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Solidarische Landwirtschaft (CSAs) in Germany

Drivers of change for a socio-
ecological transformation of the food
system?

Thomas Julián Poveda Ríos

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FOOD FOR JUSTICE: POWER, POLITICS AND FOOD INEQUALITIES IN A BIOECONOMY

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Abstract

In face of a multiple crisis within the current corporate food system, alternative models of food production and distribution have attracted increasing attention as catalysts for a socio-ecological transformation. Among these alternative models, Community Supported Agriculture (CSA) or as it is called in Germany, Solidarische Landwirtschaft (Solawi), emerges as a promising model for reshaping the socio-ecological landscape of food production and consumption. By shedding light on the transformative potentials and limitations of Solawis in the framework of a socio-ecological transformation of the local food system this paper aims to share knowledge and a further perspective on the question “How are we going to feed the world?”, the leading question of this working paper series. Through semi-structured expert interviews conducted in fall 2023 within two case studies around Berlin, the Apfeltraum Solawi and the Spörgelhof e.G. and a subsequent qualitative content analysis this work shares relevant insights across diverse domains of Solawi work, such as community-building, relationship with nature, fair wages and ecological farming practices.



KEYWORDS: multiple crisis, food system, socio-ecological transformation, CSA, local food system

Short biography


Thomas Poveda holds a M.A. degree in Interdisciplinary Latin American Studies and a bachelor's degree in economics both at the Free University of Berlin. In his late teens Thomas migrated from South America to Germany. During his master's he visited activities and seminars guided by members of the Food for Justice Research Group and focused in his research work on both urban gardens and CSAs. Outside of university work, he actively participates at the Karma Kultur e.V. (urban garden) and at Apfeltraum CSA in and around Berlin.

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List of Figures

Figure 1 Document landscape regarding assignment of codes	26
Figure 2 Summary Grid of Climate and Environment and its sub-categories for farmers	27
Figure 3 Code landscape regarding closeness between codes	37
Figure 4 Frequency Table for Main Categories	39



Content

Introduction	01
1 Community Supported Agriculture (CSAs) or Solidarische Landwirtschaft (Solawi)	03
1.1 Definition and specificities of Solawis	04
1.2 Origins of the CSA concept	05
1.3 Solawis in Germany and state of the art	06
1.4 Case studies: Apfeltraum and Spörgelhof	10
2 Multiple Crisis as a diagnosis and its possible solutions	13
2.1 Food System in Crisis	14
2.2 Sustainable Development	18
2.3 Transition Discourses	18
2.4 The socio-ecological transformation	21
2.5 The “Agrar- und Ernährungswende” and the “Wir haben es satt” protests and their demands	23
3 Solawis, the multiple crisis, and the socio-ecological transformation	26
3.1 Climate and Environment (Klima und Umwelt)	27
3.2 Access to healthy nutrition (Zugang zu gesunder Ernährung)	31
3.3 Relationship to food, nature, and agriculture (Beziehung zu Essen, Natur und Landwirtschaft)	33
3.4 Education (Bildung)	37
3.5 Community (Gemeinschaft)	39
3.6 Decision-making (Entscheidungsfindung)	45
3.7 Fair wages (faire Löhne)	48
3.8 Price and Market Independence (Preis- und Marktunabhängigkeit)	50
Conclusion and Outlook	54
References	56

Introduction

Cucumbers in autumn © SolaWi Gärtnerei Apfeltraum

In the face of escalating environmental degradation, socio-economic inequalities, and health disparities within contemporary food systems, or in other words, in face of a multiple crisis within the current corporate food system, alternative models of food production and distribution have attracted increasing attention as catalysts for transformative change. Considering that five of the nine planetary boundaries are directly linked to agrifood systems as well as thirteen out of the seventeen sustainable development goals [SDGs], investigation about the restructuring of our food systems is of high priority [Rivera-Ferre 2019]. Among these alternative models, Community Supported Agriculture [CSA] or as it is called in Germany, Solidarische Landwirtschaft [Solawi], emerges as a promising model for reshaping the socio-ecological landscape of food production and consumption. Solawis represent grassroots initiatives that seek to decentralize food systems, promote ecological responsibility through ecological farming practices, and foster community building. However, the extent to which Solawis can effectively catalyze a socio-ecological transformation of the food system remains a subject of inquiry and debate.

This research endeavors to answer the following research question: “What are the transformative potentials and limitations of Solawis in advancing a socio-ecological transformation of the food system in Berlin, Germany?”. Based on primary empirical data, this study seeks to unpack the multifaceted dynamics shaping Solawis, from their environmental impacts and nutritional implications to their social and educational outreach and community engagement. Moreover, this research intends to inquire about the farmers’ wages and how independent Solawis are from market and price developments.

Central to this inquiry is an examination of the ways in which Solawis navigate structural constraints, such as climate change and a lack of subsidies for small farms, and how they leverage transformative potentials to redefine relationships between producers and consumers, reimagine relations to nature and agriculture, and cultivate resilient communities rooted in solidarity and ecological responsibility.

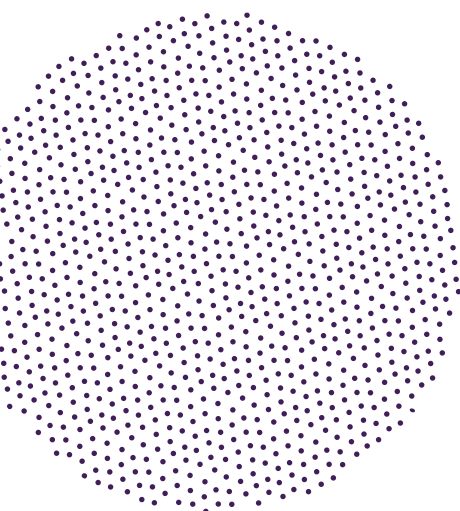
This research thus aims to complement the current state of the art by detailing the experiences of two concrete case studies as well as inquire the role of Solawis as drivers of systemic change on these dimensions within the broader food landscape of Berlin. By shedding light on the transformative potentials and limitations of Solawis for a broader socio-ecological transformation in Berlin’s food system,

this research contributes to ongoing conversations surrounding sustainable food systems, social equity around the access to healthy food, and ecological resilience of food provisioning. Moreover, it offers valuable insights for policymakers, practitioners, and community actors seeking to leverage the power of alternative food models to address pressing challenges and envision more just and sustainable futures for urban foodscapes.

In addition to a literature analysis, the empirical data was extracted from 8 semi-structured expert interviews with 4 main Solawi farmers, 3 regular member-consumers, and one member which was also part of the executive board of their Solawi. All interviews were conducted in the preferred language of the interviewees [German, English and Brazilian Portuguese] at two different Solawi initiatives around Berlin, while applying the damage prevention principle advocated by Gläser and Lauder by offering a work's day at the Solawi-fields as an acknowledgment of the time and information given [2004]. The fact that the interviewees had mostly different roles [e.g. that of a voluntary member of the executive board], different perspectives [e.g. that of a migrant, that of a mother], and varying levels of engagement [e.g. only picking up their vegetables weekly or voluntarily leading a Solawi-relevant IT-project] greatly enriched the collected data. Questions and stimuli in both farmer's and member's questionnaires were narrative-generating and listener-oriented so that the interviewee holds a monologue, as far as possible without losing the interview's structure. Furthermore, the described data was complemented by field research observations and the author's own experience as a Solawi-member.

In this respect, the data was evaluated with the qualitative content analysis method according to Mayring [2000], identifying patterns, themes and meanings. Categories of analysis were built and defined in a multi-stage process, where most categories were first built deductively from the theoretical framework and then modified inductively by the research material, plus inductively developing the necessary sub-categories. The presented research question was operationalized with the following categories of analysis: Climate and environment, healthy nutrition, relationship to food, nature, and agriculture; education, community, decision-making, fair wages, and price and market independence.

Following this introduction, the first section delves into the conceptual underpinnings of CSAs and Solawis, tracing their origins and evolution. This section also offers a detailed examination of Solawis in Germany, including a state-of-the-art analysis and an introduction of the two case studies. The second section delves into the multiple crises of contemporary food systems and specifically of Berlin's food system, while subsequently exploring solutions ranging from sustainable development to transition discourses and the socio-ecological transformation as well as the specific demands from the "Agrar- und Ernährungswende" and the "Wir haben es satt!" protests. The heart of this working paper lies in the research results and analysis section, which delves into the key dimensions in which Solawis have potentials and limitations to drive forward a transformation of the local food system. Finally, the conclusion and outlook section synthesizes the findings and proposes paths for future research.





1 | Community Supported Agriculture (CSAs) or Solidarische Landwirtschaft (Solawi)

Gewächshaus © Solawi Gärtnerei Apfeltraum

In the last decades there has been several actors and attempts to generate alternative paths to the industrial and conventional food provisioning. Goodman et al. [2011] call such actors in the food system Alternative Food Networks [AFNs]. AFNs claim to bring production and consumption of food closer together, be it spatially, economically, or socially and they may either be market-embedded or not [Goodman and Goodman 2009]. Furthermore, AFN products can be seen in supermarkets shelves, produced by large-scale food corporations, such as Fair-Trade or organic products, or be commercialized in new institutional forms parallel to the mainstream channels, such as digital platforms selling regional food or veggie boxes [e.g. Marktschwärmer in Germany] or direct commerce in the case of Farmer's Markets and community supported agriculture [ibid. 2009]. Most AFNs are underpinned by an 'ethics of care', which tries to connect a knowing consumer with a distant 'other', e.g. farm animals and their well-being, fields and towns free of agrotoxics, one's region's farmers and their financial security or cacao and banana growers in the Global South and their working conditions [ibid. 2009]. Goodman et al. [2011] question the alterity of some of these actors such as Fair-Trade Networks, who originally developed as a political solidarity movement in the 1960s, arguing that they have been co-opted by corporate capitalism giving the latter a face of social justice, while simplistically portraying individual consumption decisions as a solution or salvation to globally intertwined problems. The distinction between 'alternative' and 'conventional' food provisioning is thus by far not a clearly defined and highly contested terrain, as some 'alternative' food products are now established in conventional channels of provision.

The following work focuses on one type of AFN, namely on community supported agriculture [CSAs] initiatives in Germany. The German term for CSA is *Solidarische Landwirtschaft* or short: *Solawis*, which literally translates to solidarity agriculture or farming. From now on, the term Solawi will be used to refer to CSAs in the German context with the intention to do justice to the differences of German CSAs from CSAs in other countries.

1.1. Definition and specificities of Solawis

“Share the harvest” is the motto of the website ‘ernte-teilen.org’, where all voluntarily listed German Solawis are registered in a national map. Sharing the harvest is also a millennia old tradition of farmers and its families and communities to ensure subsistence. It may also be considered a new practice that finds collective answers to the most pressing social, ecological, and economic problems. Based on the website of the network “Solidarische Landwirtschaft e.V.” a Solawi is a regional alliance of consumers and producers, where consumers cover the costs of a farm and get the harvest in return. In Solawi initiatives, food loses its price and is no longer sold on the market, but flows into its own transparent economic cycle, which is co-organized and financed by its consumers (Solidarische Landwirtschaft e.V. n.d.b). Furthermore, Solawis are portrayed as an innovative and responsible praxis which protects the environment and fosters a biodiverse agriculture in harmony with nature, while offering their consumers high-quality, diverse, seasonal and regional food (Solidarische Landwirtschaft e.V. n.d.b).

The Nascent Research Project “Neue Chancen für eine nachhaltige Ernährungswirtschaft durch transformative Wirtschaftsformen” [New opportunities for a sustainable food economy through transformative economies] investigates the potential and obstacles of several transformative enterprises in the food economy in Germany. According to them, transformative enterprises are differentiated from mainstream enterprises by supplying sustainable products and services whilst creating new forms of social closeness and non-market related interactions (Pfriem et al. 2019). They are characterized by solidarity economics in opposition to competition practices of conventional economics. Lastly, they focus on transformative learning and education. These enterprises bypass the established trade systems and foster in this way value creation at a regional and/or local level (ibid. 2019). These initiatives were classified according to their degree of market orientation in the categories of subsistence, prosuming, solidarity bond and sustainable consumption depending on the extent to which their supply is market oriented. Solawis, which play a central role in the nascent research project, are active in the cultivation, processing and retail level and are clearly classified as prosuming enterprises mainly due to the integration of the consumers in the value creation process (ibid. 2019).

In the Solawi model, members commit at least one year long by contract to pay a fixed amount, assuring financial security to the farmers and with it not only their secure livelihood is assured, but most of the times a wage deemed as fair as well, liberating them from the dominating market constraints and dependencies (Paech et al. 2020; Solidarische Landwirtschaft e.V. n.d.b). Furthermore, Solawi members are usually expected to voluntarily help at the farm by harvest time or regularly at a pick-up/collection station, where typically every week the vegetables are picked up by Solawi-members. This renders their work essential in the value-creation process while at the same time the members are bearing together the farm’s economic risk, e.g. in case of crop failure due to changing weather conditions (Pfriem et al. 2019). Producers are also expected to transparently disclose costs, plans



At work © Solawi Gärtnerei Apfeltraum

and standards of production. This direct relationship thus both requires and fosters mutual trust between producers and consumer-members [Paech et al. 2020]. Through regular participation at working days, general assemblies, and farm festivals, among other events, consumer-members become prosumers relativizing the dichotomy producer vs. consumer and creating social cohesion in the group, which in turn is an important stabilizing factor of the whole initiative [Paech et al. 2020]. In addition, by bearing the costs and risks together Solawi initiatives try to break the economic dichotomy between the countryside and its farmers on the one side, and the city and its dwellers on the other.

One last important specificity of most Solawis is the “Bieterrunde” [Bidding round] which takes place before the season starts and in which the monthly contribution of each member to cover the costs of the farm is defined. The producers disclose their costs plans for the coming season and the members decide how much they are willing to pay monthly in accordance with that. In the ideal case, the high-income members pay more, allowing lower-income members to still take part of the Solawi and pay a contribution according to their specific financial needs. In this way, Solawis try to integrate needs-oriented cost sharing into their system, as well as a solidarity principle among members, which will be further analyzed in sections 3.2 and 3.8 [Paech et al. 2020].

◆ 1.2. Origins of the CSA concept

It is not agreed upon when and where the CSA concept firstly originated. Some argue CSAs originated from the Teikei grassroots movement in Japan which emerged in the late 1960s and early 1970s. Teikei consists in a farmer-consumer partnership around the provision of organically grown produce, as well as in the creation and maintenance of a community that coexists with the natural environment [Kondoh 2015]. Teikei emerged with the intention to create an alternative food system as a reaction both to the expansion of industrialized farming and pesticides and its threats to small farmers, as well as from the health concerns of consumers around the use of pesticides in agriculture and food safety in general [ibid. 2015]. Teikei in Japanese means ‘joint business’, ‘cooperation’, or ‘partnership’.

Nonetheless, the Rodale Institute argues that Teikei was not the inspiration for the emergence of the CSA movement in the USA. Instead, the main impulse came from Europe, more specifically from the biodynamic agricultural tradition and the spiritual and esoteric worldview of the anthroposophy, among other ideas of the Austrian philosopher Rudolf Steiner [McFadden 2005]. These ideas came to life in the form of the first two CSAs founded in 1986, the Indian Line Farm and the Temple Wilton Community Farm. The term CSA was coined by the founders and key partners of the Indian Line Farm, under which was Robyn Van En, original owner of the land and Jan Vander Tuin, who had visited a biodynamic farm called Topinambur near Zurich and Les Jardins de Cocagne in Geneva, whose ideas he then incorporated in the Indian Line Farm [ibid. 2005; Vander Tuin 1992]. The founders of Les Jardins de Cocagne were in turn influenced by the co-op movement in Chile during Allende’s administration, according to Vander Tuin [1992]. Further, among

the founders of the Temple-Wilton Community Farm was Trauger Groh, who also brought ideas from the German farm Buschenberghof, which was also strongly influenced by the ideas of Rudolf Steiner [McFadden 2005].

A critique of this history that is worth mentioning is the one of the Mother Earth News Magazine and its articles about the black agricultural university professor and farmer Brooker T. Whatley, who experienced first-hand how the number of black farms declined during the XX century failing to compete with the growing industrial farming [Bowens 2015; Mother Earth News 2022]. He advocated for regenerative farming, a sustainable and organic farming method that regenerates the soil and maximizes biodiversity, while regenerating and sustaining the livelihoods of small farmers. Whatley developed a plan, which combined Pick-Your-Own operations, where buyers pick their own harvest saving costs of harvesting, washing, packaging, and transportation, and the so-called clientele membership club, where members pay an annual fee to the farmers assuring them their livelihoods [Bowens 2015]. Even though the concept of CSA is not explicitly mentioned, the principles of “The Whatley’s Diversified Plan for Small Farmers” widely overlap those of CSAs. According to the Mother Earth News Magazine, this plan originates from an interview with Whatley in 1982, four years before the foundation of the two CSAs already mentioned above [Mother Earth News 2022].

◆ 1.3. Solawis in Germany and state of the art

In Germany the Buschenberghof Farm was the first one to apply a CSA or Solawi model in 1988 [Impulszentrum Zukunftsfähiges Wirtschaften]. The development of Solawis in Germany started off slowly. In fact, since Buschenberghof’s foundation in 1988 until 2009 there were only nine farms working under the concept of Solawi in Germany, whereas in the USA there were around 800 CSAs by the time [Allen 2010, p. 297; Solidarische Landwirtschaft e.V. n.d.a]. After the Buschenberghof Farm received in 2009 the “ökologischer Landbau” [organic farming] award, the wish to build a Germany-wide network was persistent in the 2010 Attac sommer academy¹ [Bietau 2013]. Moreover, a standardized German name should be found, for the concept to be better known and to promote emerging and new CSA initiatives. Consequently, in 2011 the Solidarische Landwirtschaft e.V. network was created in order to preserve a solidary, sustainable and peasant agriculture, foster the creation of Solawis and offer an exchange platform for them in Germany [Solidarische Landwirtschaft e.V. 2021]. The network is member of the international CSA Network URGENCI and cooperates internationally with other CSA-initiatives and interested parties in and outside Europe through conferences and exchange programs [Solidarische Landwirtschaft e.V. n.d.a]. Since its foundation and until September 2021 the Solawi movement in Germany has seen a dynamic growth with the number of Solawis growing from 20 to 368 [Solidarische Landwirtschaft e.V. 2021]. According to the working group “Mitgliederverwaltung” [member administration] and its presentation during the general assembly in November 2023 there are currently

¹ Attac is an international association and education movement whose German branch organizes every year a summer camp, in which different topics are discussed and analyzed. In 2010 the main three topics were finance markets, climate justice and redistribution.

462 functioning Solawis and 110 in formation process, all registered on the website Ernte-Teilen [Solidarische Landwirtschaft e.V. 11/17/2023; Ernte Teilen].

Regarding the member structure, Boddenberg et al. [2017] conducted a survey with a sample of 520 Solawi members, where two thirds of the members were female and 35% were living in a family with children under the age of 16. More than 50% of the surveyed members were between 30–49 years old and 47% have at least a university degree. The members are predominantly full time employed [46%] and have a medium to high income. The farmers surveyed do not differ much from the members regarding the age and family structure, nevertheless they are predominantly male [67%] and have a lower income than the average income of the members [Boddenberg et al. 2017]. An information that was missing in the study of Boddenberg et al. was the nationality of the members. In the research done by Bietau [2013] with a sample of 784 people, the result was that 96,3% have the German nationality [Bietau 2013]. From the results of these studies questions emerge about the openness of Solawis. In other words, to which extent do informal access barriers develop due to the homogenous sociodemographic member composition, above all regarding middle to high educational level and nationality or migration background. Further, the data of both studies fits well with the data acquired from the interviewed members and farmers of empirical research done in the frame of this work. Namely, three members were female, and one used the pronoun they, but all had a university degree and three of the four of them had children under the age of 16. Moreover, two of the four farmers interviewed were male. Lastly, all interviewees have the German nationality, apart from one which has the Brazilian nationality.

Kraiß and van Elsen [2009] consider the Solawi model as a way to revitalize the rural sector that was and is affected by infrastructure and population decrease, and also as an effective way for farmers to bypass the price and competition pressure and the economic constraints of the increasingly adverse free market [Kraiß and van Elsen 2009]. The Solawi concept is differentiated from other similar commercialization models such as the “Abo-Kiste” [organic box], in which agricultural products are directly delivered to the households, by the fact that Solawis do not commercialize at all. They are not bringing any products to the market and their products are also not sold at a specific price, in fact they lose their price and their production is completely financed by membership fees [ibid. 2009]. Another delimiting factor which is not seen to this extent in any other model is the tight connection between producer and consumer, the consumers’ direct influence in the way of production, as well as the interpersonal trust which acts as a stabilization factor, demands close contact between the participants and acts against the alienation between farmers and consumers [ibid. 2009].

Boddenberg et al. [2017] developed a typology for Solawis dividing them in 3 different types according to their ideals. The first one being the pragmatic Solawi, in which a farm becomes independent from the market thanks to the community’s financing of their agricultural activity. The community thus acts as financer and consumer but is rather not involved in the production and decision making of the farm [Boddenberg et al. 2017]. Some pragmatic Solawis even deliver directly to



Tomatoes © SolaWi Gärtnerei Apfeltraum

the households of consumers, rendering their participation, except for the financial one, unnecessary for the model to work.

The second one is the spiritual-communal Solawi, most of whose members see the alienation between humans, land, and nature as a central problem of society and the Solawi as an experience space in which this alienation is partly dissolved [Boddenberg et al. 2017]. Solidary cost sharing and labor division and a functioning community are a central aspect of this type of Solawi. This alternative way of co-working and coexistence can have a life-changing potential for its members. Boddenberg et al. [2017] argue though that this type of Solawi may not be interested or actively engaged in overall social change, but rather in building their own alternative community that is commonly inspired by spiritual, anthroposophical and biodynamic values.

The last type of Solawi follows a socio-political strategy and regard their own model as a necessary step in the transformation of society and the neoliberal capitalist system [Boddenberg et al. 2017]. High ecological standards and a production beyond global exploitation relations are seen as vital for a structural change considering climate change, the oil peak and increasing power of the agricultural industry over our food system [ibid. 2017]. The focus of this type of Solawi lies in a democratic decision making, a solidary financial system through the bidding round and members' involvement in key processes of the production chain, such as harvest and/or distribution. It is important to note that not all Solawi initiatives can be sharply allocated to just one of these categories, given each initiative's different motives that may fit in more than one category.

Moreover, Boddenberg et al. [2017] conclude in their research that there are three main aspects of the Solawi model that can be considered innovative elements and have the potential for a broader social change. The first one is the concept of solidarity. They remark that inequality and differences between individuals and their recognition is a condition for solidarity to take place [ibid. 2017]. In Solawis solidarity can be practiced between members, for example through the bidding round that enables the members to pay different fees according to their income, or by doing more or less work for the Solawi community depending on the time available to each member. Despite these differences all members have the right to their corresponding vegetable share. Nevertheless, it is not clear until which point the economic solidarity can extend without harming the enterprise, in other words, how little a member can contribute without destabilizing the Solawi's finances. Furthermore, solidarity is practiced towards the farmers by pre-financing for at least a year their economic activity and with it their livelihoods, which is not possible under free market conditions. The last dimension where solidarity can be practiced is in relation to the land, nature, and the surroundings by using ecological methods in all the steps of the value creation chain. A needs-orientation principle, community and collective responsibility are central aspects of Solawis and are practiced through a solidarity principle that permeates different dimensions of their activity [Boddenberg et al. 2017].

Second, through members' participation in the agricultural production and above all through the pre-financing of the production as a whole, the agricultural goods are decoupled from their market price.

This is considered by Boddenberg et al. [2017] as a succeeded decommodification, which works against a capitalist and market oriented financial model and because of that, it is considered an innovative aspect of Solawis. The third innovation according to Boddenberg et al. [2017] is linking collective solidarity with food production and consumption, which entails a change in members' daily life, for example in changed food habits according to the seasonal harvest and regular voluntary work at the fields or at a pick-up station. This differentiates Solawis from other ethical consumption practices, such as buying organic or fair trade. Most Solawis promote an active participation from the members in the value creation process and they may even own a share of the land or means of production, so that production and consumption partly blend together under the Solawi model [Boddenberg et al. 2017; Pfriem et al. 2019].

A further typology to better understand the diverse organizational forms that Solawi enterprises can take is the one described in the praxis oriented handbook published by the Solidarische Landwirtschaft e.V. and the already mentioned nascent research project with the objective of contributing to the growing knowledge pool about Solawis to further help founders and consultants [Strüber et al. 2023]. In contrast to the typology developed by Boddenberg et al. [2017], which is based on Solawis' values, ideals or motives, this one is rather based on the organizational and legal relation between farmers, the agricultural production and members. Criteria of particular relevance are [a] if and how Solawi members are involved in the management of the enterprise and to which extent they share the business risks and [b] if members are organized in a legal form or not [Strüber et al. 2023].

The first type is the producer-led Solawi which has rather simple contracts or bilateral individual purchase agreements with each member. The work done by members is normally not defined in the contract and rather done voluntarily. Members are separate private persons and do not have a legal relation between them. Typically, this first type is created from an existing agricultural business that eventually changes over to the Solawi economic model [ibid. 2023].

In the second type, called cooperation Solawi, consumer-members initiate a Solawi and are organized as a legal entity or association. This consumer association cooperates with one or more agricultural companies which all have their own separate legal form. Profits and logistic efforts may be shared by the companies and the responsibility over voluntary work at the farm[s], communication with the farm[s] and members, and the administration of membership fees normally lies on the member-corporation [Strüber et al. 2023]. This type of consumer corporation has typically the legal form of an association [ger: eingetragener Verein] or occasionally of a cooperative [ger: eingetragene Genossenschaft].

The last type is called co-entrepreneur Solawi, in which producers and consumers cooperate under one single legal form, for example that of an association or coop-

erative [Strüber et al. 2023]. It can be initiated both by consumers or farmers. The cooperative or association is responsible for all activity areas, from the agricultural production, where farmer-members are normally hired, to the logistic and member communication. This type of Solawi offers more space for democratic and low hierarchy structures, where consumers can co-own the business property [ibid. 2023].

At this point it should be clear that Solawi is not a rigid model. They have common aspects but are rather a diverse socio-economic model which can lead to various configurations. The following section will describe the two Solawis that took part in the empirical research of this work.

1.4. Case studies: Apfeltraum and Spörgelhof

Gärtnerei Apfeltraum

The Gärtnerei Apfeltraum [Glaser & Laufer GbR] has a biodynamic agriculture certification by demeter and is located 50 km east from Berlin in a land plot of 11 hectares, from which 80% is leased and 20% is owned. Only 3 hectares are used for the cultivation of vegetables, whereas five hectares are dedicated to nature conservation measures and one hectare for the Galloway cattle, donkeys, and sheep to graze and produce manure for the vegetable production. The Apfeltraum farm has the legal form “Gesellschaft bürgerlichen Rechts”, short GbR, or in English civil law partnership with unlimited liability, which means the members, which are the two main farmers and founders of the Solawi, are liable with their private assets. These two were interviewed. Apfeltraum’s working team is composed of the two owners, two apprentices, and three employees. According to Strüber et al.’s Solawi typology [2023], Apfeltraum is a producer-led Solawi. In fact, as stated by the interviewees, both farmers took over the existing farm Apfeltraum in 2002 and until 2017 they commercialized their products in weekly farmer’s markets and supplying an organic box [Abokiste], before becoming a Solawi in 2017. One of the motivations to change to Solawi was the increasing lack of transparency, decreasing quality and worsening general conditions of the wholesale trade, where they used to buy extra goods for the farmer’s markets.

And the goods we bought became more and more suspicious. Or we found that the quality was getting worse, that it was becoming less transparent, that we could no longer trace it. Where did it all actually come from? It was still incredibly transparent back then. They were very small structures. If the wholesaler offered tomatoes from Italy, you knew which cooperative the tomatoes came from. And that stopped more and more. The structures got bigger and bigger. Then it was clear. The wholesalers no longer bought from the cooperative, they bought from the wholesalers, i.e. from wholesalers who supplied the wholesalers. And if you then asked which farmers were actually behind these tomatoes or these eggplants or whatever, then you didn’t really know who they were any more.² [Interview 1]

² All quotes from interview 1 are originally in German. Translations are provided by the author. Interviewee 1 was co-founder and owner of Apfeltraum with German citizenship and a main farmer when the interview was conducted on 06th Oct 2023.

Bad experiences with the organic box and the markets were a further reason to change over to the Solawi model. The organic box from one side was not reliably selling all the available harvest, which led to significant economic losses, as well as high amounts of food wasted. And on the other side the weekly markets were a very fluctuating source of income that strongly depended on the weather and the season.

It used to be like that: We grew lettuce in the hope that someone would want it in six weeks' time. And then the weather was bad, or I don't know what. And nobody wanted lettuce. And we didn't sell the lettuce. And then you can still harvest the lettuce for two or three weeks. If nobody buys it, then all your work was for nothing. Then you drive over the field with a mulcher and throw away all the lettuce. But the lettuce, we grew it, we planted it, we hoed it, watered it, and put a lot of work into it. So that we don't sell it later. Especially with lettuce and crops like that, we had yield rates of just 60-70%. Well, that's far too much work for nothing. [Interview 1]

Under these conditions the Apfeltraum farm decided to change to a Solawi model and did it gradually by leaving the organic box and one market after the next. At the beginning they had only 30 vegetable shares, but after 24 months they were solely working under the Solawi model with 180 shares. Since then, they grew to 200 shares, which the two main farmers considered too much, so that currently they are back to having between 180 vegetable shares, since their objective is not to grow endlessly. It is important to note that behind a vegetable share there is predominantly a household of 2-4 people which leaves unclear the exact number of people supplied by the farm.

Spörgelhof e.G.

The Spörgelhof farm is located 40km north from Berlin in a completely leased land plot of 3,5 hectares and has no organic certification. Spörgelhof was founded in 2014 with the GbR legal form, which offered the necessary flexibility for a rather informal and low-budget start. One of its farmers describes its beginnings as follows: "It was a GbR without capital. And we started with two tools, a wheel hoe and a seeder. Worth maybe €150 in total. That was our capital and that was all we really had. And our private car."³ [Interview 3]. In the first months the founders started working without a wage until harvest time with the hope of then finding a community to finance the whole activity. They started the deliveries with their own private car, due to the lack of financial resources to do otherwise.

If you start in February or March, the first products don't arrive until the summer. You have no reserve. In other words, we put a lot of work into it and no wages and everything with the hope that it would work out. And at some point, from August, July, August, the first vegetables arrived and then from July, half a year until Christmas, we were at the weekly market and then we had twelve or 13 members. People who knew us, old acquaintances, friends. And so, we had these two pillars, the weekly market, and the mini community. [Interview 3]

³ All quotes from interview 3 are originally in German. Translations are provided by the author. Interviewee 3 is one of the founders of Spörgelhof, has the German citizenship and was one of the main farmers when the interview was conducted on 13th Oct 2023.

A crucial moment for the community was the change of legal form from GbR to e.G. [cooperative] in 2021. The change over from GbR, where de jure everything belonged to the two founders, to a cooperative, where the ownership was shared between all members, was initiated, and implemented by the members. They demanded to take more part in the business' management and insisted in being legally more involved, both with the enterprise and with one another. According to Strüber et al. [2023]'s Solawi typology Spörgelhof could be considered a type 1 Solawi before the legal form change, where the members had no legal relationship with one another.

The change of legal form was not a smooth transition. In fact, it meant many discussions around e.g. the higher personnel costs being a cooperative, the lack of social benefits for the farmers under the GbR, the better possibilities to invest as a cooperative, among others, as one of the farmers states: "With the cooperative, you have to get a bit bigger because it has more fixed costs than the GbR. So, the employment costs are higher than we paid ourselves, because we didn't pay into the pension fund, [...] what we got was less than the staff costs are now."⁴ [Interview 4]

Currently they are functioning completely as a Solawi with 130 vegetable shares. They can be considered a co-entrepreneur Solawi according to Strüber et al. [2023], given the high participation of the members and the democratic decision making. In fact, as a cooperative they have a supervisory board and a board of directors where members are directly and actively involved in decision-making processes. In contrast to Apfeltraum, which is organized at least in the agricultural part not to depend on members' work, Spörgelhof has delegated to its members many activities apart from the typical pick-up station management in the city, such as on-boarding of new members, the coordination of participation days at the farm, working on the field or the work of the decision organs of the cooperative, among others. All interviewees even argued that the work of members in the field is essential at times of work peaks to successfully conduct all necessary agricultural activities.

After explaining the underpinnings of the Solawi model and the two case studies, the next section delves into the context where German Solawis are situated, that is that of a multiple crisis of the local food system and the theoretical debates about its possible solutions.

⁴ All quotes from interview 4 are originally in German. Translations are provided by the author. Interviewee 4 was a German intern at Spörgelhof before starting to work as a farmer in 2020 and was one of the main farmers when the interview was conducted on 13th Oct 2023.

2 | Multiple Crisis as a diagnosis and its possible solutions

Peppers © SolaWi Gärtnerei Apfeltraum

The climate crisis and sustainability demands seem to have arrived on the main agenda of governments and to general society. Nevertheless, we are seeing year by year news about disasters related to the climate crisis all around the world. E.g. the longest drought on record at horn of Africa that has brought 23 million people to be in highly food insecurity in Ethiopia, Somalia and Kenya [Al Jazeera 2023a]. Or the deadly cyclone Freddy in southeast Africa where the death toll has reached 500 people in March 2023 [Al Jazeera 2023b]. Climate catastrophes have long arrived in the Global North as well. Southern European countries, such as, Spain, Portugal, Greece, and Croatia have been strongly affected by the extreme heat and the wildfires in summer 2022 [EL PAÍS 2022]. Germany has experienced both general draughts affecting agriculture, and biodiversity, and strong floods in summer, such as the one in North Rhein Westphalia in 2021, where more than 180 people lost their lives [Bundeszentrale für politische Bildung 2021].

Since the so-called Earth Summit of the United Nations in Rio de Janeiro in 1992 most governments have promised to tackle climate change by putting sustainable development as a guiding principle, that was supposed to bring along the necessary changes the world was in need of [Brand and Wissen 2017]. Nevertheless, critical voices claimed that there was a lot left out of the discussions, such as the imperial North-South relationships and capitalistic globalization. Indeed, both the climate convention and the biodiversity convention relied on market mechanisms to solve the ecological crisis [ibid. 2017]. Since then, the context of the climate debate has changed significantly and with it the debate itself. It is increasingly recognized that the world finds itself in a multiple crisis and not in a double crisis of climate and development which was the previous wording [ibid. 2017]. During the 2007-2008 financial crisis, the New Economics Foundation, a left-wing think-tank in London, was already arguing that the world found itself in a 'triple crunch' or a triple crisis, a financial one fueled by debt, a climate crisis and a crisis of depleting natural resources [New Economics Foundation 2008].

Brand and Wissen go further and argue that we find ourselves in a multiple crisis. Their concept of multiple crisis encompasses the triple crunch and adds further crisis dimensions, such as the crisis of political representation which roots, among other reasons, in the lack of trust in the established political parties to deal with the pressing problems and which has led to the uprising of extreme right-wing parties around the world [Brand and Wissen 2017]. Further, the numerous ongoing armed conflicts around the globe combined with natural catastrophes and the

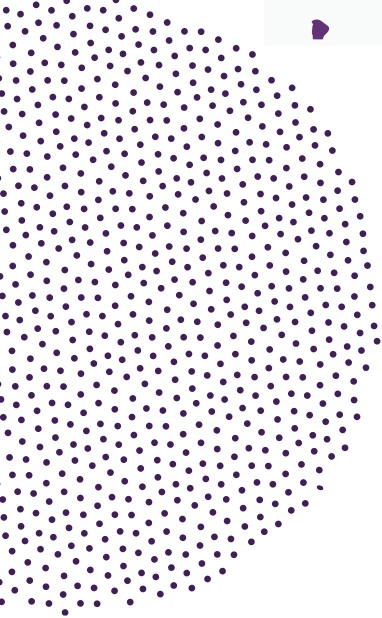
more strongly felt negative effects of the capitalistic globalization are leading to an intensified migration crisis, increasing racism and a wider social divide [ibid. 2017]. In contrast to the double crisis, which was supposed to affect only the global south, Brand and Wissen argue that the multiple crisis is one of the global development model affecting both North and South [ibid. 2017]. A central aspect of the multiple crisis that doesn't seem to have arrived to commonplace politics and that is paramount to address the multifaceted crisis is the understanding of the interdependence of all crisis dimensions [Brand 2009]. However, relevant for this work are specifically the crisis dimensions of the food system, which are addressed in the following sub-chapter.

2.1. Food Systems in Crisis

First, a brief historical overview of the global food system: Friedmann makes an historical analysis with the food regime approach to explain how the international food system has functioned over time. International food regimes are specific constellations and set of relationships between key actors, such as governments, corporations, farmers, food workers and consumers, during a distinct period of relative global stability [Friedmann 2005]. He starts his historical analysis describing how the industrialization of Europe was partly fueled by the cheap imports of food and raw materials from the European settler colonies during the first food regime [1870-1930s] [ibid. 2005].

The Great Depression, the collapse of the wheat market in the 1930s and World War II marked the end of the first Food Regime and gave rise to the U.S. as the new hegemon of the mercantile-industrial food regime [1947-1973] mainly by implementing the Marshall Plan and unfolding great amounts of financial "aid" and subsidized exports [Friedmann 2005]. During this period, previously mainly self-sufficient colonies and new countries of the Global South, encouraged by international development agencies, adopted locally suitable versions of U.S. agricultural mercantile policies and became import dependent and mainly U.S. dependent countries [ibid. 2005]. The rearrangements around food during this period left as a result not only the undermining of traditional agriculture, self-provisioning schemes, and local markets, but also led to the displacement of farmers from their land into urban slums, due to their inability to compete with cheap imported agricultural goods [ibid. 2005].

Furthermore, it was during this period that the Green Revolution emerged, giving way to high-yielding cereal varieties coupled with a heavy use of fertilizers pesticides and machinery which went hand in hand with the emergence of giant agri-food capitals that cemented the industrialization of agriculture even further and threatened the ecological sustainability by giving space to more monocrop fields dependent on agrochemical inputs and livestock factories [Holt-Giménez and Shattuck 2011]. Promoted by the G7 and dominating neoliberal politics the food crisis was then redefined as one of hunger and an increasing supply was proposed as its solution, instead of redistribution [Friedmann 2005]. As a consequence, technological progress was seen as a fundamental change for the better and with this framing genetically modified seeds started conquering the fields and replacing



traditional seeds, which intensified concentration of industry power and peasant dependence on the agri-business capitals [Friedmann 2005; Holt-Giménez and Shattuck 2011].

As a contrast to these developments, peasant movements started taking force around the world opposing regional and international free-trade agreements and demanding land redistribution, protection against the threats from intellectual property claims on seeds, among other demands [Friedmann 2005]. Many of these movements united under the international, cross-border peasant movement, La Via Campesina which was founded in 1993 and intended to unite peasants from both the North and the South as “people of the fields” [ibid. 2005]. It was from this movement that in 1996 emerged the term “Food Sovereignty” contrasting the shallowness of the term “Food Security” and going beyond the mere access to food. Food Sovereignty was defined as “people’s right to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” [Holt-Giménez 2009].

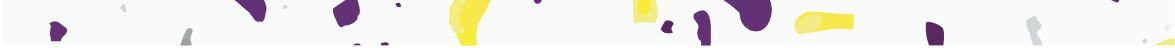
According to Friedmann [2005], we now find ourselves in the Corporate-Environmental Food Regime, that started to emerge in the late 1980s and is mainly characterized by the convergence of environmental politics, retail-led reorganization of food supply chains and the dominance of neo-liberal politics. In contrast to the post-war food regime which standardized diets worldwide, the corporate-environmental Food Regime is consolidating and deepening the inequalities between rich and poor eaters and widening their dietary differences by establishing distinct supply chains [ibid. 2005]. One supply chain is feeding the “rich consumers” who can afford the higher standards, such as fresh, relatively unprocessed and low-chemical input products, and another is feeding the low-end “poor consumers” with highly engineered edible products [ibid. 2005]. Furthermore, the current food regime is characterized by dumping agricultural prices, unprecedented market power and profits of monopoly agrifood corporations, a ‘supermarket revolution’ and an increasingly concentrated land ownership [Holt-Giménez and Shattuck 2011].

These were the ideal breeding conditions for the sharp rise in food prices in the late 2007 and early 2008 described as a Global Food Crisis by different authors [Holt-Giménez and Shattuck 2011; Clapp and Cohen 2009]. Impoverished people, who in developing countries spend around 60-80% of their income on food, were the hardest hit by the price rises. As a consequence, civil unrest and so-called food riots erupted around more than 40 developing countries around the world as people’s ability to purchase food suddenly dropped [Clapp and Cohen 2009]. The number of people suffering from hunger crossed the 1-billion-threshold in 2008, as if the also record level of harvest and of profits of the agrifood corporations have had no positive effect in the struggle against world hunger. In fact, according to the FAO there was more than enough food to feed everyone [Holt-Giménez and Shattuck 2011]. Moreover, the Global South countries had a US\$1 billion food deficit per year, whereas in the 1970s they accounted for a US\$1 billion food surplus. This systematic vulnerability is a result of the already mentioned dependence on the US and the Global North created in the second food regime. That is why Holt-Giménez and Shattuck [2011] argue that the cause of the current food crisis lie in the construction of the corporate food regime.

Apart from growing hunger and food insecurity, Clapp and Cohen [2009] point out other aspects of the food crisis, such as the decreasing investment in agriculture both by governments, international donor organizations and the World Bank, which affects directly the ability of farmers to respond to volatile international food prices. Additionally, they mention the unequal trading system which is characterized by high agricultural subsidies done by rich countries, with which poorer countries cannot keep up. This makes the international food market a highly uneven playing field that dampens the incentives for agricultural production in poorer countries, not to mention the consequences of climate change that directly affect food production [ibid. 2009].

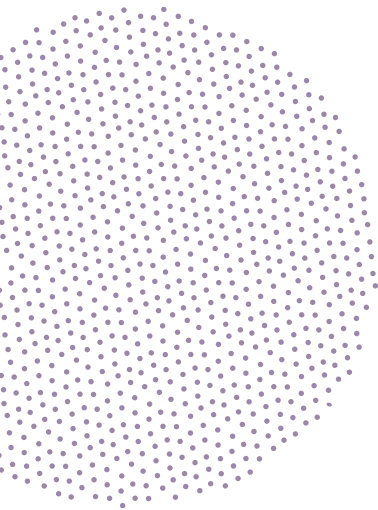
In fact, in 2019 the IPCC Special Report on Climate Change and Land delivered an integral synthesis of the Global Food Crisis and highlighted the central role of agrifood systems in the struggle against climate change [Rivera-Ferre 2019]. The report indicates that five of the nine planetary boundaries as well as 13 of the 17 SDGs are directly linked to agrifood systems. Furthermore, it remarks that our current agrifood systems are responsible for 21-37% of climate-damaging emissions [Rivera-Ferre 2019]. The report focuses on land from a food security perspective and refers to the strong link between land degradation and poverty. A whole transformation of how we manage land and produce food is advocated for, highlighting how land acted as a carbon sink from 2007-2016 removing about one third of total CO₂ emissions and one fifth of total greenhouse gas emissions [ibid. 2019]. In accordance with the multiple crisis framework, the IPCC report stresses the importance of a systemic approach when analyzing and transforming the food system to understand the close relationship between the different components of the system [ibid. 2019]. After enouncing all problematics mentioned above, there is no doubt that the Global Food System is currently in a multidimensional and intertwined crisis.

Narrowing down the Global Food Crisis to Germany and specifically to Berlin, Berlin's Food Council [Ernährungsrat Berlin] reviews the different crisis dimensions of the current food system to then propose a food transition [Ernährungswende] for the German capital [Ernährungsrat Berlin e.V. 2021]. Berlin's Food Council defines itself as a civil society's alliance and independent representation of politically engaged citizens in food politics. Apart from a similar diagnosis of the Global Food Crisis as the one already presented above, the Food Council emphasizes the issue of food waste, which amounts to 71 kg of food thrown away every year by each citizen in Berlin or its equivalent of every eight food product being disposed by Berlin households [Ernährungsrat Berlin e.V. 2021]. In Germany a total surface area as big as Lower Saxony is used to produce food which goes directly to the waste bin. Food waste is directly linked to water management in agriculture and therefore it is calculated that almost one fifth of our water usage would be saved, if there were no food waste [ibid. 2021]. Food waste happens throughout the whole food chain, starting from the two-pointed carrots or too big or too small potatoes which are not accepted by the supermarkets due to the high optical standards. In fact, the sorting out rate lies at 25%, all being vegetables that could be eaten [ibid. 2021]. In bakeries, gas stations, markets and supermarkets 500 000 tons of food are thrown away, with the intention of having always full shelves for the customer or also due to high freshness and optic standards [ibid. 2021]. However, half of the food waste



still takes place in households which speaks for the low appreciation for our food. Especially in urban centers as Berlin, the connection to food, its origin and the work it takes to produce it has been lost; in the end, food from all around the world is available to find 24/7 in big cities as Berlin [ibid. 2021].

The report “Berlin isst anders” [Berlin eats differently] also mentions the exploitation of workers within the food supply chain that takes place globally for Berliners to have their chosen food products on the table. Examples such as fresh tomatoes and paprikas from the European Mediterranean, tea from India or gummy bears made of eatable wax are juxtaposed with badly paid and undocumented African workers in Spain or Italy, tea pickers getting paid 1,91€ per day in the Indian state of Assam, and workers harvesting Carnauba wax in Brazil under slave-like conditions [Ernährungsrat Berlin e.V. 2021]. Germany is not the exception regarding worker’s exploitation as could be seen in the media scandal during the pandemic, where a significant number of workers tested positive for COVID-19 at the Tönnies slaughterhouse, one of the largest meat processing companies in Germany. This incident drew attention to the bad labor conditions of migrant workers in Germany, not only in the meat industry but also in asparagus and strawberry fields and in vineyards. Many of these workers are east European seasonal workers, who are also frequently housed in inhumane accommodations and paid less than officially agreed [ibid. 2021; Küppers 2021].



Additionally, the income and wealth inequality in Germany is also brought up, in which the food system and in particular, the supermarket industry stands out. The owners of the supermarket companies Aldi and Lidl belong to the richest individuals in Germany as well as the owner of the already mentioned Tönnies enterprise. By buying not only houses in the city but also big agricultural fields in the countryside, some billionaires drive land prices up and profit even more by cashing in the government agricultural subsidies, which are coupled to land size [Ernährungsrat Berlin e.V. 2021]. This contrasts starkly with the difficulties faced by young farmers looking for a plot of land to start working, worsening working conditions along the food supply chain and world hunger, which leads to questions about the responsibility of these billionaires in the food crisis [ibid. 2021]. In addition to that, there is a significant amount of people in Germany and in particular in Berlin, that cannot afford a good nutrition despite cheap prices at the supermarket discounters. As a matter of fact, in 2020, 16,5 % of Berlin’s population was defined as at risk of poverty and one sixth of its population depends on social benefits such as “Bürgergeld” or in English citizen’s money [before Harz IV], that being the second highest rate of social benefit dependence in Germany after Bremen.

On top of it all comes the fact that many food products make people sick due to the high share of cheap fats and sugars they have. In Germany, diabetes, heart diseases and obesity rates are alarmingly increasing. The Food Council’s report stresses on the correlation between obesity and poverty and indicate the social and material conditions under we live as the main reason for these developments [Ernährungsrat Berlin e.V. 2021]. The constant and easy access to unhealthy food such as soft drinks, sweets, chips and fast food, the more than 300 approved additives from which we don’t know their long term health consequences or the advertisement of unhealthy food are examples of some social conditions that contribute to an

unhealthy nutrition [ibid. 2021]. Lastly, it is worth mentioning that the whole EU stands in front of the problematic of an increasing number of dying farms, where from 2003 to 2013 a fourth of all agricultural farms died, Germany not being the exception [Stanka and Rioufol 2019].

It is more than clear that the Food System in Berlin and Germany is in crisis and that a fundamental change is needed to solve the different crisis dimensions.

◆ 2.2. Sustainable Development

Going back to the multiple crisis according to Brand [2009], the broader question on how to overcome it and stop the planet from collapsing naturally surges. In 1987 the United Nations coined the term 'sustainable development' [Demaria and Kothari 2017]. Concealed behind the rhetoric of environmental sustainability, economic liberalization was then pushed forward and economic growth was freed from any stigma, framing it as necessary to overcome our environmental problems [ibid. 2017]. Currently, the framework of the "Green Economy" is the neoliberal answer to the multiple crisis which tries to bring about technological fixes and decoupling strategies aiming to achieve eco-efficiency, more economic growth and new employment opportunities [Brand and Wissen 2017].

In concordance with the Green Economy, the SDGs [Sustainable Development Goals], presented in the UN-General Assembly 2015, seek to better the life of all people and to transform the world for the better while fostering a stable, inclusive and sustainable economic growth [ibid. 2017]. This resolution has the title "Transforming Our World – the 2030 Agenda for Sustainable Development" and was signed by 193 national governments, which could be interpreted as the understanding of the global elites, that a transformation is needed and that the classical development strategies of the capitalist world market are not working sufficiently to solve the pressing crises [Brand and Wissen 2017]. However, Kothari et. al [2019] argue that the SDGs continue the tradition of development-as-growth which enters in contradiction with most of the SDGs while driving forward the growth ideology; they call the phrase 'sustainable development goals' as a semantic deception or even an oxymoron. This sustainability approach can also be classified as sustainability through modernization in Aldoff and Neckel's [2021] theoretical framework about the different concepts of a sustainable future. These answers are as a consequence false solutions given their inability or unwillingness to recognize the planetary boundaries to economic growth, even if it is a supposedly green and inclusive one, holding modern science and technological fixes as a panacea and marginalizing other forms of knowledge as well as ignoring ethics, spirituality and direct democratic governance [Demaria and Kothari 2017].

◆ 2.3. Transition Discourses

An imaginary critical to a sustainable future by modernization aims at a more fundamental transformation or shift of society, deeming economic growth as one of the obstacles to overcome. Transformation strategies such as degrowth, so-



Caterpillar on fennel plants © SolaWi
Gärtnerei Apfelraum

cio-ecological transformation, deep ecology, eco-feminism, conviviality, post-development, *buen vivir*, commons, solidarity economy and post-capitalism can be classified as sustainability through transformation [Adloff and Neckel 2021]. They can be further classified as transition discourses (TDs), that demand a significant paradigm and civilizational shift [Escobar 2015]. These discourses and propositions are called transition discourses because they offer different ways for an ecological and cultural transition of society into a new time-period [ibid. 2015]. At this point, the ongoing discussion about which term to use to name these strategies is worth mentioning. Kropp and Müller argue that in the German context the term ‘transformation’ or in German “Transformation” [lat. trans-formare, ger. umgestalten, umformen] has been repeatedly proposed for intentional and planned strategies. In contrast to that, so they argue, should the term ‘transition’ or in German “Übergang” [lat. trans-ire, ger. übergehen, verwandeln] be used for more non-intentional processes of transformation/transition [Kropp and Müller 2018]. Nevertheless, this argument contradicts the Anglo-Saxon usage e.g. in the *transition research*, which focuses on concrete strategies that try to demonstrate how a socio-ecological or civilizational transformation could look like. This transition would be thus an *intentional* one.

Arturo Escobar separates transformation strategies from the Global North from those coming from the Global South and classifies them all in the broader category of transition discourses (TDs) with the intention of building bridges between them [Escobar 2015]. This dialogue is essential to build effective transition policies. Most transition discourses, from both the North and the South, consider the socio-ecological crisis inseparable from the current model of social life and deem as necessary to break out of the institutional and epistemological limits to overcome this model [ibid. 2015]. TDs are a response to the ecological collapse, land grabs, oil wars, extractivism and agroindustry, all of which have brought loss of rural livelihoods, urban poverty, alienation and rootlessness [Demaria and Kothari 2017].

Deep Ecology, a northern TD guided by the thoughts of Arne Naess, e.g., advocates for the overcoming of the anthropocentric view of the western world replacing it with biocentrism, which adheres inherent value to all ways of life and emphasize in their interdependence, while giving human beings no central role to play. The second main principle of Deep Ecology is self-realization [of human beings] which means recognizing our interdependence with nature and with all living beings and seeing ourselves as an ecological self that is in, of and for nature [Jacob 1994]. The concepts of biocentrism and self-realization go hand in hand with the holistic, non-dualistic and de-economized view of social life of the *Buen Vivir*, a southern TD. *Buen Vivir* defends a subordination of economic objectives under ecological criteria, human dignity, social justice, and nature rights to overcome the civilizational crisis [Escobar 2015]. Both TDs offer counter-values to the dominant western worldview that emerged in Europe since the Renaissance. This worldview, also considered as the conception of ‘modernity’, entails believes such as individuality, anthropocentrism, the defense of private property, free markets, secularism and political liberalism, as well as the rise of related dualisms, such as mind versus body, masculine versus feminine, civilized versus non-civilized and lastly humanity versus nature [Kothari et al. 2019].

Another northern TD is Degrowth which considers the growth and competition imperatives the main destabilizing obstacles to overcome, in order to achieve a transition from the dominant, fossilist and capitalistic imperial way of production and life to a socio-ecological, fair and solidary way of production and life (Brand 2015). Although Brand puts degrowth under scrutiny, by highlighting that it mainly focuses on pioneer projects which are carried out by an already privileged middle-class, he also builds a bridge between Degrowth and Post-Development (ibid. 2015). The latter strongly criticizes the dominant development model in Latin America that relies heavily on the production, exploitation, and export of raw materials and other natural elements. Post Development criticizes modernity's belief in linear progress, which implies a growth paradigm, and the anthropocentric understanding of nature as a resource to be exploited, as well as the world market asymmetry from which the industrialized world benefits (ibid. 2015).

Yet another prominent figure from the North worth mentioning is Thomas Berry and the Great Work which he defines as "the transition of a period of human devastation of the Earth to a period when humans would be present to the planet in a mutually beneficial manner [the Ecozoic]" (Berry 1999). He holds as the most profound cause for the current devastation the discontinuity between human and other forms of being which goes hand in hand with the concession of human rights (Berry 1999). Berry's world view attunes with the demand of the *Buen Vivir* about nature rights, that are to be ensured by protecting biodiversity and the integrity of ecosystems. Another bridge can be built from the Great Work to the Post-Development Dictionary of Demaria et. al (2017), which presents a wide array of transformation initiatives, that were then tested against different criteria, one of them being: "Are humans relating to non-humans in mutually enhancing ways?"; a question that strongly resembles the definition of Berry's Great Work (Demaria and Kothari 2017, p. xix).

Most of the transition discourses already mentioned go hand in hand with the concept of embeddedness first mentioned by Karl Polanyi (Krippner et al. 2004). Guptill et al. define Embeddedness as "[...] the notion that all economic activity relies on and impacts the broader society and its relationships with nature" (Guptill et al. 2016, ch. 9 p. 4). In market societies economic activities have been 'disembedded' from the social relations and the environmental context in which they are carried out as if they had no social or environmental impact (Guptill et al. 2016). Most transition discourses mentioned above seek among other aspects to re-embed economic activity into the local community and ecological context and thus create stronger social ties and re-internalize environmental and social externalities.

In sum, all the TDs mentioned above try to create a transition path into a post-capitalist and post-growth society within the planetary limits, by focusing on different aspects, which more often than not overlap with each other. At the beginning of this research the overlapping aspects of the different TDs built the foundation for the first categories of analysis, that eventually changed along the research process. More on that in chapter 3.

Out of all TDs this work will focus on the Socio-ecological Transformation in accordance to Brand and Wissen (2017), who regard it as a way, with some limitations and critique, to overcome the multiple crisis, which was also described further above in accordance to the same authors.

2.4. The socio-ecological transformation

An important reference until today in the transformation debate in Germany is the study of the German Advisory Council on Global Change [ger: Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen, WBGU] in 2011 about the necessity of a Great Transformation or a Socio-Ecological Transformation. While explaining the concept of Transformation Brand and Wissen [2017] use both terms interchangeably in their book "The Imperial Mode of Living". The central argument of such a transformation according to the WBGU was "[...] the decarbonization of society and overcoming the fossil-nuclear economy" (Brand and Wissen 2017, pp. 28–30). In short, the energy transition was to be achieved. The WBGU borrows the term Great Transformation from Polanyi's homonymic term, although according to Brand and Wissen the WBGU's interpretation of such a transformation is significantly less radical than Polanyi's. Nevertheless, Brand and Wissen argue the term "transformation" goes beyond the technological solutions linked to sustainable development and "[...] is understood as a fundamental shift, where values and routine behavior are questioned and challenged" (Brand and Wissen 2017, p. 29). In concordance to the concept of the multiple crisis, the concept of transformation promises to tackle a multidimensional crisis referring to systemic changes in society in the cultural, social, technological, political, economic and legal dimensions [ibid. 2017].

Brand and Wissen [2017] sharply criticize the fact that the WBGU's transformation term and the current German transformation debate often leave important dynamics out of the discussion, which are of central relevance for the implementation of a Socio-ecological Transformation. Their discourse often stays at the local level, creating an imaginary that the world is going anyways in the direction of sustainability, ignoring that "[...] two thirds of the world population doesn't even live in an industrialized society and a significant part of them are trying to industrialize their economies, and that, based on fossil fuels" (Brand and Wissen 2017, p. 31). In fact, this idea breaks down at the structure and power relations of capitalist societies, which are also engrained in day-to-day politics and result in a structural selectivity, which is why the interest of the automobile sector, banks and mining sector receive more attention than what the world climate needs [ibid. 2017].

Another critique about the Socio-Ecological Transformation and how it is debated in Germany is the fact that the Transformation seems to be mainly limited to the ecological sphere, giving the reduction of CO₂ emissions a central role, whereas aspects of social justice, a good life for all and a more general capitalism critique are clearly underlit [ibid. 2017]. An example of that is the discussion around the Anthropocene, where Humanity is described as a powerful global geophysical force that has left clear traces on the planet. However, describing humanity as one force leaves out the question about who among humanity is powerful and how this power is being used. It is thus ignored that it is not humanity as such which is acting and leaving traces, but rather that "[...] the human influence over the planet is defined by class, gender and race relations" and that it is these relations that have to be addressed to effectively stop the consequences of the Anthropocene [ibid. 2017, p. 34].



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To conclude, the Socio-Ecological Transformation according to the WBGU connects to Polanyi's term but falls short on sufficiently connecting to its content. It analyses the current megatrends such as climate change, soil degradation, urbanization and increasing competition for land use, among others and mentions the interests, that stand in the way of a Socio-Ecological Transformation of each of these spheres [Brand and Wissen 2017]. However, it does this analysis without contextualizing it in the basic dynamics of capitalistic socialization, as Polanyi did. It intends to transform capitalism's industry and its energy basis but not its political economy. Polanyi's analysis encompasses not only environmental issues but also social justice, the role of the state, and the potential dangers of property structures and non-regulated market forces, which he considered crucial to bring forward a Great Transformation [ibid. 2017]. The authors resolve their critique by noting that even though the Socio-Ecological Transformation overlooks the already mentioned factors, it is still an important critical discourse that promotes a transition of society in a post-fossil age [ibid. 2017].

It can be thus concluded that the Socio-Ecological Transformation as many other TDs is alone not sufficient to bring forward an international paradigm and civilizational shift and must dialogue with other TDs to design effective transformation politics. However, when Brand's critique is included, the Socio-Ecological Transformation incorporates approaches that regard the capitalist and imperialist dynamics, as well as current political, cultural and economic domination and power relations as the cause of the current multiple crisis [Brand et al. 2012]. Further, Brand's concept demands the democratization of social relations to nature, which can only be achieved through socio-ecological justice, mentioning among others the democratization of food production and of the access to food [ibid. 2012].

The Socio-Ecological Transformation promotes alternative modes of production and operation that may create or stem from social movements. The establishment, interaction and networking of such alternative projects are essential to actively address the different dimensions of established power relations [Boddenberg et al. 2017]. Innovative experience spaces are to be created in which new patterns of interactions, routines and values can develop and establish. Moreover, a new model of a good and prosperous life, whose socio-ecological consequences are substantially diminished must be developed for an effective transformation [ibid. 2017]. This new model of a good life should be attractive and post-materialistic, going beyond consumption standards and hand in hand with the establishment of new socio-ecological subjectivities. In this sense, it can be concluded that the creation and expansion of emancipatory social innovations are a necessary condition for the Socio-Ecological Transformation according to Brand [ibid. 2017]. The intention of this work is to find out if Solawis can promote the changes demanded by Brand's Socio-Ecological Transformation.

In the next section the analysis will be narrowed down to the food system in Germany and how a socio-ecological transformation would look like according to the demands of the German civil society organized in the movement "Wir haben es satt!".

2.5. The “Agrar- und Ernährungswende” and the “Wir haben es satt” protests and their demands

In the German context a transformation of the food system is commonly referred by most actors as the “Agrar- und Ernährungswende” or simply “Ernährungswende” which roughly translates to agricultural and food turnaround or transformation. One could argue that an “Agrar- und Ernährungswende” would encompass a broader transformation, because its name includes the agricultural part of the food system. Nevertheless, most actors when talking about an “Ernährungswende” are demanding a transformation from the farm fields to the plates of the consumers. After researching for a definition or a separation of both terms, I would conclude that there is not a common definition of this term. Rather, it is a phrase that encompasses various demands, that vary depending on the actors behind them and that are aimed primarily at the government to bring about the necessary changes in the many areas of the food system.

One example of this are the demands laid down as a joint petition made by the “Meine Landwirtschaft” alliance to the new coalition government that came to power in 2021. The joint petition was signed by 15 umbrella organizations who urged the future German government to lay the groundwork for a comprehensive “Agrar- und Ernährungswende” or Transformation of the food system (Meine Landwirtschaft 2021). They emphasize the need for a transformative shift in the current food system for climate, environmental and health protection, social justice, and animal welfare, as well as the need for a change in conditions to enable health-promoting and ecologically sustainable food for all. The latter being framed as an issue of social justice, pointing out nutrition poverty in Germany, particularly for those with low incomes. They stress the need for “[...] healthy, sustainable food to be a right for all, not a privilege for higher-income households” (ibid. 2021, p. 2). Furthermore, they highlight the environmental and climate impact of the current food system, emphasizing Germany’s significant role in environmental issues, including climate crisis, species extinction, and habitat destruction (ibid. 2021).

The organizations present core demands to the future German government, such as establishing a future commission on nutrition, developing a cross-sectoral nutrition strategy and a binding regulation of children-targeted food and its advertisement, and redesigning food taxation (Meine Landwirtschaft 2021). Further, they demand a socially just food policy that doesn’t exacerbate inequalities but promotes food education across all social classes. The signing organizations stress the importance of enhancing the quality standards of institutional catering and of public institutions to be the ones to lead in sustainable and healthy nutrition with simple goals such as increasing the share of organic products offered and reducing food waste (ibid. 2021). Finally, the government should actively support sustainable food production in Germany.

As of January 2023, in a paper of demands signed by over 100 organizations a 6-point plan for a socially just transformation of the food system and access to good food for all is laid out (Wir haben es satt! 2023a). In the paper, agricultural

and food systems are deemed unjust, crisis-prone, and unsustainable, contributing to climate issues and harming biodiversity and human health [Wir haben es satt! 2023a]. The text highlights issues such as speculation on agricultural lands, disparity in wealth distribution, and environmental damage caused by certain agricultural practices. The impact of inflation in Germany and the precarious conditions for farmers and food industry workers are also criticized. The government is required to implement the following 6-point plan:

- **Access to healthy and environmentally friendly food for all**, closing gaps in social benefits, and enabling ecological consumption for everybody.
- **Ensuring fair producer prices** by stopping supermarket price dictation, prohibiting purchases below production costs, and supporting local, farm-based, and ecological structures.
- **Guaranteeing good wages and secure pensions for agricultural and food industry workers** through adequate minimum wages, inflation adjustments, and increased collective bargaining.
- **Fair distribution of societal wealth**, including taxing excess profits from agricultural, food, trade, and fertilizer corporations, introducing a wealth tax, and taxing capital gains.
- **Responsible land use** by prioritizing agricultural land for human food rather than feed and biofuel production and ending food waste.
- **Addressing the hunger crisis** by prohibiting food speculation, supporting the right to food through free seeds and fair land distribution, securing non-genetically modified agriculture, allocating more development funds for the social-ecological transformation of food systems, and stopping unfair trade agreements.

[Wir haben es satt! 2023a]

The over 100 signing organizations adhere to the “Wir haben es satt!” [“We are fed up!”] (WHES) protests of that year and take both the issues and demands outlined as the reason to go the streets to protest. The WHES protests were initiated in 2011 by the alliance “Meine Landwirtschaft” and take place every year in January at the beginning of the agricultural fair “International Grüne Woche” in Berlin [Meine Landwirtschaft n.d.]. There are more than 50 organizations that compose the members of Meine Landwirtschaft and that work in the areas of agriculture, artisanal food production, environmental protection, animal welfare, global and social justice, democracy among others [Meinecke et al. 2021].

In their call for action to the protest on the 20th of January 2024 the WHES emphasizes the need for a sustainable future in agriculture. The demonstration aims to highlight the interdependence of good food, climate protection,

and social justice and focuses on promoting a GMO-free, peasant, and environmentally friendly farming approach as a response to global issues like climate crisis, biodiversity loss, and world hunger rejecting genetic engineering, patents, and glyphosate [Wir haben es satt! 2023b]. The call criticizes the government for not adequately supporting farmers facing environmental challenges, advocates for fair compensation for their efforts in environmental and animal protection and demands from the current government to finance climate-friendly transformations especially in the livestock sector to halt the high rate of closing farms [ibid. 2023b].

Additionally, concerns are raised about the dependence of farmers on large agricultural corporations and their genetic engineering and patents, and the related loss of biodiversity in fields and on plates, due to intensified agriculture and pesticide use. Thus rejecting patents on plants and animals, as well as glyphosate, and demanding a reduction in pesticide usage, financial support for farmers, and a ban on exporting pesticides prohibited in the EU [ibid. 2023b]. It can be concluded that the “Ernährungswende” promises a Socio-Ecological Transformation of the Food System addressing the dominating power relations within the system and demanding changes in the economic, social, and legal sphere.

Along this research process, the “Ernährungswende” offered a good complementation to further develop the categories of analysis, which will be presented next.

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3 | Solawis, the multiple crisis, and the socio-ecological transformation

Advent market © SolaWi Gärtnerei Apfeltraum

The empirical data of this work was analyzed and organized by main and sub-categories and its results will be presented in the following section. The creation of each category will be also briefly discussed at the beginning of each section. Data from specific codes was intentionally left out of the analysis, given its irrelevance to answer the research question. Many original passages are cited with the intention to represent as much as possible the perspective of the interviewees. Furthermore, the coding and evaluation process were conducted in German, and so the original name of the categories is written in parentheses and some of the figures contain the German category names.

Moreover, a differentiation is made between data coming from members and data coming from farmers and which can be visualized in the following figure [1], which is a document landscape representing the similarity between documents regarding the assignment of codes. For example, if two documents, that being the interview transcriptions, have the mostly the same codes assigned, they are going to be closer in the matrix. If the codes assigned differ, they are going to be placed further apart from each other. It can be appreciated in the following document landscape that farmers [light blue] are placed in a cluster on the left side and members [dark blue] in a cluster on the right side which suggest that the interviews went in a rather similar way, both for farmers and members. The two green dots further below represent two exceptions to that pattern. First, the B4 farmer which had

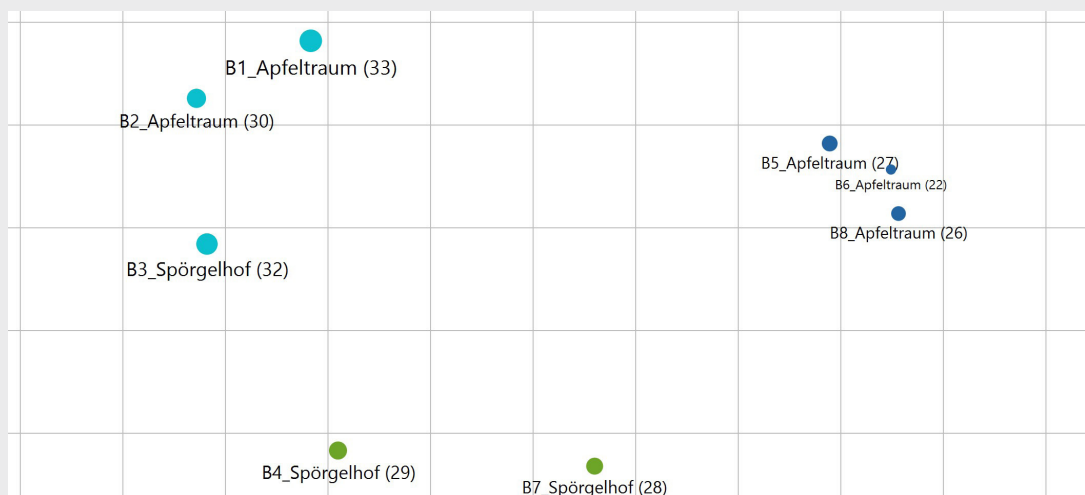


Figure 1 - Document landscape regarding assignment of codes

fewer and shorter contributions as the rest of the farmers interviewed, and the B7 member, which is part of the board of directors of Spörgelhof and whose interview had more contributions with a focus on their work in the board directors, differing substantially from the rest of the members.

3.1. Climate and Environment (Klima und Umwelt)

During the analysis, the category Climate and Environment was defined as follows: “All contributions to the climate in connection with agriculture. How do Solawis deal with the consequences of climate change? Do they implement climate protection measures? Does the Solawi model promote biodiversity in the fields? And if so, what are the challenges involved?”

This category was first called Biocentrism, as the already explained concept coming from the transition discourse of Deep Ecology and its understanding of human beings as not being separate from nature, but instead interdependent with it, counterbalancing the anthropocentric values of modernity. It then changed to nature rights in accordance with the plural proposal of *Buen Vivir* that recognizes the inherent value of non-humans putting their well-being above economic objectives and so fostering what in this framework is called nature rights. Nevertheless, none of the interviewees used any of these wordings but instead talked about environment protection, climate change and its effects on agriculture among others, as the organizations demanding a “Ernährungswende” also do. Consequently, a broader category name, such as climate and environment, was a better fit to the research context and the collected empirical data.

The following figure [2] is a summary grid showing the sub-categories and the quantity of contributions each farmer made on the topic climate and environment. Note: the interviewees’ names are anonymized and replaced by the letter “B” that stands for “Befragte” [interviewee] and a number:

					B4_Spörgelhof	B3_Spörgelhof	B2_Apfeltra...	B1_Apfeltraum
▼ Kategorien								
▼ Klima und Umwelt	2	1	1		1	3	3	4
Solidarität	1	1						
Biodiversität							2	2
Bodenfruchtbarkeit					2		1	3
Klimaneutralität	1	1					2	1
Regen und Wassermanagement	1	1						3

Figure 2 - Summary Grid of Climate and Environment and its sub-categories for farmers

Interestingly, it stands out that Apfeltraum farmers have considerably more contributions to this topic than the ones from Spörgelhof. In fact, for both Apfeltraum farmers, tackling climate issues, such as becoming carbon neutral by building up hummus or by replacing their old vehicle with an electric one, were immediate answers when asked about the objectives of the Solawi Apfeltraum. Additionally, while describing the challenges of their daily routine, challenges related to climate change, such as the consequences of volatile weather on the plants, were mentioned by both farmers.

Winters aren't so cold anymore. It's really not that bad anymore. But there are other pitfalls. That means that a lot of vegetables that didn't freeze in the past now freeze to death because it's constantly going up and down. Then in winter you sometimes have -10, then you have plus ten or sometimes even plus 15 and then it goes into the minus range again and that stresses the plants incredibly, so we really notice that it harms them much more than -5 degrees for weeks on end⁵. [Interview 2]

Even during the presentation of the Solawi at the beginning of the interview land plots dedicated to climate protection measures were mentioned. Additionally, when talking about the decision-making process in the Apfeltraum Solawi, issues such as buying a certain vehicle and its relation to the farm's carbon neutrality were part of their answers. It seems that climate-related challenges are a central part of what concerns both Apfeltraum farmers and what they are constantly working on.

This strongly contrasts with the data collected from the Spörgelhof farmers, which had significantly fewer contributions to the topic of climate change or the weather which in general was not part of the conversation. Interestingly though, after asking explicitly about climate change deviating from the questionnaire, farmer B4 reported not clearly perceiving the consequences of climate change given her young age and the few years of experience in farming:

There are always things like, it was a very warm September, or the warmest, but I don't think everything is tangible enough for me yet. I see things, I hear things and I believe what is being said. But it's because it's not tangible that it is also a bit abstract. So, there's less rain, that is definitely the case, but I haven't been in agriculture for 20 years to have a comparison, rather sometimes there's been a bit more rain, sometimes a bit less. [Interview 4]

A feeling of frustration and resignation was perceived regarding the lack of effective action and consciousness of society and politics in light of the crisis of the countryside, and the agriculture and climate crisis. So much so that when asked about what he would wish for the future, one of the Spörgelhof farmers responded as follows:

I've always said it. That a small collapse takes place. I think that's how we understand things well. [...] A small collapse that is visible would be great. We have the problem that we live in such a developed country. That means we will always find ways to avoid seeing this collapse. Because we have a lot of money. [Interview 3]

5 All quotes from interview 2 are originally in German. Translations are provided by the author. Interviewee 2 is co-founder and owner of Apfeltraum, has the German citizenship and was a main farmer when the interview was conducted on 06th Oct 2023.

The Spörgelhof's farmers rather focused in other type of challenges during the interviews such as the decision-making, the community, and financial challenges. Nevertheless, as stated by one of the Apfeltraum farmers, in contrast to the free market, where farmers are compelled to specialize in one or few vegetables to keep the unit price low and stay competitive, the Solawi members demand a broad palette of vegetables, so that working under the Solawi model promotes or even imposes to the farms a biodiverse way of farming. Further, by not being compelled to supermarket standards and by being able to sell their whole produce to their members, Solawis are able to avoid unnecessary food waste at the production stage, that is commonplace in the food industry and in the previous years of both Solawis when selling at farmers' markets. This creates a virtuous cycle between biodiverse cultivation, regenerated soil, less food waste and a higher quality of vegetables, which in turn strongly contributes to tackling the challenges of climate change, regarding the dominating unsustainable agricultural methods in conventional farming:

That takes you automatically in a certain direction, that you think differently than before. We don't need a lot of one culture at one time, we need as much diversity as possible all the time. In other words, it becomes more small-scale, it becomes more diverse. Cultivation with the added bonus for us that things that we didn't grow in the past because they weren't economically viable are now being grown again. And that makes our farm much more biodiverse, which is one of our goals. (Interview 1)

Paech [2020] also confirms this view in his research about Solawis arguing that it is the small-scale of most Solawis which makes their economic activities much more compatible with ecologically viable technologies, while avoiding a resource-intensive transportation and logistics.

Additionally, The Solawi model has enabled the Apfeltraum farm to implement more and more green manure land plots, which means that the amount of land used directly for food production has been reduced. Not only are green manure plots implemented, but also recovery areas. One of the farmers argues that this has led to the stabilization of the crop yields and a more sustainable soil, which is the base of any type of agriculture, and again plays an important role to tackle the global soil erosion problem, which is further aggravated by conventional agriculture, where such a field rotation is not considered due to potential profit losses and thus toxic pesticides and fertilizers have to be implemented to keep yields high in a depleted soil.

Further, considering the already mentioned dynamic growth of the Solawi movement in Germany these positive contributions go beyond a few farms and can be extrapolated to the whole movement and expected to grow in the coming future. However, there is still a high and not yet exploited potential for the state or other institutions to further promote these initiatives financially to amplify their positive effects on the climate. This potential is at the same time a limitation for Solawis to further provide climate services apart from ecological farming, as the Apfeltraum farm does. In fact, when asked about the future of Solawis one of the farmers mentioned the different climate services they already provide, such as having a field

reserved for climate protection measures which however demands extra work and time. These services could be better provided and eventually expanded if they were recognized as such and were financially supported, which is one of her wishes for the future.

But all these state subsidies are designed for large farms, for large conventional farms and not for small organic farms. Well, I would like to see the work that we do beyond food production being valued. The way we farm promotes biodiversity. There are a lot more insects [...] on organic land. So, we keep these animals, reptiles, and birds. We promote biodiversity and there is zero reward for it. Nothing. Because it has no value, so to speak. But right now, with climate change and the loss of species, it's becoming increasingly important that this is also valued. (Interview 2)

It could be thus concluded that the relation between vegetable farms and nature is being transformed through sustainable agricultural practices and even beyond that with environment protection measures, when working under the Solawi model. This model creates space for these activities by freeing the farms from the competitive pressure and unnecessary esthetics standards of the market and from being compelled to overwork themselves to economically survive in an adverse national context where on average 35,600 farms, mostly small ones, close their doors forever every year [Zinke 2021]. On the contrary, Solawi farms can focus on sustainable agricultural methods and on promoting biodiversity on their land, while avoiding food waste, among others. At least in the dimension of regional food production Solawis could be considered a transformative actor and a role model in promoting ecological agricultural practices, which are essential for a socio-ecological transformation of the local food system.

The interviews with Solawi members had few contributions to the topic Climate and Environment, as can be seen from the non-highlighted numbers of Figure 2. Nevertheless, a rather interesting aspect that came up in two member interviews was the solidarity lived with nature and the environment through sustainable farming which is enabled by the Solawi model, and which these members want to be part of and financially support. This can be confirmed by the research done by Bietau [2013], where Solawi members also described living the concept of solidarity with the environment which is described as a respectful and responsible interaction with it. In other words, not to exploit nature but to take care of its resources. This aspect is considered by Boddenberg et al. [2017] as one of the social innovations the Solawi movement promotes. Sustainable agriculture is understood by Solawi members both in this work as in Bietau's research as active environmental protection [Bietau 2013]. Solidarity with the environment is also lived in bad times, for example by accepting when a crop fails due to adverse or unstable weather conditions. According to interview 8: *"I think it's solidary with the region, that the Solawi is also paying attention to the issue and is taking care of the land, and that so they're going to help that microbiome."*⁶

⁶ All quotes from interview 8 are originally in Portuguese. Translations are provided by the author. Interviewee 8 was a Brazilian architect, parent of a two-year-old daughter and a member of Apfeltraum since 2019 when the interview was conducted on 10th Nov 2023.

A sustainable way of production was for most members interviewed one of the reasons to become a member in a Solawi. In fact, the Solawi concept was mentioned as *“one of the best ways to get vegetables”*⁷ [Interview 5] or as *“a good alternative. And I don’t think there are that many other concepts or I don’t know that many other concepts that serve this regional aspect in such a way that you don’t go to the supermarket anymore.”*⁸ [Interview 7]

This reason to join a Solawi is closely linked to the next category, which was also one of the main reasons for members to join and stay in their Solawi.

3.2. Access to healthy nutrition (Zugang zu gesunder Ernährung)

This category was created, in accordance with the joint petition made by “Meine Landwirtschaft” that stresses the need for healthy, sustainable food to be a right for all, not a privilege for higher-income households as a central condition to make a substantial transformation of the local food system. This category was defined as “Contributions that mention the access to a healthy diet, for example, as a reason for the membership in the Solawi or the contribution of the Solawis to the healthy diet of their members.”

As already described in Chapter 1, one of the main components of Solawi farming is sustainable agriculture and a respectful treatment of nature and the environment [Boddenberg et al. 2017]. Sustainable water management, crop rotation, avoiding certain pesticides and fertilizers, and soil regeneration are some examples of sustainable agricultural practices mentioned by the interviewees. As already mentioned, the Solawi model by itself promotes a biodiverse way of farming, which increases the quality of the vegetables, regardless of whether they have an organic certificate or not. All members interviewed acknowledge that and even mentioned healthy nutrition, next to sustainable farming, mostly as the main reason to join and to stay in the Solawi. Consequently, the sub-category “Origin of Food and Quality” was created, due to different interviewees mentioning the fact that they knew where the vegetables were coming from and thus, could trust the quality even more than when comparing e.g. to organic food bought from the supermarket. Interviewee 5 also mentions: *“Well, I think it’s good because it makes us eat healthy vegetables. So, it improves our diet. Because then the things are just there and then you have to process them. And they’re high-quality vegetables. They are regional and organic”*. Interviewee 6 complements by saying: *“It’s healthy to cook and make all these kinds of vegetables that are so pure and the variety that they bring. [...] And also, that is challenging you to also eat such a variety of different things that I would not always buy”*⁹.

7 All quotes from interview 5 are originally in German. Translations are provided by the author. Interviewee 5 was a Swiss software developer, parent of a 2-year-old son and member of Apfeltraum since 2019 when the interview was conducted on 26th Oct 2023.

8 All quotes from interview 7 are originally in German. Translations are provided by the author. Interviewee 7 is a German freelance writer, member of Spörgelhof since 2022 and since March 2023 member of the executive board when the interview was conducted on 30th Oct 2023.

9 All quotes from Interview 6 are originally in English and were used in their original form. Interviewee 6 was a Finnish professional dancer, freelance dance teacher and a member of Apfeltraum since 2020 when the interview was conducted on 26th Oct 2023.

It is clear that Solawis offer a healthy and varied palette of vegetables. So much so that some members even mentioned the challenge of processing and cooking vegetables they did not know or would never have otherwise bought. Interviewees also reported their food habits having changed since they joined the Solawi, mentioning a more vegetable-based diet or eating fewer ready-made meals or easy to cook products from the supermarket.

It's also changed my diet. A lot, because we have a lot more vegetables in two. In Brazil I ate a lot of meat. So here I still eat meat, but I've automatically reduced it, because I have lots of vegetables, so I eat what I have. I hate throwing food away. I hate to see food deteriorate, so I make the most of it. So, I eat in a much richer way, you know? Much more varied and much more laborious. [Interview 8]

Finally, for one interviewee, that is also a parent, the wish to give the child the healthiest nutrition possible was best fulfilled by being Solawi member.

When I got pregnant, I thought now more than ever Solawi is very important to me. Knowing where vegetables come from. Yes, not only in pregnancy, but also with a baby, with a child. You want to give a child the best nutrition and for me there's nothing better than Solawi. [Interview 8]

However, it is less clear if Solawis offer access to all income levels to a healthy nutrition. In fact, me and my student shared flat had to leave a Solawi in 2018 among other reasons due to its price, which we could not afford. As an example and according to their newsletter, the average monthly contribution at Apfeltraum during the 2023/24 yearly season was 103,79€ [Solawi Gärtnerei Apfeltraum 2023]. This represents 10,88% of Germany's unemployment payment known as "Bürgergeld" or in English citizen's money which in 2024 amounted to 954€ including 391€ devoted to housing alone. According to the Federal Statistical Office of Germany, a single person in Germany spends on average 13,4% of their income in food products which means the monthly contribution at Apfeltraum would represent almost the totality of expenses for food products for an average recipient of "Bürgergeld", leaving out all other food products not offered by Solawis, such as oil, bread, rice or fruit [Statistisches Bundesamt 2023]. Some Solawis offer milk products, eggs, bread, and honey among other products next to vegetables. Nevertheless, this is not the case for both Solawis in this case study which offer only vegetables, leaving the rest of the of the personal food supply to be bought at the private market or by other means. The interviewed member of the board of directors of Spörgelhof explicitly acknowledges this problematic and adds the following:

[Solawi] is a system where some people pay more, some pay less. That's good for different income levels, so to speak. Nevertheless, I think it has to be said that Solawi is not totally cheap. So, if you buy vegetables at Netto that aren't regional or organic, then of course you'll get them cheaper than with Solawi. And many people simply can't afford Solawi despite the bidding round. You just have to say that. So, solidarity only goes up to a certain limit, because otherwise we can't keep the farm going. That's problematic somehow. [Interview 7]

The interviewees indicate a class gap and a not yet fully functional solidarity principle. In fact, one of the Spörgelhof farmers regards the class gap as a challenge or limitation of the current Solawi landscape in which science could have an important role finding out solutions to make Solawis socio-economically more inclusive.

How can we embed different social classes in this Solawi world? This is a world of academics. How do we reach others? We have to do that. I think that's utopian. It really is such a niche. But the niche means that only certain people are here. There are hardly any craftspeople if any at all. So, we're craftspeople, so to speak, and we supply people who aren't craftspeople. It's often an issue with craftspeople who work for academics, and often they can't afford the goods they produce. [Interview 3]

From the data acquired from this research it can be concluded that Solawis are working on a central demand for a Socio Ecological Transformation of the Food System according to Brand [2012] which is the democratization of food production and of the access to food. However, there are still social classes that the Solawi model has not been able to include, not even through their solidary financial model which "only goes up to a certain limit, because otherwise we can't keep the farm going" [Interview 7]. This is a limitation closely linked to a lack of financial resources, which could be better overcome by getting more external financial support.

Finally, closely connected to healthier nutrition is the account given by interviewees of a changed perception in relation to food, agriculture, and nature since they joined their Solawi, which is the theme of the next category.

3.3. Relationship to food, nature, and agriculture (Beziehung zu Essen, Natur und Landwirtschaft)

This category relates to the second main principle of Deep Ecology, which is the self-realization of human beings by recognizing our interdependence with nature and with all living beings and seeing ourselves as in, of and for nature. Such a realization requires a fundamental change in the relationship human beings have with nature, especially when living in cities. *Buen Vivir* also offers counter-values to the dominant dualistic western worldview where one of the central dualisms to fight against is the nature-humanity dualism. Moreover, Boddenberg et al. [2017] argues that for a Socio-Ecological Transformation innovative experience spaces are needed, in which new patterns of interactions and new routines can develop and establish. For this work it is of interest to find out what role can Solawis play in changing the worldview of their members and in how they interact with and perceive nature. Are new patterns and routines being created? In accordance with that, this category was defined as "All contributions that address the relationship between humans and nature. Has the relationship with agriculture and/or food changed for Solawi members as a result of their membership?".

When talking about what they like the most of being a Solawi member or what the main contribution from Solawis is, all members interviewed mentioned their relationship to food, nature, and/or agriculture having changed in some way or another after becoming Solawi members. For example, their cooking habits have changed mostly by the fact, that they have more vegetables than before and thus spend more time in contact with the food, while cleaning, sorting it out and cooking it.

Because you know, when the box arrived yesterday, there's a lot to clean and a lot to process to get it ready for us to use, right? Because if you just put it in the fridge, sometimes you forget. Then there's also a lot more time spent in contact with the food, with the soil, with the bugs, sorting it out. So, it's a lot more work, but I think it's much more real. And we also value the food more because we know that we were involved in everything, in the whole process, you know?. [Interview 8]

The perception of their interaction with the food becoming more real and more time-consuming was shared by all interviewed members. All of them mentioned that it was challenging to process all the vegetables without them going bad due to time limitations. In fact, one member talked about having divided her share with another household due to a lack of time to process all the vegetables. A general lack of time in people's day to day life seems to be a general obstacle to, among other things, process all the vegetables and avoid food waste at the household. Nevertheless, all interviewed members showed a felt responsibility over their own vegetable share, meaning either investing more time to cook or dividing their share to avoid food waste. Interviewee 5 said: "And I think we split our share a year ago, in half with a befriended couple of ours. Simply because we no longer had the time to cook all the vegetables with the child now."

The active participation in the production process, or even just by being part of the Solawi initiative was related to a higher appreciation of the food they received, which could be linked with a stronger consciousness about food waste at households. The work and the people behind it are easier to see while being in the Solawi and compared to supermarket food.

The fact that I sometimes sowed the vegetables myself or harvested them myself and know the people who grow them has made a huge difference. That has changed a lot and, of course, I also have to eat the vegetables I get. In the best-case scenario, I eat them all. My cooking habits have changed. [Interview 7]

Further, for one member their active participation and involvement in Solawi activity also led to a higher appreciation of the socio-economic situation farmers must deal with and the obstacles they have to confront under the free market.

There is sometimes a relatively bad image from farmers who somehow destroy the soil and are only out to make a profit. And I see more and more that the system is also to blame for the fact that they have to produce such high yields, only plant a monoculture and that their hands are partly tied, even if they can of course all switch to organic, which is only better to a certain extent, I think. And I'm seeing more and more that farmers also have real challenges surviving in this system and growing vegetables that are good for people. [Interview 7]

Chicory Salad © SolaWi Gärtnerei Apfeltraum



In conclusion, this regional food supply system acts against the dominant anonymous food supply system described by Friedmann [2005] under the framework of the current Corporate-Environmental Food Regime. Solawi is a resilient supply system which strongly relies on personal relationships, where passive consumers can become active prosumers more consciously involved at the consumption level as well as in the agricultural production and the issues related to it, as interviewee 5 remarks: *“And I also believe that giving people a connection to their farm, for example, helps them to take an interest in the topic. It’s not like, I don’t know, walking into Netto and buying some anonymous pineapple from I don’t know where”*. In other words, compared to the contemporary “Food from Nowhere” Regime, which is characterized by long, complex, and hard-to-track supply chains, Solawis offer a model where food production is re-embedded in social and especially important for this analysis category, in ecological relations. The ecological feedback of its production and the producers and prosumers behind it can be easily tracked and fosters consciousness about food’s value. One could thus argue that in response to the current circumstances Solawis offer “Food from Somewhere”, both socially and ecologically [Goodman et al. 2011; Paech et al. 2020; Campbell 2009].

Not only members but also farmers highlighted the importance of knowing where the food comes from. Indeed, the fact that the origin of most food products was rendered invisible and the lack transparency of a more and more anonymous food system, was one of the reasons why the Apfeltraum farm made the transition to the Solawi model, as described in section 1.4. From a member’s perspective though, this closer relationship to their farm not only increases the appreciation of food, but also promotes consciousness about and a connection with the influencing factors around food production, such as the weather, climate change and nature’s cycles, as Interviewee 8 puts it: *“And you also knowing what comes in each season, what the earth has to give us in each season. Respecting these cycles. I think that’s why you’re in touch, you’re connected with nature, you know?”*. This was also the case for the member of Spörgelhof’s board of directors so much so that they could not imagine coming back to solely buying vegetables from the supermarket: *“If we had to close the farm now because we couldn’t find anyone, then I would have to go to another Solawi. The thought of going to the supermarket to buy vegetables didn’t occur to me at all, that wouldn’t work. I can’t really go back somehow”* [Interview 7].

What has been discussed about the relationship with nature is also valid for children, especially city children, that are less in contact with it. Through their involvement in Solawi they get the possibility to develop a closer relationship with nature and food production, which is appreciated by the parents interviewed.

[...] and I also think it makes sense for the little one. He gets a connection to it. He now runs around here and sees how we pick vegetables and so on, even when we help with the harvest. As a city kid, I think that’s important. I grew up in the countryside. I know that from before. But he doesn’t. [Interview 5]

A further interesting aspect around members' relationship to food that came up during the interviews, was the perspective of the Brazilian member interviewed which saw her membership in the Solawi as fostering her sense of belonging in society by getting closer to German culture through food.

Mainly because as a foreigner let's say, I'm from Brazil, I get much closer to German culture through food, because some of the foods I didn't even know existed. So, getting closer to food and getting closer to the culture of a country, I think, also brings a feeling of belonging, you know?. [Interview 8]

The last point mentioned by the Apfeltraum members, was the weekly newsletter sent by the farmers, which describes the developments of the harvest, the soil, the farm, agricultural politics and the weather and its effects on food production. Apfeltraum members talked about the newsletter helping them develop a consciousness about the weather and its relationship with the vegetables they ate, which in turn changed their relationship to the weather, for example, by celebrating rainy days during hot summers. Related to that, farmers from both Solawis complained about the lack of consciousness city dwellers and politicians have on agricultural issues, which relate to the weather and on issues of the countryside. A feeling of frustration and resignation was perceived about these issues, which can be confirmed by reading agriculture-related media reporting about the severe situation lived in the German and European countryside, where more and more small farms have to close and no improvement is in sight (Stanka and Rioufol 2019). The gap between the city and the countryside is felt by the farmers and considered one of the main problems to be solved.

[...] this feeling for the weather. I hope it changes a little too. This "It's sunny today. Nice!" when it hasn't rained for 6, 7, 8 weeks. I hope they think a little about us too. We actually need water too and that something changes in their everyday lives. Yes, I hope it does and I also notice that it is working for some of the Solawi members who are committed. [Interview 3]

And there is a huge alienation from the production of the soil. And I think that is the main problem, that we have alienated ourselves from the land. And someone has to think about how we can get people closer to the land. [...] I always say to people in Berlin that a cycle path in Kreuzberg will always be more important than one or two hectares in Lanke. [...] And the problem is that in the Solawi world, I think, the people who are involved are people who live in the city and for them the city will always be a bit more important, because that's their everyday life. And the problems we also have in terms of climate have to do with agriculture. But nobody really takes care of it. There is also the Minister of Agriculture [Cem Özdemir], who doesn't come from agriculture. They are all city dwellers who talk about agriculture. Yes, that's a big problem. [Interview 3]

Finally, it can be concluded that through close and regular communication, e.g. Apfeltraum's newsletter, and by fostering regular active participation, Solawis are changing the way its members interact with food and the way they perceive nature

and agriculture. This closes to a certain extent the gap between city and countryside dwellers, by promoting a consciousness building of the city dwellers about the issues of the countryside and of agriculture and its relation to climate change. Activities that promote a consciousness building of the members can also be considered educational work done by Solawi initiatives. This is what will be explored in the next category of analysis.

3.4. Education (Bildung)

This category “Education” was defined in MAXQDA as follows “Contributions that mention the role of Solawis as an educational institution for their members or society at large. What do members learn about agriculture and climate change through their Solawi membership? What does this learning process look like?”.

The following category is strongly related to the one before, given that a change in the perception and relationship with nature, food and agriculture is mostly achieved through educational measures implemented by Solawis. This can also be observed in the following code landscape which illustrates in a matrix how close codes are to one another in all transcriptions. On the low right side of the matrix and represented by blue dots, it can be observed that the code “Education” [Bildung (17)] is the closest to “Relationship to food, nature, and agriculture” [Beziehung ... wirtschaft (30)], followed by “Access to healthy nutrition” [Zugang zur ... Ernährung (12)].

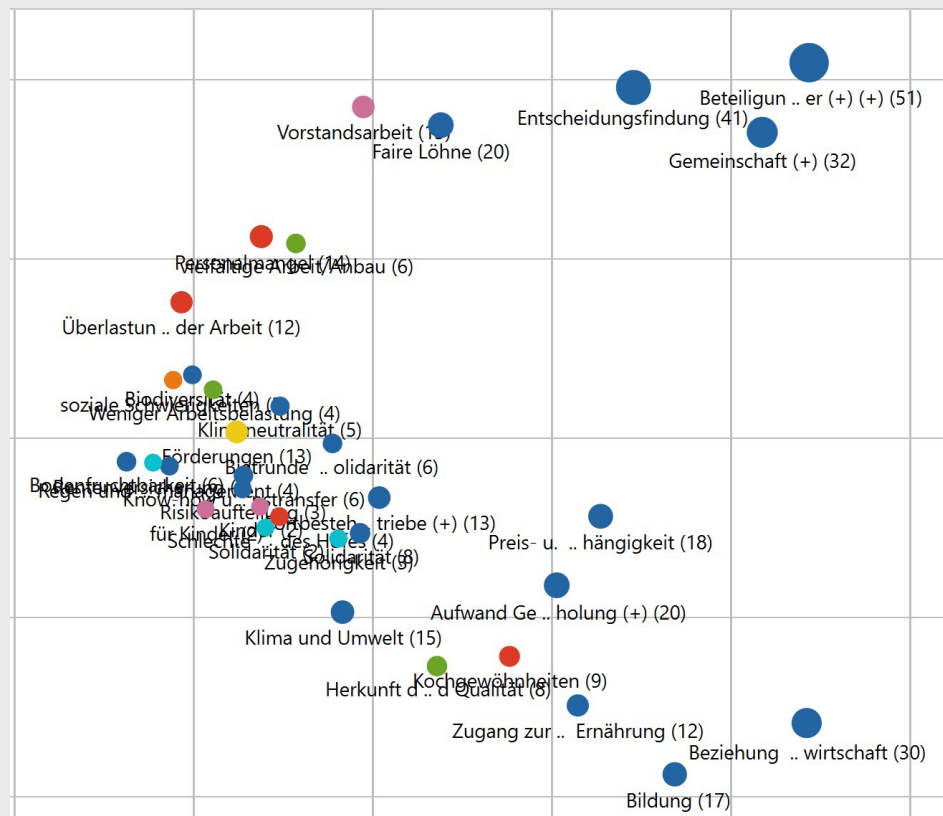


Figure 3 - Code landscape regarding closeness between codes

interviewed Apfeltraum members as an educational tool. Some examples were already mentioned under the last category about how the newsletter was promoting a consciousness building for the members around agriculture and its issues, climate change, nature's cycles, among others. Moreover, the members attributed their own learning about different food related issues as a valuable contribution done by the Solawi through the newsletter, which is written by the two main farmers themselves. A further example regarding climate change, warmer winters and what that means for the farm was mentioned by one of the members interviewed.

So, as I said earlier, when I found out this week that our farm has too little water and that they have to install a new cooling system because it's no longer cold enough in winter for storage, then I'm sensitized to these things. And I think they can definitely make a big contribution here. [Interview 5]

Additionally, the Solidarische Landwirtschaft Network describes Solawis as an experience and learning space, where people can acquire knowledge about the cultivation of food and the care of the soil [Solidarische Landwirtschaft e.V. n.d.b]. This description coincides with the contributions of the interviewees, who describe their respective Solawi as a learning space, where both adults and children can participate in different activities, such as picking up the vegetables, helping with the harvest at the farm, decision making, among others. As an example, Spörgelhof members are expected to help at the farm at least 6 days a year. Spörgelhof farmers deem the members' work at the farm as indispensable, but they also add that through these participation days they are making an educational contribution for members, who learn firsthand and in a participative way how their own food grows.

I think what we really contribute is that people see how a vegetable garden works. I'm proud of that. And it's a great motivation. [...] we try to reconnect people with this so-called primary sector. And the six working days a year are a great help here on the one hand, but I think it's also a good contribution to society that people see what problems agriculture has. [Interview 3]

Furthermore, one of the Spörgelhof farmers argued that they are doing also political education work by receiving schools at the farm and providing education about the Solawi model and ecological agriculture. Apart from that, they receive regularly volunteers under the program "Voluntary Ecological Year" [Freiwilliges Ökologisches Jahr], which is financed and implemented by the federal states and individual agencies. It can thus be argued that Solawis are themselves innovative experience spaces, where new learning patterns and routines are being created. One of these routines are the regular participation days, where members gather to help at the farm, which in turn helps building a sense of community between the members. This sense of community in Solawis will be analyzed under the following category of analysis.

Before introducing the next category it is worth mentioning, as stated by some interviewees, that all these learning effects could be further disseminated if not only the actors themselves got involved in educational measures, but also if political and/or educational campaigns were to come from above, e.g. from political actors

themselves, in order to more effectively spread the awareness about the alternative solutions Solawis offer, as well as spreading the positive effects of Solawi initiatives mentioned until now [Interview 7, 6, and 5].

3.5. Community (Gemeinschaft)

This category took its name after being merged with the codes “Exchange” and “Relationship between Farm and Members”. These two codes and the main sub-category “Members’ Participation” give a first impression of what kind of interview segments are to be found under the category “Community”. This category was defined in the code memo with a set of questions, that go as follows: “Is there a sense of community between members? How do they define it? And between members and farmers? Do the members feel a sense of belonging to the Solawi? How involved are they?”.

The following frequency table shows how many times a category, including its sub-categories, was assigned in all the transcriptions. As it can be observed in Figure 4, the topic community along with its subtopics was by far the most discussed in the interviews.

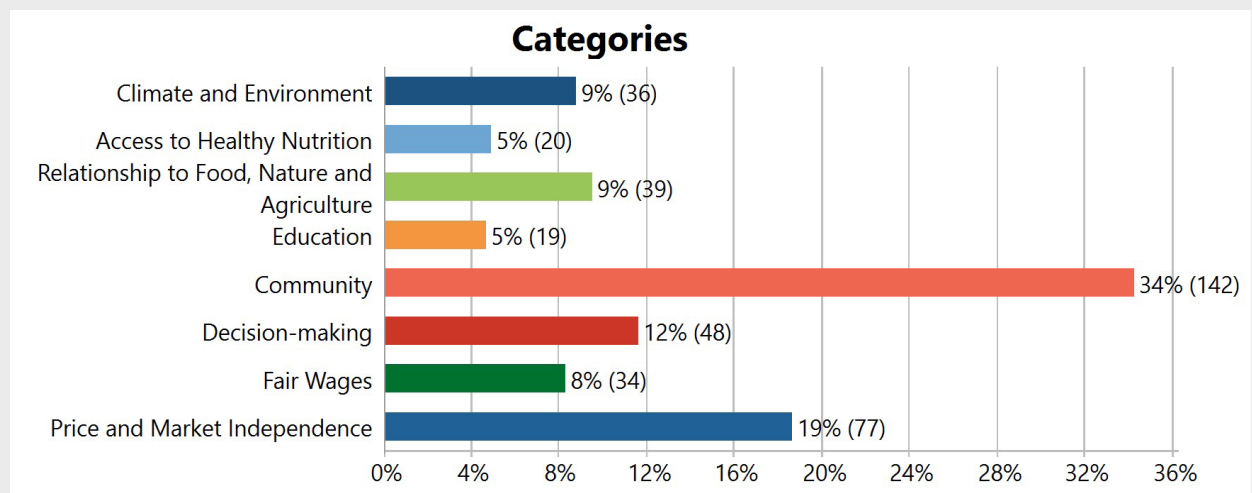


Figure 4: Frequency Table for Main Categories

The contributions about community and members’ participation were significantly different in both Solawis, so that they are going to be analyzed mostly separately.

The first instance the interviewed Apfeltraum members talked about, when asked about their activities in the Solawi was the group management of the pick-up station, assumed by the members living close by, and picking up the vegetables itself. All of them pick up their vegetables at the same pick-up station in Treptow,

Berlin, at which every week two members take over a two-and-a-half-hour shift where they care of receiving the farm delivery, separating, packing up and distributing the vegetables, as well as cleaning up the station. During this period, there's a space for exchange between members. Referring to this space, one of the members mentioned how a sense of community based on reciprocity is built during this simple activity which in the case of Solawis is a voluntary and non-remunerated work, whereas it would be otherwise if it were taking place in a supermarket or even a farmer's market.

It's a job in which there's no money involved, right? So, I think this gives me an even greater pleasure. The feeling of gratitude, I think, is greater. And I think that's the basis of the community that you feel that you're there for each other, without money involved, you know? [...] They're just doing something for you, just as you're going to do something for them too. So, I think that's the sense of community, where you're helping each other with pleasure. [Interview 8]

Nevertheless, this member's perceived sense of community contrasts with other contributions of her, where she mentions knowing only three other members, not being strongly involved in other activities, and having no contact with the farmers.

I: And what's the contact like with the people on the farm? Do you have an exchange with them too?

B8: The ones from Apfeltraum? No, very little, very little. Only when we go there, right? But not apart from that. No, no. [Interview 8]

For the second member interviewed, however, that sense of community was not present given the fact that apart from the pick-up station she was not further involved and didn't know anybody else from the Solawi. In her own words she states: "Here because we do this shift and then you get to know maybe people a bit more. But I don't know. I don't know the people well enough to say that it's really a community. For me it would take a little bit more to be that" [Interview 6]. Plus, she has not yet been at the farm and doesn't know the farmers personally, although she has been a member for three years by the time of the interview. She adds: "I don't have straight contact [with the farmers]. I mean, I wrote sometimes if I had some issue about whatever. Yeah, but not really. I mean, just the newsletter or some other things that we receive" [Interview 6]. Nevertheless, she expressed being satisfied with how it is.

For the third member a sense of community is present, although she also does not know anybody in the Solawi apart from the farmers, with which she has had a closer exchange due to a common project in which she participated.

Yes, but not in the sense that it's somehow my social circle, that they're my friends or something. But I do feel connected to it. I do. [...] At the moment, I do have a relationship with the people on the farm. I already have this sense of community. It would have to be a really good alternative with a similar principle for me to say okay, I'll switch. [Interview 5]

A sense of community was very differently described and perceived by all three members, which was clearly influenced by their own personal experience at the Solawi. At least at Apfeltraum, it is a possibility to get involved and build community, as well as having less involvement apart from the necessary and regardless of that supporting and being part of the initiative. Further opportunities for community-building were mentioned by the interviewees, such as the events Apfeltraum organizes, in which the two members with a child have participated in the past, such as Christmas and Easter events, seedling markets, among others.

It is important to mention however that not all pick-up stations at Apfeltraum are organized in the same way, which influences how much exchange members have between each other. In fact, before the already mentioned change of pick-up station the Treptow member group, was organized so that, everybody would weight its own vegetables at the Salon Verde, without having to exchange a word with another member. There was less of a group coordination involved and with it less opportunities to experience the reciprocity one of the members above mentions. However, regardless of the way a pick-up station is organized, there is always a fixed time and day, where members can pick up their food in the respective pick-up stations, which is the same day where the farmers deliver out to the city. The other two members regard the organization to pick up the vegetables during this time window regardless of the weather or other work or private commitments as one their main obstacles or even one of the eventual reasons for which they would quit Solawi.

I would say that for me, this thing that you have to pick it up every week at the certain time is a bit of a challenge. Like sometimes, because I don't have a regular job or I don't, for example, come straight from my job to pick it up. So sometimes I need to make an extra effort to come here just for that. And some weeks it's a bit tight. So, if I'm doubting [about the Solawi] this is the reason, I think, the time window. [Interview 6]

In other words, the Solawi logistics delivering from the farm to the members home lack the convenience and flexibility other organic agriculture promoting businesses offer, e.g. organic boxes such as Etepetete GmbH, who on the other hand don't offer that many ways to get involved and actively participate as Solawis do. It could be concluded that the level of participation members are able or willing to offer or the interest they have in building community can significantly differ from one another resulting in different levels of satisfaction. And again, as it was the case with the processing of the vegetables at home, a limitation of time due to external factors, such a full-time job can strongly limit the possibilities to participate in a Solawi given this fixed time window, which in the case of the interviewees' pick-up station is Thursdays from 16-18:30h.

Yes, the timing is difficult. We always have to pick things up in this time slot. Whatever the weather and now today, for example. I didn't like the fact that we changed it so that not everyone can weigh their own things, but that I have to do this shift today. It's just difficult because I have fixed working hours, I have to organize myself so that I can be here earlier. [Interview 5]



Now turning to the farmers' perspective; as already mentioned, Apfeltraum is organized in such a way, that they don't rely on member's help at the fields to function. However, both farmers wish there were more exchange between them and the members and that more members would come to help, also at a regular workday, recognizing that closer personal contact would create a greater bond between the members and the whole Solawi.

Nevertheless, it is actually important and nice for us when members come, work with us, get to know us and we get to know them. That's a much stronger bond than we can achieve through vegetables, newsletters, or anything else. It's true and every Solawi can confirm that. The members who have been on the field, who have been at the lunch table, who have eaten here. They have a different relationship with us, with the vegetables and with the whole Solawi. And that makes them more stable members. [Interview 1]

A further positive aspect of the community mentioned by both Apfeltraum farmers was the help that regularly comes from the members. One example of that help was the engagement of the members looking for solutions and a new place for an art and cultural space, which worked as a pick-up station in Treptow Berlin and was about to be displaced by investors [Salon Verde Berlin 2023]. Another example of Solawi member's engagement was the voluntary and non-remunerated design and programming of a new website and a financial tool specifically made for Solawi finances, for which the farmers expressed special gratitude.

There is so much help, it's amazing. Also, we've relaunched the website. Members programmed it for us for nothing, you know? So that's just great. Simply because they want to get involved, they want to support us. So, it's really much more than just paying for vegetables for the members somehow and for us too. It's much, much more fun to supply the people you know with vegetables than market customers. It's similar, but if it's so anonymous, then I don't know, it just stays anonymous. [Interview 2]

Coincidentally, one the members interviewed was involved in the programming of this financial tool. During the interview she explained, how this tool works, making it clearer how helpful this project was for the functioning of the Solawi and the relieving of the farmers, considering the financial specificities of Solawis, which would otherwise create significant extra office work. This member described this project as a hobby for her and as her way of contributing her knowledge to the community, without expecting anything in return.

We call it Sodali, it's a real project that we have programmed. It imports the CSV files from the account where we pay all our contributions. Yes, and we always have to send certain information with it. I think it was our membership number and the name. And the tool then analyzes this data and assigns it. And depending on when it was sent, it adds up who has and hasn't paid what. And you also import the data from WordPress so that you know who has half a share, a full share and then the tool can find out who has already paid and who hasn't and what are they supposed to pay. Precisely because the shares can also be different due to the bidding. [...] So it gives him a bit more of an overview to really see through the finances. In the past, that was very confusing with so many people and of course it was just manual work, impossible. [Interview 5]

Moreover, as stated by one of the farmers, Solawis as communities could also be considered a knowledge pool based on common Solawi principles and on trust, from which members could help and receive help from each other, assuming everyone knows their way around a specific topic, just as it happened with Apfeltraums website and financial tool. However, he formulates this as a wish and not as something that is being currently exploited.

We have incredible added value in terms of feedback from our members and the expertise that they have. And that's something I've actually always wanted but haven't had the time to pursue further. [...] If I have a question about computers now, I prefer to turn to people I trust. And I trust them because I know that they think the Solawi, which I think is good, is good too. Then the answer I get about the computer is probably better than if I ask someone, I don't know. [Interview 1]

This relates to Strüber et al. (2023)'s typology, which classifies Apfeltraum as a producer-led Solawi, where members are not legally bound with and generally less connected to each other, so that the mentioned potential of being a knowledge pool is harder to take advantage from. Spörgelhof, on the other hand, is classified as a co-entrepreneur Solawi, and has accordingly a much higher participation due to its own structure, in which members are an essential part. Their participation is not completely voluntary, nor completely compulsory, but as stated by the interviewees, both the farm and the cooperative would not be viable without the proactive participation of a certain number of members.

Spörgelhof's founding story is an example of how essential members' work was and still is compared to Apfeltraum. Indeed, from the beginning Spörgelhof relied on members' help to start and keep the Solawi running, partly due to the low-budget conditions, under which they started.

We also said six days because we were hardly mechanized. As I said, we didn't have a tractor or anything, so we got them involved straight away. And we told them to work six days a year. And that's what they did. And there was always a high level of participation from the members here compared to the other Solawis. [...] We always had the feeling that they were happy to come. But there was such a strong need for them to come. There still is. [Interview 3]

A further example of this is the change of legal form, which legally bounded members and farmers under the common legal form of a cooperative. The work related to this issue was taken care by members, who formed a working group responsible for this essential process. These examples are some of the reasons why all three interviewees perceive members' voluntary participation as high. Plus, both farmers convincingly stated feeling strongly supported by the members.

Furthermore, the only member interviewed described their experience as a member of the board of directors at Spörgelhof. After describing the tasks of their position and expressing satisfaction with the feeling of being able to make a difference, this member talked about how much responsibility was on their shoulders, given

that they had no experience in business management, agriculture or cooperatives and now had the role of co-leading an agricultural cooperative.

Endless [challenges]. What can I say? To get an overview of the cooperative in general. I'm completely unfamiliar with the subject. I don't really know anything about farming or farm management. And suddenly I find myself in the situation of actually managing a farm. Because we have to check the finances, we have to repay loans or restructure them. There are so many things I don't know yet. And this induction is definitely challenging, but also instructive. You learn an enormous amount about how to do things like this in a reasonably effective way. [Interview 7]

Being in this position enables them to keep in touch with a high number of members, especially with those that are active in one of the several voluntary working groups the cooperative has. This member describes the working groups as an essential tool to get members involved in the inner workings of the cooperative. A higher involvement makes it easier for the members to pick up their vegetables every week, participate regularly on the fields, having a close relationship to the Solawi as a whole and feeling a sense of belonging to it, which in turn is essential for the Solawi to function smoothly. When asked about their perception of a sense of community, they were convinced there was one for most members and clearly for them, who personally knows many members and is so deeply involved in the cooperative's decision making.

To conclude, both Solawis have significantly different levels of participation, and both recognize the importance of participation for a sense of community and even for the good functioning of the Solawi. The level of participation seems to strongly depend on organizational decisions, such as to depend or not on member's work at the fields, or structural reasons, such as being a producer-led or a co-entrepreneur Solawi. It is important to note that all members participation is on voluntary basis, which poses questions about the role of voluntary work in Solawis. Regarding voluntary work one of the Spörgelhof farmers gave the following stimulus:

Somehow it gets done. But how much willingness is there to do voluntary work? Is it always the same people who do it? [...] Who is willing to do voluntary work at all? And are they students? [...] Who can afford that? And whether it's decreasing because many people have rather less money and that it's also decreasing because there's less time. [Interview 4]

One still not mentioned instance to build community are the regular general assemblies that are a central aspect of the decision-making process of each Solawi and a central part of the next category of analysis.

◆ 3.6. Decision-making (Entscheidungsfindung)

This category is defined as follows: "What does the decision-making process look like at the Solawis? To what extent and in what form do the members participate? What is decided jointly? Do the Solawis function democratically? And if so, what

are the challenges of a democratic structure in the decision-making process?”

At Apfeltraum the decision-making process mostly takes place in the yearly general assembly. There the farmers present their financial plan for the next season and review the last season. Several aspects about farming are shared during the assemblies. For example, the fact that the unstable weather in winter had stressed too much some frost-resistant plants that ended up dying and not being delivered. Another example was that in the last general assembly, the members wished to receive sweet potato in their vegetable share. Nevertheless, the only seedlings found were delivered from South Africa, which was not compatible with their objective to sink CO₂ emissions, which is why they did not plant any sweet potatoes as it was originally planned. The topics discussed at the general assembly go beyond the gardening area, e.g. the energy usage and their efforts to better save energy, new acquisitions such as an electric delivery car, among others¹⁰.

During the interviews, the Apfeltraum farmers reported being satisfied with how the general assemblies go. In almost all cases, they presented their financial plan for the next season, and it was always accepted. Before starting with the Solawi, both farmers had the fear, that members would interfere too much with their decisions and their way of working. However, the opposite is the case, that is, members don't question their decisions, but instead they support them, and trust them and their expertise of knowing what the farm needs. So, it seems that the farmers are the primary decision makers and give the members the chance to give stimuli and feedback at the general assembly without them being further involved in the decision-making process.

We present something that is actually always accepted in the end with a short feedback. I would say that the feedback is always 100% goodwill feedback. So, there's never really anyone complaining or anything like that. There is definitely feedback that gives you something to think about or something like that. And that's a good thing. It's very, very helpful and very useful for us. So, if someone has good objections that really should and can be considered, then we're happy, even if we often can't incorporate anything anymore in that year. That's just the way it is. The feedback goes along with us. We work on it. And then it's incorporated the next year. [Interview 1]

All Apfeltraum members interviewed reported a low involvement in the decision-making process of the Solawi, given that they haven't or rarely been at the general assemblies. One common challenge to participate in farm activities including the general assembly was the difficult accessibility of the farm, either due to the long drive, which is hard to do with a small child, or due to not having a car.

And I mean, I was always following when there was this kind of participation day or this general meeting, but often it didn't work out with my schedule or also because it's a bit further away. There is the thing of the transporting to go there. I mean now I have a car that I can use, but before, for example, I didn't. [Interview 6]

10 Information taken from field notes about the general assembly in March 2023.

The decision-making process at Spörgelhof is significantly different according to the contributions of the interviewees. As a cooperative, the decision-making is in the hands of the members involved in the decision-making bodies of the cooperative, which are the board of directors, the supervisory board, and the general assembly. The first two decision-making bodies are occupied by a handful of members, whereas at the general assembly all members have the possibility to take part in the decision-making process. However, not all members participate in the general assembly as is reported by one of the farmers.

There are usually 30, maximum 40 people present, out of the 160 or 170 members. Yes, that's the democracy we have. A few are there, they tap here and there. And the board, which consists of five people, makes decisions all the time. And I think that's a good thing. We deal with the issue. And if we had to give members a lot of responsibility now, then they would also have to deal with the issue a lot. Otherwise, they would make decisions without having much knowledge. And that wouldn't be good either. But apart from that, they have a lot of trust in us farmers, where they say that if we say we need it, they'll believe us. [Interview 3]

At Spörgelhof the general assembly is summoned at least two times and generally three times a year, mainly to discharge the current board of directors and to define the amount to be paid by the members. Analogous to Apfeltraum, at Spörgelhof's general assemblies the last season is reviewed and a plan for the next season is presented along with the new amount to pay. Compared to Apfeltraum, more general assemblies and decision-making bodies occupied by members lead to the conclusion that at Spörgelhof members have a greater influence in the decision-making process of the Solawi. The fact that all the capital belongs to the members of the cooperative and that they all are legally bound to each other and don't just have a contract with the farm seems to result in higher member involvement in the decision-making process.

The contributions of the interviewed member of the board of directors offer an opportunity to further deepen in the decision-making process at Spörgelhof. During the interview, it came up that the two current farmers had resigned, so that the board of directors had to take care of hiring new farmers, on whom the production of the whole cooperative would depend. This was described as a major responsibility with significant challenges given their lack of experience in agriculture to judge if the new farmers were apt for the job. This is only one example of the different tasks that fall into the hands of the members of the board. Many others are mentioned in the quote below.

I'm a public relations person. I write the newsletter for the community. So, I do both internal communication within the community and external communication. I do event planning to make Spörgelhof more well-known. We've set up an Instagram account since I joined. I've already handed it over to a member. I try to set things up and then hand them over directly to members. Like the newsletter, I've set it up and handed it over. Yes,

things like that. But also all the day-to-day business, i.e. board meetings, meetings with the supervisory board, meetings with the nursery, financial planning. Crisis management if something goes wrong. All that kind of stuff comes on top. [Interview 7]

A further instance worth mentioning is the organization of the pick-up stations. All three Apfeltraum members belong to the same pick-up station, which is jointly managed via a Telegram group, where the shifts to distribute the vegetable shares are coordinated. Further, in the Telegram group members communicate with each other and further aspects regarding the pick-up station are discussed, such as cleaning the station at the end, or gifting the vegetables that are left over to the people at the Café, among others. A rather interesting annotation was done by one of the members referring to community decisions within the Solawi and comparing them to the dominant way of thinking under a free market economy, that is, a 'customer first' philosophy, where you can get whatever you want, so long as you can pay for it. Under Solawi however you cannot for example demand what you want to receive, but rather receive vegetables you may not have otherwise bought.

So, a good example is exactly where we made the change from everyone weighing their own things at the distribution point. And now I have to go there x times a year and distribute. And I found that totally annoying, because, let's say, I'm now wasting three or four hours of my time. I rather live in this thought of what is normal today, this service feeling. I want something, I pay x euros and then I get vegetables for it, then I'm the customer. And that's just not how it is here, and you have to get away from that a bit and say that the customer is not king, but that this is our joint community project. And you have to somehow learn to come to terms with the fact that other people think differently and that the decision-making process is not always in your own interest. [Interview 5]

The evaluation of the decision-making process in both Solawis confirms again another aspect of Strüber et al. [2023]'s typology which classify co-entrepreneur Solawis as more apt for democratic decision making. Spörgelhof being a cooperative has a significantly higher member involvement in the decision making as Apfeltraum does. But again, as mentioned before, Solawis are diverse and offer different solutions in this case with different levels of decision-making power for members. One of the interviewees sums it up as follows:

Well, I think Solawi is a super small-scale solution. Especially because Solawis are all structured so differently and diversely, it offers the opportunity to try out different solutions and see what works well. For example, I have the feeling that Apfeltraum works really well. We, on the other hand, are somehow having a lot of difficulties at the moment, but we might have other things. We have a very strong community and then we have to see what we can learn from each other. [Interview 7]

One important aspect of the decision making that was intentionally left out was the decision about the wages of the farmers and employees, which is the main topic of the next category of analysis.

3.7. Fair wages (faire Löhne)

The Solawi network and some of the literature about Solawis argue that the Solawi model guarantees farmers not only their subsistence but also a fair wage [Solidarische Landwirtschaft e.V. n.d.b; Paech et al. 2020]. In fact, their central pillar of solidarity is a financial solidarity towards the farmers, who are otherwise exposed to the adverse conditions of climate change, land speculation and the neoliberal free market. Further, fair wages and secure pensions are one of the central economic demands of the organizations demanding an “Ernährungswende”. The following category analyzes in both case studies farmers’ wages and is defined as follows: “All contributions about the wages of employees in the Solawis or agriculture. What do Solawis do to ensure fair wages and what are the limits and challenges? Does the Solawi model make it possible to pay better wages?”

So, are fair wages given in both case studies? Farmers from both Solawis mention that one must bring a lot of idealism to work in non-industrial agriculture given the lack of a fair wage which is the rule in this work area. Both Apfeltraum members expressed satisfaction about how the Solawi has enabled them during the last six years to increase their salary and that of the workers little by little. It is not them who have made the increase possible but the democratic decision-making process at the Solawi. In the first years of the Solawi they paid minimum wages, but members complained that that was too little. While not being able to significantly increase the wages in one season, because that would otherwise significantly increase the amount to pay monthly, they have had the wages’ topic constantly in the agenda of the general assembly all the past years concluding in a present wage of 15€/h which they regard as fair, although it could still be higher. This, they say, is one of the main reasons why they are so satisfied with the Solawi.

But with the Solawi, we have actually managed to pay normal wages, which are average for agriculture. But it also took time. Look, we started in 2017, now it’s 2023, after six years we have now calculated what the average salary is, for a farmer. And we said we’d like to pay that, and they decided yes, we will do that. Now we’ve even added a bit more. That was last year, exactly. And this year we’ve increased it to €15 an hour. [Interview 2]

But for the work itself I still think it’s badly paid. But who knows where we’ll get to with the Solawi. But it’s better. It’s above the minimum wage and we’re really proud of that and it actually works because we’re a Solawi. That’s great, that’s really great. If everyone agrees, then we write down okay, the wages cost us so and so many thousands of euros a year and if everyone is willing to pay that, then it just works. And that’s really, really good. [Interview 2]

At Spörgelhof, on the other hand, the farmers get paid only slightly above the minimum wage. In fact, when asked about the working conditions at the farm the first intuitive answer from one of the farmers was “too low a wage” [Interview 3]. Before becoming a cooperative, the situation was even worse, due to the number of extra hours they used to work, a situation both of them described as self-exploitation. Both farmers reported feeling extremely overworked even at the beginning of the

cooperative, where they were both farmers and members of the board of directors having extra non-remunerated work they had to do after having worked at the fields. The working conditions have improved significantly, now that they are only farmers, but the wage is still too low.

Good. And secondly, we have of course, no not of course, but we don't have good wages, we're all on the minimum wage. We've said that people with children get €2 more. But it's not really that much. It is also definitely a goal that we can pay better wages for the farmers. [Interview 4]

Such a low wage is also a potential difficulty when finding new farmers, also considering the dominating lack of personnel in agriculture and the already mentioned resignation of both farmers. Spörgelhof has the intention to increase the wages, but this would mean they would need to find more members, which in turn means more costs and more work for the farmers, as one of them explains.

That is our goal. A wage of €18. But we don't have a plan, except a bit rough. Because yes, the cooperative is new, and our resources have always been limited. Not only in the past. And we're trying to stabilize ourselves a bit now, but we still have to see how we can achieve our goal. We have sketched it out a bit. We would need 180 members, now we are 130, 140. But in order to pay such a wage, we have to move towards 200, as I said. But then it's not clear with what force. Because you can't hire any more people. Otherwise, you have more costs. And every year we get a little better, more efficient, more effective. But I don't yet see that we can provide for so many people. [Interview 3]

It is important to consider that this is a rather new Solawi, so that a wage increase at Spörgelhof will probably also be a matter of years as it was for Apfeltraum. Additionally, both Solawis consider it necessary to hire a further employee to get all the work done, especially in summer when there's a work peak. Nevertheless, the lack of money makes this idea hard to implement, as well as the wage increase itself.

Based on the data acquired, it is hard to claim that Solawis guarantee a fair wage. They do guarantee a stable income for the farmers that does not depend on the quantity of products sold. However, without the necessary resources this income can be rather low. The Solawi model offers a solidary decision-making process that can also decide over the wages, which does not necessarily mean that farmers will have a fair wage from the beginning. Furthermore, with such low incomes not even a pension above the minimum subsistence level is assured, which is next to fair wages one of the demands linked to the "Ernährungswende".

And the whole compulsory insurance thing sounds all lovely and good. But if you're honest, it's not worth it in many areas. It has this social contribution of "being social" with others. But we're all below the minimum subsistence level with our pensions because we pay so little into the fund that we somehow have to apply for citizens' income when we get old. [Interview 3]

Both Solawis are clearly engaged in trying to guarantee fair wages for the farmers, but they seem to need years to effectively achieve this objective. External subsidies would potentially facilitate the overcoming of this limitation, which seems not to lie on a lack of willingness but rather on a lack of financial resources.

Nevertheless, farmers working under the Solawi model have a fixed wage, which is not the case of small farmers, whose incomes depend on the success of their agricultural endeavors and on external factors such as international market prices and weather conditions. It can be thus argued that Solawi farmers are working outside of the regular market in this aspect, which leads to the next category that analyses how independent Solawis are from the constraints of the price and market system.

3.8. Price and Market Independence (Preis- und Marktunabhängigkeit)

The category 'Price and Market Independence' is defined as follows: "All contributions that indicate an [in]dependence from the price and market system. Be it anti-capitalist values, the maintenance of fair prices regardless of market developments or non-market-related activities such as the voluntary distribution of vegetables." As just mentioned, the fixed salary farmers receive is already an instance where Solawis act in a solidary way and create new working conditions beyond what the market imposes. Thanks to the monthly amount paid by the members their income throughout the year stays the same regardless of unstable climate conditions, changing price levels and the quantity of vegetables produced or sold. Plus, the farmers now regularly get practically all their produce to the consumers avoiding any food waste at the production and distribution stages. This is already a significant change for the farmers interviewed compared to pre-Solawi periods. Now, this category intends to analyze further instances where a such independence is given thanks to the Solawi model and where it is not.

A further instance with a significant shift would be the price of vegetables. One farmer describes how it was before they changed to Solawi.

And then there are prices that have nothing to do with us. Either, the prices were too low, in which case we didn't earn enough because we didn't have enough goods. Or it was too expensive. Then we sold too little, which didn't earn us much money either. So, we were always of the opinion let's do it at a medium price, that's much better for everyone. What's the point of very high prices? And what's the point of very low prices, which are totally nonsense for all medium-sized businesses? Yes, that was precisely the dissatisfaction with all these other trading structures. [Interview 1]

These are trading structures that both Solawis stop relying on since they work fully as a Solawi. As already mentioned in section 1.4., further reasons to change to Solawi for the Apfeltraum farmers were the increasing lack of transparency and decreasing quality of these wholesale trading structures, that they partly depended on to have a reasonable income.

Another aspect that speaks for an independence from market and price developments was when the war in Ukraine broke out and food and energy prices significantly increased. An Apfeltraum farmer mentions how based on honesty and fairness they did not see the need to increase their prices, also since they have a fixed income and are not constrained to take advantage of market developments for extra profits.

Yes, when energy prices exploded as they did, it may have something to do with the Ukraine conflict and the fact that no more oil is coming from Russia. But it also has a lot to do with the fact that these companies simply raise prices and don't lower them again, according to the motto "they've paid now, they should continue paying the good prices". And I think that's just unfair. That's not right and it would never occur to us [...]. This was then reflected back to us this year at the general assembly that it was considered great that we hadn't increased prices. And I also thought why? We calculated something beforehand, and we built in buffers, calculated and okay, of course we had to pay a bit more for all the energy at the beginning. But then these subsidies came from the state and in the end, we didn't pay that much more. [Interview 2]

Moreover, as some of the literature argues, one of the political objectives of Solawis is to implement the rejection of food as a commodity by evading the commercialization of agricultural products while at the same time offering an alternative system [Bietau 2013; Boddenberg et al. 2017].

What the cooperative does is ensure a certain degree of food sovereignty, that people can provide themselves with vegetables. We are a kind of domestic economy. We only commercialize... The word commercialize is wrong in itself, we distribute what grows here among the members. [Interview 3]

Solawis are thus working outside of market-driven commercialization channels and instead achieve a decoupling of commodity and value through their pre-financing and distribution system, in other words, they successfully achieve a de-commodification, where the single vegetable is no longer a commodity, which is also mentioned as a social innovation of Solawis by Bietau [2013] and Boddenberg et al. [2017].

So, I think it's just a really great way of moving away from the classic way of putting a price on things, and instead really focusing more on appreciation. What are things worth to me? What are good vegetables worth to me? What is rural agriculture worth to me, which is disappearing more and more in Germany and worldwide. [Interview 2]

This decommodification results in a change of values compared to common customer values towards businesses. As already mentioned in section 3.3., members get to understand and respect better the natural cycles of agriculture in this region and accept e.g. a more limited range of and even a smaller quantity of vegetables in winter, although they always pay the same price. Plus, members don't even have the possibility to ask for a refund or a similar compensation. This is part of the solidarity lived with the environment.

In addition to that, it was also mentioned in section 3.6. that under Solawi, community decisions are put over individual preferences. Interviewees related how at different instances at the Solawi they identify a new set of dominant values, such as a solidarity with one another or mutual support that members have with one another during the shifts at the pick-up station.

It seems that self-oriented demands are subordinated under community needs and nature cycles, which goes against the logic of the international market, where regardless of climate or social costs almost everything can be bought. This goes hand in hand with the principles of Buen Vivir, that defend the idea of subordinating economic objectives under ecological criteria, human dignity, social justice, and nature rights to overcome the civilizational crisis [Escobar 2015].

Moreover, part of the solidarity between one another is the bidding round where some can choose to pay more to make it possible for others to pay less. This intends to enable access to the Solawi to lower income levels. However, as it was already concluded in section 3.2., the solidarity principle through bidding round is only partly fulfilled given that there are still social classes that the Solawi model has not been able to include, without jeopardizing the finances and functioning of the farm. This is again a further limitation that could be overcome with external financing, that could be linked even to single individuals or households instead of to the farm itself, as one of the members reflects.

So, if you were to imagine that the state would financially support such a Solawi membership. Imagine we're paying €100 a month for a full membership, which is not cheap, I have to say. And I think that's the biggest disadvantage. That would also be really good, simply to make it more accessible to people. Then it's just like it often is with all these sustainable organic products. It's just a middle to upper class that can afford it. You would actually have to make it accessible to the very people who can't afford it. [Interview 5]

Related to the situation of small farms in Europe described in section 2.5., the survival of small farms was a theme present in most interviews. This has to do with small farms not being able to compete under current market circumstances, which leads them to closure. Specially Spörgelhof with its 3,5 hectares would probably not be able to survive if it were not a Solawi.

I would also say that the yield is not yet high enough for the members. It could be a bit higher so that the harvest share costs accordingly. I think [prices] are probably still very similar in the organic store. But we can't compete with supermarkets or anything like that. [...] We're not competitive enough. [Interview 6]

Some farmers argued that the state is even aggravating this situation with subsidies coupled to farm size and/or number of animals that promote bigger and bigger farms, without offering a survival option for smaller, functional, and more ecological farms. The Solawi model offers a way out of this vicious cycle, offering small farms the chance not only to survive but to thrive.

Because subsidies in agriculture are based on land or animals. And that leads to farms getting bigger and bigger. And I think there should be other forms of support. Perhaps there should be more subsidies per worker or something like that. More support so that more attention is paid to the people and less to the materials or machines. Because vegetable growing in particular is a lot of manual work. [Interview 4]

Biodiverse farming is another aspect, where Solawis are more liberated from market constraints given that their objective, which is financially viable under this model, is to provide households and not markets. Furthermore, being ecologically sustainable and providing environmental measures is also a sign of not being constrained to grow, specialize and survive economically, in fact Paech [2020] assigns in his research the small-scale of most Solawis to a higher compatibility with ecological viability.

And that makes our nursery much more biodiverse, which is actually one of our goals, so to speak, and actually much, much more exciting for us farmers, because nothing is more boring than if I'm only allowed to grow one crop, then I can basically go to the factory. But we're dealing with something that's alive. And that's the beauty of it. And that's what we also believe the members will appreciate if we can always grow a wide range of different vegetables. [Interview 1]

Related to that, the interviewees noted that not being pressured to grow endlessly for survival is a crucial aspect and advantage of Solawi. The member of the executive board puts it as follows: "Many Solawis no longer accept members because we also have a certain conviction to be anti-capitalist or anti-consumerist or whatever you call it. So, we only want to grow to a certain extent, which is a good thing. Because fields have to rest and you can't get everything out of it." [Interview 7]. This aligns with the principles of Degrowth theory, which emphasizes sufficiency and in overcoming competition and growth imperatives. Therefore, Solawis, given they have a stable membership base, are a viable alternative model for small farms to sustain themselves without the need for constant expansion.




Conclusion and Outlook

The analysis of the Solawis Apfeltraum Gärtnerei and Spörgelhof e.G. across various facets highlights their significant potential in addressing pressing issues within the food system while also forging novel paths towards sustainability, community-building, and equitable resource distribution. Across diverse domains such as climate and environment, access to healthy nutrition, education, community, fair wages, and market independence, Solawis present both opportunities and challenges that underscore the need for further support and research.

In terms of climate and environment, Solawis demonstrate a remarkable capacity to promote ecological farming practices, avoid food waste at the production stage and provide climate services while simultaneously fostering resilience against the impacts of climate change. However, there remains untapped potential for greater financial support to amplify these initiatives, thus enhancing their positive contributions to climate mitigation and adaptation efforts.

Regarding healthy nutrition and the access to it, Solawis focus on the democratization of food production and food access. However, challenges persist in ensuring inclusivity across social classes despite a solidary financing system. Again, external financial support could help mitigate these limitations and broaden the social reach of Solawi initiatives. Institutional cooperation, e.g. providing schools or public canteens, as the “Ernährungswende” demands, would also be promising for a major access to a healthy nutrition for society at large. The relationship of Solawi members to food, nature, and agriculture is influenced through participation activities and new values, offering an alternative to the dominant corporate-driven food regime by increasing the appreciation of food among its members and by prioritizing personal relationships, ecological sustainability, and community engagement. Solawis serve as educational platforms, fostering consciousness-building about pressing issues related to the food system among members while bridging the gap between urban and rural communities. Yet, this may apply to different extents depending on how active members are and can be, in which e.g. a full-time job may be a significant obstacle. All in all, Solawis fosters innovative learning patterns and community-building. However, there is a recognized need for broader dissemination of educational efforts through political and institutional support to maximize their impact.

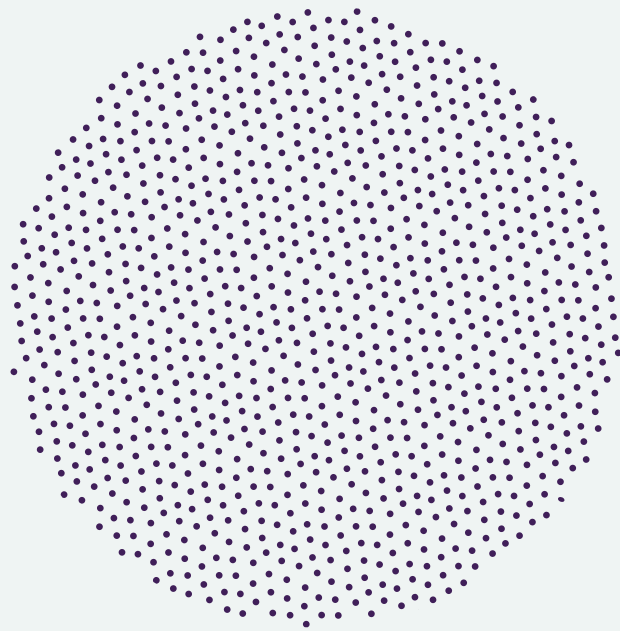
Community participation is integral to the success of Solawi initiatives, with varying levels of engagement influenced by their organizational structures and decision-making processes. In this aspect there is a significant difference between the two types of Solawi analyzed, the co-entrepreneur and the producer-led Solawi. Voluntary work forms the foundation of Solawi operations, especially for co-entrepreneur Solawis, prompting still unanswered questions about e.g. who can afford to work voluntarily and how stable voluntary work is within Solawis, among others.



Moreover, it cannot be argued that Solawis guarantee fair wages and pensions given their lack of economic resources. Nevertheless, they do guarantee a stable income for farmers from the beginning which is independent of market or price developments. Fair wages and how to achieve them are though one of the main topics of discussion in their decision-making processes and it is through their communal decision-making process that fair wages are achieved in the first place.

Lastly, Solawis offer through their financing model a departure from market-driven imperatives and price developments, prioritizing community needs and ecological principles over profit maximization and growth. However, there are instances where they are still exposed to market constraints, considering e.g. the lack of personnel in the agricultural labor market.

Looking ahead, there is still untapped potential for expanding Solawi concepts to other sectors beyond agriculture, where services are provided regularly with opportunities for state support and increased community building. Also, more research could be done to better calculate the significance Solawis have in the whole agricultural sector in Germany. For example, it is still uncertain how many households are being provided by Solawis or how much land is used under Solawi principles. Ultimately, the horizon of a progressive socio-ecological transformation hinges on reimagining production and consumption patterns beyond mere technological advancements, prioritizing sustainability, community well-being, and harmonious relations with nature. Solawis embody this vision, offering a tangible blueprint for a more just and resilient food system grounded in solidarity, community, and ecological responsibility.



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