

Article

Re-Thinking Knowledge in Community-Supported Agriculture to Achieve Transformational Change towards Sustainability

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Abstract: Community-supported agriculture has gained a significant amount of prominence in recent years by offering a more sustainable and morally acceptable alternative to conventional food systems. Their organization offers a modern take on how to manage production by supporting the usage and exchange of knowledge between all stakeholders involved. The leverage points concept argues that re-thinking how knowledge is produced and used in systems is one of the key realms of leverage in which transformation towards sustainability can be achieved. Current sustainability research lacks a focus on deep leverage points that bear great potential for transformational change. This concept, however, revolves around these deep realms of leverage and has not been applied to CSA yet. Thus, a qualitative study with semi-structured interviews has been performed at 22 CSA farms in Germany in order to gather detailed insights on the production and flow of knowledge and analyze if and to what degree these CSAs have the potential to leverage transformational change towards sustainability. This analysis helps to understand how certain mechanisms can influence sustainability in a positive manner and promote the usage of these mechanisms in the agricultural landscape. Ultimately, the data indicates that CSAs do bear great potential to leverage sustainability transformation in regard to re-thinking agriculture. Characteristics that lead to this cognition are a highly cooperative, participatory and transparent structure, characteristics that allow for the creation and exchange of information to flourish.



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1. Introduction

Fueled by concerns such as dietary, health, equity and power, environmental and trade issues, the discussion of sustainability in food systems has gained increased prominence in recent years [1]. The industrialization of food systems has led to an increase in food production and the creation of diverse, international food networks. However, it is widely recognized that this modernized, conventional form of production is not sustainable and brings a variety of negative consequences on a social, economic and environmental scale [2]. Some examples of these consequences are groundwater contamination, soil erosion and degradation and increased food insecurity [3]. Furthermore, there has been a shift regarding consumer behavior. Topics such as health, ecology and animal welfare are gaining importance and are being discussed more frequently [4]. Decoupling of producers and consumers has also been a consequence of the structure of today's food market, creating distance between the consumer, the produce and its production process [5].

As a result of this development, a growing market of alternative food networks (AFNs) has emerged. AFNs are linked to a variety of concepts, such as locality, quality, spatiality, embeddedness, sustainability and short food supply chains (SFSC) [6]. There is no uniform definition of what an AFN is; however, there are characteristics that can be identified at each of them. These characteristics include a variety of steps regarding production,

transactions between stakeholders and consumption activities [7]. The quality of the produce, the relationship between consumers and producers, as well as the marketing of local produce, are set at a high value [8]. Furthermore, reducing the geographical distance between production and consumption is one of the focal points in AFNs [9]. Some examples of AFNs which have emerged in today's agricultural landscape are food co-operatives, community gardens or farmers markets [7]. One type of AFN which implements a multitude of classic AFN characteristics is community-supported agriculture (CSA). According to Venn et al. (2006) [10]'s definition of alternative food networks, CSA falls into the "producer-consumer partnership" subgroup of AFNs. This particular subgroup is defined through the sharing of risk and reward between producers and consumers through either formal or informal agreements [7]. In its essence, this is what defines CSAs. Producers and consumers join as a community and share cost, risk and agricultural yields. Furthermore, the focus lies on the creation of a short value chain. These short food supply chains (SFSC) are characterized by having a reduced geographical distance or less intermediaries [11]. Produce is distributed fresher due to the shortened supply chain; its quality is high and a close relationship between the farm and the customer is built [12]. This supports the local agricultural economy and thus decreases the power of global value chains [13]. Instead of focusing on maximizing profit, the CSA is structured in a participatory structure, leading to the acquisition of new skills and knowledge through room for interaction. This is one of the non-monetary aims that CSAs have [14].

CSA is not an entirely new concept in Germany. The first CSA farm in Germany was founded in 1988 in Lauenburg [13]. However, significant growth of the CSA landscape could first be measured starting in 2010. As of May 2022, there are 398 CSAs in Germany. An amount of 91 more are currently being founded [15]. In 2015 the count stood at merely 78 [16]. Thus, the growth in recent years has been quite substantial. Originally, CSAs were predominantly being established in northern Germany [17]. With the growth of the movement, however, the distribution of CSAs has shifted; they are now located nationwide. The international trend of growth in AFNs such as the CSA scene is clearly reflected by its development in Germany [13]. The call for a more sustainable agricultural landscape is getting louder and alternative business models are gaining importance. How do business models such as CSAs contribute to a transformation to sustainable development?

In an attempt to tackle sustainability issues, many approaches fail to address the root cause of unsustainability. Abson et al. (2017) [18] argue that most sustainability interventions in systems nowadays are implemented in areas that are too weak to leverage substantial change. One key area that Abson et al. (2017) propose, which should be focused on regarding sustainable, transformational processes, is the utilization of knowledge. The process of re-thinking how knowledge is gathered, utilized and shared amongst stakeholders is of undeniable importance [19] and is one of the key areas that must be approached to set sustainability transformation in motion [18]. The leverage points concept has been applied to a multitude of systems; however, it has not been applied to the CSA system yet. Due to CSA's gain in prominence, it is of great importance to thoroughly analyze its characteristics and determine how it can affect sustainability in agriculture. Thus, the following research questions arise: Does the CSA concept have the potential to leverage sustainability transformation by re-thinking knowledge, and if so, to what degree? Which deep leverage points can be identified within the design and intent of the CSA system and how do they promote the creation and dissemination of knowledge?

The findings illustrate that CSAs generally bear a great amount of potential to leverage sustainability transformation. However, the potential differs in relation to the organizational structure of the farm. Although both consumer- and producer-driven farms have strong levers integrated into their system, consumer-driven farms possess the strongest levers to successfully re-think knowledge related to sustainability.

2. Theoretical Framework

The theoretical framework of this paper is based on the “leverage points to sustainability transformation” concept by Abson et al. (2017) [18]. Their concept builds on Donella Meadows’s system analysis theory, which is presented in “Places to intervene in a System” [20]. Its quintessence is that to change a complex system one must target “leverage points”, places within a system that allow different degrees of change to occur. Meadows argues that there are 12 places in which one can intervene to change a complex system. These leverage points possess varying degrees of effectiveness [20]. On the one hand, there are “shallow” places. Interventions in shallow places are relatively easy to implement. However, they merely bring little change. At the other end of the spectrum, there are “deep” leverage points that have the potential to cause substantial, transformational change in a system. These are, however, more difficult to alter [18].

Abson et al. (2017) group the 12 leverage points into four system characteristics categories, which are parameters, feedbacks, design and intent. These are also categorized from shallow to deep leverage points. For transformational change to occur the most influential points to leverage are design and intent, also known as deep leverage points. Parameters and feedbacks include shallow leverage points [18]. Parameters entail mechanistic characteristics such as the structure of material stocks and flows, which are usually targeted by policymakers. Feedbacks describes the interactions between elements within a system. Design is constituted by social structures and institutions that control feedbacks and parameters. Lastly, intent deals with goals, values and norms of stakeholders and what influence they can have on a system [18]. Abson et al. (2017) [18] interject to Meadows’s leverage points theory by adding three realms of leverage which they believe are of great importance regarding achieving transformational change. The first one, “Re-structure”, is the role of institutions, institutional reform, collapse and renewal. “Re-connect” targets how people interact with nature and what the resulting sustainability outcome is. The third realm, which is the focus of this paper, is “Re-think”. This realm of leverage is focused on knowledge and how it influences transformational processes.

According to Berkes (2009) [21], the way in which knowledge is used, created and shared can have a great influence on transformational processes, therefore changing the way a system functions. Therefore, all these processes must be considered when analyzing a system and its transformational potential. The theory of path dependence states the assumption that humans tend to make decisions based on previous experiences since history matters [22]. Past events result in feedback loops which influence future decisions. Abson et al. (2017) [18] believe that considering these path dependencies in regard to how knowledge is perceived and produced could be essential for achieving sustainability transformation. In many cases, existing systems rely on path dependencies and institutionalized knowledge. This type of knowledge typically provides a safe, proven route. However, relying on traditional methods can hinder development by ruling out modern, promising alternatives [23]. One must depart from exclusively relying on institutionalized knowledge and best practice examples in order for new knowledge to flourish. Apart from the creation of new knowledge, sharing knowledge leads to an increase in human capital and the triggering of transformational processes. In the case of CSAs, it can, for example, better stakeholders’ agricultural skills and increase knowledge about agricultural practices [24]. Transformation in sustainable development requires individuals to develop competencies and change their consciousness [25]. As Balsinger et al. (2017) [26] stated, societal transformation can only occur with the condition that individual transformation precedes it.

Although the realms of leverage set a different focus, they are not fully independent from one another [18]. Regarding knowledge, the deepest realm of leverage may be the design of a system. This can, however, also be influenced by or alter parameters, feedbacks and the intent of a system. The leverage points perspective examines interactions between shallow and deep system changes. Although the deep levers should primarily be targeted, it can also be necessary to first intervene with shallow leverage points in order to unlock

changes in deep realms of leverage [27]. Abson et al. (2017) [18] argue that with the purpose of re-thinking knowledge for sustainability transformation, one must identify the goals of a system (intent), as well as understand the methods and means of getting there (design). The complex interplay of system characteristics and the corresponding leverage points should be kept in mind when analyzing a system [28]. This paper will attempt to reflect this suggestion. However, the focus will be set on the core of re-thinking, and thus the system characteristic “design” of the CSA model. The intent of the CSA system in relation to knowledge will also be examined due to its undeniable close link. Analyzing all three realms of leverage would be too extensive of a task if analyzed in detail and therefore lies out of the scope of this paper. Instead, analyzing one realm in an extensive fashion appears to be the most sensible option.

3. Materials and Methods

Applying the leverage points concept by Abson et al. (2017) [18] to CSAs is an innovative approach to analyze the potential of the leverage points in regard to knowledge in order to achieve sustainability transformation. The data collection was carried out through semi-structured, qualitative interviews with owners, farmers, members and employees from 22 different CSAs in Hesse, Germany. The interviews took between 45 and 75 min and were mainly conducted by telephone or a Zoom call. Two interviews took place directly at the farm. Data collection took place from 21 July 2020 to 20 January 2021 and was carried out by the author Julius Max Meyer. The interviews were recorded with an audio recorder and subsequently underwent an edited transcription. After completing the interviews, the data was coded with the transcription software “Taguette” and analyzed through various analytical categories. These analytical categories are based on the concept of Abson et al. (2017) [18]. Overall, the data was sorted into 43 categorical codes which were sorted into different scales. The three overarching categories are re-think, re-structure and re-connect. One level below these categories are the sub-categories stakeholders and structures, initiation and development, networking, financing, production, distribution, public relations and education and future development. These categories are split into the remaining 32 more definitive sub-categories. The topics do not only give substantial information on the current state of the farms but also provide information on their development, why certain decisions were made and how these affected the farms. The region of Hesse was chosen since it has a large number of CSAs with a wide range regarding the age of the farm and the geographical distribution of the farms allows for analysis regarding networking of the farms. Since CSAs in Germany have a high degree of communication nationally, work under the same EU and nationwide institutional guidelines and are connected over an online network, the prospects are promising that the results in this study can be applied to not just Hesse, but the entirety of Germany. Since this study collects its data through qualitative interviews which take a great deal of time and therefore deliver very detailed and extensive information on the farms, interviewing 22 farms is a sensible amount. This number of interviews allows one to gather a substantial amount of information which suffices to answer the research questions. Since the interviewed stakeholders were very unanimous with their answers to the interview questions, it legitimizes generalization of information. In some cases, very few interviewees had strongly diverged opinions on certain topics. However, these were exceptions and did not influence the overall trends analyzed.

The information gained from these interviews will be set into context with Abson et al. (2017)'s [18] concept of leverage points, focusing on the deep realm of leverage labeled “Re-thinking”. Table 1 summarizes some key data from the interviewed farms.

Table 1. Framework data on the interviewed farms (author’s own work).

Farm #	Founding Year	Share Count	Producer- (P) or Consumer-Driven (C)	Certification of Produce	Pure CSAs (P) or CSA as a Business Branch (B)	Producer Count and Type
1	2017	85	C	Bioland	P	1 horticulturist
2	2016	75	P	Bioland	P	2 horticulturists
3	2020	28	P	Bioland	B	1 horticulturist
4	2016	80	C	Demeter	P	1 horticulturist
5	2011	120	C	Bioland	P	1 farmer with a changing team (seasonal workers + horticulturists)
6	2016	90	C	none	P	2 horticulturists
7	2017	50	P	Demeter	B	2 farmers, couple of gardeners
8	2016	73	P	Bioland	B	Multiple farmers
9	2011	130	C	Bioland	P	5 horticulturists
10	2018	60	C	none	P	1 horticulturist
11	2013	180	P	none	P	Multiple horticulturists
12	2010	255	C	Bioland	P	Multiple horticulturists
13	2016	550	C	Demeter	P	Multitude of farmers, gardeners and further producers from cooperations
14	2018	90	P	none	P	1 horticulturist
15	2012	250	C	none	B	1 horticulturist and a couple of employees (seasonal workers)
16	2017	90	C	EU-Bio	P	1 farmer
17	2019	60	P	None yet, EU-Bio planned	B	2 horticulturists
18	2006	150	C	Bioland	B	Multiple horticulturists
19	2013	170	C	Bioland	P	1 farmers and a couple of employees (gardeners and seasonal workers)
20	2020	90	P	Bioland	B	Multiple farmers and horticulturists
21	2016	30	P	none	B	Multiple farmers
22	2017	30	P	Demeter	P	Multiple horticulturists
Total			P:10 C:12	Bioland: 10 Demeter: 4 EU: 1 None: 7	P: 14 B: 8	Horticulturist farm: 13 Farmers farm: 3 Mixed farm: 6

The way in which knowledge is produced, used and shared in CSA in Germany will be analyzed and interpreted. Are interventions being targeted at deep leverage points and does this suffice for transformational change? Where are these leverage points located and what is their output? After reviewing the importance of knowledge at CSAs, the first topic examined through the empirical data will be the structural elements of CSAs and how knowledge affects them. Furthermore, the knowledge of the stakeholders involved in CSA, split into consumers and producers, will be analyzed. Afterwards, the empirical data will analyze the short steps of the CSA supply chain and its relationship to the stakeholder's knowledge. Apart from the production and consumption processes, there also exist a multitude of additional structures integrated into CSAs, which fall into the category of education and knowledge. Lastly, the focus will shift to how knowledge is used not only in the CSA but also between CSAs, albeit through informal communication or the institution "Netzwerk Solidarische Landwirtschaft" (Network for CSAs). The findings will be summarized, and a conclusion will be drawn on how the utilization of knowledge might lead to sustainability transformation in CSAs in Germany.

4. Importance of Knowledge at CSAs

Access to knowledge is one of the key factors that determines how successful a CSA project will be [29]. Since the original concept of CSA heavily involves all of its stakeholders in the farm's activities [13], every member and their contribution to the farm is of importance. However, various new forms of CSAs have emerged over time [13], which results in the alteration of dynamics between stakeholders and to what extent their knowledge is relevant to the farm's development. According to Ravenscroft and Taylor (2009) [30], there are six different types of CSAs in existence. They are categorized as rights-based share farming, needs-based share farming, seasonal direct farming, multifarm CSAs, community buying groups and community-owned social enterprises [30]. These can, however, be broken down into two overarching categories, the first three being consumer-driven and the latter being producer-driven farms [31]. Due to the availability and number of farms that could be interviewed in this data collection process, it is most sensible to differentiate by these two categories.

Producer-driven CSAs are farms that are generally managed by and have been initiated by a farmer. Members are welcome to help at these farms. However, it is not required [32,33]. A popular genesis of producer-driven CSAs is a farm that initially distributed their produce to the open market and later decided to restructure their farm to a CSA for various reasons. Consumer-driven CSAs, on the other hand, are initiated by a group of consumers. Usually, consumers find themselves as a group and either find someone who is willing to produce for them or they take the production into their own hands. A core group of members then usually gathers and takes on most tasks [32,33]. When analyzing the creation and exchange of knowledge in a CSA, these distinctions should be considered since the results might differ in relation to the different circumstances. Due to the structure of a CSA, there are various places in which the creation and exchange of knowledge is enabled. Structural elements, governance and organizational tasks, as well as all steps in the supply chain offer room for exchange and are organized in a collective fashion [34]. The producer-consumer relationship is strengthened through this structure, which results in enhanced knowledge transfer and community building [14]. Furthermore, education is regarded as highly important by most CSAs. Educational offers inside and outside of the farms intend to educate people on a variety of topics regarding farming, sustainability, natural practices, etc. [14,34,35]. Exchange of knowledge, however, does not only take place between the stakeholders within a CSA. It can also occur throughout different CSAs and the public. Networking, collaboration and exchange of knowledge between CSAs also play a big role in its success [36]. This is due to one of the fundamental goals of CSA, which is the ambition to cooperate instead of competing [37]. Collaboration with multiple stakeholders from the supply chain is vital for the exchange of knowledge and practices and leads to the accumulation of collective wisdom and therefore supports sustainability transitions [38].

5. Results

5.1. Structural Elements of the Farms and Knowledge of the Stakeholders

One property that all CSAs have in common is the high degree of transparency in their structure. It is one of the key characteristics of CSAs and can be seen through the entire organizational framework. The farms are organized in a way that allows a high degree of interaction, supports exchange and creates an environment in which knowledge creation can flourish. Figure 1 summarizes all internal and external structures embedded in the CSA system which are highly influential for the creation and dissemination of knowledge. These structures will be analyzed in the following sub-chapters.

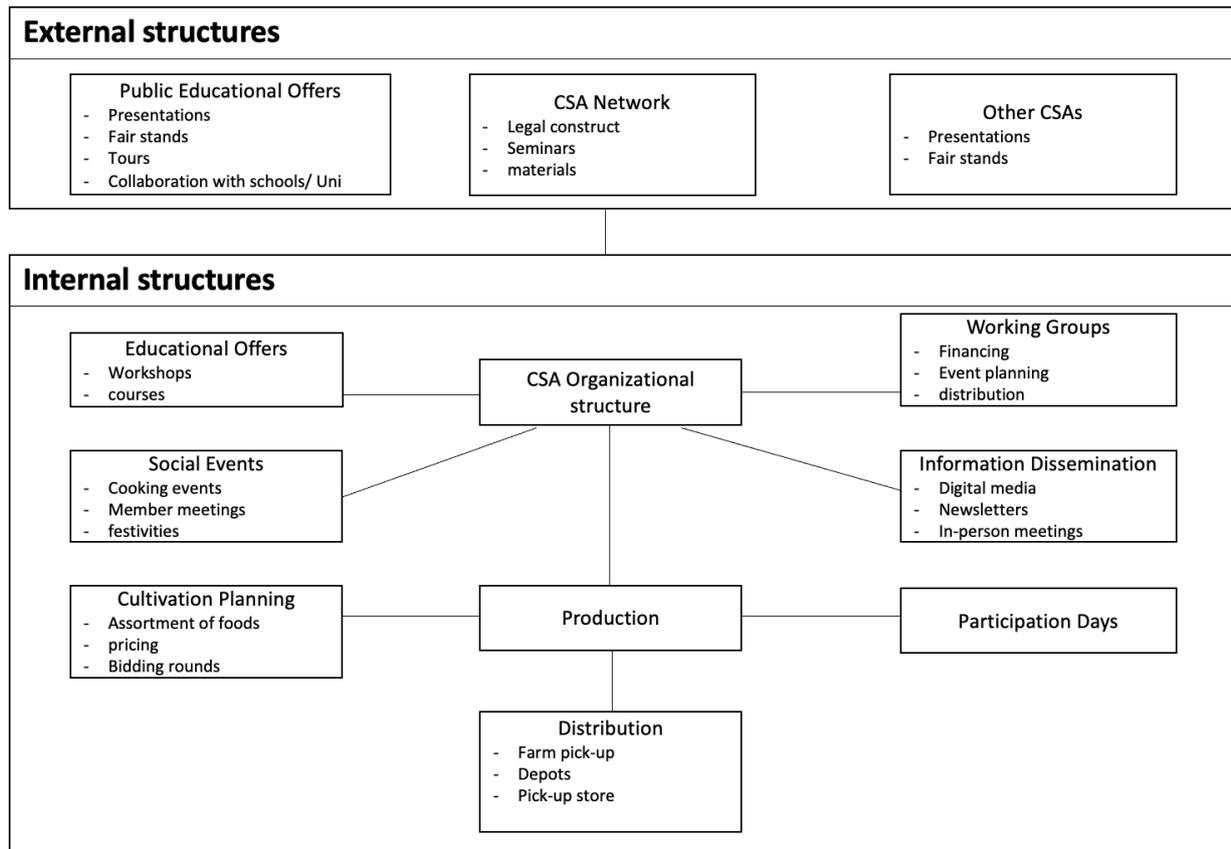


Figure 1. Internal and external structures promoting the creation and dissemination of knowledge within the CSA system (author's own work).

A large portion of CSAs, especially consumer-driven ones, consist of various groups, which lay out the organizational foundation for the farm. These can either be legal bodies, such as an executive board, or working groups which can be joined by members voluntarily. These participatory structures allow people to be proactive members of the CSA, not only receiving information and produce, but also being able to take part in decision-making, organizational tasks and taking part in production and distribution, therefore influencing the future development of the CSA. Classic examples of topics which these working groups are responsible for are transport, cultivation planning, event management, etc. Numerous CSAs stated that the members are encouraged to actively participate in the CSA and integrate their knowledge in the most effective way possible. This is also enforced by the legal construct of many CSAs. Most farms are registered associations or similar legal constructs in which the members have a high degree of power. Thus, collective gathering and utilization of knowledge is enforced. The farms unite groups of stakeholders with diverse backgrounds who work in various sectors and have different experiences, therefore accumulating collective knowledge.

With respect to the methods of distribution of information, there is an array of options that the CSAs make use of. Apart from in-person interactions at or outside the CSA, which is the primary method of communication, most farms offer a variety of digital media to distribute information from the CSA or allow exchange between the stakeholders. Many CSAs have created their own websites, Facebook pages or Instagram accounts. These are usually updated with regular information, informing the members regarding new occurrences and developments on the farm. Furthermore, many farms write regular newsletters or blog posts to update the members or get into an exchange with them. The farms implement this with the purpose of offering full transparency and they intend to consider the member's feedback and opinions when planning forthcoming measures for the development of the farm.

“The members can always voice their wishes and give us feedback on our work. Especially in the beginning of our foundation phase it was very important to us to receive feedback, criticism or praise. Then we can make changes accordingly”.
(Farm 8)

Since both producers and consumers take part in the maintenance and development of the CSA, it is paramount to analyze the knowledge they possess and how it is utilized. The majority of the interviewed farms had horticulturists working at them who had gone through classic horticulture training. Other farms have trained farmers taking care of production. In some cases, there is a combination of farmers and horticulturists. Horticulturists and farmers possess very different expertise in production due to their distinct training. The training of horticulturists specializes in the cultivation of a diverse assortment of produce in a small field. Horticulture generally deals with fruits, vegetables and ornamental plants [39]. In the case of CSAs, it is vegetables which are predominately grown. This renders horticulturists very fitting for CSAs which intend to grow vegetables and fruit. The training of farmers, however, focuses heavily on the intense cultivation of a few different crops in big fields, resulting in more output. As opposed to horticulturists, farmers have learned how to hold livestock in their training [40]. Horticulturists usually do not possess the skill, nor the allowance to produce certain livestock. This limits the CSA's assortment of skills and allowance they have through their producers.

The composition of the laborers is usually based on the history of the farm. Consumer-driven farms often hire horticulturists to work at their CSA. This is due to the fact that a horticulturist's qualification suits a small-scale CSA best. The majority of CSAs which are run by farmers are typically farms with bigger fields and are used to produce for the open market. These farms eventually transitioned to the CSA system or at least managed part of their farm as a CSA. Given that there is no set standard of production, and certification is not required at CSAs, there is no standard regarding the education of the producers. Thus, the farms can produce the foods in adherence with the existing knowledge and in compliance with the food safety laws in Germany. On top of their training, many producers have stated that they have attended various training courses and events to enhance their skills and learn more innovative, sustainable methods of cultivation. An example of this is the market garden, which is being experimented with by a couple of CSAs. Since the members are typically employed in other sectors than agriculture, their knowledge regarding farming practices can be very limited. In some cases, they attempt to enhance their knowledge by studying literature or visiting educational events. Furthermore, producers from the farm occasionally organize educational activities in which they teach the members the basics of agricultural practice. This especially occurs when members visit the farm's participation days. Many farms have also reported that the more experienced members like to pass on their knowledge to the less experienced or inexperienced members.

Members are also encouraged to bring their personal skills and experiences to the farm. An example of this is a member who works in IT, who was put in charge of the creation and maintenance of the farm's website. This especially applies to the consumer-driven farms, which do not have as many professionals hired. Thus, they try to compensate for missing expertise with help from the members. They are then set in charge of things such as the

organization of meetings and events, accounting, distribution of the produce, cultivation planning, various working groups, etc.

“Apart from the core group we have a logistics group, who take care of the distribution of the produce. Then we also have a community group, which organize different social events and similar things. Now for example for Christmas they set up a Christmas tree. And now we are attempting to create a public relations group, which can for example improve our website, which can really be improved upon.” (Farm 10)

Generally, producer-driven CSAs bear a lower degree of member involvement as opposed to consumer-driven ones. Certain steps that they defined as crucial for the CSA’s success such as cultivation planning and financing are completed by the paid, professional employees, who underwent training in their respective fields. The lack of knowledge and experience is seen by some CSAs as too much of a risk, endangering the success of the farm. Success in this case does not mean substantial economic growth, but survival with a comfortable economic position. Participatory structures are seen as a potential threat to the longevity of the farm. A multitude of the interviewed farms mentioned that they lack professionals and thus run into some problems at times. A lack of knowledge regarding crops and cultivation, for example, can result in a bad harvest. Insufficient experience in accounting can lead to financial difficulties. Another example is the receipt of funding. Usually, there are some opportunities for CSAs to receive funding for their farm. However, due to a lack of knowledge, these funding opportunities are hardly accessed. Although the members at these farms are excluded from these tasks, the producers do not necessarily fully exclude the members from the farm’s organizational structures and nevertheless attempt to involve them in other activities. Most farms initiate a variety of events and forms of social interactions in which the members can be proactive, exchange knowledge and involve themselves in the organizational structures of the CSA. Such events can be summer festivities, participatory harvesting days, educational courses, cooking events, etc.

“It is sort of semi-pro-typical what we are doing here. That is also one of the special things about our farm, that we are not connected to a farm which produces for us. We are pretty much doing everything by ourselves. Thus, it can get a little bumpy here and there.” (Farm 10)

A couple of CSAs also mentioned that the assistance of the members is indispensable since they do not have enough paid laborers. Therefore, they rely on the assistance of the members and suffer from a lack of experience and expertise. The lack of laborers is either due to missing capital or also a shortage of horticulturists. Many farms reported that it is a huge issue to find a horticulturist for their farm and it can take months to find new laborers.

The way the CSAs are designed and the stakeholder’s knowledge is utilized and shared, deep levers regarding re-thinking knowledge can be identified. The transparent, participatory structure of the farms grants all stakeholders access to information regarding various structures of the farm. Not do they only receive access to this information, but they are also enabled to contribute to the knowledge pool, albeit through in-person opportunities or digital platforms. This is connected to a new power dynamic, which can be seen in a large number of CSAs, especially most consumer-driven ones. Having a consumer-oriented legal body empowers the members, decreases hierarchies and increases the production and flow of information. Regarding the stakeholders and their personal knowledge and experiences, a similar conclusion can be drawn. Through the transparency of the system, consumers learn why certain produce can be produced at their farm and how this is connected to the knowledge of the producers. Furthermore, they can enhance their own knowledge through an exchange with other members and producers at the farm. This leads to an increase in knowledge regarding regionality and strengthens the relationship between producers and consumers, therefore triggering transformation towards sustainability. Producer-driven farms likewise have a high degree of transparency. However, most knowledge is handed

down from the producer to the consumer. Overall, the consumer has a more passive role and cannot incorporate his knowledge and experiences as much into the CSA.

5.2. Knowledge along the Supply Chain

What makes CSA quite unique as opposed to other distribution systems is the fully transparent supply chain. To fully grasp the relevance of knowledge in CSAs, the following section will take a detailed look at the different segments of a CSA's relatively short supply chain and analyze how knowledge is utilized and how elements of re-thinking are present.

Regarding production, the transferal of knowledge begins with the assortment of the produce. Most CSAs decide upon their assortment based on their experience, training, available resources and on what can be grown best in accordance with the natural circumstances, therefore promoting sustainable action. The assortment's composition and the reasoning behind it are generally explained at a member's meeting. Through these explanations, the members have a chance to learn more about regionality and how certain produce grows best. Since the CSAs intend to drive interaction with their members and lay their opinions at a high value, they design surveys, asking the members for feedback regarding the assortment. If the members, for example, suggest a crop that has a high demand and can be produced in accordance with the natural circumstances, it is usually integrated into the plan. It is a balancing act between the members' wishes and what makes sense ecologically. A couple of CSAs even have groups that are responsible for the creation of the cultivation plan. The CSAs emphasized that this feedback is very important to them since the members' satisfaction strengthens their relationship, supports the ideology of transparency and also increases the chance of contract renewal in the upcoming season. The farms also reported that the feedback rounds can be quite challenging for them and that it is impossible for them to meet the needs of all the members. In a lot of cases, there is no clear consensus, leading to the farm not modifying the cultivation plan at all. In some cases, however, the feedback has inspired changes, improving the CSA further by catering to the member's wishes.

"Some people want this, while others want that. Then it just ends in a back and forth. And it isn't easy to find a consensus with so many members and their different opinions. These want more from this produce and those less from it. So, in the end it often just stays the way it was beforehand. But every now and then there are some Ideas that can lead to changes in the assortment." (Farm 5)

In producer-driven farms, the assortment is primarily determined by the producers. They are open to feedback and explain their assortment to the members. However, the members do not have as much influence on what is produced.

Due to the transparent design, informing and showing the members how foods are produced and certification of the produce becomes superfluous. A few CSAs have reported that at times new members do ask if the farm has any food certifications. In response, the farmers explain to them the essence of the CSA concept, show them the production standards at the farm and thus convince the people of their production methods. Most people can comprehend this logic and are therefore no longer interested in the certification of the produce. This changes the members' perception of how sustainability is measured. They no longer feel the need to trust in labels and can instead trust in the production process by physically seeing and participating in it. The production and harvest or processing of the produce is usually done by the producers. Some CSAs additionally attempt to involve their members in these steps, especially the ones that do not require too much expertise and experience. If they do not wish to assist with the production, yet still want to inform themselves on the production, they are free to visit the farm and educate themselves on the production process of their produce. Many farmers stated that they are delighted when members show interest in the production and are happy to explain it to them in detail. This transparency also translates into the pricing of the memberships. The members are presented with the different steps of production in accordance with how much they cost.

Thus, members can comprehend how the costs are related to the production and which individual steps lead to the final price.

“Due to the transparent production the members can see all the steps and involved work which goes into farming the produce and thus they can understand how the price of their share is composed.” (Farm 14)

Through this, the members learn how much food is actually worth and that its price can vary in relation to how successful a season is going and what influence natural circumstances have on production.

Next comes the distribution of the product, which is organized in a way that reinforces the exchange of knowledge. The laborers at the CSAs have highlighted that this social interaction is very important to them, especially at the depots which are centrally located between the members, and support this interaction. Depots are locations at which the produce is deposited from the farmer. Typically, the produce is split into different containers and must be weighed, counted and collected by the members themselves. A list at the depot provides them with information on how much produce is calculated per person. This interaction at the depot can lead to the exchange of knowledge regarding the produce, its cultivation, preparation, etc. Next to the depots, which primarily encourage social interaction between members, the farm pick-ups enable interaction between the producer and consumer. Farmers have reported that these interactions offer a good opportunity to inform the consumers about current topics regarding the farm, produce, etc. A newly established form of distribution is the pick-up store. An increasing number of CSAs are implementing this concept or are planning on incorporating it into their CSA in the future. These stores attract attention from external people, who visit the store and thus learn of the CSAs concept. This offers the farm an additional method on how to convey the concept of CSA to even more people, teach them how it works and potentially find new members for their farm.

“This means that there, people just come in, pick up their share and leave. At the same time, there is also a possibility to attract passing customers and find out: “Oh, why is he not paying? Ah, this is another system” and this is a possibility, which is not given with the depot structure. This system offers a sort of hinge between farm and the public. A person from our farm can spread information about our system and farm. There is a lot of interaction and spreading of information, which is extremely important to us.” (Farm 13)

The supply chain of the CSA is characterized by structures that support and promote the production and exchange of knowledge. Throughout every step of the chain members have access to its defining information and in the case of consumer-driven farms, furthermore, have the power to influence decision-making and its development. Integrated feedback loops, such as a questionnaire on the assortment, enable change in the system and create a certain transformational dynamic. Through these transparent structures given at a CSA, the members can enhance their knowledge regarding agricultural practice and the worth of food. As opposed to, for example, buying a product in the supermarket and not knowing the details about the origin of the product and its pricing, members of the CSA can easily access information on the production of their food and how the assortment, as well as the pricing, is determined and how it came to be. This increases the members' knowledge of sustainable action and can influence their actions in the future.

5.3. Sharing Knowledge through Educational Offers

Education is a topic that is highly valued by most CSAs. Many of them have it written in the constitution of their association, pursuing and promoting it actively through various offers and methods. Regarding the content of these offers, there is a wide array of topics and methods of how they are conveyed. This ranges from events that present and portray the CSA concept in general and how to produce food, to specialized courses which show members how they can process wool.

The reasoning behind this includes multiple factors. On the one hand, people should be reconnected to nature by learning about its production and gathering firsthand experiences regarding production. This demonstrates to consumers how much work goes into agricultural practices, therefore increasing their appreciation for the producers and the entire production process. Some offers include more detailed information on different agricultural and natural practices. These are meant to increase the members' knowledge regarding nature and sustainable practices, which includes the common topics directly linked to CSAs. Educating the public in these areas can have a transformative effect, changing their lifestyle and evolving their mindsets to a more ecological one. Many CSAs mentioned that this is particularly important when interacting with children, since they will shape the future of the world.

“Especially with young people it is very important to do something. I mean, they are the ones to take over in the future and thus it is very important to steer them into the right direction at a young age.” (Farm 14)

A couple of CSAs highlighted that they hope to provoke political action through the growing CSA movement. Since political decision-making sets a framework for agricultural practices and has a great influence on the development of the market, the CSAs see an opportunity to steer their decision-making into a more sustainable direction, inspired by CSA and similar concepts. They hope that politicians will recognize their movement as a sensible and successful form of agriculture and will thus increase their support towards CSAs and similar forms of alternative food networks in the future. Thus, educating people about this concept is of immense importance to a great deal of CSAs. Other than teaching their members about the benefits of their farming practices, most CSAs aim to influence the food market and potentially shift it into a new, more sustainable direction. Furthermore, these educational offers intend to help members or potential members to better understand the concept of CSA, teaching them the meaning of regionality and seasonality and how to adapt their lifestyle or cooking habits to it. This lets the members comprehend why the CSA's assortment is limited to the region's natural conditions, as opposed to the assortment in supermarkets, which often derive from highly fragmented, international value chains [41]. Once people have a full understanding of this, the chances of them joining a CSA are higher, and in case they already are members, the chances of them leaving after the end of the season decrease. Another great factor is the publicity of the CSA concept. By offering educational activities to members and the public, the CSA gains the attention of the public and can grow. The success of this can be seen by looking at the statistics of the increase in total CSAs in Germany [15]. Another reason that was mentioned by a multitude of CSAs is the social aspect of having these offers. This especially concerns the CSA's internal offers, which exclusively include members. By visiting these activities regularly and interacting with members and producers, the sense of community and personal connection to the farm grows. These educational events are organized in various forms, depending on the farm's ambitions and resources. These can be internal events with members, cooperations with other institutions or public events.

Regarding internal events at the CSA, various sustainability-related, informational, production- and processing-related educational and social events are offered. Some examples are a scythe course, insect habitat workshops and wool processing courses. These activities are usually planned exclusively for members and are free of charge. In some cases, however, they are open to the public and require a participation fee. A very common occurrence at CSAs is cooperation and activities with educational institutions. Especially schools were mentioned particularly often. The form of this cooperation is very versatile. Single tours at the farm, holiday programs, weekend workshops and even continuous partnerships were mentioned. An example of a partnership is a school that lies directly adjacent to a CSA. The students can work together with the farmers, helping them with their tasks and learning different skillsets; for example, how to cut up different produce and cook with it.

“Especially with schools we work a lot together. We invite students to our farm and do full-day workshops with them, teaching them how agriculture influences climate change and similar topics. Our entire registered association is very active regarding this.” (Farm 8)

Another CSA is cooperating with a university, offering agricultural courses for the students. In some cases, certain educational activities are funded by the state, giving the farms an additional incentive to promote education.

Additionally, CSAs participate in or organize events outside of their farm. They participate in fairs regarding climate change, sustainability, agriculture and related topics. The CSAs usually have their own booth at these events in hopes of finding new members for their farm, spreading the concept among society and supporting sustainability-related projects. A couple of CSAs mentioned their cooperation with political parties, who were organizing events in which innovative forms of agriculture were presented to the public. However, the involved CSAs were very cautious in this regard. Although they do intend to provoke political action, they do not want to be instrumentalized by and affiliated with certain political parties. Most educational activities are offered by either the producers at the farm or members who are highly involved with the activities of the farm and are often also employed by the farm. This depends on the motivation, time and knowledge of the stakeholders.

Regarding these educational activities and their implementation, merely two problematic developments were mentioned frequently. One of them is the actual implementation of the activities due to time constraints. Since the farmers are often busy with agricultural tasks, they do not have additional time to offer educational activities. The same is the case for the members, who are fully occupied with their professional and private lives. Since the educational activities are often not monetized, the production is prioritized. A substantial number of CSAs mentioned that they wish they could increase their activities in this area; however, they currently neither have the time nor the people willing to administer this. Thus, not all CSAs have a continuous offer of educational activities. This especially applied to the producer-driven farms. Both consumer- and producer-driven farms hold education at a high value and attempt to implement it into their farm. However, the producers at producer-driven farms are so busy with the produce that they hardly have or do not have any time left at all for educational activities. Consumer-driven CSAs more often can find members who are willing to engage in this regard. Many CSAs have stated that they are planning on expanding educational activities in the future once they have financial stability, a stable consumer base and more time and capacity for education. The farms have reported that demand for certain activities is very high. Especially schools contact the farms frequently. Thus, expanding this part of the CSAs is regarded as a very sensible step for many farms. The second issue is the attendance count at certain events. Particularly internal, member-exclusive events at times suffer from a low attendance count. In some cases, ongoing courses were canceled due to decreasing attendance. There is no clear answer to why this is the case. However, the producers assume that the members are simply not interested in additional activities and would rather solely pick up their produce. Another explanation could be the lack of free time, which also influences the members' professional involvement with the farm.

Despite the difficulties that some CSAs bear with the implementation of their envisioned educational activities, plenty of CSAs contribute greatly to the production and transfer of knowledge. Not only do they educate members involved in their CSA, but also external stakeholders. Especially children are the focus of many CSAs, with the hopes of triggering a societal transformation in future generations. This design choice portrays the intent of the CSA system, which communicates sustainable goals and values.

5.4. Networking between Farms

Knowledge is not only exchanged between the stakeholders within a CSA but also between different CSAs. When asked about their interaction with other CSAs, the exchange

of knowledge emerged as the most important and common point. The majority of CSAs do establish and maintain contact with CSAs that are in close proximity. Especially when there are newly founded CSAs, the farms tend to assist each other by exchanging knowledge, suggestions and experiences. This is due to the fact that CSAs do not tend to see each other as opposition. Instead, they mean to grow the CSA scene by assisting each other, making use of and enforcing locality and thus growing the scene together. Merely one case was mentioned in which two farms were competing. This was stated in regard to acquiring a horticulturist, which had switched from one CSA to another. This can be explained by the substantial lack of laborers in horticulture, which in this case resulted in competition.

During the interviews, plenty of farms mentioned the Network for CSAs. This is an organization that offers a variety of services for farms and tries to expand the evolution of the CSA scene in Germany. The network has a variety of stakeholders working for it, who are very experienced with CSAs. The service that was mentioned most by the interview partners is the consultation sessions. In these sessions, the CSA founders lay out their vision and explain to the consultant how they want to build their CSA in accordance with some general conditions. In conformity with their information, the consultant adapts the best possible plan and provides the CSA with valuable information and materials. One very important topic that is typically tackled first is the choice of a fitting legal construct for the CSA. Since there is a variety of options regarding the legal construct, it is crucial to discuss the needs of the founding CSA and choose a legal construct that coincides with the CSA's ideas. Next to consultation, the network offers a variety of materials such as sample contracts, cultivation plans and advertising media. Furthermore, the network aims to, as the name insinuates, create a nationwide network of CSAs, hoping that CSAs will assist each other and spread the concept as a unit, therefore creating a more sustainable agricultural landscape. Most of the CSAs make use of the network's offerings and visit regular meetings, which serve the purpose of exchanging information and experiences and discussing current topics. For the purpose of strengthening regional collaboration, regional groups have been established that conduct specialized meetings for the regional CSAs. Many CSAs have revealed that this exchange of knowledge is of great assistance and helps the development of their farm.

"It is also very good to make sure: Are we doing everything correctly? Are we on the right path or are we doing complete nonsense? It is important to gather ideas for solutions, which all the CSAs are having." (Farm 15)

When asked what the CSAs think of the network and what role it played in their development, the resonance was predominately positive. This especially concerns the consumer-driven CSAs which were newly founded and started with the network from the beginning. Since these farms are consumer-based, in many cases they do not have the expertise that is required to found a farm themselves without the assistance of other stakeholders. Other farms already possessed a legal construct, expertise, laborers, crops and cultivation plans before they decided to add CSA to their business branches or transform into a CSA. Thus, they did not require as much assistance as the newly founded farms. However, the majority of them still visit the meetings to connect with other CSAs. Furthermore, all of the CSAs stated that they support the network in their public relations work and believe that they are a big contributor to the growth the CSA scene had recorded in recent years.

"The network really does great work and in the end everyone profits from it. By now a lot of people know of the concept. Their public relations work is great." (Farm 11)

The flow of information is not limited to the individual CSAs. As the interviews showed, the production and sharing of information transcends the singular CSA and spreads across local or even nationwide networks. Meetings with members and producers of other CSAs allow the exchange of information and create feedback loops, potentially leading to a change in parameters. Knowledge is seen as a collective resource, which is to be produced and shared by all stakeholders involved in the CSAs. This is also a result of

the intent of CSAs, which do not aim at economic growth but rather offer a sustainable, fair option to the mass production of conventional farming. In order for this scene to grow, the CSAs collaborate instead of competing against each other.

6. Discussion

Reflecting on the research questions, it becomes apparent that CSAs in Germany do possess a variety of levers that do support sustainability transformation in the deep realm of leverage labeled “Re-think”. Figure 2 summarizes the potential levers related to knowledge that were analyzed in this data collection. If and to which degree these levers are present are at a farm varies from farm to farm and specifically in relation to them being a consumer- or producer-driven farm. The levers are summarized in the following figure.

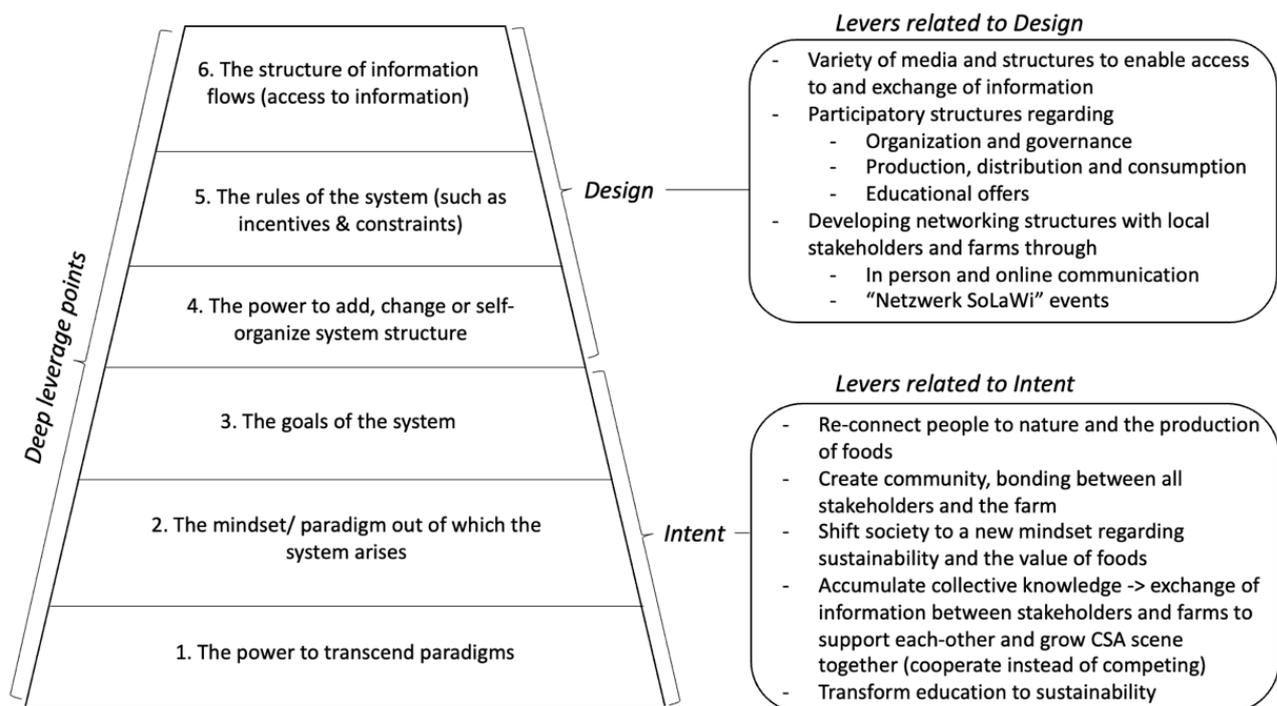


Figure 2. Potential leverage points and the corresponding levers related to knowledge usage, creation and sharing in CSAs (based on: Abson et al., 2017 [18]).

Regarding the overall structure and roles of the stakeholders, however, there are distinctions to be made when comparing consumer-driven and producer-driven farms. Consumer-driven farms offer a variety of participatory social structures and institutions, such as organizational groups, member meetings, working groups and participation days, which enable the creation and exchange of knowledge. Information is forwarded through valuable in-person interactions or a variety of digital options and is easily accessible for all stakeholders. Collective knowledge is accumulated through the exchange of stakeholders with diverse backgrounds, including the members and producers. The members are encouraged to incorporate their knowledge into the CSA and share it with others. Producers apply their knowledge and experiences to the best of their ability, enhance it through additional training and furthermore exchange it with the members. Depending on the CSA, members are involved in the production process to a different degree and can bear a lot of responsibility. Due to these structures, members learn about the actual production cost of foods, regionality, food certification, seasonality, pricing, etc. These processes are closely linked to the deep realm of leverage titled “re-connect”, which aims to bring nature closer to humans again. Re-connecting people to nature is part of the intent of CSA, an aim that lays the foundation of the farms and how they are built regarding design, feedbacks and parameters. Producer-driven farms are structured in a similar way referring to the

transparency of the farm. Members can see production processes, visit participation days and participate in events from the CSA. However, they are generally not as participatory as consumer-driven ones. Collective knowledge does not necessarily play a role in these farms since producers like to take things into their own hands and manage the crucial steps of the farm by themselves. Through this structure, the community aspect of the farm loses relevance, and the focus is set more on the production aspect of the farm.

The way consumer-driven farms are managed exemplifies which intent they act upon. Accumulating collective knowledge, acquiring new skills, making firsthand experiences and learning-by-doing is their method of choice. The transfer of knowledge and skills leads to the consumers being more autonomous both in the context of the CSA and also in life as a whole. It is a lesson that also can transfer over to other areas of life [14]. Community, knowledge exchange and sustainable lifestyles are preferred as opposed to economic gain. Thus, the farms do not mind establishing a riskier organizational structure that bears a high degree of member involvement. This can also be identified as the intent of the CSA system. The “design” building blocks described in this paper aim to implement this goal.

A matter which all farms have in common is the relevance of education. The CSAs either offer or are planning on offering some educational courses and activities in the future that teach members or external stakeholders about CSA, sustainability and related topics. Public events intend to trigger transformational change in society and politics and provide impulses for future agricultural and sustainable development. This is also the focus of various collaborations, especially with schools. Transformation in our food systems can only occur when people are reasonably educated on the topic. The most important group of people is kids, since they will shape the future. One farmer summarized this process with the following statement:

“We can only reach sustainability transformation if we transform the way people think and act. The transformation starts in the heads of the people.” (Farm 14)

Another structure that has a high potential to lead to transformational change is the networking of CSAs. The farms prefer to share knowledge and cooperate with other CSAs to build a community, grow CSA as a whole, maximize their success and utilize synergies. Once again, this is rooted in the CSA’s approach of not competing in the open market. Instead, the producers prefer to collaborate with other farms, exchange knowledge and experiences and thereby abandon the competitive structures of the conventional market [14]. Furthermore, collaboration between various stakeholders leads to the accumulation of collective wisdom, which helps boost sustainability transitions [38]. An institution that aims to strengthen this development is the Network for CSAs. It does this by facilitating the networking of the farms, boosting and offering educational activities and increasing public work of CSAs.

Regarding limitations, this study bears its flaws which arise with qualitative research. Since the data collection was carried out in Hesse, the results might not be representative of all CSAs in Germany. The count of 22 interviews allows for a detailed, thorough analysis of the interviewed farms. However, there is a chance that the results are regional phenomena and thus generalization can be an issue.

7. Conclusions

By virtue of this study, it is possible to summarize the role that knowledge plays in CSA and how it can leverage transformational change to sustainability. Utilizing the concept from Abson et al. (2017) [18] provides an innovative perspective on how substantial change can be achieved through the identification of crucial levers. This is an approach that has so far been neglected in sustainability research. It was possible to identify plenty of deep leverage points within the farm’s philosophies, social structures and institutions, which promote the creation and dissemination of knowledge, therefore leveraging substantial change and work towards sustainability transformation.

This starts with having a transparent system across the full supply chain, which informs the members on agricultural practices and lets them participate in them, accu-

mulating knowledge and gathering firsthand experiences in nature and food production. This is especially prominent at consumer-driven farms. Sharing information throughout the CSA and across a network of farms supports the idea of cooperating and creates a collaborative market that does not primarily target economic goals. Some CSAs, however, specifically consumer-driven ones, must be careful in this regard due to the risks in their organization. There should be a certain degree of professionalism when running the farm, otherwise, the survival of the CSA will be jeopardized. The goals set by CSAs and levers in place regarding education are not only targeted at CSA members and CSA-related content. Instead, they aim to initiate transformation in society and politics, shifting the way people approach agriculture and sustainability.

In conclusion, it can be stated that consumer-driven farms offer plenty of significant levers that can trigger sustainability transformation in regard to the realm of re-thinking. However, some of these levers are not present or are hardly present at certain producer-driven CSAs, rendering their potential for transformation less potent.

Although CSA is a niche movement, it delivers inspiration for other food systems on how sustainability can be approached. These food systems could embed certain levers that are integrated into CSAs such as regional distribution to a closed consumer base, involvement of customers in the production and creating a transparent system in which information is exchanged. Whether other food systems are willing to adapt any of these levers remains to be seen. The CSA system in itself does have the potential to trigger sustainability transformation. Due to its niche status, however, it will not have a big effect on the agricultural market. Although the farms are gaining popularity and the scene is growing, they will not be able to cover big market shares. High pricing of the shares, inconvenience, limited assortments, potentially bad harvests, etc. are all barriers that stop many people from joining a CSA. Thus, the best future scenario would include a growing CSA scene, as well as the adaptation of CSA-characteristic levers from other food systems that are less sustainable.

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References

1. Béné, C.; Oosterveer, P.; Lamotte, L.; Brouwer, I.; de Haan, S.; Prager, S.; Talsma, E.; Colin, K. When food systems meet sustainability—Current narratives and implications for actions. *World Dev.* **2019**, *113*, 116–130. [[CrossRef](#)]
2. Cleveland, A.; Carruth, A.; Mazaroli, D. Operationalizing local food: Goals, actions, and indicators for alternative food systems. *Agric. Hum. Values* **2014**, *32*, 281–297. [[CrossRef](#)]
3. IAASTD (International Assessment of Agricultural Knowledge, Science and Technology for Development). *Synthesis Report with Executive Summary: A Synthesis of the Global and Sub-Global IAASTD Reports*; Island Press: Washington, DC, USA, 2009.
4. Renting, H.; Marsden, T.K.; Banks, J. Understanding alternative food networks: Exploring the role of short food supply chains in rural development. *Environ. Plan. A* **2003**, *35*, 393–411. [[CrossRef](#)]
5. Zoll, F.; Specht, K.; Siebert, R. Alternative = transformative? Investigating drivers of transformation in alternative food networks in Germany. *Sociol. Rural.* **2021**, *61*, 638–659. [[CrossRef](#)]
6. Michel-Villareal, R.; Hingley, M.; Bregoli, I. *Defining Alternative Food Networks: A Systematic Literature Review*; Lincoln International Business School: Lincoln, UK, 2018.
7. Wills, B.; Sidsaph, H. Alternative Food Networks/Slow Food. In *The Palgrave Encyclopedia of Interest Groups, Lobbying and Public Affairs*; Harris, P., Bitonti, A., Fleisher, C.S., Binderkrantz, A.S., Eds.; Palgrave Macmillan: Cham, Switzerland, 2021.
8. Edwards, F. Alternative Food Networks. In *Encyclopedia of Food and Agricultural Ethics*; Thompson, P., Kaplan, D., Eds.; Springer: Dordrecht, The Netherlands, 2016.

9. Rosol, M. Alternative Ernährungsnetzwerke als Alternative Ökonomien. *Z. Für Wirtsch.* **2018**, *62*, 174–186. [[CrossRef](#)]
10. Venn, L.; Holloway, L.; Cox, R.; Dowler, E.; Tuomainen, H. Researching European alternative food networks: Some methodological considerations. *Area* **2006**, *38*, 248–258. [[CrossRef](#)]
11. Parker, G. Sustainable Food? Teikei, Co-Operatives and Food Citizenship in Japan and the UK. 2005. Available online: https://core.ac.uk/display/357039?utm_source=pdf&utm_medium=banner&utm_campaign=pdf-decoration-v1 (accessed on 9 December 2022).
12. Ernst, M. *Community Supported Agriculture; CCD-MP-1*; Center for Crop Diversification, University of Kentucky College of Agriculture, Food and Environment: Lexington, KY, USA, 2017.
13. Wellner, M.; Theuvsen, L. Community Supported Agriculture (CSA): Eine vergleichende Analyse für Deutschland und Österreich. *Jahrb. Der Osterr. Ges. Für Agrar.* **2017**, *25*, 65–74.
14. Bloemmen, M.; Bobulescu, R.; Tuyen Le, N.; Vitari, C. Microeconomic degrowth: The case of Community Supported Agriculture. *Ecol. Econ.* **2015**, *112*, 110–115. [[CrossRef](#)]
15. Netzwerk Solidarische Landwirtschaft, e.V. Bestehende Solawis und Solawis i.G. 2022. Available online: <https://www.solidarische-landwirtschaft.org/solawis-finden/auflistung/solawis-in-gruendung> (accessed on 19 May 2022).
16. Zinke, O. Solidarische Landwirtschaft: Das Paradies für Bauern und Verbraucher? 2021. Available online: <https://www.agrarheute.com/management/betriebsfuehrung/solidarische-landwirtschaft-paradies-fuer-bauern-585640> (accessed on 17 August 2021).
17. Schlicht, S.; Volz, P.; Weckenbrock, P.; Le Gallic, T. *Community Supported Agriculture: An Overview of Characteristics, Diffusion and Political Interaction in France, Germany, Belgium and Switzerland*; Die Agronauten: Freiburg, Germany, 2014.
18. Abson, D.J.; Fischer, J.; Leventon, J.; Newig, J.; Schomerus, T.; Vilsmaier, U.; von Wehrden, H.; Abernethy, P.; Ives, C.D.; Jäger, N.W.; et al. Leverage points for sustainability transformation. *Ambio* **2017**, *46*, 30–39. [[CrossRef](#)] [[PubMed](#)]
19. Chan, K.M.; Boyd, D.R.; Gould, R.K.; Jetzkowitz, J.; Liu, J.; Muraca, B.; Naidoo, R.; Olmsted, P.; Satterfield, T.; Selomane, O.; et al. Levers and leverage points for pathways to sustainability. *People Nat.* **2020**, *2*, 693–717. [[CrossRef](#)]
20. Meadows, D. *Leverage Points: Places to Intervene in a System*; The Sustainability Institute: Hartland, United Arab Emirates, 1999.
21. Berkes, F. Evolution of co-management: Role of knowledge generation, bridging organizations and social learning. *J. Environ. Manag.* **2009**, *90*, 1692–1702. [[CrossRef](#)] [[PubMed](#)]
22. Duignan, B.; Greener, I. Path Dependence. 2017. Available online: <https://www.britannica.com/topic/path-dependence> (accessed on 15 February 2023).
23. Urmetzer, S.; Lask, J.; Vargas-Carpintero, R.; Pyka, A. Learning to change: Transformative knowledge for building a sustainable bioeconomy. *Ecol. Econ.* **2020**, *167*, 106435. [[CrossRef](#)]
24. Flora, C.; Brgendahl, C. Collaborative Community-Supported Agriculture: Balancing Community Capitals for Producers and Consumers. *Int. J. Sociol. Agric. Food* **2012**, *19*, 329–346.
25. Rieckmann, M. Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? *Futures* **2011**, *44*, 127–135. [[CrossRef](#)]
26. Balsiger, J.; Förster, R.; Mader, C.; Nagel, U.; Sironi, H.; Wilhelm, S.; Zimmermann, A.B. Transformative learning and education for sustainable development. *GAIA—Ecol. Perspect. Sci. Soc.* **2017**, *26*, 357–359. [[CrossRef](#)]
27. Fischer, J.; Riechers, M. A leverage points perspective on sustainability. *People Nat.* **2019**, *1*, 115–120. [[CrossRef](#)]
28. Lam, D.; Martín-López, B.; Horcea-Milcu, A.; Lang, D. A leverage points perspective on social networks to understand sustainability transformations: Evidence from Southern Transylvania. *Sustain. Sci.* **2021**, *16*, 809–826. [[CrossRef](#)]
29. Ostrom, M. *Community Supported Agriculture as an Agent of Change: Is It Working?* University of Nebraska Press: Lincoln, UK, 2007.
30. Ravenscroft, N.; Taylor, B. Public engagement in new productivism. In *What Is Land For? The Food, Fuel and Climate Change Debate*; Winter, M., Lobley, M., Eds.; Earthscan: London, UK, 2009; pp. 213–232.
31. Moore, O.; McCarthy, O.; Byrne, N.; Michael, W. Reflexive Resilience and Community Supported Agriculture: The Case That Emerged from Place. *J. Agric. Food Syst. Community Dev.* **2014**, *4*, 137–153. [[CrossRef](#)]
32. Adam, K. *Community Supported Agriculture*; ATTRA—National Sustainable Agriculture Information Service: Butte, MT, USA, 2006.
33. Makona, M. *Analysis of Community Supported Agriculture as a Supply Chain Governance Strategy*; Van Hall Larenstein: Leeuwarden, The Netherlands, 2011.
34. Van Elsen, T.; Kraiß, K. Solidarische Landwirtschaft. Community Supported Agriculture (CSA) in Deutschland. In *Der Kritische Agrarbericht*; ABL-Verlag: Hamm, Germany, 2012; pp. 59–64.
35. Posse, D. Zukunftsfähige Unternehmen in einer Postwachstumsgesellschaft Lehren aus dem Ernährungssektor. *UmweltWirtschaftsForum* **2015**, *23*, 59–67. [[CrossRef](#)]
36. Wahle, E.; Schwerdtner, W.; van Elsen, T. *Erfolgsfaktoren für die Neugründung von Gemüsebaubetrieben nach dem Prinzip der Solidarischen Landwirtschaft*; Verlag Dr. Köster: Kassel, Germany, 2019.
37. Gruber, S. *Bewältigungsstrategien Alternativen Wirtschaftens: Wertrationalität und Soziale Einbettung am Beispiel Solidarischer Landwirtschaft*; Nomos Verlagsgesellschaft mbH & Co. KG: Baden-Baden, Germany, 2020.
38. Loconto, S. The role of knowledge in transitions to sustainable food systems: Examples from institutional innovations. In *Knowledge and Information for Sustainable Food Systems*; Meybeck, A., Redfern, S., Eds.; Hrsg: Rome, Italy, 2016; pp. 203–216.

39. Herklots, G.; Janick, J.; Synge, P.; Perrot, R. Horticulture. 2022. Available online: <https://www.britannica.com/science/horticulture> (accessed on 9 December 2022).
40. Rasmussen, W.D.; Fussell, G.E.; Mellanby, K.; Nair, K.; Ordish, G.; Crawford, G.W.; Gray, A.W. Origins of Agriculture. 2022. Available online: <https://www.britannica.com/topic/agriculture> (accessed on 9 December 2022).
41. Vermeulen, S.; Campbell, B.; Ingram, J. Climate Change and Food Systems. *Annu. Rev. Environ. Resour.* **2012**, *2012*, 195–222. [[CrossRef](#)]

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