



LUNDS
UNIVERSITET

Lund University Master of Science in
International Development and Management

May 2021

“A Different World is Plantable”

A Case Study of How Alternative Food Initiatives Build
Resilience and Promote Food Sovereignty in Franconia, Germany

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Abstract

It is increasingly recognised that the urgent need for more climate-adapted, context-appropriate and sustainable agro-food systems requires fundamental and crosscutting transformations. Alternative Food Initiatives (AFIs) have been proposed as one actor advancing transformation from the bottom up. This thesis contributes to existing research on AFIs relating to if and how they propose viable alternatives in the agro-food system. To this end, the food production and distribution practices of AFIs were studied through the theoretical lens of resilience and food sovereignty to provide a concrete guideline against which to analyse their practices and thus a comprehensive, nuanced and context-aware understanding, by examining the following research question:

How and why do AFIs in Franconia, Germany, build resilience and promote food sovereignty?

Through a qualitative multiple case study of ten AFIs using semi-structured interviews and participant observation, and cross-case thematic analysis, common strategies towards resilience and food sovereignty as well as their underlying motivations are identified. The findings show that based on their critique of the conventional agro-food system and primarily through ecological integration, capital development, diversification and social connectivity/networking, the AFIs build resilience to increase their capacity to adapt to change and to self-sustain. Simultaneously and grounded in their building of resilience, they realise their own version of food sovereignty to promote socio-ecological transformation.

Key Words: Alternative Food Initiatives, Resilience, Food Sovereignty, Agro-Food System, Qualitative (Multiple) Case Study, Germany

Word Count: 14,994

Acknowledgements

My deepest gratitude and admiration go to the participants in this study. Thank you for sharing your time and experiences which not only made this thesis possible but also left a great mark on me – your work is a source of inspiration and hope.

Thank you to everyone who was part of my internship experience, for welcoming me into your home and for making me feel at home, for all the opportunities to learn and grow, for the discussions, hikes and tree quizzes, and for the emotional support.

Thank you, Moira, Agnes, Nguyen and Esra, for your critical insights, guidance, encouragement and optimism that made supervision much more fun and helped me see ‘the forest instead of just the trees’ as we say in German. And thank you Hannah for proof-reading for me.

Thank you as well to the entire LUMID batch for the marvellous, fun and yet challenging and educational last two years. I wish you all the very best!

And in general, thank you to all my friends for your support, encouragement, inspiration and simply for making life wonderful.

Lastly, I want to thank my family, without whom none of this would have been possible!

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Abbreviations

AFI	Alternative Food Initiative
BMEL	Bundesministerium für Ernährung und Landwirtschaft (Federal Ministry of Food and Agriculture)
BZL	Bundesinformationszentrum Landwirtschaft (Federal Office of Agriculture and Food)
CSA	Community Supported Agriculture
DD	Documentary Data
EU	European Union
FS	Food Sovereignty
HO	Host Organisation
KLU	Kommission Landwirtschaft am Umweltbundesamt (Commission for Agriculture at the Federal Environmental Protection Agency)
PO	Participant Observation
SDGs	Sustainable Development Goals
SES	Socio-Ecological System
SSI	Semi-Structured Interview
StMELF	Staatsministerium für Ernährung, Landwirtschaft und Forsten (State Ministry of Food, Agriculture and Forestry)
WWOOF	World-Wide Opportunities on Organic Farms

1. Introduction

1.1 Motivation for Research

It has long been recognised that the field of food and agriculture is at a crossroads, at the intersection between the climate, energy, food and economic crises (Ishii-Eiteman, 2009). Today's agro-food system is a large contributor to climate change, excessive energy consumption and the degradation of natural resources and ecosystems at a global scale (Ibid.). Simultaneously, it entails a range of socio-economic grievances that have largely led to dependency, deprivation and the abandonment of farming (Araghi, 2009). The system is also highly vulnerable to both climatic and market disruptions as has been highlighted by past climate change related interferences as well as the COVID-19 pandemic (Altieri and Nicholls, 2012; FAO *et al.*, 2020). The prevailing practices furthermore impact food accessibility, quality and nutrition some of which in turn severely affect human health (Skolnik, 2016).

In this light, to address the agro-food crisis, substantial changes, if not a complete transformation towards “an alternative agricultural development paradigm” (Altieri and Nicholls, 2012:1), are imperative and in fact considered “key to sustainable development” (FAO, 2021) within the framework of the Sustainable Development Goals (SDGs). However, at present, agricultural politics, particularly in the Global North, continue to prioritise productivity and competitiveness over social and ecological aspects and thus favour export-oriented industrialised farming (KLU, 2019).

Grassroots-based efforts by farmers, communities and activists alike work to carve out viable alternatives (Barkin, 2017). Some of these are often clustered under the term *Alternative Food Initiatives* (AFIs) (Franklin, Newton and McEntee, 2011). First and foremost, AFIs are defined by a range of activities concerning food production and distribution which are posited as “alternatives to industrial modes of food supply” (Venn *et al.*, 2006:249). As such, they have increasingly received attention in research and are generally considered to provide ecological, economic, socio-cultural and socio-psychological services and benefits (Jaklin, 2013). However, a range of criticisms hereto have also been raised concerning the risk of romanticising these efforts and impacts when based on too simplistic a framing as *alternative* or *non-capitalist* and on the idealisation of localisation (Cameron and Wright, 2014). Thus, there is a need to study the specific practices of AFIs taking into account the diverse forms such initiatives may

take as well as their embeddedness in the local context to assess the merits and limitations of different approaches from a more comprehensive perspective (Jaklin, 2013; Cameron and Wright, 2014).

1.2 Purpose and Research Question(s)

Against this background, I have chosen to study the practices of AFIs in the region of Franconia, Germany, to contribute to existing research on AFIs and their role in sustainable development in the field of food and agriculture. In order to provide a comprehensive and yet nuanced perspective, theories about resilience and food sovereignty (FS) are combined as a lens through which to analyse the AFIs. In combining both theories, this research proposes and tests a new theoretical framework for studying AFIs which overcomes the limitations not only of other approaches (e.g. sustainable development, green growth), but also of each theory individually. As such, the framework is intended to provide a concrete guideline for strategies understood as progressive and alternative with respect to the prevailing agro-food system against which to analyse the practices of the AFIs. The study focuses on food production and distribution rather than other aspects of the agro-food system such as food consumption or relations to the political sphere. To this end, the research is guided by the following research question:

How and why do AFIs in Franconia, Germany, build resilience and promote food sovereignty?

By conducting a multiple case study of ten AFIs in the region and cross-case thematic analysis, I intend to identify common strategies towards resilience and FS. Secondly, I aim to analyse the extent to which they pose genuine alternatives to the currently prevailing agro-food system. Lastly, to respond to why resilience and FS are promoted, I aim to understand the underlying motivations for implementing these practices. To achieve these ends, I gathered the core strategies for the realisation of resilience and FS from the respective literature which are then used as a guideline to assess and classify the practices and strategies employed by the AFIs. In the literature, these practices are further linked to a set of values and motivations based on which the implementation or outcome of the former may be more or less successful and thus the extent to which the AFIs can build resilience and promote FS may vary. Hence, these motivations were also incorporated into the theoretical framework to firstly speak to the why, but also provide insights into existing challenges that might limit the realisation of resilience and FS. Accordingly, the main question was informed by the following sub-questions:

- *What practices and strategies do the AFIs employ and how can they be interpreted within the resilience and FS framework?*
- *What motivates the AFIs to implement these practices?*
- *Which challenges do they face in terms of building resilience and advancing FS?*

Even though theories on resilience and FS provide the framework for analysis and interpretation, the focus is on the reality and experiences of the AFIs which thus offers insights into deviations from or additions to the theory which will be a central component of the discussion.

1.3 Outline of the Thesis

Hereafter, I will present a short introduction to the food and agricultural sector against the global and German context, and the case study area of Franconia. Subsequently, I review the state of academic research on AFIs and the literature related to resilience and FS. Then, the theoretical framework based on the two concepts will be introduced and thereafter, the research design and methodology explained. In the following two chapters, the results of the data analysis will be presented and discussed. Lastly, I will reflect on the implications of my research.

2. Background

The following chapter provides a short introduction to the field of food and agriculture at a global scale. It further presents the agro-food sector in Germany with a focus on its main predicaments and lastly briefly introduces the case study location. By illustrating the framework conditions established by the global agro-food system and the resulting challenges faced in the German sector, I intend to provide the foundation for the research premise, i.e. why substantial and crosscutting transformation of the system is crucial. Furthermore, by positioning Franconia therein, its suitability as a research location is illustrated given its variety in agricultural production methods which reflects both the predicaments in the sector and an exploration of alternatives.

2.1 Background Conditions of the Global Agro-Food System

The conditions and scope of action of individual agro-food initiatives are fundamentally influenced by the prevailing global agro-food system. In the literature, the latter is often defined as a *regime* which connects the production and consumption of food with accumulation and thus is embedded in and evolves in conjunction with capitalist transformation (Oosterveer and Sonnenfeld, 2011). Rooted in capitalism's growth and competition imperative, the agro-food sector has been subjected to the principles of rationalisation, specialisation and industrialisation whereby continuous increases in food production have been facilitated by farm size expansion, concentration and declines in the total number of farms on a global scale (Brookfield, 2008; Wittman, 2011). Whilst these processes have been supported by nation states and institutions via political frameworks such as the Common Agricultural Policy in the EU (European Coordination Via Campesina, 2018), the resulting neoliberalisation of the agro-food sector has increasingly shifted power and control to transnational corporations (Oosterveer and Sonnenfeld, 2011).

By consequence, not only the production of food but the entire value chain, including processing, distribution and consumption, today are largely corporately controlled (van der Ploeg, 2008). In linking food production with accumulation to enable concentration and growth, the agro-food regime relies on privatisation and dispossession (Araghi, 2009). This includes first and foremost natural resources such as land and water, and biological and genetic resources e.g. seeds (Shiva, 2004). However, privatisation was extended to all resources, including labour, until every aspect of the value chain was commoditised and degraded to merely an employable

asset such that even food becomes commodity (van der Ploeg, 2008). Furthermore, corporations increasingly govern food trade and distribution by setting the rules and standards concerning i.a. product shipments, retail locations, product range, requirements on product properties, and prices (Glipo and Pascual, 2005; van der Ploeg, 2008; Rosset, 2009). Lastly, by integrating value chains into the global market, spaces of food production and consumption have been disconnected and decontextualised from local ecosystems and their respective socio-cultural matrices (van der Ploeg, 2008). In this light, experiences of food production and consumption become entirely subordinated to capitalist market logics and economic categories (Figueroa, 2015).

The current agro-food regime with its governance structure and authority over the entire value chain has devised a set of agricultural practices which prioritise productivity, efficiency and cost-reduction in the name of growth, yet which are considered the root causes of the intersecting ecological, social and economic challenges faced in the field (Shiva, 2004, 2015; Glipo and Pascual, 2005; Ishii-Eiteman, 2009). The regime's ordering principles and practices may be summarised as follows: production of cash-crops in monocultures; application of energy-intensive, synthetic inputs and technologies (fertilisers, hybrid seeds, machinery etc.); processing (addition of preservatives, freezing, canning etc.); distribution via intermediaries and controlled market channels; value extraction¹ and price manipulation through retail control over prices, hoarding and speculation (van der Ploeg, 2008; Altieri, 2009; Ishii-Eiteman, 2009; Rosset, 2009; Oosterveer and Sonnenfeld, 2011). Thus, "through a combination of political and economic power, multilevel entrances, throughput facilities and delivery systems" (van der Ploeg, 2008:101) the global agro-food regime has established an exclusive network rendering production outside of it increasingly difficult, yet subjecting producers inside to its control over resources and the entire process of production and distribution such that local autonomy and agency are nearly annihilated. These developments² have been observed globally with implications at national and local levels which will be discussed in the context of Germany in the following.

¹ Value extraction is understood here as the outflow of value from the agricultural sector, i.e. from the producing farmers, which is instead captured by the intermediaries and corporations controlling distribution channels (Oosterveer and Sonnenfeld, 2011).

² In the following, 'the (current) agro-food regime' is used as a reference to and umbrella term for the presented practices, principles, power structures and the capitalist, industrial orientation of agriculture in general as well as the therefrom resulting problems discussed in the next section.

2.2 Predicaments of the Agro-Food Regime in the German Context

In Germany, just over half of the land is devoted to agriculture producing commodities with a value of more than fifty billion Euro per year (BMEL, 2018:4) which makes it one of the four largest agricultural producers in the EU (Ibid.:16). Germany's main outputs are milk, pork, bread cereals, potatoes, sugar beets, fodder and increasingly biomass for energy production (Ibid.).

In accordance with the global trend towards growth and efficiency enhancement, agricultural holdings have been growing in size in the last decades producing ever larger amounts whilst their total number is decreasing as a result of modernisation and technological 'progress' (BMEL, 2018). Consequently, more than half of the agricultural land is farmed by only one tenth of the holdings (Ibid.:12). Germany is furthermore the third largest agricultural exporter in the world (Ibid.:5).

The prioritisation of cash crop exports undermines food self-sufficiency. In fact, Germany is also the world's third largest importer and overall, imports exceed exports (BMEL, 2018:5). Whilst largely self-sufficient in its export products, i.e. meat, milk, sugar, potatoes and cereals, for other products, in particular fruits and vegetables, Germany has to rely on imports to meet the demand as national production only covers around a fifth to a third (BZL, 2021).

Moreover, due to its embeddedness in the global market, farmers are also exposed to substantial price volatility both in terms of producer and input prices which significantly impact the income of farmers (BMEL, 2018). For example, whilst the retail prices for consumers are increasing, the share of the sales revenue the producers receive has dropped significantly over the last decades (BZL, 2021). Hence, farmers are pushed to increase productive volume as they receive less and less per unit produced. This is also the result of growing concentration in the German food retail sector where five corporations account for seventy percent of sales (KLU, 2019:28). Discounters then set low pricing standards for the industry which impedes smaller retailers or farm shops to compete at fair price levels. Consequently, agriculture contributes less than five percent to value creation and ever more farmers seek employment in other sectors (Ibid.). This has furthermore led to a rather standardised product range with little local influences on taste and regional characteristics as well as an increasing share of processed foods. This process has been described as a 'nutrition transition' from traditional food cultures based on fresh produce towards "cheap, energy-dense, and nutritionally poor food" (Skolnik, 2016:199) which has been associated with significant increases in chronic, 'man-made' diseases and comorbidities (Broyles *et al.*, 2015).

From an environmental perspective, concentration, specialisation and intensification, particularly of livestock farming, have led to dramatic losses in the diversity of landscapes, biotopes and species, as well as massive pressures on ecosystems such as soils and water bodies (KLU, 2019:28). Consequently, the agricultural sector in Germany is currently a large contributor to climate change and is failing to meet the legal provisions set for environmental sustainability (Hayn and Eberle, 2007). For example, nitrogen surpluses leading to ammonia emissions and water pollution with nitrates, continue to exceed EU target values (BMEL, 2017). The majority of these emissions is caused by livestock farming and fertilisation (Scheffler and Wiegmann, 2019).

As a result, the sector is also increasingly vulnerable to climatic disruptions. In the last years, i.a. intensified periods of drought and late frosts have significantly impinged on agricultural production, impairing both the yield of arable crops and the extent of their cultivation (BMEL, 2020). Simultaneously, the COVID-19 pandemic has highlighted further vulnerabilities with respect to market disruptions. As a result of pandemic-related restrictions imposed across Europe, the agro-food sector faced enormous challenges, on the producer level in terms of the sufficient availability of labour, especially seasonal harvest workers, and on the retail level in terms of the massive shifts between marketing channels and the assurance of cross-border transport routes (Ibid.:7).

Notwithstanding these issues, agricultural policy is still focussed primarily on increasing productivity and competitiveness and neglects due attention to social and ecological aspects (KLU, 2019). In this light, the Commission for Agriculture at the Federal Environmental Protection Agency recommends that legal measures be complemented with bottom-up, local initiatives to promote models for sustainable development (Ibid.). Such initiatives already exist and continue to emerge across the country, including in the region of Franconia.

2.3 The Case of Franconia

Franconia, a region in the north of the federal state of Bavaria in Southern Germany, has a population of just over four million (Statistisches Bundesamt, 2020). Here, around forty-four percent of the total land area are cultivated as agricultural land (Regierung von Oberfranken, 2017).

Overall, Bavaria is considered a key region in agriculture both in Germany and Europe with a considerable variety in production methods and natural environmental conditions (Alt and Bayerisches Landesamt für Umwelt, 2008). On the one hand, similar to the national trend, the agricultural sector has become increasingly specialised on export products and the number of large farms³ has been increasing (Maier and Popp, 2007; StMELF Bayern, 2020). Yet, on the other, traditional family-run farms still persist and constitute a strong character trait of Bavaria's rural areas (Maier and Popp, 2007). The region is also leading in organic production in Germany with the highest share of organically farmed land in the country (BMEL, 2017:11). Alternative farming models as well are gaining traction, including e.g. Community Supported Agriculture (CSA)⁴ with over fifty initiatives registered with the respective network in the region (Netzwerk Solidarische Landwirtschaft e.V., 2021). Therefore, Franconia was considered a rich and varied location for case study research on building resilience and promoting FS through AFIs.

Against this background and given the multifaceted and interrelated problems of the agro-food regime, in the following, the relevant literature concerning potential alternatives is discussed.

³ Large farms are understood here as farms cultivating over seventy-five hectares (StMELF Bayern, 2020).

⁴ CSAs are subscription or membership schemes, in which farm output is purchased in advance by the consumers based on their subscription which generates financial capital for local farmers to continue operating and spread risk, and in turn the shareholders receive a part of the produce (Oosterveer and Sonnenfeld, 2011).

3. Literature Review

In order to understand how AFIs are defined in this study and why they were chosen as relevant actors to address the aforementioned challenges of the agro-food regime, this chapter provides an overview of the academic research on the subject. It further highlights some of the limitations in previous studies that motivated the research question and approach, i.e. particularly the application of resilience and FS as the core concepts. Lastly, before discussing their key principles and features in the theoretical framework, this chapter provides a general definition and overview of previous studies thereon. Here, I focus on the approach and central assumptions of both theories based on which their relevance is argued. Secondly, reviewing what and how these concepts have been studied before, informed my choice for the combination of the theories and the qualitative case study approach.

3.1 Alternative Food Initiatives: Local Bottom-Up Solutions?

Among the variety of grassroots-based efforts in the field of food and agriculture, small-scale family or peasant farmers remain the central actors (Shiva, 2004). In fact, despite their subordination and displacement driven by the agro-food regime, family and peasant farming systems have been preserved and remain the dominant form of production in both the Global North and South, thus presenting barriers and counterparts to industrial, large-scale agriculture (Brookfield, 2008; Holt-Giménez and Altieri, 2012).

However, these farmers together with civil society have also begun to develop new farming models which not only centre around sustainable agricultural production, but also seek to address some of the socio-economic issues they are facing. These take various forms and incorporate different actors from producers and consumers to local retailers and food activists (Oosterveer and Sonnenfeld, 2011; Jaklin, 2013; Trauger, 2014). Some examples are CSAs; FoodCoops⁵; community or school gardens; farmers' markets; urban agriculture; or box subscription schemes (Ibid.).

These different models are often grouped under the term AFIs (Franklin *et al.*, 2011). Their principal denominator is the focus on localisation and notion of embeddedness in local economies and communities (Wilson, 2013). They furthermore express and advocate values of

⁵ FoodCoops essentially are different forms of self-organised consumer associations for the collective purchasing of food (Jaklin, 2013).

environmental sustainability, trust, transparency, connectivity and quality, artisanal production (Venn *et al.*, 2006; Connelly, Markey and Roseland, 2011). Broadly speaking, they are defined as and “understood to embody alternatives to industrial modes of food supply” (Venn *et al.*, 2006:249). As such, previous research has attributed them with several services and benefits including more sustainable, socially just and cohesive production and consumption systems, the preservation of traditional cultural landscapes, increased local value-added, higher quality produce, increase in awareness of consequences of consumption patterns etc. (Jaklin, 2013).

However, the generalised framing as alternatives to capitalism and industrialisation has been criticised for its idealised oversimplification. Because the ‘capitalocentric’ framing simply divides the world into capitalist and non-capitalist and thus neglects any other reality outside or between this dichotomy, this research instead embraces the understanding of AFIs promoted by Cameron and Wright (2014) and Jaklin (2013), considering ‘alternative’ in terms of diversity expressed in the multiplicity of ways of producing and distributing food on a spectrum of marketness, i.e. in various forms of engagement with and distantiation from the (capitalist) market.

On this basis, AFIs in this research are understood to embody three main characteristics, namely the promotion of localisation through increasingly non-conventional supply and distribution channels, quality and transparency, and social integration and regressive marketness.⁶

Previous studies on AFIs have furthermore been criticised as prone to the ‘local trap’ resulting from the assumption that local and small systems are inherently more environmentally sustainable and socially just, and thus automatically ‘better’ (Cameron and Wright, 2014). However, this cannot be generalised as the scale of production does not necessarily imply positive or negative outcomes, particularly regarding sustainable production methods (Ibid.). Also on account of this assumption, research in Europe has mostly focussed on AFIs in terms of their contribution to rural development and local value-added, and thus their socio-economic scope (see e.g. Goodman, 2003; Sage, 2003; Cox *et al.*, 2008). Beyond the neglect of the ecological dimension, Connelly *et al.* (2011) further point out a lack in accounting for the legal and political framework as well as the broader economic context insofar as AFIs do not operate in isolation but instead are bound and impacted by external circumstances.

Therefore, this research picks up on the argument in previous literature that AFIs may present alternatives to the agro-food regime but aims to address these shortcomings by studying their

⁶ A more detailed description of these characteristics is provided in Appendix B together with an explanation as to how these were used in this research as the criteria for case selection.

practices and motivations in detail and more holistically. To this end, a theoretical framework is suggested that broadens the scope from the socio-economic to the cultural and ecological sphere as well as including questions of power and agency. This aids to overcome the simplicity of previous value-laden categorisations and provide a rich and complex understanding of the role and potential of AFIs. Its core concepts – resilience and FS – are introduced in the following.

3.2 Resilience

The concept of resilience is proposed first and foremost as a replacement for sustainability as a fundamental objective in the agro-food sector. Thus far, the latter has been integrated via the ‘Green Economy’ and ‘Sustainable Development’ approaches (Kothari, Demaria and Acosta, 2014). To this end, highly sophisticated models and control systems have been drawn up to regulate and monitor sustainability (van der Ploeg, 2008). However, it has been argued that these reproduce the functioning and predicaments of the agro-food regime insofar as they continue to prioritise productivity and growth and simply produced a generic set of criteria and rules that are centrally imposed on farmers, thus largely reducing sustainability to ‘eco-efficiency’ and further on undermining local control and attention to local specificities (van der Ploeg, 2008; Oosterveer and Sonnenfeld, 2011). Against this background, Worstell and Green (2017) argue that instead of focussing on how sustainability can be created by meeting a certain range of criteria, it should be regarded as a “naturally occurring phenomenon” (Ibid.:24). Thus, instead, the “dynamic, systematic nature of human-environment relationships” (Ibid.:24) should be studied as is done through the lens of resilience particularly in socio-ecological system (SES) theory. The latter provides a dynamic framework that emphasises the interactions and interdependence between the social and ecological as well as various systems, sub-systems and actors (Walsh-Dilley, Wolford and McCarthy, 2016). Even though the concept has increasingly been taken up in academic research, the field of food and agriculture have thus far not received significant attention in resilience literature (Ibid.).

Overall, this research draws on the definition of resilience as “the capacity of a system to absorb disturbance and reorganise while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks” (Walker *et al.*, 2004:6). This openness to change further overcomes the inadequacy of suppressing and controlling it as is done in ‘conventional’ approaches (Cote and Nightingale, 2012). Unlike previous conceptualisations as recovery and robustness (Folke, 2006), resilience is here considered in its transformative nature which goes

beyond enduring and recovering from crisis to the idea of “bouncing forward” (Franklin *et al.*, 2011:775), i.e. to allow for disturbance in order to learn and further the develop the system from and through it. Lastly, this research also adopts a community-based understanding of resilience as suggested by Frankenberger *et al.* (2013) which relies on the capacity for collective action and flexibility rather than structured, pre-defined change management e.g. through scenario planning or extensive monitoring systems (Carpenter *et al.*, 2012; Stockholm Resilience Center, 2015).

Thus far, previous research on resilience especially in the SES scholarship has largely focussed on quantitative and mixed methods approaches to produce indicators to judge performance (see e.g. Ostrom, 2009; Frankenberger *et al.*, 2013). However, these have been criticised for inadequately addressing the dynamic nature of resilience principles, their embeddedness and dependency on the larger context, the importance of human agency and the need for the community itself to identify challenges and solutions based on their context and needs (Walker *et al.*, 2004; Franklin *et al.*, 2011; Bui *et al.*, 2020). To address these shortcomings, more qualitative methods are called for, seeking to understand not if, but how and why specific practices are employed with due attention to the external context and to “capture more realistically the scope of options available” (Cote and Nightingale, 2012:484).

3.3 Food Sovereignty

Despite the potential of resilience as a counter-narrative, it has also been criticised particularly for its failure to account for relations of power and politico-economic externalities (Walsh-Dilley *et al.*, 2016). In this light, still different frameworks have been proposed that re-politicise the debate and shed light on these conflicts, including FS which has increasingly received attention in academia (Figueroa, 2015). FS not only provides an alternative that centres around questions of power and the notion of social justice (Ibid.), but it also offers itself as a complement to resilience thinking insofar as the two frameworks share a number of principles and objectives (Walsh-Dilley *et al.*, 2016). However, in FS, a critique of the agro-food regime and interrogation of its underlying economic, legislative and social structures is inherent and taken as a point of departure for rebuilding the agro-food system (Figueroa, 2015).

In the main, FS advocates for citizens to re-gain control over and determine their own agro-food systems at the local and national level and to re-think food production, consumption and trade through the lens of justice, equity and solidarity (European Coordination Via Campesina, 2018). It is grounded in its demand to recognise “the rights of peoples to safe, healthy and

ecologically sustainable production” (Patel, 2009:666). Accordingly, food becomes an expression of cultural capital enriched by notions of sustainability, tradition or healthiness, thereby transcending food production and consumption into the field of mobilisation and campaigning (Hayn and Eberle, 2007; Oosterveer and Sonnenfeld, 2011).

Previous academic research has taken up FS not long after its conception in 1996 but has strongly focussed on its theoretical potential through a global lens (Wittman, 2011). However, FS was not to be considered one single paradigm but a variety of locally embedded versions and hence its potential and actual expressions need to be studied not as a whole but within a specific context (Ibid.). Yet, whilst such grassroots publications accumulate in the Global South, much less has been done in the Global North due to the apparent difficulties in imagining and adapting the concept to this context insofar as it stems from lived experiences in the Global South (Figueroa, 2015). Still, given the global nature of the agro-food regime and thus globally similar implications, FS can bear equal relevance in the Global North (Larder, Lyons and Woolcock, 2014). However, again, any efforts thereto must be studied in detail and embedded in their context to illuminate which forms FS may take and what these mean to local communities (Shattuck, Schiavoni and VanGelder, 2015).

In sum, through a resilience and FS perspective, the practices of AFIs can be studied more holistically and posited against the agro-food regime. Whilst resilience enables an understanding of how AFIs may persist, yet also adapt to and integrate changes *therein*, a FS perspective complementarily interrogates how AFIs through these practices may carve out models and operating principles as alternatives *thereto*. The combination of the two and adoption of a qualitative case study approach, is further intended to speak to the identified shortcomings in previous literature by integrating the social, ecological and economic sphere and a context-aware perspective, prioritising the experiences of the participants in identifying challenges and solutions, and offering practical insights into a potential application of FS in the Global North.

4. Theoretical Framework

In order to understand what constitutes resilience and FS in theory, a theoretical framework was developed to guide the analysis by providing a ‘blueprint’ for both concepts. Based on my review of the literature, their realisation is considered to depend on a set of practices and strategies – the how – on their motivations – the why – and the challenges related thereto based on potential limitations posed by the agro-food regime. The extent of the latter may lead the AFIs to reproduce the current regime rather than presenting viable alternatives thereto. Overall, the realisation of resilience and FS through AFIs is seen to stem primarily from those managing them.⁷

Therefore, I gathered the most common practices and strategies for building resilience and promoting FS from the respective literature. These constitute the theoretical propositions for this research, i.e. the food production and distribution practices considered key to realising both concepts, and that the AFIs are expected to employ (Yin, 2014). Secondly, in the literature, these practices are discussed in relation to why they are implemented, thus offering a set of motivations that guide the realisation of resilience and FS. Hence, I integrated these into the framework as well to provide an outline not just of what I expect the AFIs to do but also why. In providing guidelines for which motivations result in different ‘best’ practices, the theory also indicates potential challenges that may limit a successful realisation. This then provides a more nuanced understanding of the status quo, including insights into whether and where there is room for improvement and what would need to be addressed in this regard. Lastly, the literature posits these practices as intrinsically different from and in opposition to those underlying the agro-food regime. Thus, juxtaposing the theory with the experiences and reality of the AFIs, also offers insights into the extent to which they may constitute genuine alternatives thereto.

I have grouped these practices into five themes that speak to the principal motivations in order to provide some structure and draw out the differences between the specific elements of resilience and FS. Taken together, these are seen to depict a realisation of both resilience and FS. In other words, the theoretical framework presents the propositions and assumptions for promoting resilience and FS concomitantly which I will refer to as the *theoretical premise*. This premise rests on the argument that only the combination of both concepts provides effective

⁷ Even though national and local governments, civil society organisations, other agro-food initiatives as potential competitors, and structural socio-economic and ecological factors are also relevant and discussed in particular in the FS literature, they are not considered in this study insofar as the focus is on the ability of AFIs to realise resilience and FS through their food production and distribution activities within a *given* context.

strategies for sustainable and innovative pathways in the agro-food regime by which to navigate its predicaments and anticipated disruptions whilst carving out spaces of resistance to imagine and promote an alternative agro-food system altogether (van der Ploeg, 2008; Walsh-Dilley *et al.*, 2016). However, some caution is warranted here with respect to potential tensions between both concepts resulting from their different orientation towards the internal and external sphere of the AFIs: As remarked i.a. by Sage (2014), there is a risk that AFIs remain “locked into an inward-looking, defensive, even autarkic, trajectory” (Ibid.:269) in their pursuit of resilience and thus fail to promote broader (external) change in the agro-food system. To acknowledge these tensions, in the presentation of the framework below, any assumptions under the *theoretical premise* in this regard are highlighted.⁸ These assumptions will then be reviewed on the basis of the findings in the discussion in Chapter Seven.

4.1 Grounding in Nature

A core characteristic is the grounding of farming in nature by integrating natural biological processes into farming practices instead of intensive use of capital, labour and synthetic inputs. These are motivated by increases in the productivity of key resources, lesser dependence on off-farm inputs but also the conservation and development of natural capital to build self-sustaining ecosystems (van der Ploeg, 2010; Altieri and Nicholls, 2012; Worstell and Green, 2017). This can be achieved through practices based on nutrient recycling, the production of natural fertilisers, and decreased soil disturbance⁹ (Tomich *et al.*, 2011; Altieri and Nicholls, 2012) which are expected to be observed at the AFIs. A grounding in nature also implies the co-production of agricultural outputs and ‘green services’ such as preserving a healthy environment or mitigating climate change (van der Ploeg, 2014) which become mutually reinforcing. A key motivation is the management of agro-biodiversity by serving a variety of agricultural niches (Wittman, 2011; Worstell and Green, 2017). In order to integrate the concern for the specific environmental impact of local food production, the entire process of production

⁸ These tensions and resulting assumptions were seen as primarily manifest in possibly conflicting social/environmental vs. economic motivations and are thus discussed as such in the presentation of the theoretical framework.

⁹ More specifically, common examples include no-till farming, crop-livestock mixes and rotational grazing, planting in polycultures and crop rotation, integrated pest management, use of cover crops and perennials, mulching, agroforestry systems, improved rainwater harvesting and the alignment of the production with local ecological parameters (see e.g. Tomich *et al.*, 2011; Altieri and Nicholls, 2012; Worstell and Green, 2017).

is discussed with the AFIs to cover all steps, inputs and tools. Based on the *theoretical premise*, the economic and environmental motivations are not considered mutually exclusive.

4.2 Autonomy

Autonomy is primarily constituted through control over and re-production of the natural and physical resource base, including i.a. technology, infrastructure and material inputs e.g. seeds or fertiliser (Wittman, 2011; van der Ploeg, 2014). This is achieved by self-provisioning resources and through income diversification strategies such as pluri-activity or multifunctionality¹⁰ which allow for and are motivated by a greater independence from upstream markets and potential shocks, and the self-management of the production process (Ibid.). Secondly, autonomy is also a function of the potential for self-determination and -actualisation regarding i.a. the design and choice of outputs, prices and marketing (Via Campesina, 2007; Jaklin, 2013). In other words, local control also concerns all production decisions. Hence, how and why these choices have been made by the AFIs further informs how they may realise resilience and FS. As such, autonomy relates to both the motivation and (intended) effect which thus needs to be discussed in relation to the practice as well. For example, holding multiple jobs may be a choice out of personal preference irrespective of the implications for the AFI from which a greater capacity to deal with disturbance can thus not be assumed but would need to be discussed in terms of past or potential future implications specifically.

¹⁰ Pluri-activity is understood as multiple job holdings, i.e. that at least one member of the AFI also generates an income outside of agriculture (van der Ploeg, 2008). Multifunctionality means a diversification of income-generating activities within the AFI, by combining food production e.g. with direct selling, on-farm processing, energy production, agritourism etc. (Ibid.).

4.3 Collaboration and Reciprocity

Furthermore, both resilience and FS rely on collaboration which aims to facilitate systems of reciprocity and mutualism (Frankenberger *et al.*, 2013; Figueroa, 2015). For example, the AFI may collaborate with multiple suppliers and fellow farmers to mobilise additional resources (Agarwal, 2014). Collaboration increases social capital which further increases adaptive capacity (Folke, 2006) and thereby also ensures that back-ups and replacements exist in the system. By building its social network, the AFI may draw on friends or new recruits, for example, to take over functions if needed (Worstell and Green, 2017). Hence, I expect that the AFIs engage in different partnerships and express an intention to enlarge their social networks in order to facilitate systems of exchange and build back-ups. These collaborations are expected to be motivated by and based on a sense of reciprocity, solidarity and community (Friedmann, 2003; Figueroa, 2015). Concerning reciprocity, there may be a trade-off between the economic and the social incentives. In the context of the *theoretical premise*, however, these are not considered mutually exclusive.

4.4 Knowledge and Learning

Another key characteristic of resilience and FS practice is the preservation and development of local knowledge and skills, including traditional seed and livestock varieties (Walsh-Dilley *et al.*, 2016). At the same time, learning and innovation are actively encouraged by drawing on knowledge and experiences from others as well as own experimentation to improve and develop the entire system (Tomich *et al.*, 2011; Worstell and Green, 2017; Anderson, Maughan and Pimbert, 2019). The main motivation therefor is the building of adaptive capacity to cope with disturbance and (unexpected) changes by facilitating a greater degree of self-organisation and constant transformation (Ibid.). Knowledge and skills are furthermore shared and passed on to other farmers or initiatives (Anderson *et al.*, 2019). In other words, knowledge is considered a collective good which ought not be subject to elite control (Ibid.) but rather pooled and exchanged in order to preserve skills but also create new knowledge (Fathi, 2019). First and foremost, this would imply the democratic and equal participation of all members in the decision-making process in appreciation for diverse opinions and expertise to lead to best possible outcomes. It is further expected that the AFIs report an appreciation for traditional practices as well as past changes to the farming system and an openness to learn from others based on their network. Here, it is important to be able to separate between changes and

activities undertaken out of interest or from necessity, e.g. political requirements, and those that were actively pursued in response to a changing environment and/or based on the aforementioned appreciation for collective learning insofar as only the latter depict the core motivation of this theme.

4.5 Socio-Economic Transformation

Lastly, building resilience and promoting FS also implies the (re-)localisation of food production and consumption and the creation of spaces of autonomy from markets logics (Robbins, 2012; Shattuck *et al.*, 2015). Autonomy is to be understood here primarily as a “critique of capitalism and a desire for something different, [i.e.] to imagine and create new social and economic realities ” (Wilson, 2013:728). The meaning of food as commodity may be transformed and instead the AFI builds cultural capital by appealing to traits such as quality, origin, or the craftsmanship of the production and processing (Via Campesina, 2007). The de-commodification of food is an ongoing and dynamic process as the AFIs constantly re-negotiate their position in the agro-food regime (Wilson, 2013). It is complemented by the supply of non-commodities, such as care, hospitality or nature (van der Ploeg, 2010). As such, these local markets firstly offer complements to the agro-food regime which allows the AFIs to capture a higher value on their downstream market (Ibid.). Secondly, they also constitute new forms of social connection and interaction that “forge new relationships and collective identities beyond the typical categories under capitalism of workers, producer, consumer and owner” (Wilson, 2013:729) and place a higher value on trust, connectivity and equality (Friedmann, 2003; Trauger, 2014). However, this may be challenging to assess as for example, individual members may describe their relations in ways they expect to be socially desired rather than accurately depicting reality. Thus, how the AFIs promote their products, their marketing strategies, and how they interact with consumers should also be observed to at least offer a spectrum of insights for substantiation. Again, based on the *theoretical premise*, the economic and social motivations e.g. regarding the employment of cultural capital, are seen as mutually re-enforcing. Thus, cultural capital may serve financial gains by attracting a certain type of consumer willing to pay a higher price for higher quality products whilst still aiming to confer a different meaning and appreciation for food in the process.

To summarise, the following chart provides a brief overview of the practices and motivations under each theme.

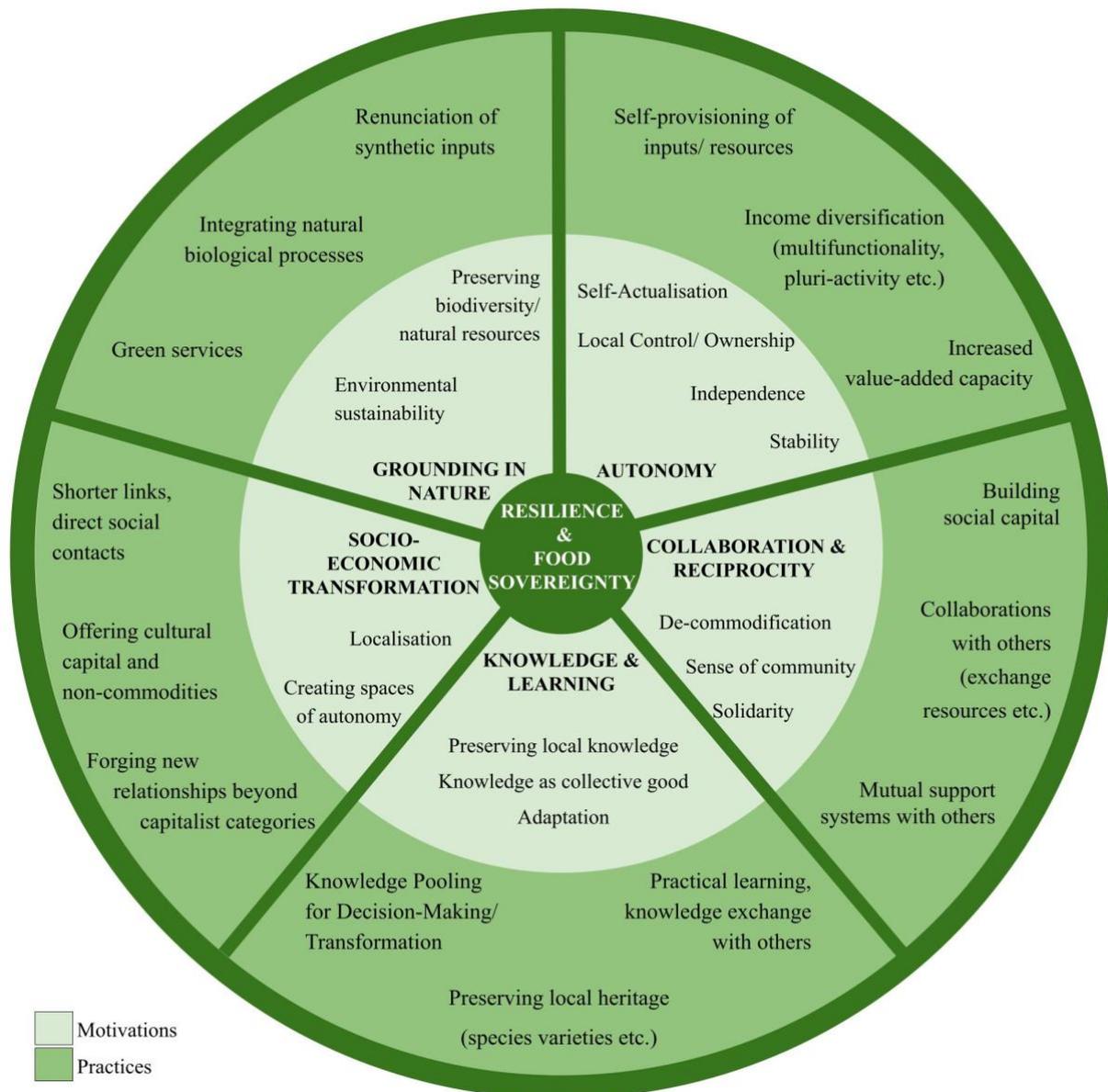


Figure 1: Schematic Representation of the Theoretical Framework

The above framework thus combines the practices, strategies and motivations that taken together build resilience and promote FS. It is used as a guideline for the research design, data collection and for the data analysis for interpreting the practices and motivations of the AFIs in relation to their food production and distribution activities. In this regard, the analysis takes both an inductive and deductive approach, thus using the framework for classification and juxtaposition of practice with theory, whilst still emphasising the experiences and reality of the AFIs. The following chapter will elaborate on this and the methodological approach and design of the study in general.

5. Methodology

5.1 Research Approach and Design

In order to examine the practices employed by the AFIs and their underlying motivations, a qualitative approach and the multiple case study method were adopted. The latter seeks to investigate “a contemporary phenomenon (the ‘case’) in depth and within its real-world context” (Yin, 2014:47), by drawing on multiple representations of the phenomenon which “preserves the integrity of each case [whilst allowing] within-case patterns [to] be tracked across the set of cases” (Ibid.:240). The study design thus provides “rich descriptions of the [AFIs] but also [allows for] comparisons to achieve the detail, complexity, and multiple perspectives” (Whitt *et al.*, 2008:237) needed for a more holistic analysis. In other words, the research assumes that there is not one singular path to resilience and FS, but rather that these concepts may be manifested in a spectrum of practices and experiences and to varying degrees. Thus, the qualitative case study allows for an understanding of a potential real-world example of resilience and FS including its contextual conditions for a comprehensive and embedded view of the two phenomena (Yin, 2014). Furthermore, using multiple cases reflects the aforementioned variety of possible applications, providing rich and nuanced information to “replicate or extend [resilience and FS] theory” (Meyer, 2001:333). Lastly, it can strengthen the results, rendering the study more robust (Yin, 2014), as it allows for triangulation, not just in drawing on multiple cases but also using multiple sources of data (Yin, 2014; Patton, 2015). In this light, documentary data (DD), i.e. primarily the AFI’s websites and newspaper articles, data from semi-structured interviews (SSIs) and participant observation (PO) were combined to provide the evidentiary base for this study.

5.2 Case Selection

The individual cases were selected according to the principles of deductive theoretical replication. In other words, they were chosen insofar as they were considered a possible exemplar of an AFI and of resilience and FS to analyse and elaborate these concepts (Patton, 2015). Therefore, the case selection criteria were based on the definition and essential characteristics of AFIs, first of all, and secondly on the themes and practices identified in the theoretical framework. Since a qualitative case study does not rely on statistical sampling, the replication logic was employed, i.e. the cases were selected because they were expected to

highlight one of these themes and hence a similar strategy, thus predicting similar results, or because they were expected to illuminate another theme of interest not touched upon by previous cases (Yin, 2014). In total, ten AFIs were studied. Their identification was supported by my internship host organisation (HO) as well as the documentary data I collected to test compliance with the criteria.¹¹

5.3 Research Methods and Data Collection

Fieldwork for qualitative data collection was carried out over a period of three months. It included semi-structured interviews with participants from the AFIs as well as observational findings through PO at all initiatives. The data was collected during the course of my internship and with the support of my HO with case identification and access to the field in terms of commute.

5.3.1 *Documentary Data (DD)*

Before commencing fieldwork, DD was gathered with the purpose of “corroborat[ing] and augment[ing] evidence from other sources” (Yin, 2014:159). The data gathered here includes information from websites, newspaper articles and video footage published by or about the AFIs. It was used primarily to provide additional information and insights to identify practices aligning with the theoretical concepts to inform and tailour the interview guide and to provide some structure and expectations for the observational data collection. It was later used in the analysis to enrich some of the results with additional data or examples.

¹¹ A short introduction to the individual initiatives as well as an overview of the criteria on the basis of which they were selected and how these were applied can be found in Appendix A and B.

5.3.2 *Semi-Structured Interviews (SSI)*

SSIs were scheduled and held to explore the strategies, experiences, and motivations of the different initiatives. In total, eleven different people from the ten AFIs were interviewed. The interviewees are considered “key knowledgeable” (Patton, 2015:597), i.e. participants in the initiatives who are expected to be particularly knowledgeable about the AFI, e.g. the operational manager.

The general interview guide approach was chosen with open-ended questions which were thematically grouped to cover the “same general areas of information [whilst allowing] a degree of freedom and adaptability in getting information” (Turner, 2010:755). This enables „greater flexibility and individualisation” (Patton, 2015:647) insofar as it was not expected that each case would adopt every single practice identified in the literature. Thus, questions were formulated in accordance with the theoretical themes. All interviewees shared a set of questions whilst some were tailored to the specific case or formulated during the interview based on the responses to previous questions. I asked open-ended questions to allow for perspectives or practices beyond the theoretical expectations to emerge. A pilot interview with my HO was conducted to assess the appropriateness and potential limitations or weaknesses of the interview guide (Turner, 2010). I re-assessed my data collection methods and in particular the interview guide several times through discussions with my HO and in reviewing completed interviews. Whilst it should be acknowledged that my HO has thus exercised a certain degree of influence over the research, this also allowed me to recognise some of my academic biases and supported the formulation of more clear and open interview questions as well as a more open-minded approach to PO, as recommended by Funder (2005).

The interviews were conducted in German and audio-recorded on my laptop. After completion, I transcribed and anonymised the recordings¹², as agreed upon with the participants. I analysed the transcripts and fieldnotes in German and only translated the extracts that are quoted in the presentation of the findings from German to English.

¹² By anonymised I mean that the audio-recordings and transcripts were stored separately, and any potential identifiers concerning the AFIs were omitted in the transcripts and fieldnotes.

5.3.3 Participant Observation (PO)

On the same day as the interviews, PO was conducted to complement and contextualise the data gathered during interviews. When approaching potential interviewees, I had asked to spend at least half a day at the initiative. In compensation for participating in the research, I had also offered a day of work on the farm. Not all participants agreed thereto due to their limited availability or restrictions related to the COVID-19 pandemic. Hence the degree of my participation varied from moderate to relatively high (DeWalt and DeWalt, 2011).

The purpose of this part of the fieldwork was to verify the presence of strategies discussed in the interviews and to gather additional data on context and activities that were not touched upon. Given the clear purpose for this part of the data collection and the limited time I had available in some instances, I had previously prepared an outline of what I was looking for at the AFIs that would be consistent with the theoretical concepts of interest, as recommended by DeWalt and DeWalt (2011).¹³ In addition, the setting, interactions between people, the tasks that were carried out etc. were recorded for a broader understanding of the context and environment. Because of my involvement as a participant observer, I only took jot notes whilst there which I then completed at the end of the day.¹⁴ Observational data was combined with informal interviewing. Probing questions had been prepared and were used, if needed, but mostly conversations developed naturally.

Some additional information regarding data collection at each case is provided in Appendix C.

5.3.4 Connection between Theory and Data Collection Methods

The following table outlines how the strategies and motivations were captured through the above methods to analyse them through the lens of the theoretical framework.¹⁵

¹³ This is consistent with the approach of ‘rapid appraisal procedures’ which may be conducted on bounded topics to incorporate local understandings and to gather specific information e.g. on farming techniques (DeWalt and DeWalt, 2011).

¹⁴ This was based on the recommendation by DeWalt and DeWalt (2011), given that participation in activities can interfere with the possibility to take exhaustive notes and yet there are natural limits to the capacity and accuracy of (my) memory. Thus, I kept either my notebook or phone with me at all times to take jot notes (words, phrases and short sentences) to aid recalling information when writing out and completing my notes afterwards.

¹⁵ It should be noted that this table provides a summary overview of the interview questions, observations and information collected through documentary data. Given some (intentional) differences between the AFIs, not all of these were covered for each individual case.

	Semi-Structured Interviews (Sample Questions)	Participant Observation (Features Observed)	Documentary Data (Type of Information)
Grounding in Nature	<p>What products/ outputs are produced?</p> <p>Do you engage in any other productive activities (land use)?</p> <p>What kinds of production methods are used? Why?</p> <p>What kinds of production inputs do you use? Why?</p>	<p>Types of crops and animals present</p> <p>Soil coverage</p> <p>Irrigation system</p> <p>Production process (procedures)</p> <p>Tools, machinery</p> <p>Production inputs</p>	<p>Organic certification and production methods (website, video footage)</p> <p>Product range (website)</p> <p>Green services (website, newspaper articles)</p>
Autonomy	<p>Why did you choose these products/ outputs?</p> <p>What other activities/ services do you engage in?</p> <p>How and why did you develop these?</p> <p>How do you obtain resources/ inputs?</p> <p>How do you make decisions concerning the AFI?</p> <p>To which extent, if at all, does the political framework impact your work and decision-making?</p> <p>What challenges do you face? How do you deal with these?</p>	<p>Activities carried out</p> <p>Procurement of production inputs, resources</p> <p>Facilities, infrastructure</p>	<p>Activities and other services offered (website, reports/ video footage)</p> <p>Financing and pricing strategy (website)</p>
Knowledge & Learning	<p>When was the AFI founded?</p> <p>How has the AFI evolved in the past years?</p> <p>How did you come to make these changes in the past?</p> <p>How do you make decisions concerning the AFI?</p> <p>Where did/ do you obtain information?</p> <p>Do you exchange information with others?</p> <p>What challenges do you face?</p> <p>What are your plans for the future?</p>	<p>Participation in decision-making and planning</p> <p>Other forms of knowledge exchange with others</p> <p>Strategies to cope with disturbance (e.g. water shortages, COVID-19)</p>	<p>Historical development of AFI (website, newspaper articles)</p>
Collaboration & Reciprocity	<p>Do you connect with other producers or initiatives in the region?</p> <p>If so, how and why?</p> <p>To which extent and why are you involved in [network, association]?</p>	<p>Networking strategies</p> <p>Presence of back-ups</p> <p>Interactions with others (between members, with other producers etc.)</p>	<p>Association membership and partnerships (website)</p>
Socio-Economic Transformation	<p>How and why did you come to join the AFI?</p> <p>What motivates you in your work?</p> <p>How do you market your products? Why did you choose these strategies?</p> <p>What is your relationship with the consumer?</p> <p>Why did you decide to [engage in educational activity]?</p> <p>Where and how do you procure your own food?</p>	<p>Marketing strategy</p> <p>Presentation of products</p> <p>Interactions with consumers (in case of direct selling)</p> <p>Implementation of educational activities (approach, process, types of information conveyed)</p> <p>Types of food consumed</p> <p>Task divisions, participation in activities</p>	<p>Description of objectives/ motivations (website, interviews in newspaper articles)</p> <p>Description of product properties (website)</p> <p>Marketing strategy (website)</p> <p>Educational activities offered (website)</p>

Table 1: Connection between Theory and Data Collection Methods

5.4 Data Analysis

The interview transcripts and typed-up field notes constitute the primary data used in the analysis. Given that this research intends to identify common strategies towards resilience and FS and to interrogate their dependency on the local context, cross-case analysis was applied which thus focusses on commonalities and differences regarding specific concepts across multiple cases (Yin, 2014). I adopted the thematic analysis approach by Braun and Clarke (2006). The purpose thereof is to provide a rich and complex account of the data by organising it into themes, i.e. “repeated patterns of meaning [that capture] something important about the data in relation to the research question” (Ibid.:82-86). Since this research explores the practices and motivations, i.e. the reality, of the AFIs, the thematic analysis draws on an essentialist or realist approach (Ibid.).

The analysis was conducted in six phases, as outlined by Braun and Clarke (2006). After a first intensive engagement with the data to become familiar with its depth and breadth, by transcribing the interviews myself and through repeated reading, in phase two, I coded the data using NVivo 12. I took both an inductive and deductive approach to coding. Based on the theoretical framework, the themes – practices and motivations – were applied in the coding process by checking and verifying them against the data (Creswell and Poth, 2016). In order to emphasise the individual circumstances and reality of the AFIs, an inductive approach was used as well to “look at the data afresh for undiscovered patterns and emergent understandings” (Patton, 2015:792). Here, the meaning and experiences of the AFIs of the phenomena studied was prioritised in line with the intention to provide various nuanced perspectives on resilience and FS rather than solely replicating previous studies (Creswell and Poth, 2016). Therefore, I conducted a first round of coding deductively by organising the data into predetermined codes based on the theoretical themes, focusing only on the aspects of the data I considered relevant thereto. In a second round of coding, I then took an inductive approach, reading through the data again and coding the entire data set with as many categories and potential patterns as possible. I lastly reviewed the different codes together with the documentary data and coded additional extracts from the documents wherever I considered that it could supplement and enrich the extracts from the primary data. Subsequently, in phase three, I sorted the different codes into broader themes in NVivo. I also categorised the abstracts included in each theme into different sub-themes. In phase four, I then reviewed these to verify their validity in the context of the data set as whole. Afterwards, in phase five, I described and analysed the different

themes to characterise their key aspects and lastly, in the final phase, chose the data extracts that best capture the meaning of the different themes to provide evidence for the analysis.

5.5 Ethical Considerations

Before commencing data collection, I reflected on the underlying power structures inherent in qualitative research, particularly regarding my relationship with and to the participants. My engagement with the participants, despite being framed as a friendly visit for me to learn, still constituted a process of which I was in charge, by extracting intimate details about the AFIs with the primary purpose of generating good data for my research purposes (Funder, 2005). Beyond using PO as a tool for becoming aware and dealing with the researcher's predispositions and biases (Ibid.), I also saw it as an opportunity to engage with the question of reciprocity which does not address the implicit power relations per se, but at least offers a compensation for the participants to derive a more mutual benefit from their time and efforts (Creswell and Poth, 2016). Thus, I offered to assist the AFIs with their work for a day which received mostly positive responses.

All participants have given their informed consent prior to data collection, including the permission to audio-record the interviews and use translated extracts throughout the thesis.¹⁶ After the initial contact with the first four AFIs, the question of anonymising the data was raised in light of some previous adverse experiences. I have thus chosen to anonymise the data both in adherence to the principle of doing no harm (DeWalt and DeWalt, 2011) and in consideration of the fact that the AFIs are not analysed on an individual case basis and do not “portray an ‘ideal type’” (Lynd and Lynd, 1929, in Yin, 2014:268) but rather serve to provide different examples and aspects of resilience and FS through comparative, cross-case analysis. Therefore, any potential identifiers were omitted in the transcripts and field notes.

¹⁶ Before commencing data collection, I provided the participants with a consent form in writing which we reviewed together (see Appendix D). For the interviews conducted in person, written consent was obtained from the participants whilst for the two phone interviews, consent was given verbally. In addition to the consent form, the use and purpose of PO and the fieldnotes for the thesis were discussed and verbal consent was obtained.

5.6 Limitations

Lastly, some limitations of this study should be acknowledged. To begin with, my personal characteristics, training and theoretical orientation, including my general interest in sustainable food systems, have certainly influenced the data collection and analysis and hence the results that this research has produced (Yin, 2014). Even though I repeatedly re-viewed the material, also through interactions with others, to reflect on and confront some of these biases, as suggested by Funder (2005), it can still be assumed that both the data itself and my analysis thereof have at least partially been shaped by my positionality.

Moreover, this research is focused on the realm of food production and distribution with respect to resilience and FS and hence does not comment on and account for the perspectives of consumers and the effects on demand within the local food system, nor does it provide a comprehensive view of the engagement and interactions of the AFIs with the political framework and institutions. I also did not conduct an analysis of underlying power structures, regarding e.g. equality and participation, at the level of the AFI. Even though these aspects are equally relevant to the assessment of the agro-food system as a whole, in particular from a FS perspective, they do not fall within the scope and purpose of this research. In order to incorporate these aspects, a much more intensive and longer period of fieldwork would have been required at each case, and to achieve the necessary depth and breadth, a single-case study, if not even a different approach e.g. ethnography, may be more suitable. Yet, again, this was neither the purpose of this research, nor was e.g. an extension of PO feasible given the limitations posed both by the COVID-19 pandemic but also the accessibility of the field in general.¹⁷

¹⁷ By limited accessibility I mean both the difficulties encountered for commuting to the AFIs by public transport as well as the limited availability and capacity to 'host' on behalf of the AFIs.

6. Analysis

Before delving into details on the findings of this study, it should be recapitulated that the approach and purpose of this research were to assess how and why resilience and FS are realised in practice against a representation thereof in theory which was considered to depend on the members of the AFIs in terms of the strategies they implement and their motivations. In the theoretical framework, the strategies were grouped into five different themes relating to their overall rationale and motivation. In the analysis, in phase two, I coded the different practices implemented by the AFIs according to what motivated their application for which I differentiated between expression of ideals and values, response to challenges and intended outcome. On this basis, in phase three, I thematically grouped these into the following six key themes speaking to the principal motivations which mostly align with the theoretical framework:

- Preserving Natural Capital/ Ecosystems;
- Security/ Risk Protection;
- Independence/ Self-Actualisation;
- Mutual Support/ Solidarity;
- Adaptation through Collective Intelligence;
- Transformation through Connectivity and De-Commodification.

Despite the general similarities, several variations also became apparent within these themes both between theory and practice and across the cases resulting from trade-offs due to individual circumstances. As expected, these variations highlight existing challenges towards the realisation of resilience and FS which I will return to in the next chapter. In the following, I will discuss these themes vis-à-vis the respective theme from the theoretical framework they relate to. Insofar as the ability of the members of the AFIs to achieve resilience and FS is primarily supported or limited by their motivations and the aforementioned trade-offs they face, I will only briefly touch upon specific practices that are commonly implemented.¹⁸ Instead I will focus on why the AFIs adopted their strategies, to which extent these confirm the assumptions in the theoretical framework and how and why they deviate therefrom.

¹⁸ A detailed account of the specific practices and strategies that are implemented on an individual case level is provided in Appendix E.

6.1 Preserving Natural Capital/ Ecosystems

The perceived need and desire to preserve natural capital and achieve environmental sustainability was common to all cases which highlights the main elements of the theoretical theme *Grounding in Nature*. In particular, the AFIs are motivated by their intention to “simply operate differently sustainably” (SSI-5) which not only is grounded in the conservation of natural ecosystems but further posits their strategies as different from and “something better” (SSI-3) than those of the agro-food regime.

To this end, all the AFIs engage in different production practices that integrate natural biological processes and landscape/ ecosystem conservation measures most of which originated in the adoption of organic farming and the respective certification. Beyond the general renunciation of synthetic inputs, most implement different forms of nutrient recycling, plant in polycultures, apply self-produced natural fertilisers and use low- to zero-till techniques. Almost all actively manage and increase agro-biodiversity in their system.

Apart from considering their environmental sustainability, the AFIs implement the above practices to increase the quality of their natural capital and preserve their ecosystem: “The soil is also our capital. So, I do everything to enhance and maintain the soil, the soil life, because that’s all I have” (SSI-9). Thus, they recognise that improvements in the quality and productivity of key resources increases their capacity to sustain yields which confirms the theoretical expectation that associates these practices with building self-sustaining ecosystems. For many, increasing the ecosystem’s capacity for self-sustenance is further motivated by a resulting decrease in dependency on external inputs which is expressed in terms of the preservation of the independent functioning of their natural ecosystem: “I don’t fertilise. I actually want my meadow, so also the plant composition or something, to prepare for what is just there” (SSI-2). The resulting independence partially reflects the theoretical expectation linking self-sustaining capacity to lesser dependence on off-farm inputs. The latter was discussed primarily in relation to fertilisers and pesticides but less with respect to other or rather all off-farm inputs, as would have been expected.

Increasing the preparedness of the ecosystem and agro-biodiversity more broadly is also employed for climate change adaptation, e.g. by planting varieties that can “withstand droughts better” (SSI-5) or “root very deeply” (SSI-9). Responding to climatic disturbance with diversification and adaptation corroborates the expected co-production of agricultural outputs and green services. Ecosystem preservation then also motivates the design of the above practices as a way to “build a future-oriented agriculture” (SSI-6). Thus, the AFIs articulate not

just the expected preservative nature of the theoretical theme, but also a transformative element in their management of the agroecosystem.

However, given the merely partial reflection on off-farm input dependence, it was also observed that most AFIs still continue to use heavy machinery or relatively energy intensive methods, e.g. in grain production, which only two participants reflected upon critically with respect to their environmental impact. In consideration of the implied environmental sustainability of the respective practices under this theme, the continued, albeit partial reliance on external inputs and high energy-consumption may compromise the ecological benefits of other practices.¹⁹

Altogether, the AFIs apply many of the common sample practices that were associated with the theme *Grounding in Nature*. Their principal motivation – the conservation of natural capital and ecosystems – expresses the expected endeavour to promote a food production that is inherently sustainable, integrates the surrounding natural ecosystem and can thereby adapt to and cope with disturbance. Nevertheless, a potential challenge with respect to input dependence was highlighted that will be further discussed in the following.

6.2 Security/ Risk Protection

Alongside ecological reasons, the AFIs also implement a set of practices which are largely motivated by their pursuit of security and above all, risk protection. Put differently, the AFIs have designed their practices not just to enable the natural ecosystem to become self-sustaining, but their system as a whole. By further developing their resource and diversifying their income base, the AFIs build back-ups and buffers into their system to deal with shocks which reflects elements of the understanding of *Autonomy* as per the theoretical framework.

The most common strategies employed by the AFIs in this regard include the diversification of suppliers, outlets, and income sources through pluri-activity, multifunctionality, increasing value-added capacity and direct selling, and control over and development of physical and technological capital.

¹⁹ Insofar as I did not study the effective environmental impact of the farming practices but rather draw on examples for ‘best practices’ that have been shown to produce environmental benefits in other studies, I may here also only tentatively conclude that there may be trade-offs based on discussions in other studies that highlighted the reversing effect of e.g. the energy-intensive use of heavy machinery despite organic farming methods (see e.g. Cameron and Wright, 2014).

Confirming the theoretical expectation that the above aim to increase the AFIs' capacity to deal with shocks, storage facilities, for example, have been built to respond to potential production losses to be able to "bridge a year [and still] deliver" (SSI-2) or because "[without] reserves, I have to buy [additional fodder] when it's dry" (SSI-5). Moreover, many AFIs work with multiple suppliers e.g. of seeds, primarily out of convenience but also as it allows for short-term switching wherever shortages occur (PO-3,-6). Whilst they thereby increase their flexibility in dealing with disruptions, the idea of independence from upstream markets as discussed in the theoretical framework was not brought up. Instead the AFIs continue to rely on conventional market channels for certain inputs.

Most see the diversification of income sources as a means to securing their livelihoods by providing "several [economic] pillars" (PO-7): "We only made losses in the last few years where the yoga [part-time job] has saved us, thank God, eh, in order to keep going" (SSI-3). They further highlighted the need to diversify in order to secure and stabilise income with respect to increasing value-added capacity:

I am aware that I have to adapt the farm, that this standard scheme that we practiced thirty years ago will not go further because the product prices continue to fall...At the end, there is just less and less left and therefore I somehow have to get out of the system and find another niche again...further development, further processing.
(SSI-10)

In other words, these strategies are motivated by their capacity to facilitate system stability in terms of continuity and self-sustenance which corroborates the theoretical assumption of resource control and diversification for 're-production'. They further illustrate the AFI's expected capacity for transformation by integrating disturbance - price volatility and declining incomes in agriculture - to adapt their systems. However, unlike the theoretical expectation, the re-production of the AFIs' resource base is primarily motivated and understood in terms of independence from disturbance rather than more broadly and vis-à-vis the agro-food regime.

6.3 Independence/ Self-Actualisation

A third complex of motivations that equally drive the adoption of many of the aforementioned practices is summarised as *independence* and *self-actualisation*. In short, the AFIs also view their strategies as a way of regaining control over the entire process of production and realising their specific vision for agriculture which largely opposes the agro-food regime and reflects the second pillar of the theoretical understanding of *Autonomy*.

The increasing self-provisioning of resources is commonly applied in this regard. For example, some produce renewable energy, primarily to become “energy self-sufficient” (SSI-1, PO-7,-10). Most AFIs emphasised that they own the land they cultivate. Additionally, they have invested in or even self-constructed infrastructure and physical assets to adapt them to their specific needs, e.g. their particular breeding practices (PO-3,-9), and to further integrate different production steps, e.g. grain cleaning in addition to production (PO-5,-10). Many have expanded their own water supply e.g. by increasing harvesting capacity (PO-8) and rainwater capture (PO-1). Most also produce some of their other inputs, mainly fodder and natural fertilisers. Some preserve and re-produce seeds, albeit only a share of the volume they use.

For most, self-provisioning resources is primarily a matter of control over quality, e.g. “know[ing] what is contained in the soil” (SSI-1), and over the entire production process as a way of realising their own vision:

I have my own philosophy in mind when I do something. And I don't want to submit to anything...where constraints are imposed on me, meaning, like, financing some new great playpens or something...My philosophy is simply that I act to the best of my knowledge and belief...such that the animals do fine too. (SSI-7)

This desire for self-determination and governance over the production process corroborates the conception of local control and self-actualisation illustrated in the theoretical framework. However, here, control and self-determination were expected to be taken all-inclusively, extending to all resources and production-related decisions which implies the pursuit of independence from the market and external influences on decision-making altogether. As was mentioned before, input dependence was mostly considered an issue with respect to a share of resources, e.g. fertiliser or to some extent energy, and primarily to facilitate the independent functioning of natural ecosystems but not strictly market independence. Hence, other inputs,

e.g. seeds, are mostly acquired from large suppliers via the agro-food regime for expediency and flexibility.

Furthermore, in most interviews, different occasions were mentioned in which political decisions and regulations interfered with independent decision-making and self-determination, most commonly in relation to regulations regarding manure application: “I had to pay for this huge 10,000 litre [barrel] with a huge tractor that drove the manure for me... And I noticed that in the yield. It was much worse because I apply manure differently” (SSI-9). In other instances, economic considerations impinged on decision-making by forcing trade-offs particularly between livelihood security and self-actualisation: “I would have preferred being a farmer but purely out of financial, monetary considerations, that was not an alternative” (SSI-1). In these examples, the AFIs recognise the resulting undermining of self-actualisation and independence which they resent explicitly.

Overall, the above deviations from the theoretical assumptions illustrate how external factors and circumstances influence the scope of options available to the AFIs despite their aspirations. On the one hand, different choices are made based on a more imminent need e.g. flexibility to deal with disruptions, and the perceived best available option, e.g. procurement via the market rather than self-provisioning, as thus “part of the risk can be outsourced” (SSI-3). On the other, the AFIs are hence also compelled to compromise e.g. self-actualisation for livelihood security. These trade-offs indicate potential tensions between different motivations and needs which I will return to in the next chapter.

6.4 Mutual Support/ Solidarity

Yet another set of practices the AFIs implement is motivated by the establishment of mutual support systems based on solidarity. In their engagement in different collaborations and development of their social networks, the initiatives demonstrate a sense of community and reciprocity which reflects both the expected appreciation of social capital and elements of the implied social transformation under *Collaboration and Reciprocity*.

Confirming the theoretical assumptions, the main subject of these collaborations for all initiatives is the exchange of resources and production inputs, e.g. manure, fodder, but also land and machinery. In addition, the AFIs thereby also build social capital which is further increased by different recruitment strategies. These allow for the creation of backups in particular with the intention to compensate labour shortages which posed a challenge to all initiatives. The

main source of support in this regard are family, friends and other producers to provide (temporary) assistance when needed.

For many, these collaborations developed firstly in order to procure resources or services that were not available to the AFI because of the scope of their production capacity or lack of infrastructure, but also for a general lack of “available and also qualified workforce in agriculture” (SSI-10):

You can't find a beekeeper who says: I'll be a trained helper, sort of. That's a problem for all larger beekeepers that they don't have someone who, yes, could help then somehow. You can only build friendships with other beekeepers who then really would say during the season: Ok, shit, I'll come by and support you for a day or two. And they do that. So, they really are a community...they stick together. But that is your only insurance. (SSI-2)

Thus, given the constraints they face, these collaborations first of all allow the AFIs to further develop their resource base and increase back-ups to deal with disturbance which confirms the theoretical assumption linking social capital to adaptive capacity.

Simultaneously, the inherent sense of community enables support systems based on reciprocity and connectivity, as the collaborations generally work “in both directions, so, both that we do something for them and they do something for us” (SSI-10) and re-establish “contact with the neighbours, which is very important” (SSI-3). Here, it is especially noticeable that for nearly all AFIs, these exchanges are both monetary and non-monetary. In other words, almost all have established some form of barter system with others in place of conventional purchasing. Lastly, these exchanges are also seen to provide immaterial support: “We support each other. Anyone can have anything at any time...That's splendid. And, eh, they also all really gave us courage” (SSI-6). As such, these results confirm the theoretical assumption that economic and social incentives may be mutually re-enforcing rather than exclusive. Even though social capital is built to exchange resources, the AFIs demonstrate that the former is equally motivated by and grounded in their sense of mutualism and solidarity which not only corroborates the expected values underlying the theoretical theme *Collaboration and Reciprocity*, but further taps into elements of *Socio-Economic Transformation* in that these collaborations transcend capitalist principles such as competition or private property and instead, e.g. via the barter systems, implicitly promote producer-producer relations based on collectivity and support.

6.5 Adaptation through Collective Intelligence

As was already indicated before, the need for adaptation is also a core motivation for most. It is pursued on the basis of collective learning and an appreciation for collective approaches to transformation and problem solving which resonate strategies and principles identified under *Knowledge and Learning*. The acknowledgement and integration of a diversity of opinions and practical experiences to facilitate adaptation is not only highlighted by the decision-making processes, but also in the ways traditional knowledge is integrated, and knowledge is pooled and co-created from within and outside the AFIs.

The AFIs preserve traditional, local varieties and practices primarily because they consider these of higher quality and having beneficial properties e.g. being more “healthy and robust” (SSI-7) and “more resistant” (SSI-10), and thus better able to cope with climatic disturbance as expected from the theory. Adaptation to changing circumstances and facilitating further improvements was also discussed as a key objective of pooling knowledge from outside the AFIs. Thus, nearly all the initiatives actively seek to learn from other practitioners in the region particularly in appreciation of the value of collective learning:

I have never learned so much in such a short time as when forty people, doing the same job, look at it and say: ‘Listen, why are you doing that in this way?’...And it is precisely this learning together that I think is very, very, very important. (SSI-8)

Internally as well, the AFIs generally described the decision-making process as open to all and democratic²⁰ because it enables a greater degree of self-organisation than top-down approaches:

²⁰ In addition to the discussion of the decision-making process in general during the interviews which thus relies solely on self-reported practices, most participants also spontaneously recounted different examples of decisions taken collectively or different members contributing different ideas and inputs to the process both during the SSIs and PO. These examples were included in the analysis to corroborate the understanding of the decision-making processes as generally democratic and inclusive.

In principle it is our policy: no ranks, no titles. And decisions are made as democratically as possible which means that there is no store manager, for example. There is no one who would give instructions to the staff, for example, but instead as far as that is somehow feasible, let them organise themselves... We want very, very flat hierarchies, ideally no hierarchy, and let everything be self-organised as far as possible. (SSI-4A)

Therefore, by pooling knowledge and democratising decision-making, the AFIs enable collective approaches and response-mechanisms that facilitate a greater degree of local self-organisation and adaptive capacity confirming the theoretical assumptions under *Knowledge and Learning*. Concomitantly, they express the theoretical idea of knowledge as collective good in that ‘learning together’ and horizontally – in ‘flat hierarchies’ – is valued over unilateral approaches to knowledge creation.

Nevertheless, a lack of time and practicality for collective decision-making or generational conflicts in family-run farms were also mentioned in the interviews or observed during fieldwork. Therefore, decisions are also often taken by “the core group of active members” (SSI-4A) or, in case of conflict, by the operational manager. Consequently, even though collective intelligence is a guiding principle for all, it appears to face trade-offs with the exigency of efficiency and practicality.

Altogether, the above findings confirm the theoretical assumptions linking adaptive capacity to collective learning and local self-organisation. They further reflect principles and values related to the understanding of knowledge as collective, the implementation of which is however (partially) limited due to time and resource constraints.

6.6 Transformation through Connectivity and De-Commodification

The last complex of motivations and resulting practices transcends the realm of food production to distribution and the broader agro-food system the AFIs are situated in. Here, the desire to transform the system altogether was explicitly articulated. Given their perceived scope of action, the AFIs primarily aim to drive change by setting an example for an alternative agriculture and raising awareness amongst consumers to bring about “societal change and relating thereto political change [in the spirit of the] proverb: A different world is plantable” (SSI-6). Most of the practices they have adopted in this regard originate in the critical view of the lack of connectivity between places of production and consumption and the meaning ascribed to food in the agro-food regime. In other words, they are motivated by a desire for more connectivity and the ‘de-commodification’ of food as understood and illustrated in the theoretical framework under *Socio-Economic Transformation*.

To this end, the localisation of food distribution and production and re-linking of spaces of production and consumption is embedded in the work of all the initiatives. Almost all sell their products primarily directly on-site and most have further established a regionally focussed distribution scheme. Some, however, also sell supra-regionally via supermarkets or marketing companies to reach profitability, due to limitations in regional demand and a lack of resources as e.g. running a farm shop became “too time-intensive” (SSI-5) which again points towards a trade-off between imminent needs and motivations/ aspirations.

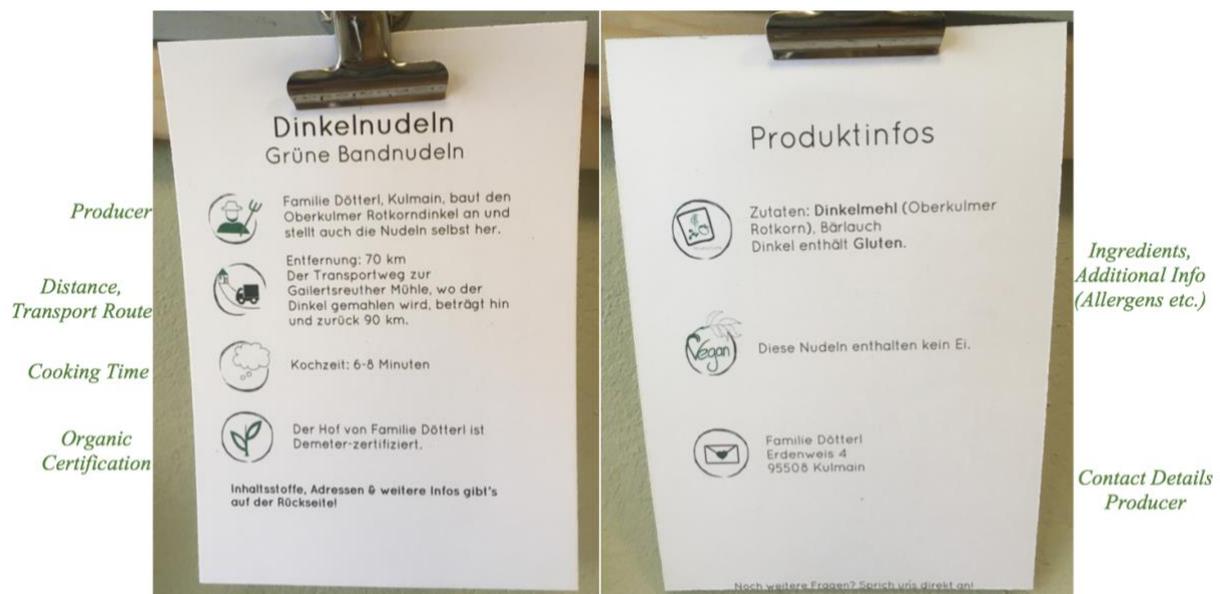
Still, many explicitly consider localisation a fundamental objective which is motivated by a rejection of growth as imposed by the agro-food regime and thus an expression of the “need for decentralisation” (SSI-1) and re-orienting food production on quality:

Agriculture for me is: Every country should feed its people well. And in agriculture, if we really, if we did everything organically and in small structures, we could produce fantastic high-quality products, and nobody would have to go hungry because we would have enough. (SSI-2)

In confirmation of the theoretical assumption, the AFIs here emphasise not just the wish to market food locally, but also the quality and value of food within these local markets. Accordingly, the AFIs aim to change the meaning of and relationships to food by initiating “a more conscious, different way of buying [food]” (SSI-4B) based on connectivity and the re-

establishment of direct relations between the different actors in the agro-food system. Thus, most AFIs actively seek direct contact to their suppliers and outlets for distribution as well as, in particular, to the consumers. They were observed to engage them in personal conversation, communicate information on their products via guided tours or customer mails and offer dialogue and support for open questions or requests. For many, these practices respond to a need for a sense of community and cohesion which is felt both among the AFIs and in society in general as consumers not only increasingly demand more sustainably produced food but beyond that, “they want more” (SSI-8).

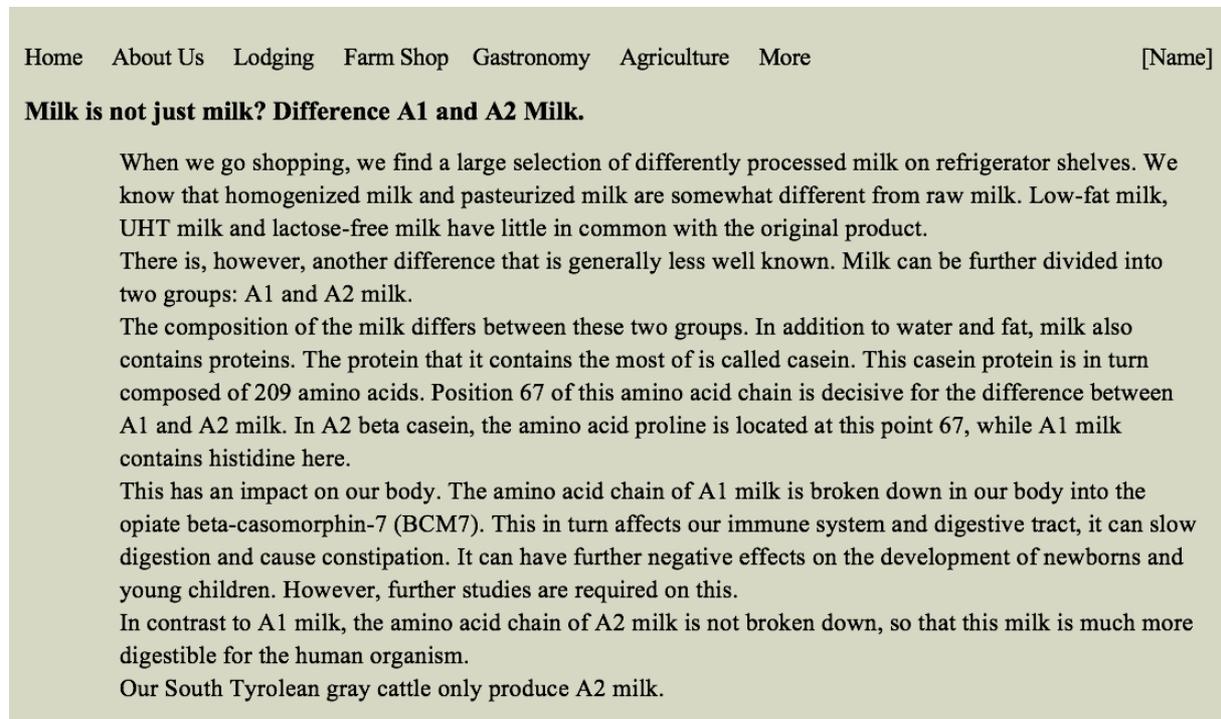
Offering “more” is achieved through various forms of de-commodification. In accordance with the theoretical conceptualisation of food as cultural capital, all the AFIs ascribe a different value²¹ to their products by emphasising their quality and outstanding features, by providing information regarding the production process as well as consultation and tips with respect to beneficial properties or preparation. Case four, for example, has designed information cards that are attached to each product in the store, one of which is shown below in Picture One.



Picture 1: Product Information Card for Pasta (PO-4)

²¹ Different is to be understood here as different from / contrary to the value ascribed to food in the agro-food regime, i.e. primarily food as commodity. The notion of difference was highlighted by the participants themselves and thus is not my personal interpretation insofar as e.g. the quality of their own products was discussed with reference to that in the agro-food regime (as illustrated i.a. for case seven in Picture Two on the next page).

In addition, the AFIs also offer a range of non-commodities to the consumer such as health, care or connection. Case seven, for example, underlines the quality of their product in its relation to health on their website (see Picture Two):



Picture 2: Translated Replication of Website Subsection (DD-7)

In other instances, guests are offered fresh eggs for breakfast from the farm for free (DD-9) or costumers are invited to a slice of cake when buying grains (PO-5). In conformity with the theoretical expectations, the AFIs thus posit their products as complements to the agro-food regime which allows them to capture a higher value i.a. by increasing the share of returning costumers who “support the idea and are willing to pay more for that” (SSI-3). Simultaneously, they advance the theoretical concept of ‘spaces of autonomy’ as they demonstrate a desire to imagine new socio-economic realities beyond the principles of the agro-food regime by emphasising connectivity and developing their interactions with consumers beyond the anonymous exchange of product for money. This re-connecting also shows in the common intention to raise awareness amongst consumers by offering educational experiences. These are firstly intended to “at least incite interest” (SSI-4A) in others to move towards a sustainable agro-food system, but for many, these interactions and activities are also “about a different way of being together, about creating a different consciousness” (SSI-6) which speaks more explicitly to the social transformation expected to occur within these markets.

However, whilst social transformation is articulated rather clearly, the exploration of economic transformation and new economic realities remains scarce. Many continue to rely on the market structures of the agro-food regime, and the idea of “thinking economically” (SSI-9) to secure a livelihood is still strongly embedded in the practices of most. As such, de-commodification is implicitly promoted but not actively pursued as an objective, e.g. through the aforementioned establishment of barter systems or more horizontal working relations. Still, only a few cases critically reflect on capitalist principles such as private property and are actively experimenting with alternatives. Case four and six, for example, have developed not-for-profit schemes of solidary financing by the members to support the initiative’s vision for alternative agro-food systems without having to depend on market-based financial plans.

Whilst it has been argued before that limitations result first and foremost from the AFI’s scope for manoeuvring the system and their specific needs, this aspect also highlights a lasting challenge in the realisation of viable alternatives, a concern that was also raised in interview eight:

So, we can do organic farming... We become smarter everyday with no ifs or buts but... In the social [sphere], we know how to go about it, we don’t always do that, but we already know how. But with money, the ecos always thought it’s really evil. And [they] only ever dealt with it as much as they absolutely had to... And, eh, now I think that’s a gross mistake because I see what is being done with money. And that means that you have to make sure that you can get hold of funds and use them to shape things. And that requires meaningful structures. And, unfortunately, those meaningful structures today are no longer banks, but they have to be created outside of the banking system... And that’s why you have to find creative ways. (SSI-8)

Thus, in sum, the transformation of the social relations occurring in the agro-food system and the meaning of food embedded therein resonates among the AFIs and in their practices. However, economic transformation as implied under *Socio-Economic Transformation* is explored only by a few as livelihood security remains a struggle. Thus, for most, despite their various non-material motivations and goals, the theoretical concepts of economic transformation and de-commodification are understood primarily as the localisation of value-added and greater appreciation and support for local food (producers).

7. Key Findings and Reflections on the Theoretical Framework

Thus far, the analysis has shown the main practices of the AFIs which were grouped into six themes according to what motivated their implementation, i.e. why these are applied. Furthermore, parallels and deviations have been drawn between these and the theoretical framework which assumed a concomitant practice of resilience and FS. In the following, to return to the main research question, these components are brought together to discuss how and why resilience and FS are promoted by the AFIs altogether and whether both are indeed realised simultaneously. As I further proposed a new theoretical framework for studying AFIs, I will also briefly reflect on its usefulness in achieving the research purpose.

To begin with, it has been shown that the AFIs indeed view critically the core practices of the agro-food regime and their resulting environmental, social and economic consequences and thus strive towards establishing alternatives thereto. The strategies they implement accordingly can be summarised as: integration of natural biological processes; managing and conserving agro-biodiversity and ecological integrity; diversification; capital development (natural, social, physical, technological, financial); formation of reserves and back-ups; mutual cooperation; self-organisation; practical and collective learning and response mechanisms; and the creation of local markets based on solidarity and connectivity between places of production and consumption. Through these practices, the AFIs first and foremost seek to prepare for and increase their capacity to adapt to disturbance, i.e. primarily climate change and the extraction of value and undermining of livelihoods by the agro-food regime vis-à-vis small-scale farmers. They further aim to maintain the internal stability and self-sustaining capacity of their (farming) systems and to better and more independently secure their livelihood. Thus, these practices support the AFIs' capacity to absorb and adapt to changes in and challenges posed by the external environment whilst still retaining their primary identity and functions which replicates the understanding of resilience employed in this research.

Given that the AFIs do so primarily in order to adapt to and cope with the threats and grievances they perceive and integrate external change into their strategies, the resilience they thereby built confirms the transformative understanding of the concept as suggested e.g. by Franklin et al. (2011). The findings also corroborate the argument by Worstell and Green (2017) on sustainability: The AFIs do not just aim to operate sustainably, but rather, they facilitate agroecosystems that are inherently sustainable – can increasingly self-sustain – by working with rather than on the natural environment which further underpins the emphasis on the interdependence between social and ecological systems in SES theory (Walsh-Dilley *et al.*,

2016). Lastly, the strategies they implement also reflect the community-based understanding and capital-approach to resilience outlined by Frankenberger et al. (2013).

As suggested by Walsh-Dilley et al. (2016), the adopted practices largely intersect with those identified in the FS literature and thus contribute to the promotion of both resilience and FS simultaneously. Here, the AFIs promote *a version* of FS that mostly reflects its socio-ecological realm and the demand for re-localising power. Beyond the perceived need to prepare for and withstand changes and potential threats internally, the AFIs also pursue the above practices to re-articulate and enact ways of producing and distributing higher quality, healthy food in an agro-food system grounded in sound ecosystems, connectivity, solidarity and greater appreciation of the value of food. By many, this is seen as going “back to the roots” (SSI-1), i.e. back to the “old systems” (SSI-2) based on small communities and local cycles which expresses a core idea of FS valuing traditional, peasant structures and community-driven local systems (Via Campesina, 2007).

However, in the analysis, persistent tensions and trade-offs have also been highlighted stemming primarily from the economic domain. These trade-offs were the result mostly of constraints in resources – time, labour, financial capital – and led to practices which still rely on the market channels of the agro-food regime and its underlying capitalist principles. As such, the intention to create strictly “alternative economic systems” (Trauger, 2014:1145) in the sense of FS was not confirmed in this study. It may thus be concluded that the main challenge for the realisation of FS and the promotion of fully viable alternatives to the agro-food regime is posed by the partial re-production of and resulting insufficient departure from the economic principles underlying the latter. Therefore, contrary to common findings and criticisms raised in previous research on AFIs in Europe (see e.g. Jaklin, 2013), in this study, primarily their economic rather than the socio-ecological principles posed an obstacle.

However, the respective practices were employed mostly in response to a more imminent need to deal with disruptions and improve livelihood security which may be considered an overriding (economic) need for resilience. Hence, unlike some of the previous literature in which distantiation from the market was considered a strategy not just towards FS (Via Campesina, 2007), but also resilience (see e.g. van der Ploeg, 2008), in this research, the AFIs use the market where necessary to cope with constraints and shocks and thereby build resilience. But it has also been shown that the resulting trade-offs are in part negatively perceived as necessary, but ‘imposed’ compromises.

Thus, firstly, these trade-offs are understood to reflect the point raised by Agarwal (2014) on this matter that different constraints can lead to choices that may diverge from the general aspirations of FS which though are the result not necessarily of forfeiting these values but rather of balancing one's interests with the available possibilities. As such, the findings also corroborate the argument by some scholars that FS is a fluid concept that needs to be developed individually within the local context (see e.g. Wittman, 2011). Therefore, I understand FS theory only as a point of departure rather than a specific guideline imposed on the experiences of the AFIs to judge whether or not they realise FS in line with the people-centred (instead of theory-centred) approach by Figueroa (2015).

Secondly, within this study, as building resilience precedes FS at least from an economic perspective, I would consider resilience a sort of prerequisite to realising FS rather than viewing FS as a complement which can be achieved entirely simultaneously as suggested by Walsh-Dilley et al. (2016). This does not imply, however, that the pursuit of resilience excludes efforts for broader transformation in the agro-food system – the concern that was raised by Sage (2014). Instead, I argue that the findings to a large extent illustrate strategies that speak to both internal and external change with respect to the AFIs which though may be realised at different stages.

In conclusion, the AFIs in this research may not explicitly invoke resilience and FS nor incorporate all their elements prescribed in the literature. But instead of insisting on abstract models and values (e.g. de-commodification) which risks undermining proactive efforts and instead only produces “a host of utopian visions” (Figueroa, 2015:510), I argue that the AFIs still express the core values and motivations of both resilience and FS and thereby, grounded in their building of resilience, realise their own particular version of FS based on what works for them and within the constraints they face. As such, they provide practical insights into potential strategies through which alternatives to the agro-food regime may be realised by AFIs given a set of conditions they face.

Nevertheless, the lasting challenges still partially reflect both the point by Sage (2014) and additionally underpin the conclusions drawn by Allen et al. (2003) in their research on AFIs²² concerning the rather local focus of the transformative efforts and the need for greater exploration of different economic and financing models. To fully propose genuine alternatives, these challenges need to be addressed. Throughout the findings, the importance of social

²² Allen et al. (2003) researched the contribution of AFIs to sustainable food systems in the context of California (US).

capital, cooperation and collective approaches to problem solving have been highlighted which though are not commonly explored in the economic realm as was also observed in the study by Allen et al. (2003). Thus, it may be suggested that more cooperation and opportunities to share knowledge and resources among AFIs are needed in order to collectively develop practical and actionable solutions to persistent struggles in conformity with FS's call for alliances, solidarity and creativity among the actors in the agro-food system (Via Campesina, 2007).²³

Before turning to the concluding summary and pointing towards some suggestions for future research in this regard, I will briefly comment on the theoretical framework. Through the lens of the framework, the practices and strategies have been analysed both in terms of their implications for the AFIs themselves as well as for their role in the agro-food system more broadly. By furthermore differentiating between different possible motivations for implementation, a more complex and rich understanding of the AFIs was provided insofar as it is appreciated that they may work towards multiple goals at the same time but also be constrained or forced to prioritise their realisation given the local context. Furthermore, the complexities and interacting challenges posed by agro-food regime were also captured in the framework which enabled me to look at the same practice or set of practices from different angles and not in an isolated manner and to situate them within these intersections. As such, the framework also allowed for context-based insights into why resilience or FS may not be fully realised from which suggestions for improvement can be drawn. In sum, I consider the framework – as illustrated in Figure One – a comprehensive tool for researching AFIs that draws out the nuances, intersections and co-dependence of different practices and human-environment relations.

²³ This suggestion is to be considered within the scope of this research which emphasises the capacity and strategies of the AFIs to pursue alternatives through their food production and distribution activities. Thus, even though other strategies, e.g. political activism, are equally relevant and vital to facilitate systemic transformation, they are not discussed here insofar as they exceed the scope of this thesis.

8. Concluding Remarks

This research departed from the premise that the agro-food system that currently dominates the field of food and agriculture globally, is characterised by such profound and particularly intersecting ecological, social and economic issues and crises that only its fundamental overhauling and transformation may put forth a climate-adapted, context-appropriate and sustainable agro-food system. In this regard, AFIs have been proposed as one actor advancing transformation from the bottom up. This research contributes to our understanding of how the latter may be promoted through the food production and distribution practices of ten AFIs in Franconia, Germany. To this end, resilience and FS have been combined and proposed as a theoretical framework for analysis. Therein, sample strategies have been outlined and grouped into five themes according to their main motivation in order to provide a guide against which to analyse the practices and motivations of the AFIs.

It has been shown that the AFIs are motivated first and foremost by a critical view of the agro-food regime and thus the desire for alternatives thereto. Through ecological integration, capital development, diversification, collective learning, and localisation based on solidarity and connectivity, the AFIs build resilience and promote a needs-based and context-embedded version of FS. They do so primarily to increase their capacity to adapt to the external changes and shocks they perceive as potential threats and thus to facilitate the capacity of their system to self-sustain. Additionally, they aim to advance socio-ecological transformation within the agro-food system with an emphasis on high-quality food, healthy ecosystems, community and solidarity. These findings underpin the arguments in some of the resilience literature that the sustainability paradigm does not suffice to address the challenges of the agro-food regime and show how the AFIs instead advance resilience whilst integrating sustainability into their system as a natural condition. They further provide an example in response to the doubt on the applicability of FS to the Global North raised by some scholars as well as concerning the feasibility and applicability of combining resilience and FS. However, with regard to FS, I have also highlighted some deviations from the theory in particular with respect to its economic realm. Whilst these result primarily from the specific needs and constraints the AFIs face, they further point out existing challenges in particular with regards to financing opportunities and livelihood security which limit the realisation of FS as envisioned in the literature and need to be addressed in order to propose genuine alternatives to the agro-food regime.

In this light, with respect to future research, I suggest that resilience and FS, especially in combination, find greater application in the field of food and agriculture. In particular, more

qualitative studies are needed that emphasise the context and specific reality and experiences of the actors that are studied in order to fully explore the possibilities, limitations and thus effective ways forward. Furthermore, more longitudinal research is suggested to better capture the long-term impact of the strategies in dealing with different challenges or shocks. More specifically based on the findings of this research and its setting, a participatory action approach may be taken to develop our understanding of resilience and FS as conceptualised by the actors themselves as well as to pool and create knowledge to collectively identify solutions to lasting challenges. Lastly, with respect to the limitation of this research to the realm of food production and distribution, especially a longitudinal single-case study or more ethnographic approaches could integrate the equally important sphere of food consumption, study in-depth the concepts of equality and participation within the AFI(s) and/ or pay greater attention to interactions with the political framework.

Such research is needed to address the overarching crisis of the current agro-food system and to lay the groundwork for effective, viable solutions that can feed the world, yet also contribute to transforming and restoring its precarious social, ecological and economic systems and thus to achieving truly sustainable development. (Agro-food) business as usual is not an option. We should build on and support efforts that offer a way forward.

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Appendices

Appendix A: Case Presentation

In the following, I will provide a brief introduction to the individual cases that were studied in this research.

Case 1 (Pilot Case)

The farm is family owned and focusses on sustainable forestry and breeding old and rare animal breeds. The farm area is constituted of sixteen hectares of forest and around ten hectares of agricultural land. They furthermore offer agritouristic activities and environmental education. The farm partially produces its own energy with solar power and wood-fired heating. Vegetables and fruits are cultivated for own consumption. The farm is certified by Bioland, an organic food association in Germany.

Case 2

The family-run farm consists of an orchard of about six hectares. In addition to managing the orchard and adjacent forest area, it specialises in beekeeping and produces organic honey. The farm is certified by Bioland. The honey is sold directly at the farm as well as via various organic stores in the region. Together with a group of other producers, the farm distils (hard) liquor from its fruits.

Case 3

The family-run farm specialises in pig farming on fifteen hectares of land. The pigs live outdoors all year, grazing on approximately eight hectares, and on the remainder, crops are grown for fodder. The farm is not certified but operates in accordance with the principles of organic farming and species-appropriate animal breeding. The meat products are processed and sold on the farm and through online direct marketing. Furthermore, animal therapeutic measures are offered.

Case 4

This initiative is an association of producers and consumers comprising seven hundred two members at the time I conducted the interview (November 2020). The association was funded with the objective of contributing to a future food supply grounded on regionally, ecologically and cooperatively produced foods. As a means to this end, a non-profit unpackaged store was opened which was cooperatively funded by the members. The community intends to offer an alternative to foods having travelled long distances, the lack of transparency in the food sector, the concentration of market power among a few corporations, packaging waste and food waste. To this end, close cooperation with producers and co-determination are fundamental working principles. Only organically produced foods are sold. The product range is intended to cover all basic foodstuffs. Furthermore, educational and campaigning activities are organised to raise awareness and further advance the community's objectives.

Case 5

The family-run dairy farm extends over thirty hectares. It specialises in milk cow breeding and young cattle rearing. The milk is sold to wholesalers. In addition, crops are cultivated, including fodder crops and grains. The latter are sold directly at the farm and to two bakeries in the region. Cheese, yogurt and potatoes are produced for own consumption and sold to a small degree directly at the farm. The fodder crops are further sold to other producers in the region. The farm is certified by Bioland.

Case 6

The initiative operates according to the principles of Community Supported Agriculture (CSA). CSAs are subscription or membership schemes, in which farm output is purchased in advance by the consumers based on their subscription which generates financial capital for local farmers to continue operating, spread risk, and in turn the shareholders receive a part of the produce (Oosterveer and Sonnenfeld, 2011). This particular CSA specialises on vegetable production on four thousand square metres and is organically certified. The initiative has about eighty members and one salaried gardener. It furthermore runs different activities and events to raise awareness and educate others on the topics of sustainable consumption and agriculture.

Case 7

The family-run farm cultivates about fifteen hectares and specialises in livestock farming. It produces milk, cheese and meat which are processed and sold directly at the farm. It furthermore offers agritouristic activities and carries out environmental management and landscape protection measures. It also provides gastronomic offerings and produces a share of its own energy consumption with hydropower. The farm is in the process of organic certification.

Case 8

The thirty-five-hectare market garden is certified by Demeter, a certification organisation for biodynamic agriculture. Originally family-run, it now employs fifteen staff members and apprentices. The farm specialises in vegetable cultivation and sheep rearing. In addition, chicken, geese and donkeys are bred. All animals are old and endangered livestock breeds. The market garden produces around thirty-five different vegetable crops during the year which are sold directly through the farm shop as well as via the box subscription scheme. In addition, the market garden also runs a bakery. It is furthermore part of the network of model businesses for organic agriculture and hence is open for guided tours and workshops to teach the principles of biodynamic agriculture. The market garden is currently in the process of forming a CSA.

Case 9

The family-run farm comprises twenty-five hectares of agricultural land and seven hectares of forest. It specialises in poultry rearing and egg production but also engages in young cattle rearing. In addition, it breeds horses and goats. The poultry is held outside all year whilst the cattle grazes the land during summer. On the remaining land, grains and hay are produced which are fed to the poultry and sold, respectively. The eggs are sold at various organic stores in the region and directly at the farm. The farm is certified by Bioland. Heating is provided from woodchip heating based on its own wood supply. The farm furthermore offers agritouristic activities.

Case 10

The family-run farm cultivates two hundred fifty hectares of land and is certified by Bioland. It specialises in grain production and hay production on contractual nature conservation areas. The grains and spices produced are sold via regional marketing companies. The farm furthermore provides grain storage and cleaning to other producers. It recently added native seeds from wild plants to its product range. The farm also offers agritouristic activities and produces its own energy from solar power and woodchip heating with wood from its own forest.

Appendix B: Case Selection Criteria

In the following, the criteria based on which the cases were selected are presented. First, conformity with the core characteristics of AFIs, as outlined below, is explained and secondly, the practice or theme from the theoretical framework the case was intended to highlight is presented. In general, the selection was based on information on the cases that was either provided by my HO or identified from the documentary data collected. I originally aimed for a number of five to seven cases. I chose the first five cases with the support of my HO through a discussion on the criteria of selection and potentially suitable initiatives in the region. During the data collection at these initiatives, the participants suggested further AFIs from their own network. Therefrom, I selected another six suitable cases that I expected would further enrich the dataset by adding another aspect or strategy not yet employed by any of the first five cases. Because of time constraints and the restrictions imposed due to the COVID-19 pandemic, only four of them were available for interviews and a site visit. Thus, in total, ten AFIs were studied, including the pilot case at my HO.

Criteria based on the definition and characteristics of AFIs

On the basis of previous studies by Venn et al. (2006), Jaklin (2013), Wilson (2013), and Cameron and Wright (2014), the essential characteristics of AFIs were defined as follows:

- *Localisation through Non-Conventional Supply and Distribution Channels*: focus on local production and locally/ regionally oriented distribution and marketing channels which are partially, though not necessarily exclusively, independent from industrial, corporate controlled supply chains
- *Quality and Transparency*: promoting high food quality, ecological and artisanal production methods as well as preservation of traditional practices/ varieties which are clearly communicated to consumers
- *Regressive Marketness/ Social Integration*: greater emphasis on non-economic objectives to re-embed production and consumption, thus promoting connectivity, community, trust etc.

The cases in this research were thus selected on the basis of their fulfilment of the above criteria, as illustrated in the table below:

Criteria Case	Localisation through Non-Conventional Supply and Distribution Channels	Quality and Transparency	Regressive Marketness/ Social Integration
01	food and input sourcing from neighbours and other Bioland farmers directly	ecological production methods	direct engagement with guests (agritourism) offering open exchange and opportunities for learning
02	regional distribution, direct selling at the farm	ecological and artisanal production methods	creating direct relationships between producers and consumers through direct selling
03	direct selling; online direct marketing with individualised purchase orders directly from the farm through the consumer and direct distribution (home delivery)	The production methods, focus on organic production and properties of the individual products are described clearly and in detail on the website.	forging direct relationships between consumers and producers, in particular through individualised purchase orders and the pig leasing option
04	Products are sourced directly from the producers, where possible; the profits made through sales are re-invested into the community's educational activities and into the support of local farmers for the future production of foods not produced in the region anymore/ yet.	Ecological production methods are promoted. Information on the products are communicated clearly and in detail on the website together with the intention to re-establish traditional products and methods in the region.	The association builds a bridge between producers and consumers; it is founded on values of community, trust and solidarity.
05	regionally oriented distribution; direct selling; connecting with other producers to exchange resources	ecological and artisanal production methods; traditional, local varieties	building direct relationships with consumers and other producers through direct selling/ resource cooperation
06	The harvested produce is shared equally among the members directly on site; the "price" is fixed at a monthly instalment to cover production costs and share the risk of production among all members.	ecological production methods; high transparency due to the direct involvement of the members in the production process	The initiative establishes direct links between consumers and producers and is further founded on values of trust, community, reciprocity and solidarity.
07	local distribution; direct selling	ecological and artisanal production methods; communication of food properties and production process on website	forging direct relationships between consumers and producers through direct selling and gastronomy; offering open exchange through agritourism

Criteria Case	Localisation through Non-Conventional Supply and Distribution Channels	Quality and Transparency	Regressive Marketness/ Social Integration
08	direct selling; box subscription with individualised purchase orders directly from the farm through the consumer and direct distribution in the region (home delivery)	Ecological production methods are applied and actively promoted in the region; the method of production and properties of the individual products are described clearly and in detail on the website.	forging direct relationships between consumers and producers through direct selling; offering open exchange and opportunities for learning through tours and workshops
09	regional distribution; direct selling	ecological production methods	forging direct relationships between consumers and producers through direct selling; offering open exchange through agritourism
10	regionally oriented distribution; adopting direct selling	ecological production methods; clear and detailed description of the method of production and properties of the individual products on the website	offering open exchange through agritourism; building relationships and networking with other producers in the region

Table 2.1: Application of Case Selection Criteria based on the Definition of AFIs

Criteria based on the Theoretical Framework

Criteria Case	Grounding in Nature	Autonomy	Knowledge & Learning	Collaboration & Reciprocity	Socio-Economic Transformation
01		<p>Pluri-activity:²⁴ Two family members also work outside of the farm.</p> <p>Multifunctionality: agritourism, forestry, vegetable cultivation, orchards, energy production</p>			
02		<p>Pluri-activity: One family member works outside of the farm.</p>			
03	integrated livestock system	Increasing Value-Added: increasing processing capacity by producing meat products directly at the farm			
04					A critique of the capitalist, industrial system, and the financial sector, is inherent in the activities of the initiative; it aims to re-localise the food system and emphasises solidarity, sustainability and community.
05		Diversification: The farm has diversified its product range as well as its market outlets over time.			

²⁴ The use of different colours in this table is meant to illustrate the replication logic employed for case selection, i.e. that the cases were selected because they were expected to highlight one of these theoretical themes and hence a similar strategy (e.g. here pluri-activity which case two thus replicates), or to illuminate another theme not touched upon by previous cases (Yin, 2014).

Criteria Case	Grounding in Nature	Autonomy	Knowledge & Learning	Collaboration & Reciprocity	Socio-Economic Transformation
06					A critique of the capitalist, industrial system, and the financial sector, is inherent in the activities of the initiative; it aims to re-localise the food system and emphasises solidarity, sharing and community.
07		Multifunctionality: livestock farming, green services, agritourism, energy production			
08					The initiative sees and presents itself as a 'model farm' for organic agriculture with the aim to spread organic methods in the region and raise awareness among consumers on sustainable agricultural methods and food consumption by offering i.a. collaborations with schools and opportunities for guided tours and workshops as well as apprenticeships and internships.
09	integrated livestock system	Multifunctionality: poultry farming and young cattle rearing, hay production, agritourism, energy production			
10	green services integrated into production process; objective to preserve the cultural and natural landscape and conserve traditional plant species and biodiversity				

Table 3.2: Application of Case Selection Criteria based on the Theoretical Framework

Appendix C: Additional Information Regarding Data Collection

Case	Semi-Structured Interviews: Date, Length [hours], Role of Interviewee	Participant Observation: Dates	Documentary Data: Documents
01	Oct 03, 2020 1:13:55 Manager	Aug 24 – Dec 19, 2020	Website Entry in WWOOF Database
02	Oct 29, 2020 1:16:32 Manager, Sole Owner	Oct 29, 2020 (afternoon)	Article in the Online Blog of the District Administration about Regional Economy and Tourism
03	Oct 31, 2020 1:03:23 Co-Manager	Oct 30 – Nov 01, 2020	Website Entry in WWOOF Database Report by Bayerischer Rundfunk Newspaper Articles by Nordbayrischer Kurier, Bayrische Rundschau and Frankenpost
04-A ²⁵	Nov 04, 2020 (by phone) 57:31 Member, Spokesperson of the Working Group ‘Public Relations’	Dec 02, 2020 (morning) (only in the store)	Website, Facebook Page Report by Campus TV [City] Press Release by the District Administration Online Article by the [City] Tagblatt
04-B	Nov 05, 2020 (by phone) 39:19 Member, Spokesperson of the Working Group ‘Producers/ Products’	See above	See above
05	Nov 06, 2020 1:27:45 Manager	Nov 06, 2020 (morning)	/
06	Nov 19, 2020 53:59 Founder, Member, Manager of Educational Activities	Nov 19, 2020 (morning – early afternoon)	Website, Facebook Page Report by Bayerischer Rundfunk
07	Nov 25, 2020 51:08 Manager, Sole Owner	Nov 25, 2020 (morning – early afternoon)	Website Report by Marla Studio
08	Nov 26, 2020 1:37:32 Founder, Co-Manager	Nov 26, 2020 (morning)	Website Newspaper Articles by Neue Presse [City]
09	Nov 25, 2020 51:00 Manager, Sole Owner	Nov 25, 2020 (afternoon – early evening)	Website
10	Dec 10, 2020 1:16:08 Manager	Dec 10, 2020 (morning)	Website

Table 4: Additional Information regarding Data Collection

²⁵ For case four, two members of the AFI were interviewed in light of their expertise on a specific section of the interview questions and themes. Hence, these are referenced in the text as Interview 4A and 4B.

Appendix D: Consent Form

Original Consent Form (German)

Forschende: Anne Bechmann

Institution: Lund Universität

Forschungsprojekt: Masterarbeit im Bereich Nachhaltigkeit in der deutschen Agrar- und Ernährungswirtschaft

Das Interview wird aufgezeichnet und daraufhin von der Forschenden in Schriftform gebracht und ins Englische übersetzt.

Für die weitere wissenschaftliche Auswertung der Interviewtexte werden alle Angaben, die zu einer Identifizierung der Person führen könnten, verändert oder aus dem Text entfernt.

Die anonymisierten Interviewtexte werden von der Forschenden einmalig im Rahmen der Masterarbeit wissenschaftlich ausgewertet.

In der wissenschaftlichen Veröffentlichung werden Interviews nur in Ausschnitten zitiert, um gegenüber Dritten sicherzustellen, dass der entstehende Gesamtzusammenhang von Ereignissen nicht zu einer Identifizierung der Person führen kann.

Personenbezogene Kontaktdaten werden von Interviewdaten getrennt für Dritte unzugänglich gespeichert.

Nach Beendigung des Forschungsprojekts werden alle personenbezogenen Kontaktdaten gelöscht.

Die Teilnahme an dem Interview ist freiwillig.

Sie haben zu jeder Zeit die Möglichkeit, das Interview abubrechen und Ihr Einverständnis in eine Aufzeichnung und Transkription des Interviews zurückziehen, ohne dass Ihnen dadurch irgendwelche Nachteile entstehen. Sie können Antworten auch bei einzelnen Fragen verweigern, ohne dass Ihnen dadurch irgendwelche Nachteile entstehen.

Mit Ihrer Unterschrift erklären Sie sich einverstanden, zu den oben genannten Bedingungen an dem Interview teilzunehmen.

Ort, Datum

Unterschrift

Translated Consent Form (English)

Researcher: Anne Bechmann

Institution: Lund University

Research Project: Master's thesis in the field of sustainability in the German agro-food sector

The interview is audio-recorded and then put in writing and translated into English by the researcher.

For further scientific evaluation of the interview texts, all information that could lead to the identification of the person, is changed or removed from the text.

The anonymised interview texts are scientifically evaluated by the researcher once in the course of the Master's thesis.

Interviews are only quoted in excerpts in the scientific publication to assure vis-à-vis third parties that the resulting overall context of events cannot lead to an identification of the person.

Personal contact data is stored separately from interview data and inaccessibly to third parties.

After completion of the research project, all personal contact data will be deleted.

Participation in the interview is voluntary.

You have the option at any time to suspend the interview and withdraw your consent to a recording and transcription of the interview, without incurring any disadvantages. You may also refuse to answer individual questions without any disadvantages.

By signing, you agree to participate in the interview under the conditions set out above.

Place, Date

Signature

Appendix E: Overview of Findings on an Individual Case Level

Legend:

	Currently Practiced
P	Partially Practiced
E	Practiced only under Exceptional Circumstances
≈	In the Process of Adoption/ Planned for the Future
	Not Applicable/ Could not be Observed ²⁶

Practices, Strategies		Case									
		1	2	3	4	5	6	7	8	9	10
Preserving Natural Capital/ Ecosystems (Grounding in Nature)	Adherence to Standards of Organic Production										
	No synthetic inputs										
	Organic certification							≈			
	Integration of Natural Biological Processes										
	Polycultures (strip/ cover cropping, intercropping)										
	Mulching										
	Integrating livestock (manure, natural predators etc.)										
	Green manure										
	Other forms of nutrient recycling (composting, plant residues, woodchips)										
	No tillage										
	Strip tillage, rotary tillage										
	Raised bed systems										
	Grassland-orchard management system										
	Increase water harvesting capacity (rainwater collection, swales, hoeing, different water sources)										
	Agrobiodiversity (different crops, animal breeds)										
	Diversify crops for climate change adaptation										
	Landscape/ Ecosystem Conservation Measures										
	Flower strips										
	Grassland preservation										
	Climate change mitigation										
Planning based on observation of and desire to improve natural environment											

Table 5.1: Summary of Results - Preservation of Natural Capital/ Ecosystems

²⁶ This primarily relates to case four insofar as data collection was only carried out with the producer-consumer community representatives and at the store, but not with all the participating producers since the large number of producers involved would have surpassed the scope of this thesis and only one (out of the three I had approached) was available for participation in this research (case ten).

Practices, Strategies		Case										
		1	2	3	4	5	6	7	8	9	10	
Security/ Risk Protection (Autonomy)	Diversification (Income)	Diversification of Product Range										
		Fruits	■	■	■	■		■		■		
		Vegetables	■		■	■		■		■		
		Potatoes	■		■	■	■	■		■	■	
		Processed products (juice, wine, vinegar, spreads, cheese, yogurt, tea etc.)	■	■	■	■	■		■	■		
		Meat	■		■		■		■	■	■	
		Processed meat (sausages etc.)			■				■	■		
		Milk					■		■	■		
		Eggs	■		■	■	■		■	■	■	≈
		Grains				■	■					■
		Bread	■			■				■		
		Oil				■						
		Spices				■						■
		Flour				■						
		Pasta				■						
		Nuts, Seeds, Legumes	■	■		■						
		Honey		■		■						
		Bee wax		■								
		Soap		■		■						
		Other personal hygiene + household products				■						
		Forestry Products	■	■			■		■	■	■	■
		Grass products (silage, hay, wild plant seeds, fodder)	■	■	■		■		■	■	■	■
		Wool	■							■		
		Young stock	■		■		■				■	
		Value-Added Capacity										
		Food processing (cheese, juice etc.)	■	■	■	■	■		■	■		
		Grain cleaning				■	■					■
		Hulling				■						■
		Wool production				■				■		
		Catering services				■			■	■		
		Packaging		■	■	■	■		■	■	■	■
		Multifunctionality	■	■	■	■	■		■	■	■	■
		Agricultural production (crops, grains, livestock)	■	■	■	■	■		■	■	■	■
		Forestry	■	■	■	■	■		■	■	■	■
		Energy production	■	■	■	■	■		■	■	■	■
		Direct selling	■	■	■	■	■		■	■	■	≈
		Agritourism	■			■					■	■
		Other service activities		■		■	■		■	■	■	■
		Green services	■	■	■	■	■		■	■	■	■
		Educational activities	■		■	■		■		■		
		Number of Outlets										
		One	■			■		■				
		Two							■	■		
		Three			■							
		Four									■	■
		Seven					■					
		≈ Eighty		■								
Pluri-Activity	■	■	■	■	■	■	■	■	■	■		
Pluri-activity in the past					■		■	■		■		
Co-Financing by Members				■		■						
Governmental Subsidies considered Income Source	■		■						■	■		

Table 6.2 (a): Summary of Results - Security/ Risk Protection

Practices, Strategies		Case												
		1	2	3	4	5	6	7	8	9	10			
Independence/ Self-Actualisation (Autonomy)	Control over Production Decisions	Decision-Making on Production												
		Independent pricing decisions		P			P				P	P		
		Decisions on main products/ activities out of own initiative and motivation					P				P	P		
		Decisions 'Imposed' by Market-Based Considerations												
		Diversifying product range												
		Expansion of activities												
		Pluri-activity												
		Hybrid breed in addition to endangered breeds												
		Organic certification												
		Sales strategy												
		Decisions Imposed by Political Requirements												
		Legal structure												
		Manure application												
		Organic certification to maintain partnership												

Table 7.3: Summary of Results - Independence/ Self-Actualisation

Practices, Strategies		Case												
		1	2	3	4	5	6	7	8	9	10			
Mutual Support/ Solidarity (Collaboration & Reciprocity)	Collaboration with Other Producers	Exchange of inputs/ resources (non-monetary)												
		Exchange of inputs/ resources (monetary)												
		Outsourcing part of the production process												
		Collaboration for nature conservation activities												
		Sale of each/ the other's products												
		Collective farming												
		Agreement on regional allocation of customer base												
		Support (increase customer base, adoption new products)												
		Exchange food products for consumption (non-monetary)												
		Building Social Capital												
		Drawing on family + friends (including other producers)												
		Recruiting new members												
		Hiring employees												
		Hiring temporary labour for specific tasks												
		Offering internships/ apprenticeships												
		WWOOFing ²⁷												

Table 8.4: Summary of Results - Mutual Support/ Solidarity

²⁷ WWOOF (World-Wide Opportunities on Organic Farms) is a global network of national organisations based on the idea of connecting people who live a nature-related life on the countryside with those who want to learn about it by facilitating homestays of volunteers on organic or self-catering farms. These usually take the form of a non-monetised exchange between WWOOFers and farm owners based on a guest relationship in which WWOOFers are voluntarily involved in the daily farm life.

Practices, Strategies		Case												
		1	2	3	4	5	6	7	8	9	10			
Adaptation through Collective Intelligence (Knowledge & Learning)	Preserving Local Varieties and Practices													
	Plant old species varieties	■	■		≈	■								■
	Keep traditional local breeds	■		■				■	■	■				
	Maintain traditional farming practices	■	■	■	■	■	■	■	■	■				
	Raised beds, cold frames	■		■	■									
	Grassland-orchard management system		■		■					■				
	Livestock-crop mix	■		■	■	■			■	■	■			
	No/ partial tillage	■		■	■		■	■	■	■				
	Experimentation, "Learning by Doing"													
	Self-construction assets, tools	■		■										■
	Production methods, varieties etc.	■	■		≈	■	■	■	■	■	■			■
	Planning, management				■	■	■							
	Concept development (work structure etc.)				■		■			■				
	Decision-Making													
	Described as democratic process open to all	■	■	■	■	■	■	■	■	■	≈			■
	Examples for different members contributing to decisions/ different ideas being considered	■		■	■	■	■	■		■	■	■		■
	Examples for collective decision-making		■		■		■							
	Hosted public information event for concept development				■		■							
	Learning													
	Information material/ courses by other producers	■	■				■							
	Knowledge exchange with other producers	■	■	■	■	■	■	■	■	■	■			■
	Production methods, processing		■	■	■	■	■		■	■	■			■
	Plant species/ breeds	■	■	■					■					
	Climate change adaptation/ mitigation	■	■							■				
	Concept development, management				■		■			■				
	Knowledge Exchange with Universities, Research Institutions	■					■	■						

Table 9.5: Summary of Results - Adaptation through Collective Intelligence

Practices, Strategies		Case												
		1	2	3	4	5	6	7	8	9	10			
Transformation through Connectivity and De-Commodification (Socio-Economic Transformation)	Spaces of Autonomy	Raising Awareness/ Educational Activities												
		Internships/ apprenticeships/ volunteering		≈										≈
		Guided tours												
		Through media outlets/ costumer mails/ social media												
		Through agritouristic activities												
		Collaborations with schools												
		Educational activities (events)												
		Departure from capitalist meaning												
		Pricing open to negotiation (needs-based)												
		Offering products for free												
		Co-financing		P							≈			
		Financial solidarity/ support offered by consumers												
		Promote more horizontal employment relations												
		Honorary work instead of paid labour												
		Volunteering instead of paid labour (compensation food, housing etc.)									P			
		Not-for-profit												
		Barter systems												
		Support/ promotion of "competitors" in the region												

Table 4.6: Summary of Results – Transformation through Connectivity and De-Commodification