argued with their place-specificity. Upper Austria and Vienna constitute the two provinces in Austria with the highest number of active Food Coops (see Fig.5.), which one of the investigated educational initiatives stated as a reason to pick up on this example (Interview #4).

Interesting to mention is, that not only current, but also former students of the initiatives realised school projects and started their own direct marketing in form of farm shops, vegetable boxes, etc. (Interview #3,#4).

"They implemented it! They implemented the diploma thesis. They adapted it a bit, but they implemented many parts of it, yes!" ***(Interview #3, ~ Min. 21:45)***

Furthermore, the initiatives have an impact on the nutrition and sustainable consumer behaviour of the students, as school meals consist of ingredients produced in the school's farms and processing facilities and/or surrounding farms and are up to 80% organic (Interview #1, #2,#4).

"There is meat once a week at most, otherwise it's always vegetarian or vegan." ***(Interview #2, ~ Min.11:00)***

Another impact onto "real life" and an example for how students actively strengthen SFSCs and their economic stability happens by means of their compulsory internships in the field. Moreover, they apply their business and consulting skills (SPs) in the course of their diploma thesis when conducting site analyses, setting up investment plans, and performing cost-benefit calculations for real farms, that serve as case studies for their projects (Interview #3). The matters they work on are those that the farmers could actually implement (e.g., a specific form of marketing, a conversion from conventional to organic farming and/or marketing) and finally, the results of the projects are presented to the reviewed farms, including a set of recommendations. This constitutes a form of knowledge exchange in SFSCs – an upscaling

mechanism that, according to Kurtsal (2021) had been insufficiently considered in sustainability transitions (see ch.3.1).

Lastly, three initiatives are also *passively* involved in local networks since they source for their school kitchen – to a certain extend – from local farmers. In doing so, they contribute to a "fundamental geographic shift" (see ch.1) in food supply chains from a national or even global scale towards local networks. This trend destabilizes the structures of the agricultural regime – which relies on national and global procurement – and opens so-called "windows of opportunity" for SFSCs, which are, as stated earlier, niches in this system (see ch.3.1.1).

Types of Codes/Themes	Codes	Annotations
Activity or integration in the local network/SFSC	**Direct marketing** of school products (PZ[1]); Development/**Design of new projects** like farm shops, vegetable boxes, etc. (AH[2]); **Food Coop** (MC[3]; BS[4]); **Shop** (BS); **Consulting activity** in questions regarding production, processing, and marketing (PZ; BS; AH); **Market analysis**; Business evaluation (AH); Research activities; **Compulsory internships** (adopted to school profile with agricultural focus)	Direct marketing initiative happens only 5-6 times a year to not be a competitor for direct marketers (PZ); Business evaluations and consulting for existing case studies/farms (AH)
Marketing of own production	**Selling of own products** on markets and through a Food Coop to teachers and students; **Milk supplier** to dairy factory (PZ)	
Distribution activity	**Planned Food Coop** for neighbours, parents, and teachers (MC) and surrounding (BS); **Marketing of products from the surrounding** ("Bioladen")	Food Coops currently have difficulties in extending it to a level outside of school
Initiative or school as consumer	Ordering food from a regional wholesaler → **regional sourcing for school kitchens; Sourcing from small local farms; S**chool kitchen is 78-80 % organic /(BS)	Drawing from regional wholesalers is a compromise due to difficulties in connecting with small farms
In-school	**Supplying school kitchen to almost 100**% with milk (PZ); **Using own products for cooking**; **Food Coop** in-school (BS)	Food Coop is in a pilot phase for the time being
Imparted values; Links to reality	**Sustainable behaviour** (little meat in school kitchen; communication of values such as *regional* and *organic*); **Organic certification of products** (actual participation on the market); Students act as managers (**establish an authentic supply chain** in-school); **Comprehensive training** for students (producing *and* marketing); Dealing with **real-life examples** (final thesis); Relation to surrounding (focus on food coops due to occurrence in the **spatial surrounding**)	

Tab.5.: Summary of impacts of place-based education and its links to reality (see App.); Source: own elaboration

5.5. Barriers to the Implementation of new Social Practices

The chapter at hand outlines existing difficulties and barriers for the generation and implementation of new social practices in SFSCs, for actors in those supply chains and place-based education alike. What can be concluded from my search for case studies (see ch.4.3.1) – and from what the consulted expert as well as the representatives of those case studies pointed out (Interview #3,#4) – initiatives dealing with supply chain management, alternative marketing and consumer-producer linkages are a rarity in the educational landscape in Austria, even when it comes to agricultural schools.

[1] HBLA Pitzelstätten
[2] Agrar-HAK
[3] Montessori Campus Wien Hütteldorf
[4] Bioschule Schlägl

Therefore, it is natural that the few existing ones face obstacles in their realization (see Tab.6). Additionally, those initiatives are active components of niches (SFSCs) and as such they also face barriers in the shade of the respective regime (see ch.3.1.1). The aspects that had been pointed out during the interviews as well as by SFSC actors align with the difficulties in the upscaling of SFSCs as presented by Kneafsey et al. (2013; see ch.3.1.1) and can be summarized as organizational, economic, political, and logistical barriers as well as a lack of knowledge and awareness.

Regarding the initiatives, the most common organizational barrier stated was the problem of time management and the insufficient school time for the educational initiatives (see Tab.7). Apart from that, schools face the difficulties of insufficient financial resources for raw materials, production, marketing, and the payment of teachers' overtime due to political budgets and a lack of funding (Interview #4), logistical challenges, a lack of volunteers (Interview #2) and the problem of "agreement" in collaborations, as one initiative would like to support SFSC, but due to its small size orders are placed in unprofitable quantities for local producers.

"It has always been difficult so far. Meaning that individual farmers say: Well, because of 5 kg or 2 kg of carrots, or 5 kg of apples or so... I won't specially come here." ***(Interview #2, ~ Min. 32:55)***

Types of Codes/Themes	Codes
Difficulties, problems, barriers, and gaps	**Time management → insufficient time resources for customer care** – not very customer-oriented (PZ); **Long time intervals between** the initiatives → students forget skills like cashier operation (PZ); **Lack of regularity and practical training in "normal" schools** (4-5 years of high school); **External influences** (Illness, Fire, Covid-19 → Finding new suppliers); Small farms have **not enough capacity to supply** OR **schools order in unprofitable quantities**; Delivery **times don't match** school times; Difficulties in organisation and logistics; **Lack of volunteers; Financial recourse**s (material, production, marketing); Funding; **More freedom in curricula; Value units of teachers** (time resources and payment); **Lack of staff**

Tab.6.: Summary of influences and barriers for the educational initiatives (see App.); Source: own elaboration

The barriers that the survey participants face are of a similar kind to those of the educational initiatives. In addition to a lack of time and money, the missing understanding for the relevance of direct marketing in general and the lacking support for such by Austrian policy in particular had been pointed out as an obstacle.

"Although we keep trying to present our situation, present calculations, organize visits, we can only achieve modest success in the long term. What happens if production continues to decline? What happens if we can no longer import to this extent? The understanding of regional circuits, the understanding of what a functioning agriculture can achieve - this is something that still needs a lot of awareness-raising and work in all areas! ***(Participant #9, producer/farmer, and local retailer)***

When applying for funding, there is still a lot of scepticism towards alternative ways of marketing as opposed to the mainstream system. "*Schools would certainly be one way of infiltrating that a bit and yes- making it more visible, in a good way."* **(Expert Interview, ~ Min.15:00)**

Even though farmers are aware of the positive impacts of a collaboration with schools or consumers and agree – coincidentally – on the relevance of this approach to establish a functioning system at the local (or regional) level, 5 out of the 14 respondents indicated that they cannot reconcile this with their own business and workload. Such initiatives would, for them personally, result in too little benefits in contrast to the effort.

In terms of knowledge barriers, SFSC actors state consumers' insufficient environmental education concerning transport ways, food security and how to act in accordance with the concept of circular economy (e.g., finding a usage for products that cannot be sold). Understanding the notion of "regionality" and knowing *how* food is produced (animal welfare, primary production, purchased or self-produced feed, etc.) is needed to independently judge on a product's degree of sustainability. Finally remains the well-known lack of awareness about the family burden for small farmers and the invested time and work behind a product to comprehend pricing. Also, the need to de-romanticize industrial agriculture is a repeatedly mentioned need for action (Participants #1,#6,#9,#13,#14).

Finally, also consumers have to deal with challenges regarding logistics, planning and investing time and dedication, when shopping local (see the social practice *food shopping*, Fig. 14).

"It seems to me that for many people it's just insanely difficult to get out of their habits. Even if they wanted to as much as possible, right? But to lead a life where you spend so much time and plan your shopping... Those who have managed to do it and have started, they say they would never want to miss it again, because they now know exactly what they need and how much they need, and they don't throw anything away... and in the end it doesn't cost them any more than going to the supermarket, yeah." ***(Expert Interview – experiences with her pre-ordering system, ~ Min. 18:55)***

5.5.1. Obstacles and Needs for strong Consumer-Producer Linkages

This section is concerned with the barriers that SFSC actors face when it comes to an effective linkage with consumers. It discusses social practices and/or single competences which are required to enable said linkage and highlights the direction in which education has to further move on to strengthen consumer-producer linkages in areas where they are, in fact, required.

Pertaining to themselves, the respondents pointed out that they would like to know more about how to implement a *user-friendly self-service marketing* (criteria for labelling, payment system, IT skills, etc.) and more knowledge regarding *pedagogics,* to break down important information for consumers or visitors in a way that leaves an impression. Therefore, skills like *rhetorics* and the ability to *respond to each other's needs, perceptions and demands* are required – aspects, which they would also appreciate from the side of other SFSC actors, next to a greater *understanding of interconnectedne*ss and the willingness to cooperate (Participants #2,#5,#13).

When being asked for the skills and mind-set required from the side of consumers in order to implement consumer-producer linkages, the survey respondents named aspects that can be, yet again, assembled to a social practice according to Shove/Pantzar's (2005) elements of social practice. The practice could be referred to as ***consumer agency*** and it turned out, that it is mostly not *skills* or *materials*, which are missing for this kind of practice in "real life", It much rather needs an adaptation of the *images*, beliefs, and values of practitioners.
Following *images* had been stated as essential:

- Feeling of a shared responsibility
- Willingness to adapt one's lifestyle
- Strong commitment and endurance
- Respect for the high quality of the food and the agency to guarantee this quality
- To appreciate and respect the work and effort, the farmers' love for nature and products, their service towards the environment and population and the assurance of food safety and food sovereignty in our home.

Consumer agency does not only require more informed consumers – it is much rather dependent on commitment than on intelligence. One respondent emphasized, that students who regularly contribute to the work on the farm are more helpful than people with a university degree that know about the trouble but cannot find the time to "lay hands on". (Participant #9)

"Almost everyone who has done something similar to what I do tells me that they expected a certain clientele, of whom they knew that they have a lot of knowledge and are insanely eager and so on...but precisely these people didn't come! Because especially our system... with the pre-ordering and all that... that needs a lot! You have to plan: What do I want? And when? And can I pick it up? [...] So – it's a bit complicated! For most people. I think the decisive factor is that it has to be user-friendly" ***(Expert Interview, in her role as operator of an online shop; ~ Min. 17:30)***

6. Discussion

The aim of this thesis is to investigate the role of place-based education in short food supply chains, especially regarding their contribution to establish or improve a linkage between consumers and producers. The motivation to look into this subject matter was to evaluate the impact of education onto a sustainability transition of the agro-food sector. Part of this transition is the upscaling of SFSCs as niches into the incumbent regime, which is, in turn, a process that profits from a functioning cooperation between producers and consumer. In how far this is the case will be further elaborated in the conclusion of this thesis, when answering the respective research question. In the following paragraphs I first aim to summarize the findings of my research, which had been conducted applying an analytical framework (see ch.3.3) consisting of the multi-level perspective in sustainability transitions (Geels 2002a; etc.) and principles of the social practice theory (Shove/Pantzar 2005, etc.) After highlighting the aspect of place-specificity (Shove/Pantzar/Watson 2012) and impacts of the reviewed educational initiatives as well as some mismatches with the current needs of SFSC actors, the chapter will result in a suggestion of improvements in terms of education and a standpoint towards cooperation.

In order to directly support *local* supply networks, education needs to be *local* as well to be able to adjust to the respective SFSC. Place-based initiatives are flexible, enable the design of reality-based projects, and can adopt to ongoing trends (e.g., Food Coops as a recent marketing trend) as well as the accompanying (educational) needs of their spatial surrounding. Setting up an initiative like that is dependent on motivated teachers, creativity, and joined efforts with the school leadership, which constitute place-based components essential to obtain an influence – on current local economies and future lines of action.

It had been found that particularly this flexibility and ability to adopt to existing needs is most likely to support a stronger consumer-producer linkage, which is based on agency on both sides. As elucidated in the analysis of this thesis, students (who are, inter alia, future consumers) are taught to work with real-life examples and thus get the chance to apply their theorical knowledge and understand or even suggest the need for new practices. They take over consulting tasks, consider consumer feedback, independently reconstruct supply chain routines, and finally, actively connect consumers and producers in their role as intermediaries, as they foster consumer agency by offering a demand-oriented ordering system.

Yet, although the general result of my research is that the students and teachers are highly motivated and try to integrate, link and support – those independent projects still face struggles

in their realization, mainly when it comes to the available amount of time, the financial support, a lack of helpers and unpaid overtime, as well as the need for extra-involvement of *both* sides – education as well as SFSC actors – to make such cooperations work. For the time being, these aspects constitute an obstacle for the school initiatives, which is evident from the fact that only one of the four initiatives achieved to market not only their own products, but also those of surrounding producers. However, it is already becoming apparent that this situation is changing, especially with respect to the rise of civic engagement in alternative forms of marketing (IG Foodcoop 2022; Interessensgemeinschaft Solawi Leben n.d; Netzwerk solidarische Landwirtschaft e.V. 2022).

When comparing the evaluated educational offer with stated needs of SFSC actors, following findings emerged. In theory, there are barely mismatches between offer and demands. Aspects, which had been stated as needs during the initial phase of SFSCs are meanwhile mostly covered by the four place-based initiatives and the few, which are not (usage of products that cannot be sold, IT skills, or the organization of self-service marketing) had been very specific topics that simply might not have come to the point during the interviews with the educational initiatives.

However, the survey results show, that there are some mismatches when it comes to applying certain knowledge in "real life", e.g., environmental education or cooperative thinking. The most insistent need for more knowledge in this regard had been pointed out in terms of awareness and appreciation for the agricultural life, the invested time and effort, the nutritional and environmental value of a product, and regional circuits – short: Consumer education.

In all four investigated initiatives, consumer education had been stated to "go along", as an aspect that can be experienced while working for and with consumers. Nevertheless, just as with other social practices, the skills accompanying *food shopping (*How do I plan my food shopping? When do I order it? How do I coordinate my routines if the food I want to buy is not always available?*)* have to be learned and applied, in order to be practiced. Admittedly, the investigated place-based initiatives are all run by agricultural schools (respectively some of their motivated teachers) or at least by schools with an agricultural background, and thus are more likely to target future producers. However, between approximately one-third to two-thirds of the students in question come from a non-agricultural background, as the findings of my data analysis show (ch.5.3). Therefore, it can be argued that it is more important to educate students to be able to apply the previously identified social practices of *food shopping* and *cooperating* themselves, rather than "just" observe what they would appreciate on part of their consumers. Here, it would be of benefit if school initiatives operate as consumers and source from Food

Coops and local suppliers – as they already do – but turn this procedure into an *applied method* and leave it to the students to plan, evaluate decisions, order food, and organize the pick-up. Thereby, the students learn how to act as the kind of consumer that is needed in SFSCs. The Montessori Campus Wien Hütteldorf is already setting a good example in this aspect and challenges the agency of their students through work tasks divided into "chores" – as presented in the previous analysis.

It must be emphasized, that a place-based education – even though it can be designed most appropriately for their case and surrounding and has a higher *direct* impact – does not have the large-scale impact it would need to change the general mindset, which could lead to landscape pressures (see ch.3.1). For the sake of a sustainability transition, the in chapter 5.3 identified social practices relevant for the functioning of SFSCs would therefore need to be addressed by general education as well (e.g., in form of a module that covers the tasks of consumers in local economies and regional circuits). Doing so, it becomes possible to influence the consumer behaviour of regime actors, too.

A transition towards more sustainability in the agro-food sector in mind, this research reveal, that agency and consumer-producer linkages are essential components when establishing new social practices. The dilemma is, though, that consumer behaviour is highly dependent on people's habits and the discussed "barriers" (ch.5.5) revealed, that even though there is education available, said habits have the power to outweigh provided education and old practices are continued to be pursued.

Essentially, what is needed to enable a working linkage between consumers and producers, is a shared understanding and love towards nature, community thinking and the comprehension that everything is connected. This perspective is mostly still missing and is the main reason, why interactive linkages between the supply and demand side remain a challenge in the agro-food sector. It is not that much a lack of experience or knowledge, which are aspects that are starting to be addressed by education (with many open issues that still need to be tackled, especially when it comes to general education), but first and foremost the need to establish a common ground with aligning values, beliefs, and dedication.

7. Conclusion

The aim of this thesis was to investigate the role of place-based education in short food supply chains in Austria and study to what extent they foster consumer-producer linkages, to elaborate on ways that lead to the potential upscaling of SFSCs as niches into the agro-food regime. Additionally, it presents in which of those aspects more education is needed. To secure a valid and profound contribution, the thesis also aims to understand why and in how far a linkage of consumers and producers can support a sustainability transition in the Agro Food Sector.

To go about those objectives, I first conducted an expert interview with a former researcher in the field and current actor of one SFSC in Austria, with the intention to narrow down my research and focus on aspects that are currently relevant in theory and practice alike. Furthermore, semi-structured interviews with the representatives of four chosen place-based educational initiatives had been conducted to examine the role of education, and, to include the other perspective and learn about existing needs, a survey had been sent out to 14 actors of SFSCs (producers, intermediaries, local suppliers, Food Coops, etc.).

The interviews focused on obtaining information about the taught competences and skills that have the power to generate new social practices in supply chain management and food shopping, as well as about the students' current involvement, i.e., the active application of the previously identified social practices. To fully comprehend the generation of new social practices that support a closer linkage of consumer and producers, the analysis of this thesis first explores motivations and drivers for such generation (respectively for the setting up of educational initiatives on the subject matter), continues with the identification of elements of new social practices as well as the initiatives' actual impact on SFSCs, and finally sheds light on barriers and difficulties that evolve for educational initiatives as well as SFSC actors in the process of niche upscaling.

The conceptual framework of this thesis puts above outlined analysis in an academic context by linking the multi-level perspective in transition theory with aspects of the social practice theory. This does not only enable an intensive focus on human agency in terms of a sustainability transition in the agro-food sector, especially in the aspects of marketing and supply chain management, but also allows for an analytical generalizability of the used framework – because even though the results are place-specific and not directly generalizable, the conceptual model can be applied to other cases in the field of sustainability transitions.

As indicated above, it is relevant to clarify **why and in how far a linkage of consumers and producers can potentially support a sustainability transition in the agro food sector:**

One the *niche level*, one concrete example on how a tight linkage and communication between consumers and producers has the power to support sustainability transitions, are demand-driven (or demand-restricted) ordering systems. This means, only products that customers order are ordered from farmers and produced, a concept which directly leads to a reduction of food waste and food surplus. Another example for the sustainable impact of consumer-producer linkages are Food Coops, which can be initiated from both sides and have the main aim of linking those two sides. Food Coops are a sustainable alterative with respect to all three pillars of sustainability: They are socially sustainable due to human interaction; Environmentally sustainable since they take place on a local level; And economically sustainable, because the planning of food shopping leads to more considered expenses on the side of consumers, and the profit for producers is higher as opposed to sales within the conventional system.

When it comes to the *upscaling* of such niches into the agro-food regime, which due to above given examples leads to a sustainability transition of the sector in general, consumer-producer linkages prove to be beneficial too. They link the niche with the regime in so far, as consumers and producers alike account as so-called “hybrid actors” (see ch.3.1 and 3.3). Producers are, even more than consumers, depending on the conventional food regime and mostly cannot afford to “just” act in niches (SFSCs). To shop local supports their business and strengthens their role as niche actors; Thus, they can rely stronger on the niche and are more likely to depart from the regime, which weakens the latter in respect to its production side. Consumers, too, perform as “hybrid actors”. The findings of my analysis show, that consumers who are involved into processes of supply chain management (e.g., distribution or demand-oriented production) get an inside of the underlying structures of the system, understand how a supply chains work, how prices come about and will, consequently, realize the importance of this niche. By means of this awareness-rising and “learning-by-doing” approach, consumers have the tendency to act more as niche than as regime actors. Hence, a closer interaction between the supply and demand side eventually transforms “hybrid actors” into niche actors and drives them away from their role as regime actors. Ultimately, this opens windows of opportunity that lead to the upscaling of the niche and changes the conventional system with regards to fairer prices and better, more sustainable conditions. However, it does not suffice if those linkages exist in isolated cases, they rather have to be anchored in people's minds, taken for granted and implemented in their practices. In order to achieve this, education is needed.

What role does place-based education (initiatives, projects, place-specific programs/subjects) play in fostering consumer-producer linkages and agency in local short food supply chains and in which aspects in this context is more education needed?

The results of the analysis show that place-based educational initiatives contribute to the establishment of consumer-producer linkages through the generation and teaching of social practices that are relevant for the functioning of SFSCs. Social practices, which particularly foster a closer relationship between consumers and producers (or other intermediaries like retailers and distributers) are the practices *marketing, consumer contact, cooperation*, and *food shopping*. The main outcome of the generation of said social practices is its direct impact onto SFSCs, which is possible due to the place-specific character of the initiatives and their active local involvement. Concretely, the initiatives and its students support consumer-producer linkages by *practicing a demand-oriented concept* in production and marketing and *collecting feedback* from consumers to lean back on their decision-making power in terms of the product composition. Moreover, students support producers of SFSCs by offering *consulting services*. They apply their business skills (which are social practices) to conduct site analyses, set up investment plans, and perform cost-benefit calculations for real farms. In presenting the results of those projects to farmers and including a set of recommendations, students practice a form of *knowledge exchange*, which constitutes an essential upscaling mechanism for niches and links them with producers. While in practice a higher focus on the agricultural life and work is needed in terms of consumer education, it turned out that this is provided by the investigated educational initiatives. Nevertheless, consumer education in terms of planning and ordering in local food shopping should be actively provided rather than "going along".

Pivotal, in the end, is the concept of marketing for a niche like short food supply chains. It is up to producers to give consumers a platform for cooperation in a user-friendly way (i.e., comprehensible ordering systems, central selling options, cooperations with other actors to shorten pick-up ways, etc.); And it is up to consumers to adopt one's lifestyle and be aware of the value of regional products, regional production, and local cooperation. A linkage between supply and demand, between producers and consumers, is not achieved by remaining in the mindset that one should not interfere in aspects in which one does not know anything about, but rather has to be approached with the mind-set to educate (future) consumers, so that they *do* know what things are about. A linkage is only going to be realistic, if cooperation, equal discussions, considerations of feedback, the investment of time and the willingness to adapt one's lifestyle become a lived practice. As a result of this study, place-based education proved to be in a position that can foster such linkages by generating new, collaborative social practices.

8. Bibliography

8.1. Literature

Albudaiwi, D. 2018. Survey: Open-Ended Questions. The SAGE Encyclopedia of Communication Research Methods. 1716-1717.

Archer, M. 2002. Realism and the Problem of Agency. Alethia 5 (1), 11-20.

Archer, M. et al. 2016. What is critical realism? Perspectives – A newsletter of the asa theory section. http://www.asatheory.org/current-newsletter-online/what-is-critical-realism, last accessed: 06.04.2022.

Augère-Granier, M.-L. 2016. Short food supply chains and local food systems in the EU [Briefing].https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2016)586650, last accessed: 04.03.2022.

Avolio, G. et al. 2014. The drivers of innovation diffusion in agriculture: Evidence from Italian census data. Journal on Chain and Network Science 14 (3), 231-245.

Beers, J.; Hermans, F.; Veldkamp, T.; Hinssen, J. 2014. Social learning inside and outside transition projects: Playing free jazz for a heavy metal audience. NJA – Wageningen Journal of Life Sciences 69, 5-13.

Beers, P.; van Mierlo, B.; Hoes A.-C. 2016. Toward an Integrative Perspective on Social Learning in System Innovation Initiatives. Ecology and Society 21(1), 33.

Berkhout, F.; Smith, A.; Stirling, A. 2004. Socio-technological regimes and transition contexts. In: Elzen, B.; Geels, F.W.; Green, K. (eds.) 2004. System Innovation and the Transition to Sustainability: Theory, Evidence and Policy. Cheltenham: Edward Elgar Publishing Limited, 48–75.

Berner, S. et al. 2019. Roadmapping to Enhance Local Food Supply: Case Study of a City-Region in Austria. Sustainability 11 (3876).

Berti, G.; Mulligan, C. 2016. Competitiveness of Small Farms and Innovative Food Supply Chains: The Role of Food Hubs in Creating Sustainable Regional and Local Food Systems. Sustainability 8 (616), 1-31.

BIO-AUSTRIA (ed.) 2022. Bio, regional, sicher. https://www.bio-austria.at/, last accessed: 08.05.2022.

BIO-AUSTRIA OÖ (ed.) 2022. Das Handbuch zum Gründen und Betreiben von Food Coops. Appetit auf Gutes. 2nd Edition. https://www.bio-austria.at/app/uploads/2021/09/foodcoops-broschuere-web.pdf, last accessed: 19.04.2022.

BLWS Bioschule Schlägl (ed.) (n.d.). Unser Bioladen. https://www.bioschule.at/ueber-uns/bioladen/, last accessed: 27.04.2022.

Bogdan, R. C.; Biklen, S. K. 1992. Qualitative research for education: An introduction to theory and methods. Boston: Allyn & Bacon.

Brown, J.S.; Duguid, P. 2001. Knowledge and Organization: A Social-Practice Perspective. Organizational Science 12 (2), 198-213.

Brunori, G.; Rossi, A.; Malandrin, V. 2010. Co-producing Transition: Innovation Processes in Farms Adhering to Solidarity-based Purchase Groups (GAS) in Tuscany, Italy. Int. Jrnl. Of Soc. Of Agr. & Food 18 (1), 28-53.

Bui, S. et al. 2016. Sustainability transitions: Insights on processes of niche-regime interaction and regime reconfiguration in agri-food systems. Journal of Rural Studies 48, 92-103.

Caletrío, J. 2015. Transition Studies. Mobile Lives Forum. Connnexion 26th of March 2016. https://en.forumviesmobiles.org/marks/transition-studies-2839, last accessed: 07.03.2022.

Cambridge Dictionary (ed.) 2022. Agency. Cambridge: Cambridge University Press. https://dictionary.cambridge.org/dictionary/english/agency, last accessed: 07.03.2022.

Campbell, A. M.; MacRae, R. 2013. Local Food Plus: the connective tissue in local/sustainable supply chain development. Local Environment, 18 (5), 557-566.

Chiffoleau, Y.; Dourian, T. 2020. Sustainable Food Supply Chains: Is Shortening the Answer? A Literature Review for a Research and Innovation Agenda. Sustainability 12 (9831), 1-21.

Creswell, J. 2009. Research Design. Qualitative, Quantitative, and Mixed Methods Approaches. 3rd Edition. Los Angeles, London, New Delhi, Singapore: SAGE Publications, Inc. 270.

Crivits, M.; Paredis, E. 2013. Designing an explanatory practice framework: Local food systems as a case. Journal of Consumer Culture 13 (3),306-336.

Crossman, A. 2019. Understanding Critical Theory. thoughtco.com/critical-theory-3026623, last accessed: 05.04.2022.

Darnhofer, I. 2015. Socio-technical transitions in farming: key concepts. In: Sutherland, L.A. et al. (eds.) 2015. Transition pathways towards sustainability in agriculture. Case studies from Europe. Wallingford, Boston: CABI, 17–31.

Diaz, M. et al. 2013. Green tides in Brittany: What can we learn about niche–regime interactions? Environmental Innovation and Societal Transitions 8, 62-75.

Dixon, J. 2009, From the imperial to the empty calorie: how nutrition relations underpin food regime transitions. Agriculture and Human Values 26, 321-333.

Dong, H.; Campbell, B.; Rabinowitz, A. 2019. Factors impacting producer marketing through community supported agriculture. PLoS ONE 14(7), 1-13.

Dudek, M.; Spiewak, R. 2021. Effects of the COVID-19 Pandemic on Sustainable Food Systems: Lessons Learned for Public Policies? The Case of Poland. Agriculture 12 (61), 1-19.

EIP-AGRI Focus Group (ed.) 2015. Innovative Short Food Supply Chain management. Final Report. https://ec.europa.eu/eip/agriculture/sites/default/files/eip-agri_fg_innovative_food_supply_chain_management_final_report_2015_en.pdf, last accessed: 18.04.2022.

El Bilali, H. 2018. Innovation in the Agro-Food Sector: From technical Innovation-centred Approaches to Sustainability transition Processes. International Journal of Agricultural Management and Development 8 (2), 201-218.

El Bilali, H. 2019. The Multi-Level Perspective in Research on Sustainability Transitions in Agriculture and Food Systems: A Systematic Review. Agriculture 9 (4), 74, 1-24.

El Bilali, H. 2020. Transition heuristic frameworks in research on agro-food sustainability transitions. Environment, Development and Sustainability 22, 1693-1728.

European Parliament and the Council of the European Union (ed.) 2013. Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005.

Factory Farming Awareness Coalition – FFAC (ed.) 2021. Intensive Agriculture: Characteristics, Examples, and Why Is It Bad? https://ffacoalition.org/articles/intensive-agriculture/, last accessed: 16.03.2022.

Farla, J.; Markard, J.; Raven, R.; Coenen, L. 2012. Sustainable transitions in the making: A closer look at actors, strategies and resources. Technological Forecasting and Social Change 79 (6), 991-998.

Food and Agriculture Organization of the United Nations – FAO 2017. The future of food and agriculture. Trends and challenges. 163. https://www.fao.org/3/i6583e/i6583e.pdf, last accessed: 04.03.2022.

FoodPrint. (ed.) 2020. Local and Regional Food Systems [Updated Version]. https://foodprint.org/issues/local-regional-food-systems/, last accessed: 05.05.2022.

Fuenfschilling, L., 2019. An institutional perspective on sustainability transitions. In: Anonymous Handbook of Sustainable Innovation. Edward Elgar Publishing.

Galli, F.; Brunori, G. (eds.) 2013. Short Food Supply Chains as drivers of sustainable development [Evidence Document]. Document developed in the framework of the FP7 project FOODLINKS (GA No. 265287). Pisa: Laboratorio di studi rurali Sismondi. https://orgprints.org/id/eprint/28858/1/evidence-document-sfsc-cop.pdf, last accessed: 04.03.2022.

Geels, F.W. 2002a. Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. Research policy, 31(8), 1257-1274.

Geels, F.W. 2002b. Understanding the dynamics of technological transitions. A co-evolutionary and socio-technical analysis [Thesis/Dissertation]. Enschede: Twente University Press, 426.

Geels, F.W. 2004. Understanding system innovations: a critical literature review and a conceptual synthesis. In: Elzen, B.; Geels, F.W.; Green, K. (eds.) 2004. System Innovation and the Transition to Sustainability: Theory, Evidence and Policy. Cheltenham: Edward Elgar Publishing Limited, 19-47

Geels, F.W., 2005a. The dynamics of transitions in socio-technical systems: a multi-level analysis of the transition pathway from horse-drawn carriages to automobiles (1860–1930). Technology Analysis & Strategic Management 17, 445–476.

Geels, F.W. 2006. Co-evolutionary and multi-level dynamics in transitions: The transformation of aviation systems and the shift from propeller to turbojet (1930–1970). Technovation 26 (9), 999-1016.

Geels, F.W. 2011. The multi-level perspective on sustainability transitions: Responses to seven criticisms. Environmental Innovation and Societal Transitions 1 (1), 24-40.

Grin, J.; Rotmans, J.; Schot, J. 2010. Transitions to sustainable development: New directions in the study of long term transformative change. New York: Routhledge. 418.

Genus, A.; Coles, A.-M. 2008. Rethinking the multi-level perspective of technological transitions. Research Policy 37, 1436-1445.

Giddens, A. 1984. The Constitution of Society: Outline of the Theory of Structuration Cambridge: Polity Press. 402.

Gläser, J.; Laudel, G. 2009. Experteninterviews und qualitative Inhaltsanalyse als Instrumente rekonstruierender Untersuchungen (3rd Edition). Wiesbaden VS Verlag für Sozialwissenschaften. 134.

Haigh, F. et al. 2019. Developing a critical realist informed framework to explain how the human rights and social determinants of health relationship works. BMC Public Health 19 (1571), 1-12.

Halkier, B.; Jensen, I. 2011 Methodological challenges in using practice theory in consumption research. Examples from a study on handling nutritional contestations of food consumption. Journal of Consumer Culture 11 (1), 101-123.

Hansen, T.; Coenen, L. 2015. The geography of sustainability transitions: Review, synthesis and reflections on an emergent research field. Environmental Innovation and Societal Transitions 17, 92-109.

Hargreaves, T. 2011. Practice-ing behaviour change: Applying social practice theory to pro environmental behaviour change. Journal of Consumer Culture 11 (1), 79-99.

Hargreaves, T.; Longhurst, N.; Seyfang, G. 2013. Up, down, round and round: connecting regimes practices in innovation for sustainability. Environment and Planning A 45, 402-420.

Harvey, L. 2012-2022. Social Research Glossary. Constructivism. http://www.qualityresearchinternational.com/socialresearch/constructivism.htm, last accessed:05.04.2022.

HBLA Pitzelstätten (ed.) (n.d.). Landwirtschaft und Ernährung. https://www.unserebroschuere.at/pitzelstaetten/WebView/, last accessed: 27.04.2022.

High Level Panel of Experts – HLPE (ed.) (2017). High Level Panel of Experts on Food Security and Nutrition. 2nd Note on Critical and Emerging Issues for Food Security and Nutrition of the Committee on World Food Security, Rome. https://www.agropolis.fr/pdf/actu/hlpe-note-april-2017.pdf, last accessed: 14.03.2022.

Hinrichs, C. 2014. Transitions to sustainability: A change in thinking about food systems change? Agric. Hum. Values 31, 143–155.

Holtz, G. 2014. Generating Social Practices. Journal of Artificial Societies and Social Simulation 17 (1), 1-11.

Hyland, J. et al. 2019. The Significance of Short Food Supply Chains: Trends and Bottlenecks from the SKIN Thematic Network. Studies in Agricultural Economics 121, 59-66.

IG Foodcoops (ed.) (n.d.). Foodcoops in Österreich. https://foodcoops.at/map/, last accessed: 02.05.2022.

IG Foodcoops – Interessensgemeinschaft für Foodcoops (ed.) 2022. FoodCoops. https://foodcoops.at/, last accessed: 08.05.2022.

Ingram, J. 2018. Agricultural transition: Niche and regime knowledge systems' boundary dynamics. Environmental Innovation and Societal Transitions 26, 117-135.

Interessensgemeinschaft Solawi Leben (ed.) n.d. Finde eine Solidarische Landwirtschaft in deiner Nähe. https://solawi.life/solawi-finden/, last accessed: 09.05.2022.

Jansen, H. 2010. The Logic of Qualitative Survey Research and its Position in the Field of Social Research Methods. Forum Qualitative Sozialforschung FQS 11 (2).

Jarzębowski, S.; Bourlakis, M.; Bezat- Jarzębowski, A. 2020. Short Food Supply Chains (SFSC) as Local and Sustainable Systems. Sustainability 12 (4715), 1-13.

John Hopkins – Center for a livable future (ed.) n.d. Food Citizen. https://clf.jhsph.edu/projects/food-citizen, last accessed: 23.05.2022.

Kiss, A. et al. 2012. Lokale Lebensmittel und kurze Versorgungsketten. EU-Magazin Ländlicher Raum. Zeitschrift des Europäischen Netzes für Entwicklung des ländlichen Raums 12.

Kneafsey et al. 2013. Short Food Supply Chains and Local Food Systems in the EU. A State of Play of their Socio-Economic Characteristics. JRC scientific and policy reports. https://op.europa.eu/en/publication-detail/-/publication/d16f6eb5-2baa-4ed7-9ea4-c6dee7080acc, last accessed: 18.04.2022.

Konefal, J. 2015. Governing Sustainability Transitions: Multi-Stakeholder Initiatives and Regime Change in United States Agriculture. Sustainability 7 (1), 612–633.

Krasner, S. D. 1982. Structural Causes and Regime Consequences. Regimes as Intervening Variables. International Organisation 36 (2), 185-205.Kiss, A. et al. 2012. Lokale Lebensmittel und kurze Versorgungsketten. EU-Magazin Ländlicher Raum. Zeitschrift des Europäischen Netzes für Entwicklung des ländlichen Raums 12.

Kurtsal, Y. 2021. Exploring governance, collaboration and learning mechanisms in short food supply chains: Opportunities, challenges and the way forward [PhD Thesis]. Bologna: Università di Bologna.

Köhler, J. et al. 2017. A research agenda for the Sustainability Transitions Research Network, STRN Working Group. STRN. https://pure.tue.nl/ws/files/101288346/STRN_Research_Agenda_2017.pdf, last accessed: 16.03.2022.

Lockie, S.; Halpin, D. 2005. The 'Conventionalisation' Thesis Reconsidered: Structural and Ideological Transformation of Australian Organic Agriculture. Sociologia Ruralis 45 (4), 284-307.

Lutz, J.; Schachinger, J. 2013. Do Local Food Networks Foster Socio-Ecological Transitions towards Food Sovereignty? Learning from Real Place Experiences. Sustainability 5, 4778-4796.

Lutz, J. 2017. Farmer Cooperation as a Means for Creating Local Food Systems – Potentials and Challenges. Sustainability 9 (925), 1-16-

Malak-Rawlikowska et al. 2019. Measuring the Economic, Environmental, and Social Sustainability of Short Food Supply Chains. Sustainability 11 (4004), 1-23.

Mancebo, F.; Sachs, I. (eds.) 2015. Transitions to Sustainability. Heidelberg, New York, London: Springer Dordrecht. 162.

Markard, J.; Truffer, B. 2008. Technological innovation systems and the multi-level perspective: towards an integrated framework. Research Policy, 37, 596–615.

Markard, J.; Raven, R.; Truffer, B. 2012. Sustainability Transitions: An emerging field of research and its prospects. Research Policy 41 (6), 968-979.

Mayring, P. 2000. Qualitative Content Analysis. 7th Edition. Forum Qualitative Sozialforschung 1 (2), Art. 20.

Mayring, P. 2014. Qualitative content analysis: theoretical foundation, basic procedures and software solution. Klagenfurt. http://nbn-resolving.de/urn:nbn:de:0168-ssoar-395173, last accessed: 08.05.2022.

Miller, H. I. 2019. Buying 'Organic' to Get 'Authenticity'? Or Safer and More Nutritious Food? Think Again. And Again. Mo Med. 116 (1), 8-11.

Moberg, E. et al. 2021. Combined innovations in public policy, the private sector and culture can drive sustainability transitions in food systems. Nature food 2, 282-290.

Morrissey, J.E.; Mirosa, M.; Abbott, M. (2014) Identifying Transition Capacity for Agri-food Regimes: Application of the Multi-level Perspective for Strategic Mapping, Journal of Environmental Policy & Planning, 16:2, 281-301.

Morone, P. et al. 2015. The role of landscape in the sustainable transition towards a new urban waste management system. Dialogues of sustainable urbanisation: Social science research and transitions to urban contexts, chapter 49.

Murray, R.; Caulier-Grice, J.; Mulgan, G. 2010. The open book of social innovation. Social innovator series: Ways to design, develop and grow social innovation. http:// youngfoundation.org/wp-content/uploads/ 2012/10/The-Open-Book-of-Social-Innovationg.pdf, last accessed: 16.03.2022.

Nemes, G. et al. 2021. The impact of COVID-19 on alternative and local food systems and the potential for the sustainability transition: Insights from 13 countries. Sustainable Production and Consumption 28, 591-599.

Netzwerk solidarische Landwirtschaft e.V. (ed.) 2022. Was ist solidarische Landwirtschaft? https://www.solidarische-landwirtschaft.org/startseite, last accessed: 19.04.2022.

Osburg, T. 2013. Social Innovation to Drive Corporate Sustainability. In: Osburg, T.; Schmidpeter, R. (eds.) 2013. Social Innovation – Solutions for a Sustainable Future. Berlin: Springer, 13-22.

Oxford English Dictionary – OED (ed.) 2022. Agency. Oxford: Oxford University Press. https://www.oed.com/view/Entry/3851?redirectedFrom=agency#eid, last accessed: 07.03.2022.

Packer, M.; Goicoechea, J. 2000. Sociocultural and Constructivist Theories of Learning: Ontology, Not Just Epistemology. Educational Psychologist 35 (4), 227-241.

Pantzar, M.; Shove, E. 2010. Understanding innovation in practice: a discussion of the production and re-production of Nordic Walking. Technology Analysis & Strategic Management 22 (4), 447-461.

Reckwitz, A. 2002. Toward a theory of social practices: a development in culturalist theorizing. European Journal of Social Theory 52, 243–263.

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 35, 393-411.

Renting, H.; Rossi, A.; Schermer, M. 2012. Building Food Democracy: Exploring Civic Food Networks and Newly Emerging Forms of Food Citizenship. Int. Jrnl. Of Soc. Of Agr. & Food 19 (3), 289-307.

Rezai, G. 2012. Consumers' awareness and consumption intention towards green foods. African Journal of Business Management 6 (12).

Rodríguez-Triana et al. 2020. Social practices in teacher knowledge creation and innovation adaption: a large-scale study in an online instructional design community for inquiry learning. International Journal of Computer-Supported Collaborative Learning 15, 445-467.

Rosin, C.; Stock, P.; Campbell, H. 2012. Food Systems Failure. The Global Food Crisis and the Future of Agriculture. London, New York: Earthscan, 256.

Schermer, M. 2015a. Die Milchwirtschaft in Österreich – ein Beispiel für sozio-technische Transformation. Österreich Z Soziol 40, 33-51.

Schermer, M. 2015b. From "Food from Nowhere" to "Food from Here:" changing producer-consumer relations in Austria. Agric Hum Values 32, 121-132.

Schot, J.W. 1998. The usefulness of evolutionary models for explaining innovation: the case of The Netherlands in the nineteenth century. History of Technology 14, 173–200.

Schöttel, R. 2021. Regionalität ist echte Wertschöpfung. https://www.lko.at/regionalit%C3%A4t-ist-echte-wertsch%C3%B6pfung+2400+3415027, last accessed: 10.05.2022.

Shove E.; Pantzar, M. 2005. Consumers, Producers and Practices Understanding the invention and reinvention of Nordic walking. Journal of Consumer Culture 5 (1), 43 – 64.

Shove, E.; Pantzar, M; Watson, M. 2012. The Dynamics of Social Practice: Everyday Life and How it Changes. London: SAGE Publications Ltd. 191.

Shove, E.; Walker, G. 2010. Governing transitions in the sustainability of everyday life. Research Policy 39, 471-476.

Silverman, D. 2013. Doing qualitative research: A practical handbook. New York: SAGE Publications Limited.

SKIN (ed.) n.d. Short Supply Chain Knowledge and Innovation Network. http://www.shortfoodchain.eu/, last accessed: 23.05.2022.

Smith, A.; Voß, J.-P.; Grin, J. 2010. Innovation studies and sustainability transitions: The allure of the multi-level perspective and its challenges. Research policy, 39(4), 435-448.

Sol, J.; Beers, J.; Wals, A. 2013. Social learning in regional innovation networks: trust, commitment and reframing as emergent properties of interaction. Journal of Cleaner Production 49, 35-43.

Spaargaren, G. 2011. Sustainable Consumption: A Theoretical and Environmental Policy Perspective. Society & Natural Resources 16 (8), 687-701.

Spaargaren, G.; Loeber, A.; Oosterveer, P. 2012. Food Practices in Transition. Changing Food Consumption, Retail and Production in the Age of Reflexive Modernity. Journal of Agricultural and Environmental Ethics.

Strengers, Y. 2012. Peak electricity demand and social practice theories: reframing the role of change agents in the energy sector. Energy Policy 44, 226-234.

Thilmany, D. et al. 2020. Local Food Supply Chain Dynamics and Resilience during COVID-19. Applied Economic Perspectives and Policy 43 (1), 86–104.

Uni Linz (ed.) 2020. Wichtigkeit regionaler Produkte während und nach der Corona-Krise in Österreich 2020. https://de.statista.com/statistik/daten/studie/1111865/umfrage/wichtigkeit-regionaler-produkte-waehrend-und-nach-der-corona-krise-in-oesterreich/, last accessed: 10.05.2022.

University of Warwick 2020. Education Studies. What is Critical Realism? https://warwick.ac.uk/fac/soc/ces/research/current/socialtheory/maps/criticalrealism/, last accessed: 06.04.2022.

Vaismoradi, M.; Snelgrove, S. 2013. Theme in Qualitative Content Analysis and Thematic Analysis. Forum: Qualitative Social Research Sozialforschung 20 (3), Art. 23.

Van Poeck, K.; Östman, L.; Block, T. 2020. Opening up the black box of learning-by-doing in sustainability transitions. Environmental Innovation and Societal Transitions 34, 298-310.

Van Poeck, K.; Östman, L. 2021. Education as a Driver for Sustainability Transitions? An Analytical Toolbox [Conference Paper]. 30. Environmental and Sustainability Education Research (ESER). https://eera-ecer.de/ecer-programmes/conference/26/contribution/50133/, last accessed: 03.02.2022

Vermunt, D.A. et al. 2020. Sustainability transitions in the agri-food sector: How ecology affects transition dynamics. Environmental Innovation and Societal Transitions 36, 236-249.

Vittersø, G. et al. 2019. Short Food Supply Chains and Their Contributions to Sustainability: Participants' View and Perceptions from 12 European Cases.

von Krogh, G. et al. 2012. Carrots and Rainbows: Motivation and Social Practice in Open Source Software Development. MIS Quarterly 36 (2), 649-676.

Watson, R.T. 2012. Prologue: Food Security – Now is the future. In: Rosin, C.; Stock, P.; Campbell, H. 2012. Food Systems Failure. The Global Food Crisis and the Future of Agriculture. London, New York: Earthscan, xi-xiv.

8.2. Image sources

European Environment Agency – EEA (ed.) n.d. The multilevel perspective on sustainability transitions. https://www.eea.europa.eu/media/infographics/the-multilevel-perspective-on-sustainability-transitions/image/image_view_fullscreen, last accessed: 11.03.2022.

Pantzar, M., Shove, E. 2010. Understanding innovation in practice: a discussion of the production and re-production of Nordic Walking. Technology Analysis & Strategic Management 22 (4), 447-461.

Appendix

Qualitative Survey

Farm t(hr)o(ugh) school – the role of place-based education in Short Food Supply Chains

Projects like "the Healthy Snack", "Farm to School" or "Save the Climate" are common in many schools and issues like nutrition, health, food waste, logistics, climate or fair trade - summarized under the notion of "environmental or sustainability education" - and are part of the secondary school curriculum in Austria.
Additionally, schools are represented as "passive" end-consumers when sourcing food for their school canteens from (perhaps even short) supply chains. However, rarely taught are the existence and functioning of local and alternative networks, their relevance for economy and environment, benefits for consumers and actors of short supply chains and, ultimately, supply chain management - in other words, the economic aspect and the need and possibilities to support local businesses.
The aim of this master thesis is to inform about existing educational initiatives and to find out in which way they meet the knowledge needs to build and maintain local networks (food coops, solidarity farming, online pre-ordering systems, farmers' markets, local shops, farm-to-table restaurants, containers, etc.). Through interviews with four selected educational initiatives (Food Coop at the Montessori School in Hütteldorf near Vienna; direct marketing at the HBLA Pitzelstätten; training focus on agricultural economics and agroecology at the A-HAK Althofen, as well as the organic farm shop at the Bioschule Schlägl in Aigen-Schlägl) and actors of short food supply chains in several regions of Austria, I want to determine
→ which values/contents/skills are already being taught,
→ which values/contents/skills are still missing in practice,
→ and whether the educational offer corresponds to the educational demand (= is reality-based) and is actually used.
A special focus lies on the connection between consumers and producers and ways on how agency can be taught and practiced, to support a sustainability transition for small-holder farms in the long run.

Name (to be able to allocate the interviews, stays anonymous): _____
Age: _____
Education/School: _____
Occupation: _____
Location/Municipality: _____

Role within the Short Food Supply Chain:

- ☐ producer/farmer
- ☐ local retailer
- ☐ online distributor
- ☐ farm-to-table restaurant
- ☐ other: _____
- ☐ bakery
- ☐ butcher
- ☐ involved/active consumer

Type of the local network(s) you are part of:

- ☐ direct marketing/farm shop
- ☐ local retailer
- ☐ self-service hut
- ☐ Food Coop
- ☐ other: _____
- ☐ community supported agriculture (CSA)
- ☐ online shop/online distribution
- ☐ farmer‘s market

Please explain the network that you are part of in more detail

_____

Are you in contact with educational initiatives (school initiatives of any kind)?

- ☐ Yes
- ☐ No
- ☐ If yes, which one(s)? (type of initiative, name, name of school) _____

_____

If yes, does this initiative deal with aspects of marketing and distribution of local/regional food or the skill of supply chain management

- ☐ Yes
- ☐ No
- ☐ If yes, how so? (aspects, criteria, tasks, ...) _____

In which aspects would you yourself have appreciated to have more education and experience? What knowledge would have been helpful at the time you founded or joined this network? Where are/were your knowledge gaps?

_____

_____

What kind of knowledge or criteria would you like to have on the side of your costumers, what are their knowledge gaps? What are knowledge gaps of people in general - that keep them from becoming your costumers?

_____

_____

What kind of knowledge or criteria would you like to have on the side of other actors of your SFSC/network, what are their knowledge gaps? (other producers, processors, intermediaries, etc.)

_____

_____

Consumer-producer linkages in the agro-food sector

Innovations aiming for a sustainability transition are extensively addressed in domains such as energy supply, sanitation, transport, communication, housing and food supply. However, research mainly looks at the supply side and pays less attention towards the demand side, or, more precisely the demands towards consumers. Least considered, however, is the influence that a direct link between producers and consumers could have! This aspect is particularly important in the agri-food sector, as actively involved and educated consumers are able to make more conscious purchasing decisions and can understand the consequences of these decisions. Likewise, producers benefit socially as well as economically from the support and help of consumers - for example in the form of labour support, advertising, logistics and, ultimately, profit.

What kind of support (in which areas) would you like from current or future consumers (students)?

- ☐ logistics
- ☐ sale
- ☐ networking
- ☐ advertising/promotion
- ☐ online marketing
- ☐ social media
- ☐ packaging

other: _____

Which knowledge and competences are specifically required, in your opinion, to effectively implement such cooperation and producer-consumer linkages?

_____

Personal question: (A) Do you see the cooperation of consumers rather as an important support that would ease your work? Or (B) would such a cooperation be rather "exhausting", would consumers/students disturb your business, or would it unnecessarily cause more work for you?

- ☐ A
- ☐ B

In case of B

- ☐ Does this mean, that you are generally negative towards such an idea?
- ☐ Or do you think it is a sound approach to set up a functioning system on a local (respectively regional) level - but in your case it would simply mean too much effort for too little benefit?

Participants of the survey “Farm t(hr)o(ugh) School: The role of place-based education in Short Food Supply Chains”

Nr. of Survey Participant	Activity/Occupation in the SFSC/network	Educational background	Age	Type of local network(s)	Names of network(s)
Kärnten (Carinthia)					
Survey Participant #1	producer/farmer	agricultural technical school	48	direct marketing/ farm shop; self-service hut	self-service hut "24/7 Kostbarkeiten Maria Saal"
Survey Participant #2	producer/farmer; local retailer; involved/ active consumer	HAK (vocational high school for trade and business)	49	direct marketing/ farm shop; local retailer	Slow Food Kärtnen, organic self-service hut in cooperation with other farms
Survey Participant #3	producer/ farmer; gardener; involved/ active consumer	vocational high school for gardening; University of Natural Resources and Life Sciences, Vienna	35	direct marketing/ farm shop; Food Coop; farmer's market	Food Coop "Alles Natur"
Survey Participant #4	producer/farmer; local retailer; online shop/ online distribution	middle school	52	direct marketing/ farm shop; local retailer; Food Coop	Food Coop "Alles Natur"; association "Mei Biobauer"
Survey Participant #5	producer/farmer; local retailer; online shop/ online distribution; involved/ active consumer	agricultural technical school; master	53	direct marketing/ farm shop; online shop/ online distribution; gastronomy	self-service hut "Eier-Speis"; delivery to local retailers, huts and gastronomy
Niederösterreich (Lower Austria)					
Survey Participant #6	local retailer	university	50	local retailer	SpeiseLokal! (pre-order system)
Survey Participant #7	local retailer	ecology studies	46	local retailer; online shop/ online distribution	online shop "glanz.greißlerei"
Survey Participant #8	producer/farmer (organic farmer)	vocational high school for commerce and tourism, agricultural professional	32	direct marketing/ farm shop; local retailer; Food Coop	Food Coop "Wienerwald"; self-service farm shop "Unverpackt Laden" since 1988; local retailers
Survey Participant #9	"career changer": producer/ farmer; local retailer; operator of a Food Coop	agricultural professionals	36; 40	direct marketing/ farm shop; local retailer; self-service hut; Food Coop	"supplier for various Food Coops, local retailers and combinations": Food Coop "Wienerwald"; local retailer in St. Leonhard „Fahr nicht fort – kauf im Ort“; "Da Bauernlodn" in Kirchberg; "Lucia's Laden in Wien"; "Greisslerei 2.0"; "SpeiseLokal!"; "la Natura" in St.Pölten; "Das Lädchen" in St.Pölten; etc.
Oberösterreich (Upper Austria)					
Survey Participant #10	online shop/ online distribution; involved/ active consumer; operator of a Food Coop	university		Food Coop	Food Coop "Bio-Drehscheibe Lembach"
Survey Participant #11	producer/ farmer	apprenticeship/ **Bioschule Schlägl**	28	direct marketing/ farm shop; Food Coop	Food Coop "Bio-Drehscheibe Lembach"
Survey Participant #12	producer/farmer; local retailer	agricultural vocational and technical school	30	direct marketing/ farm shop; local retailer; self-service hut; Food Coop; online shop/ online distributor; farmer's market	local retailers; Food Coop "Bio-Drehscheibe Lembach"; Food Coop "Tischlein deck dich!"; Food Coop "LieblingsSpeis"
Survey Participant #13	local retailer; online shop/ online distribution; operator of a Food Coop	university	39	Food Coop	Food Coop "Tischlein deck dich!"
Survey Participant #14	producer/farmer (organic farmer)	HBLA vocational high school for agriculture; university	52	direct marketing/ farm shop; local retailer; Food Coop	Food Coop "LieblingsSpeis"

Survey Results

Links to other coding and annotations

Knowledge gaps/Knowledge needs

- Knowledge about general connections and effects of production and distribution mechanisms on the environment
- Social factors: appreciation of food, knowledge about food, attitude towards environmental protection and resource conservation
- Environmental protection (transport routes of delivery and collection, animal husbandry)

The participants own knowledge gaps

- Knowledge on organizational forms: Building up of communities and how they are organized (internal: decision making, group processes; external: legal framework, etc.)
- Practical and economic knowledge to set up a local retail (participant attended general school)
- Consequences of direct marketing → education on negative aspects (Bioschule mentions this!)
- Pedagogic knowledge when working with kids
- Processes of Supply Chains, pricing/price calculation of produce, tax treatment of agricultural products (participant would have needed that initially; knows it now)
- Criteria for self-service sales (exact labelling in the absence of a salesperson)
- Knowledge on "break even" aspects (when is something useful?)
  - Consumer takes car to buy at several local farms as a "sustainable practice"; Solution: Central distribution (local retailer, Food Coop)
  - Farmers bring small amounts to Food Coops; Solution: delivery cooperation
    - Applies from which distance, which quantity? Consider the context
- Knowledge on global flows of food → external dependency and insecurity that comes along

Consumers' knowledge gaps

- Knowledge on resource protection: recycling of food, zero waste goals
- Knowledge on production
  - HOW food is produced (to be able to judge on the degree of sustainability)
    - Type of animal husbandry, animal welfare, what is fed, is the food produced at farm or purchased (environmental issue) → better than mindlessly giving up meat and buying "some soy products"; Frustration towards modern food culture
- Knowledge on cost structure of foods (how much remains with the farmer in wholesale trade?)
  - comprehend pricing and seasonal fluctuations → lack of knowledge about farm work
- Knowledge on the agricultural life
  - Burden for family life; Being out of touch due to large corporations advertising the "idyllic farm life" instead of reality (industrial mass stable; gigantic processing plants)
- Knowledge about origin → understanding "regionality" (Marketing in region? Production in region? Entire value creation in region?)
- Knowledge on "work behind the product" → no realistic perception on workload
  - to understand the higher prices and "handle them more carefully" → spoil less
- Appreciation of the energy, love, and work behind it
- Knowledge on climate and the biodiversity crisis
- Taking responsibility towards ecology and sustainability
  - Lack of "thinking it through to the end" regarding sustainability and biodiversity → holistic approach as addressed by the Bioschule Schlägl – "the whole picture"
    - Not returning reusable packaging (max. 1/3)
    - Forgetting about "system relevance" of local farmers as soon as pandemic is over
    - Not regarding factory farming, animal transport, animal welfare, deforestation, etc.
    - Demanding low priced food
- More awareness about circular economy, waste management/avoidance, short transport ways, added regional value, social impacts
- Understanding the notion of food security (in case of crises)
- Awareness for nature, plants, animals, and food
- Assessment of own consumption behavior (awareness) and mobility behavior
- Critical thinking: Is regionality alone enough? Organically produced alone enough?

Other actors' knowledge gaps

- Knowledge on resource protection: good animal husbandry, better usage of products that cannot be sold
- Understanding the price-assembling / pricing of products
- Footprint of a product
- Increased cooperative thinking
- Innovativeness → *Willingness* to "create"
- Better understanding of fair "togetherness" (working towards the same goal)
- Treating products more mindfully and transfer this mindset to customers as well!
- Lack of understanding for small-scale retailers → Producers have a heavy workload but so do retailers → the main aim is to strengthen local structures and rural economy; yet retailers are also essential to do so → lack of appreciation
    - awareness of workload and cost for marketing
- Following primary production (on-farm animal husbandry); Understanding the need for this mind set → criticism on "cheating the customer" with purchased raw material for products
- Operator of a Food Coop about producers: more know how in marketing and IT skills is needed; realizing relevance of "central selling" in a food coop
- Producer about retailers: missing awareness about sustainable food production that "goes beyond the inner quality of a product"
    - Additional benefits of a product (footprint, building soil fertility, creating habitat, etc.)

"I would also like to see more awareness on sustainable food production, to understand why different prices come about and why it makes a difference (beyond the inner quality of a product) how a food is produced." (participant #3, producer/farmer, gardener and active/involved consumer)

Difficulties/Problems they are facing

Lack of understanding for relevance of direct marketing; more support of small businesses by policy makers → not the EU is to blame for everything but primarily the Austrian agricultural policy (for small farmers and direct marketers)

"Although we keep trying to present our situation, present calculations, organize visits, we can only achieve modest success in the long term. What happens if production continues to decline? What happens if we can no longer import to this extent? The understanding of regional circuits, the understanding of what a functioning agriculture can achieve - this is something that still needs a lot of awareness-raising and work in all areas! (participant #9, producer/farmer and local retailer)

"Romanticizing tendencies of farm life have to be eliminated, most consumers who want to help generally cannot stand anything physically and psychologically. It doesn't matter if they stay in their role. Cooperation from them is unnecessary, it is better if they pay for the products, and I can hire suitable helpers. Another difficulty is that the work always depends on the weather, so it can change every day. Nobody is that flexible." (Participant #14, producer/organic farmer with a farm shop and participant of a food coop) → Frustration regarding consumer-producer linkages

Experiences with educational initiatives

Cooperation with following initiatives: Farm to school; Teaching on the farm; Excursions (mainly pre - and primary schools, but also, the Bioschule Schlägl); Seminars on farms; School diary; Action days; Agricultural internships; School farms and school gardens (e.g., Montessori Campus Wien Hütteldorf)

Conveyed knowledge: Origin of food; Work load behind it; Importance of solidarity and cooperation; Environmental-friendly production; Biodynamic humus growth; Comprehensive knowledge transfer about local agriculture and production, diversity and supply; Giving an realistic insight into tasks; Establishing a relationship with nature; Demonstrating principles of sustainability; Recognizing the quality of life and safety due to local agriculture; Authentic presentation of farm life; Attending production

Experiences resulting from the activity in SFSCs – personal experience with education

- Sales are based on customer trust (→ trust=possibility to strengthen consumer-producer linkage)
- Food Coops are organized as a cooperative

- Manual on how to start and run a Food Coop, provided by Bio-Austria (see list of references)
- If close links with schools → mainly primary schools (proves my theory)
- Takes a lot of planning time

"Knowledge grew over time, through further education in courses and exchange." (participant #14, producer/organic farmer)

"There are various initiatives in the school sector („seminar farmers", initiative „Land schafft Leben", etc.) They try to provide information on food knowledge and nutrition education with worksheets and interactive workshop formats." (participant #5, producer/farmer, local retailer, active consumer)

"Currently, almost 700 high-quality and sustainably produced products from over 40 producers in the region can be purchased online via the website [...]" (participant #13, operator of a Food Coop)
"We market 95% of the food we produce here. People come and get what they want." (participant #14, producer/farmer with a farm shop)

Motivations for attending SFSCs and networks

"Making everyday shopping regional and social" (participant #7, local retailer and operator of an online shop)

Care for and protection of the environment and resources; Avoiding long transport routes; Nature- and species-appropriate animal husbandry; Protecting the soil, water and air as a basis of life; GMO-free food; Go with the seasons (no strawberries in winter); Giving an insight into the living environment of regional organic farms; Surveys showed: existing desire for high-quality food and its uncomplicated ordering via the internet; Sale of local organic food from small-scale organic farms; Sale of organically certified, regional agricultural products

"To pick up their shopping, customers do not have to go to crowded, noisy supermarkets, but can receive their shopping ready packed in a relaxed atmosphere, find out about special offers and make product requests." (participant #7, local retailer and operator of an online shop)
→ Adapting a social practice

Existing Consumer-Producer Linkages

We inform the operators in detail about our motivation and ideology. They are happy to explain this to the consumers. Upon request, the operators organize visits to our farm where we can directly answer the consumers' questions. (participant #9, producer/farmer and local retailer)

"Even if the order is placed via the web shop, the goods are always collected in person! In this way, the relationship with the customers is cultivated and individual wishes are catered for". (participant #7, local retailer and operator of an online shop)

- Telling stories about farmers and production and gives their consumers an insight into the living environment of regional organic farms
- Demand-driven ordering system: Only the products that customers order is ordered from farmers → reduction of food waste and food surplus! → conclusion: close consumer-producer linkage and adaption to respective needs reduces food waste
- Ordering seasonal and fresh products conveniently from home with "just one click" → business model should be compatible with customers' realities of life (link to expert interview!)
- Registration in online shop is demanded in order to be able to consult with consumers (in case of uncertainties and changes)
- Sending out of weekly newsletters about current offers and news from farmers → information about the agricultural life
- Pointing out importance of personal relationship between consumer and producer
- Customer friendly service: Delivery by bicycle courier
- Setting in place an "idea day" as part of ongoing "citizen participation processes"; Survey on shopping behavior and importance of regional products → led to idea for Food Coop

Needed Knowledge/Skills to effectively set in motion consumer-producer linkages

- Understanding agricultural work and its background

- Eliminating romanticizing tendencies of "farm life" → being aware of the burden for family life, workload, and societal/political conditions
- On the part of producers: technical knowledge on online marketing/social media; which images and information to convey via social media
- Awareness of impact of purchasing decisions on the environment, society, etc.
- Respect for high quality food
- Understanding regional circuits/processes
- Awareness: Everything I do has an effect → Education on backgrounds (conditions for animals, people, what lies "behind" the product; moral education
- Being able to coordinate flows of goods and supply chains → delivery, collection, etc.
- Awareness of storage/quality requirements
- Recognizing the fragility of food supply
- Not more knowledge, but stronger commitment and standing up for local networks is needed
- Willingness to adapt lifestyle; It requires change of family routines → a barrier, that people barely overcome
- Perseverance
- Requirement: Interest and pleasure in physical work; positive understanding of rural production
- Competences/Skills: Hygiene (food production); not having "2 left hands"
- Awareness of shared responsibility

"Knowing that we are all connected and have a shared responsibility for ourselves and our environment. Away from strong individualism and competitiveness towards a new togetherness" (participant #3, producer/farer, gardener and active/involved consumer).

Knowing the farm is the most important prerequisite, but at the same time this means that you have to get to know the farm. This requires a continuous and recurring activity (e.g., weekly). Consumer cooperation is helpful if you can plan for it to a certain extent; at the beginning, the doctoral student mentioned above would probably not be much help, but by the end of the school year almost every student would be, as long as he or she performs regular activities. (participant #9, producer/farmer and local retailer)

Recommendations for actions

Needs

Taking a stand; Correcting; Supplementing people's knowledge; Explaining cycles; Creating awareness for regional production and regional food → according to participant, them, the farmers, have to do this!; Education about misleading advertising; usage of shock advertising which would "lead to a healthy portion of fear and thus to a positive development" (participant #4, producer/farmer, local retailer and operator of an online shop)

"A dream would be: A compulsory subject in all compulsory schools (e.g., nutrition and consumer education)! (participant #5, producer/farmer, local retailer and active/involved consumer)

"More should be taught in schools about agriculture and food production" (participant #1, producer/farmer and operator of a self-service hut in cooperation with other farmers)

(methodological) suggestions

Shock treatment (visit factory farming; fattening farms, slaughterhouses... → to reduce meat consumption) → consumer education; *All* types of schools: Excursions to organic and conventional farms → looking behind the curtain; more practice and "doing work themselves" to not only understand higher prices, but to pay them willingly, Dialogue with society: NOT advertisement but "only we as the agriculture, the farmers, are authentic ambassadors for our work, for our production methods and ultimately for our product respectively our offer!" (participant #5, producer/farmer; local retailer; active/involved consumer)

"It would probably be most beautiful if every person (e.g., at school) would plant vegetables themselves once in their life and/or also help out on a farm with animals." (participant #7, local retailer and operator of an online shop)

Coding of semi-structured Interviews

Interview #1: HBLA PITZELSTÄTTEN CODES

Description and functioning of the initiative

"Training farm" (agricultural holding at the school); Approx. 400 students, mainly female; Students are in production every 3rd week; Direct marketing initiative happens 5 - 6 times per year; Circle of topics and subjects resulting in direct marketing

Initial phase

/

Target group

Consumers from the surrounding area, a lot of pensioners and a few students on their way home

Drawing of foods

Supplying the school kitchen to almost 100 % → own milk production; own meat production; Unclear whether the procurement of the school kitchen apart from own products is regional; Souring of small quantities of raw materials through school kitchen → as well unclear whether regional or not

Financing, surplus revenue

/

Organization

Circle of topics and subjects resulting in direct marketing; Supplying the school kitchen; Direct marketing initiative happens 5 - 6 times per year → School does not want to be a competitor for direct marketers in the area; Interdisciplinary cooperation (business administration, nutrition, etc.)

Internal difficulties

Issue with practical training in a "normal school" → lack of regularity, insufficient practice units; week ahead of direct marketing initiative the whole production works for this purpose; Consumer care → too few time resources, not very customer-oriented

Motivation for the initiative

Demonstrate existing demand and financial benefits of alternatives like direct marketing; Comprehensive training → "School for life"

Activity or integration in the local network/SFSC

Direct marketing initiative happens 5 - 6 times per year → School does not want to be a competitor for direct marketers in the area; Consulting activity (when former students become actors)

Active participation

Marketing of own production

No sale of third-party products, only own production; School is a milk supplier to dairy factory

Distribution activity

/

Initiative or school as consumer

/

In-school

Supplying the school kitchen to almost 100 % (milk and meat production)

Addressing the issue of "SFSCs and alternative forms of marketing"

In other subjects like *nutrition studies* → unclear answer

Engagement with the topic of sustainability transitions

In the subject *nutrition studies*

Impacts on the initiative

External Impacts

Food controls; Organic certification

Personality of the teacher

/

Impact; Imparted values

Offer of further training; former students start direct marketing

Links to reality

Involving students in all work steps on the training farm → assign responsibility; No sale of third-party products, as the initiative does not take place regularly

Difficulties, problems, barriers, and gaps

Customer care: Insufficient time resources, not very customer-oriented; Partly too many products (too much production in existing hourly workload of students); Time intervals between the initiative → students forget skills (cashier operation etc.); Issue with practical training in a "normal school" → lack of regularity, too little regularity

Competences

Production, packaging, sales, product composition (calculation, duration of production, time management), cash register operation

Independency

/

Methods

Involving students in all work steps on the training farm → assign responsibility; Interdisciplinary cooperation

Topics

Requirements for direct marketing, packaging, labelling, price calculation, product creation

Consumer-producer linkages

Collect feedback from consumers → Decision-making power of consumers; Little consumer orientation/consumer care due to time resources

Consumer education

Teaching courage to try new things and independent, critical thinking (uninfluenced by advertising)

Curriculum reference

Specialization "product marketing and regional tourism", which includes the direct marketing initiative: Focus onto the connection between agriculture and tourism as addition to a sustainable development of rural regions

- "Deepening knowledge in the areas of production, processing and marketing"
- "Increased integration of the school's own agricultural and forestry training farm with its modern processing rooms [...]"
- "Practice-oriented training in quality-, project- and marketing management [...]"

Interview #2: MONTESSORI CAMPUS CODES

Description and functioning of the initiative

Several projects related to food supply: Garden; Farm with chicken husbandry; Production and processing; Weekly marketing at markets; Students are managers → establish their own supply chain with supply chain management; Theoretical guiding studies → projects in small groups

Initial phase

Networking → visiting partner farms and Food Coops for information and training purposes

Target group

Students: 12 – 15 years (lower secondary school)

Consumers: Teachers, parents, neighbors – Create opportunity for others to buy from small farmers; Kitchen is only for the school (52 students and 5-6 teachers daily)

Drawing of foods

School kitchen sources regionally; Own Production and marketing of products on markets; Ordering food for cooking and producing from the regional wholesaler BERSTA; Purchasing from a regional vegetable supplier (stopped due to illness of the supplier)

Financing, surplus revenue

Financing through sales at markets and mailing/delivery of products; Account management of "microeconomics" → students do the accounting independently; School is an NGO → invests money back into projects, production, repair, and purchase of food

Future Food Coop: plan to start small and expand later → with separate accounts

Organization

Existing premises and equipment for a Food Coop (refrigerator, storage room, key safe for late deliveries); School is an agricultural holing; Adaption to external influences such as Covid-19 → mailing/delivery of products to consumers; Advantageous location at the entrance of Vienna; Division of labour using "chores" and independence of students when receiving and checking the food (with initial explanations and templates)

Internal difficulties

Supply of regional farmers (small size of the educational initiative's orders is not profitable for suppliers); delivery times do not match school times; organizational difficulties; logistical difficulties; lack of flexibility in ordering due to fixed recipes

Motivation for the initiative

Create opportunity for others (teachers, parents, neighbors) to buy from small farmers; Sell own produced products; "Learn everything" → comprehensive education; Independence of students in all those aspects

Activity or integration in the local network/SFSC

Active Participation

Marketing of own production

Selling of own products on markets

Distribution activity

Planned → for neighbors, parents, and teachers (currently difficulties in realization)

Initiative or school as consumer

Ordering food for cooking and production from regional wholesaler BERSTA → regional sourcing for school kitchens; Originally also sourcing from small farms → vegetable supplier and organic dairy farm

In-school

Using own products for cooking

Addressing the issue of "SFSCs and alternative forms of marketing"

Theoretical treatment with the help of "guiding studies" → projects over 6 weeks in small groups (topics: permaculture; CSA; Food Coops; etc.) → Theory and excursions

Engagement with the topic of sustainable transitions

Sustainable behavior (school kitchen serves meat no more than once a week); Organic certification

Influences on the initiative

Time management; School is an agricultural holding → possible registration in the agricultural chamber for marketing of e.g., eggs (not possible as a private person); Location at city entrance

External influences

either small-scale farms have no capacity, or the school orders are in unprofitable quantities; Inspections for organic certification; Sourcing regional food: logistical difficulties, fire on the farm, illness of the supplier; Downsizing and dismantling of a market due to Covid-19

Personality of the teacher

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Impact; Imparted values

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Links to reality

Making compromises (with BERSTA); sustainable behavior (little meat); Organic certification of honey and propolis; Students are managers → establish their own supply chain with supply chain management

Difficulties, problems, barriers, and gaps

Finding new suppliers has been extremely difficult for 2 years → either small farmers have no capacity, or the school orders are in unprofitable quantities; Delivery times do not coincide with school times; Organizational difficulties; Logistical difficulties; Lack of volunteers (present at the Food Coop in the evenings for control and distribution/arrangement)

Competences

- Soil science/cultivation and compost production (knowledge of biological requirements) → How do I get good soil, what do I need?
- Procurement of materials; Cultivation/production; Choice and organization of the right packaging; Price calculation; Labelling → Which new products could we produce? What do I need for this? Where do I get packaging? How do I calculate the price?
- Selling on markets or through delivery; Account management of "microeconomics"
- Household management; Cooking; Beekeeping; Farm animal husbandry
- Market studies – functioning of a market economy
- Networking; Research activity

Independency

Work division in the form of "choirs" (application and choice for specific chores); With initial training by teachers and additional templates: Receiving food, checking deliveries, placing orders, sizing;

Mailing/delivery project; Account management by students; Students are managers → establish their own supply chain with supply chain management; Menu composition

Methods

Visiting partner companies and Food Coops for information and further training purposes; Work division in chores (application and election for specific chores); Weekly marketing at markets; Theoretical treatment of the topic with the help of guiding studies → small group projects over 6 weeks; Market study (Generating ideas and looking for inspirations at markets); Setting up an internal supply chain

Topics

Soil science, cultivation, gardening, compost production, herbology, production (food and cosmetics), material procurement, price calculation, marketing, mailing/delivery, existing conditions/regulations

Consumer-producer linkages

Willingness of producers to cooperate with schools; Motivation to link up with schools

Consumer education

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Curriculum reference

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Interview #3: AGRAR-HAK CODES

Description and functioning of the initiative

Students in the specialization write „Diplomarbeiten"(= final theses); Specialization is unique at this location and the first that mentions the topic in the curriculum

Initial phase

Developed by two teachers from different school types; Specialization starts in the 3rd grade of the high school; It links schools more closely → two schools with two curricula and no point of contact → solution: new curriculum

- Curriculum development: Brainstorming; Consulting/networking with professionals (of diverse agricultural fields, mainly business related); Narrowing down of topics; Covered areas are a "cross-sectional matter"

Target group

Students of the Agrar-HAK (approx. 1/3 has no agricultural background); 17-20 years old; Place-specific situation: open and interested students that intentionally decided for the effort of two schools.

Drawing of foods

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Financing, surplus revenue

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Organization

Time management of available teaching hours; Curriculum development; Networking with professionals (of diverse agricultural fields, mainly business related); Covered areas are a "cross-sectional matter"

Internal difficulties

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Motivation for the initiative

Personal drivers of the two teachers; Linking theory and practice, production, and marketing – "There was too little linkage with each other" → creating of a curriculum that covers the missing content; Strengthening consumer-producer linkages; Comprehensive education for students → "They should be able to market what they produce"; Aim: combine scientific and agricultural knowledge with business management and build awareness

Activity or integration in the local network/SFSC

Development/Design of new projects (farm shops, vegetable boxes, ...)

Active Participation

Support of SFSC actors in form of the final theses about chosen case studies/farms: Presentation of the results and recommendations for the farm → consulting service; Market analysis; research activities; compulsory internships (adapted to the school profile – agricultural employees, machinery ring, alpine farming, etc.)

Marketing of own production

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Distribution activity

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Initiative or school as consumer

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In-school

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Addressing the issue of „SFSCs and alternative forms of marketing"

Rough overview of all forms of marketing (CSA, Food Coop, etc.) in the introduction of the specialization; Picking up on trends; Pro/con-discussions; Dealing with the topic as part of the final theses; Presentation of the theses results to chosen case studies/farms (including recommendations)
"In class, in the introduction, we do a rough overview of all forms of marketing!"

Engagement with the topic of sustainable transitions

"Developments in the field of sustainability" (curriculum reference); Income alternatives (green care, etc.); Sustainability education: Organic farming, ecological footprint (in marketing) or "farm gate balance", nutrient balance, energy balance *on the* farm; Circular economy (nutrient-wise, energy-wise, water-wise); Waste Management Act; Environmental impact assessment; Legal insights; Emotional and social sustainability → family basis; Transportation routes; Procurement of raw materials; Building awareness

Influences of the initiative

Gender-specific approach (cliché of a peasant clientele); Personality of the teacher

External influences

Fundings; increased awareness for local foods due to the Covid—19 pandemic; Emergence of many self-catering huts (a development reflected in the final theses)

Impacts; Imparted values

Former pupils initiate farm shops, vegetable boxes, etc.; Presentation of the theses results to chosen case studies/farms (including recommendations); Influence on gender stereotype → change of view and reduction of scepticism among students; Site analyses for farms; Applying of business skills (investment calculation; cost calculation); Impacts of excursions to farms with alternative forms of production and marketing; Implemented projects; Positive influence on pupils outside the specialization: additional impact due to good reputation

Links to reality

Comprehensive training for students (producing *and* marketing); Analysing prerequisites; Final theses deal with real-life examples and connect to the topic of SFSCs → Cost-benefit calculation with real examples; Compulsory internship

Difficulties, problems, barriers, and gaps

/ - there may be no active intervention into the "real agricultural economy" on the part of the school; Yet this happens indirectly or further on through final theses and student's projects

Competences

- Marketing: product design and labelling; critically question pricing; prepare communication policy; distribution policy (type/form of marketing, procurement costs, footprint)
    - Forms of Marketing; assess advantages and disadvantages of marketing options
      → What would you market? How would you market it? What form would you choose?
- Accounting
- Controlling: cost accounting in the agricultural sector (incl. price calculation/pricing); contribution margin calculation, investment plans, cost-benefit analysis, location analysis → What do I get out of it? Does it pay off? If I invest this, what will it cost me? What kind of fundings do we get? Will it pay off for me?
- Choice of legal form (limited liability company, cooperative, ...); staff management/HR calculation → Do I need additional staff? Which legal form do I choose?
- Establishing Contacts/Networking → Where can I make contacts?
- Consider personal attitudes and requirements → What is good? What would suit myself?
- Market analysis; Data collection (at the market, in the supermarket); Consulting

- "Development of one's own position on economic-ecological-social issues including justifications"; Critical questioning → Are we an ecological farm, just because we farm organically?
- "Entrepreneurship and positive attitude towards the co-creation of civil society and economy"
- Funding: Carrying out applications for subsidies; interpret agricultural subsidies; discuss legal principles for agricultural subsidies

Independence

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Methods

Business case studies; business games; project-oriented forms of teaching; contact with experts from business, science and commercial (agricultural) chambers → Practice oriented teaching; Final theses; Excursions; Scenario method; Role plays

Topics

Current developments in the subject area; Accounting and controlling; Investment plans; Cost-benefit analysis; Market economy; Organic farming; Ecological farming; Picking up on current trends; Organizational structure of agriculture; Marketing forms; Alternative marketing systems; Tax law, inheritance law, farm law, environmental law (quality labels), business law; Income alternatives (green care); Regional vs. organic; Sustainability

Consumer-producer linkages

Work experience of teachers; Strengthening of consumer-producer linkages; Acceptance in farming society is a problematic issue (crowdfunding) → Difficult, to gain the trust of the farming population

Consumer education

Indirect consumer education through negative feedback from consumers by showing their lack of awareness on pricing, etc.; Surveys; "Consumer education goes along", especially for students without an agricultural background; Projects (collecting numbers in supermarkets) are "run-ups" to dealing with the topic

Curriculum reference

Linkage with subjects "Natural Sciences", "Political Education and History", "Law" and "Economics"; Current developments in the field of sustainability; Integrated and circular economy; Possibilities of dematerialization and immaterialisation; Legal framework conditions; Conversion to organic farming methods; Economics and strengths of organic farming (marketing initiatives, marketing mix in the agricultural sector); Eco-controlling (Preparing farm improvement plans; Preparing cost accounting models in the agricultural sector, Using case studies to prepare the basis for decisions on investments and questioning their benefits; Carrying out asset evaluation in the agricultural sector; Marketing forms of agricultural products (forms of direct marketing) - best practice examples, criteria for cooperation in the agricultural sector; Explaining the purpose and procedure of the environmental impact assessment (EIA)); New legal forms in agriculture (business law); Seminars on business management in agriculture; Funding system

marketing mix in the agricultural sector

Evaluate distribution policy (farm shop, farmers' market, organic discounters, causes of trade, procurement costs, Footprint); Product design (product labelling on packaging, ecological labels and legal requirements of the declaration); Critically question pricing; Prepare communication policy

Interview #4: BIOSCHULE CODES

Description and functioning of the initiative

Initial phase

Start of the marketing through the „Bioladen" in 2018 to complement the production at the school (processing of grains, milk, meat, and fruits); founding of a "support association" to finance the initiative; Founding of a Food Coop after Covid-19; Internal pilot phase for the time being

Target group

cooperation of the whole school – 9-12 grade; mixed background, often no agricultural background (= consumer education)

Drawing of foods

Harvesting on leased land (e.g., grains), processing (e.g., flour, bread), marketing through the shop; purchase of milk from regional farms; Food Coop with own products → in future planned cooperation

with farms; Only regional and organic purchases; When purchasing food: Ingenuity, communication, and cooperation of the whole School

Financing, surplus revenue

Founding of a support association to buy the raw material; Surplus revenues benefit students

Organization

Establishing contact with farms on the part of the school; Adapting opening hours to student's availability and consumer's needs (Wednesdays); Students work independently; Cooperation with school leadership; Involvement of most subjects into the initiative (approx. 10); Online ordering platform: Time management, precise calculation needed (also as a consumer), production in line with demand (= needs-based; demand-oriented)

Internal difficulties

Identifying the appropriate opening day – adapting to students and consumers

Motivation for the initiative

- Motivation for Food Coop: enables demand-oriented production
- Motivations for marketing through the "Bioladen" (organic shop): "The step to the consumer always lacks" → consumer-producer linkage through marketing; Competence to sell something; Support/strengthening of values such as *regional* and *organic*; Enables practical teaching → Practical relevance
- Emphasize the importance of small and versatile structures of organic networks in the region

"Our students love the practical part, so we try to put the "doing" (practice) in the first place."

Activity or integration in the local network/SFSC

Adaption to consumers and students; Consulting activity in questions regarding production and processing → support (former students; interested farmers) for not having to rely on external processing

Active Participation

Marketing of own production

Food Coop – marketing to teachers and students

Distribution activity

The marketing of products from surrounding farms through the „Bioladen"; Future plans: a cooperation of the Food Coop with regional farms

Initiative or school as consumer

Purchasing of milk; school kitchen is 75-80 per cent organic; Partly drawing from wholesalers, partly directly from the farms (meat, milk and cheese)

In-School

Pilot phase – Food Coop works in-school for the time being

Addressing the issue of "SFSCs and alternative forms of marketing"

- Alternative production: School branch for adult education (lateral entrants; "career changers") deals a lot with CSAs; CSAs are a marginal topic in classical school
- Alternative marketing: Covered in both schools: How to make a reasonable choice (pro/con discussions); Types of cooperation; Focus on Food Coops due to spatial proximity and link to reality; Excursions to "agricultural alternatives" to broaden students' horizon

Engagement with the topic of sustainability transitions

Circular economy; Resource-efficient work; Soil-building and CO_2-saving work; Curriculum: adapted to seasons

Influences on the initiative

External influences

Covid-19 (stop of production); Political regulations (without the "support association" earnings would go to the province of Upper Austria); Support through customers → accepting of more expensive prices "in favour of the pupils"; Strict regulations for meat marketing; Increased direct marketing due to increasing willingness to pay for it → educated/informed customers

Personality of the teacher

Sympathy between teacher and pupil promotes teamwork

Impact; Imparted values

Support/reinforcement of values such as regional and organic; Support through customers → accepting of more expensive prices "in favour of the pupils"; Joy; School meals are 80% organic → very good value for schools; Influence on nutritional behavior; Example of success: Students go into direct

marketing after graduating from school; Consulting activity in questions regarding production and processing → support (former students; interested farmers) for not having to rely on external processing

Links to reality

Products offered to partners are only those currently taught in production; Projects: Product creation (raw material purchase, processing, packaging, labelling, type of marketing → How do I market the product?); Communication of values like *regional* and *organic*; Relation to the surrounding: Focus on Food Coops instead of CSAs due to spatial proximity and high amount of Food Coops in the surrounding

Difficulties, problems, barriers, and gaps

Financial resources for material, production etc. → criticism on the institution and province; Room/freedom for practical teaching (trials need resources); Openness → more freedom in curricula; Investment in value units of teachers (time resources, paid teaching time); Lack of staff

Competences

- Purchasing; Packaging; Type of marketing → What do we buy, which products do we buy? What do we make from them? What does the packaging look like? How do we market it?
- Business management: cost accounting, price calculation (price of processing, material costs, required final price, risk margin, failure rate) → What does the processing cost, the material in addition? What final price do I need? What is the risk margin so that I can compensate for failures?
- Merchandise management (choice of products - purchase, sale, stock, choice of producers)
- Marketing strategies; target group analysis, Advertising; Social Media → Which people do I target when I sell my product? Who do I want to reach with it? And how do I get them on board? How can I bind them to my business, my product?
- Management/precise calculation for producer *and* customer → online: demand-oriented production

Independence

Students do and teachers support

Methods

Project: Creation, production, processing, and marketing of an own product; Blocked seminars; Excursions; special courses; vocational training; traineeships

Topics

Classical cross-sectional subject matter; Merchandise management → Choice of products - purchasing, sales, stock, choice of producers; Business management and controlling → Cost accounting, price calculation (price of processing, material costs, required final price, risk margin)

Consumer-producer linkages

- Website to order for internal Food Coop (pilot phase): Production on demand; Agency of consumers
- After tested pilot phase a linking with consumers and regional farmers is planned
- Support through customers → accepting of more expensive prices "in favour of the pupils";
- Increased direct marketing due to increasing will to pay for it → educated/informed consumers
- Marketing strategies (CSAs, crowdfunding, etc.); Target group analysis, advertising (social media) → Which people do I target when I sell my product? Who do I want to reach with it? And how do I get them on board? How can I bind them to my business, my product?

Consumer education

- Visiting school out of interest – not necessarily an agricultural background (=consumer education)
- School branch for adult education: High proportion of students without agricultural training → Questions: How does agriculture work? What is wrong with agriculture?

Curriculum reference

Curriculum is a block system coordinated with seasons; Relevant topics in the context of the RQ: Accounting; Food and marketing project; Nutrition (plants, animals, humans, ...); Building science and investments; Product development; Marketing; Law; Excursions; Consumer contact; Sales training