Norwegian University of Life Sciences

Master's Thesis 2023 60 ECTS
Faculty of Biosciences

Exploring and mapping CSA farms as learning arenas in Rogaland, Norway

Giannina Sol Gaspero Beckstrøm
MSc Agroecology

ABSTRACT

Community Supported Agriculture (CSA, or *andelslandbruk* in Norwegian) is a growing phenomenon in Norway and is increasingly recognized as an opportunity to reconnect consumers with the sources of their food, establish transparent partnerships between producer and consumer, and allow them to actively participate in their local food systems. Research on Norwegian CSA has identified that learning is an outcome of their participation, and more recently it has also been shown that learning is, for some, a motivation to join. However, the literature has yet to describe *how* these learning outcomes are produced. This master's thesis was an attempt to fill this knowledge gap with a systemic exploration of CSA as a learning arena. Using participant observation, qualitative interviews and a questionnaire, I conducted a multi-case study at three CSA farms in Rogaland, Norway to create a conceptual map of their learning processes. Shareholders work and harvest with their own hands, giving rise to potent possibilities of experiential education. *Dugnads*, harvests, and social media provide exposure and invite conversation. This provides the chance for learning through knowledge exchange and transfer for farmers and shareholders alike. I found that the participatory and social nature of Norwegian CSA are core reasons for its rich learning environment. Learning is sourced from participation, conversation, written/online communications from the CSA, and self-directed learning endeavors. Learning is actualized through what I call "pathways," which are learning by doing, knowledge transfer, and knowledge exchange. The learning outcomes I observed were gained knowledge, skill and awareness relating to vegetable cultivation, cooking, and agriculture in general.

Acknowledgements

First of all, I would like to thank the communities of people at each of the CSA farms in my study for welcoming me in as a student researcher. To Randi & Tormod at Anda Andelsgard, Torill at Sandnes Andelslandbruk, and Sven Are, Yngve & Tone at ByAuk, you are all inspiring people; you are not only providing people with good food, you are providing people with good community! Thank you for your kindness and your insights. And to all the shareholders and my fellow *driftslag* friends, I am especially grateful for your friendliness, wisdom and curiosity - being out in the fields among you all was the highlight of my research.

I would also like express my gratitude to my academic advisors, Anna Marie & Vebjørn. You are very smart, very thoughtful, and very fun people who helped me tremendously in making this a readable thesis. Your guidance and support led me from a timid idea to a substantial thesis project, and for that I am grateful!

To my family near and far, I'll always be thankful for your encouragement and for believing in me. I want to especially thank my aunt Kari, your support provided me the confidence I needed to be able to conduct this research in Norwegian.

Thank you to Fabian (brother), Ivy (sister-in-law) and Simone (cat), you make our house a home! Thank you for listening to me ramble on about all these things I've learned about, and for chipping in with your insights. Finally, to my dear KC, your love and support is the most wonderful thing, and I could not have done this without it.

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1. Introduction

The dominant food system is a global one. Here in Norway, most consumers can go to a grocery store and buy a banana grown in Ecuador, pumpkin seeds hulled China, and a can of tuna originating from Thailand. In 2021, the Norwegian Institute of Bioeconomy Research (NIBIO) estimated that just 45% of the food consumed in Norway was produced in Norway (Ulfeng, 2022), making it one of the most import-heavy countries in the world. The implication of a globally interconnected food system is that it creates an oftentimes insurmountable distance between food producers and consumers, leading to alienation for both parties. As awareness of the environmentally and socially degrading effects of global industrial agriculture rises (IPES-Food, 2016), local food networks and sales channels such as Community Supported Agriculture offer an alternative way to procure food. In the quest for food system transformation, establishing or re-establishing connections between producers and consumers is an integral step (Gleissman, 2016). The prevalence of Community Supported Agriculture in Norway has grown dramatically in the last two decades, signaling that more consumers are grounding themselves in local farm productions and establishing partnerships with their farmers. In the process, they are joining a learning arena.

1.1 Community Supported Agriculture in Norway: characteristics and principles

Community Supported Agriculture (CSA) is a producer-consumer relationship model in which farmers sell “shares” of the year’s entire harvest directly to shareholders in advance, who receive their produce as it is harvested throughout the season. It is a model often associated with sustainable food initiatives because it deflects consumption from the industrialized food system, reclaims food as more than a commodity, and strengthens local food systems through producer-consumer relationships (URGENCI, 2016). The CSA concept originated in Japan in the 1960s to re-connect consumers with their food sources, soon spread to Germany, and eventually became established the United States since the 1980s (Storstad, 2016). Today, CSA is found all over the world in different forms. These farms can be part of coordinated CSA movements; for example, Urban-Rural networks Generating New forms of Exchanges between Citizens (URGENCI) is an international organization that advocates for and researches CSA and

agroecology (URGENCI, s.a.). CSA farms can also be independent from larger movements, and it can entail different agreements and principles. In short, CSA is a concept without a single definition, but the fundamental idea is that farmers and shareholders enter a direct-sale partnership to share the risk and reward of harvest (Hvitsand, 2014).

Early iterations of CSA in the United States required shareholders to do some work on the farms as part of the agreement, although this arrangement largely fell out of use in favor of a more capitalistic one, and now the prevailing model is one that requires shareholders to only contribute monetarily (Everson, 2015). However, CSA in Norway, or *andelslandbruk,* retains this initial participatory model that involves shareholders on the farms: shareholders participate in *dugnads* to support the growing operation and typically harvest their own shares (Andelslandbruk Norge, s.a.[b]). *Dugnad* loosely translates to 'collective volunteer work' in English, but in this context, it is part of the CSA agreement and represents typically six to eight hours of labor contribution that supports the agriculture. In this way, Norwegian CSA is "community supported" in both a monetary and labor sense and is a fundamentally participatory food network.

As such, CSA is a relatively new phenomenon in Norway. The first CSA farm was established in 2006, and now in 2023, there are about 90 registered CSA farms registered with Økologisk Norge's national CSA project, Andelslandbruk Norge (Milford & Devik, 2023). However, there may be more that are not registered on their map (for example one of the farms in my study). Most CSA farms are concentrated in southeastern Norway and especially near the capitol region of Oslo. However, since 2016, seven CSAs have been established in Norway's southwestern county, Rogaland, as well. Rogaland is home to the traditionally agrarian area known as Jæren, which as of 2018 produced 15% of Norway's milk and 20% of Norway's meat, to a very large degree with conventional methods (Fadnes, Frydenlund & Mathiesen, 2018). There is no requirement that CSA farms in Norway be organic, but a recent survey reported that nearly in 2021, 47% of CSA farms were certified and nearly every CSA registered with Økologisk Norge uses organic principles (Milford & Devik, 2023). Further, Andelslandbruk Norge (s.a.[a]) defines five fundamental principles:

1. Transparent dialogue about the farm operation
2. Transparent economy
3. Shared harvest, shared risk
4. Involvement of shareholders
5. Sustainable agriculture

Recent statistics about the prevalence of organic agriculture in Jæren are not available, but the lion's share of Jæren's farms is conventional. The CSA farms that have recently cropped up in and around this area are either Debio-certified organic, or practice organic or regenerative principles, making them outliers in the surrounding agricultural context.

1.2 Context for the Norwegian food system, consumer motivations for CSA and the impact of CSA

The Norwegian food system is characterized by high amounts of imports and an increasingly industrial domestic production (Kildahl, 2022; Hvitsand & Leikvoll, 2023). Storstad (2016) makes the point that in the early 2000s, research showed that Norwegian consumers had a generally high level of trust in their food production due to few food scandals and low risk for food-born illnesses, but by the mid-2010s enough structural and social shifts had occurred to warrant a renewed study of consumer attitudes. In 2018, Kvakkestad et al. found that Norwegian consumers hold a moderate belief of organic foods' superiority, but the majority fail to prioritize organic consumption over conventional.

Nonetheless, the growing number of CSA farms is indicative of a rising interest in "alternative" food procurement schemes (Milford & Devik, 2023). Several studies have aimed attention to consumer motivations behind Norwegian CSA. Hvitsand (2016) identified that motivations for CSA membership were primarily tied to a dissatisfaction with conventional agriculture and wanting to reconnect to a local and more familiar production. The same year, Storstad (2016)'s single-case study showed that although shareholders recognized the association between political ideology and CSA, they did not consider their membership a political act. Westskog et al. (2020) found that the concept of consumer power underpinned most shareholders' motivations to join CSA. In 2022, Standal & Westskog published a study on low-carbon food consumption in Norway and found that CSA was understood as an avenue to use "consumer

power" to push for sustainable changes specifically regarding carbon consumption. Hvitsand & Leikvoll (2023)'s studied the motivations surrounding REKO-Ring, another direct-sales model that resembles a farmers' market which has recently gained momentum in Norway. They found that consumers' reasons for joining were predominantly linked to supporting and accessing local agriculture. Most recently, Milford & Devik (2023) published a survey showing that most shareholders report satisfaction with their CSA's quality of food and production methods. In general, Norwegian CSA is largely understood as a sustainable act, but primary motivations seem to be focused on individuals' desires to reconnect to local production (Storstad, 2016; Hvitsand, 2016; Westskog et al., 2020; Standal & Westskog, 2022; Milford & Devik, 2023). Since it is relatively new in this country's context, its long-term impact is still an object of study.

There have also been some studies aimed at understanding the impact of Norwegian CSA so far, mostly in terms of its contribution to sustainable agriculture. Bjune & Torjusen (2005) presented Norwegian CSA as a context that creates shared social responsibility, concluding that it offers learning opportunities consistent with food citizenship. A report by Hvitsand (2014) summarizes a Norwegian agricultural agency project the about CSA's contribution to the organic food movement, finding that it "safeguards and promotes environmental, economic, social and cultural sustainability as well as value creation" (p. 10, own translation). Hvitsand (2016) demonstrates the transformational potential of CSA by identifying producer and consumer motivations that are opposition and response to the current industrial food system.

By coming to the farms to take part in *dugnads* and to harvest, CSA shareholders are opened to the possibility of closer farmer-consumer relationships as well as a community of other shareholders based on a collaborative and meaningful activity. Milford & Devik (2023) convey:

> … a typical trait of CSA farms in Norway is at they put strong weight on the social, and that the CSA is not only a way to organize the production and sale of vegetables, but just as much of an arena for knowledge exchange, integration, social events and important everyday activities for those involved (p. 8, own translation).

This illustrates how Norwegian CSA generates participatory spaces that are ripe opportunities to learn and share knowledge about food and agriculture. Some learning outcomes of CSA are

identified, for example, by Hvitsand (2014) who found that shareholders experience "moderate changes in environmental awareness and knowledge levels. The biggest changes are in relation to the experience of CSA increasing knowledge and interest in agriculture and food production" (p. 96, own translation). Similarly, Hvitsand (2016)'s study noted that "many consumers noted an expanded knowledge from their interaction with the farmer and the other CSA members which inspired them in different ways." In more recent years, learning has also been established as a motivation: Westskog et al. (2020) reveal that "two points that resonate with many, are taking care that future generations have access to healthy food, and the pedagogical element from seeing where and how food is produced" (p. 13, own translation). This year, Milford & Devik (2023) reported that "there are many who are concerned with the social aspects and opportunities for learning" (p. 32, own translation).

1.3 CSA as a learning arena

Literature from other countries is more developed on the topic of learning through CSA. In North America, learning is found to be a common feature of CSA farms, either as targeted strategy or a welcome byproduct (Henderson & Van En, 2007). CSA farms can form connections with local schools, non-profits, and other organizations to promote visitation and collaboration, and many host workshops, tours, and classes (Wight, 2015). Further, some CSA farms are attached to apprenticeship or farmer training programs for extended and more structured educational opportunities. Kerton & Sinclair (2009) explored the learning outcomes of organic food consumers in Canada, including a farmer's market, an educational farm, a CSA farm. They found that the vast majority of participants learned, and a handful demonstrated *transformative* learning – that which results in a change of worldview (Mezirow, 2003) – as well. In his doctoral dissertation, Wight (2015) identified learning opportunities associated with Mid-western American CSAs, and found that outreach, social events and tours, service-learning classes, and working shares (which are akin to *dugnads* found in the Norwegian CSA model) presented as the most educational aspects. Everson (2015) published a paper about informal learning at CSA farms in Minnesota, USA, detailing both "incidental" and "self-directed" learning she observed in shareholders as a result of a relationship to their farmers. In all these examples of learning opportunities identified at CSA or similarly organized agriculture schemes,

the element of participation and/or social interaction is paramount. As participatory and social places, Norwegian CSA farms therefore also can be understood to foster learning experiences.

A common way to define learning is by classifying it as formal or informal. Formal learning is "typically institutionally sponsored, classroom-based, and highly structured" (Marsick & Watkins, 2001, p. 25). Most definitions of informal learning agree that it is the residual category of learning that is developed outside of institutional educational settings, although it can happen "on the sidelines" of formal education as well (Schugurensky, 2000; Marsick & Watkins, 2001). Rogoff et al. (2016) identify the shared features of informal learning that seem to prevail in different contexts:

> It is nondidactic; is embedded in meaningful activity; builds on the learner's initiative, interest, or choice (rather than resulting from external demands or requirements); and does not involve assessment external to the activity.

In short, the literature on Norwegian CSA points to the tendency for CSA membership to facilitate learning, but it lacks attention to the mechanisms of the learning processes. Given the participatory and social situation of Norwegian CSA, there is an interesting opportunity to uncover how these characteristics interact with the dynamics of a learning arena. International studies address learning processes in more detail, but there is currently no equivalent study in the context of Norwegian CSA. I aim to build on this research about the impact and value of CSA by contributing a systemic exploration of Norwegian CSA as a learning arena, to uncover not only *what* people learn, but *how* they learn.

My research question is *how can CSA in Norway be considered a learning arena?* To answer this, I conducted a multi-case study of three CSA farms in southwestern Norway, and guided myself with two straightforward (although not simple) questions: *what* do people learn, and *how* do they learn it?

2. Methodology

2.1 Methodological premises

In researching learning processes at CSA farms, my main methodological premise stems from the understanding that learning can and does occur in many arenas of life, and that learning is not limited to formal or institutional educational sectors. This sentiment is put forth by scholars and practitioners in the field of informal education (Schurgensky, 2000; Marsick & Watkins, 2001; Rogoff et al., 2016) and developed through the lens of sustainable food systems by others (Pretty, 1995; Šūmane et al., 2018; Anderson, Maughan & Pimbert, 2019). Additionally, this research recognizes that the acquisition of new knowledge, skills and comprehension can be difficult to track back to a specific moment or learning activity. This perspective is inspired by a paradigm of systems thinking, which seeks to embrace and preserve complexity rather than simplify it (Bawden, 1991).

In practice, these methodological premises led me to a qualitative and inductive approach to research. As an inductive approach involves data collection first so that a theory may *be induced* by the findings (Bryman, 2012), I found this better suited to my initial exploration of whether or not CSA farms can be considered learning arenas. I wanted to avoid preconceptual notions of what learning may look like in such an informal setting as CSA farms. I also wanted to remain open-minded to unexpected or especially complex aspects. The following sections explain my research plan, design, methods, and data analysis in light of these methodological premises. The chapter then includes a description of my three CSA farm cases and concludes with a short discussion about my methodology.

2.2 Research plan & design

My research plan was largely guided by *Case Study Research and Applications: Design and Methods* (Yin, 2018) as well as the phenomenological approach to studying complex systems I was introduced to as a student of this MSc Agroecology program. According to Yin (2018), a case study can be used "when asking a 'how' or 'why' question about a contemporary set of events over which a researcher has little or no control" (p.13). To study Norwegian CSA farms as potential learning arenas fits this description as it is a real-world phenomenon over which I, as a researcher, had little control. Yin (2018) also presents three categories of case study:

exploratory, descriptive, and explanatory (p. 8). Accordingly, this research project borrows from the first two: it is a qualitative multiple-case study that aims to (1) *explore* three CSA farms in southwestern Norway as learning arenas, and (2) *describe the* participants' learning processes.

The exploratory and descriptive characterizations represent two phases of my research. In my exploratory phase I took a "phenomenon first" approach, with the intention "to provide a basis for open-mindedly exploring the diversity of lifeworld phenomena and human relationships to them" (Francis et al. 2016, p. 78). I chose to avoid a "theory first" approach because I anticipated a complex map of learning processes in the real-world phenomenon of CSA, and worried that preconceptions about what they "should" look like would minimize my capacity to embrace the complexity of a real-world phenomenon as it truly exists. As a first-year student, I found this a challenging but effective path to a substantive understanding of a farm system, so I emulated this "phenomenon first" approach in my thesis research by beginning with an intentional exploration. I went to each farm for an observational walk, read their websites and social media pages, sat in on their annual meetings, and eventually held an in-depth interview with each farmer – all with the intention of letting the phenomena speak for themselves as I looked at them for the first time (see methods description below).

As my research progressed into its descriptive phase, I utilized insights from my own participant observation as well as direct feedback from shareholders through casual conversations and semi-structured interviews. In this way I slowly formed my exploratory understandings into loose conceptualizations and descriptions of the learning processes I saw and created a map of learning sources, pathways and outcomes. I then began connecting these to existing theory and literature within the field of informal education, namely Schugurensky (2000)'s taxonomy of informal learning which highlights qualifiers of intention and awareness of learning. My descriptions solidified over time through an iterative process of gathering data, analyzing and relating it to literature, and asking research participants for feedback.

Crucial to my research design was the element of ongoing self-reflection. Systems thinking, as well as the phenomenological, participatory, and iterative nature of my entire approach necessitates an actively reflective researcher (Repstad, 2004; Francis et al. 2016). Yin (2018)

encourages case study researchers to stay adaptive and consider unexpected changes as opportunities rather than threats. This manifested through reflective journal entries following every farm visit and every interview, plus anytime the instinct struck. This improved my ability to inquire into specific aspects of the CSAs relating to how they can be considered learning arenas. Along the same lines, Yin (2018) proposes a research protocol for multiple-case studies to ensure internal validity, and I created a version of this resource for my own use (see Appendix A).

2.3 Methods

I used three methods to collect data: participant observation, semi-structured interviews and a questionnaire. The following section will describe my process for each method. The chapter concludes with a table summarizing how each method was used at each CSA farm case.

2.3.1 Participant observation

I conducted participant observation in a variety of ways from November 2022 to July 2023. I began researching in the autumn, when the CSAs' growing seasons were slowing down or already over, so the first time I observed the CSAs "in action" was during their annual meetings. These meetings served to present the CSA members with a summary of the previous season, and to gather feedback for the upcoming season. For Anda and Sandnes, these meetings were open to the public as an informational meeting for perspective new members. ByAuk's meeting was tailored to the current members and took form in more of a roundtable discussion. At each meeting, I had an opportunity to introduce myself and my research project, setting me up for overt participant observation (Bryman, 2012).

From February to June, I spent 12 Tuesdays at ByAuk as a part of their *driftslag* [English: working team], which include volunteers, work/language trainees, and shareholders. I also attended one Shareholder Day in June. In March, I began participating in *dugnads* at Sandnes and Anda as well. Anda and Sandnes have an online calendar where shareholders can see information about *dugnads* and sign up. I had an agreement with the farmers that I would sign myself up to any dugnads that suited my schedule. I attended a total of three *dugnads* and one communal harvest at Sandnes CSA, and four *dugnads* at Anda CSA. During *dugnads* and ByAuk's *driftslag,* I participated in the same way as everyone else, making my role that of "overt full

member" (Bryman, 2012). Many fellow participants were curious about my research, and this led to casual but enlightening conversations with them about their learning.

I also observed the community through online spaces: I was given permission to join ByAuk and Sandnes' internal Facebook groups for shareholders, where weekly harvest announcements are posted as well as updates, videos, and recipe ideas from the community. I was also included in Anda's shareholder email list and received emails every Sunday with harvest announcements and updates. Additionally, I stayed up to date on ByAuk and Sandnes' active and informational Instagram pages.

2.3.2 Questionnaire

I designed an online questionnaire with mostly open-ended questions to receive CSA shareholders' own descriptions of their learning. I considered this questionnaire the bridge between the exploratory and descriptive phases of my research, with questions that reflected my initial understanding of the ways people can learn at farms (based on my observations and farmer interviews). I sent the same version of the questionnaire to each farm, separately. Because I did not have access to CSA members' contact information, I sent each farmer an online link and they sent it out to their members on my behalf. The questionnaire was sent out in early March, before the CSAs had any *dugnads*, so I specified that the questionnaire was intended only for those who had already been involved for at least one season.

The questionnaire had seven questions and was designed to take less than ten minutes (see Appendix B). I followed Bryman (2012)'s guidance on self-completion questionnaires and how they can be used to triangulate data. The first three multiple-choice questions asked for background information: how many years of membership, types of activities participated in, and a yes/no question asking if the CSA can be considered a learning arena. Then, the bulk of the questionnaire inquired after open-ended answers relating to four different types of learning: new knowledge, new skills, new/different habits, and new/different opinions. If a respondent answered yes, they were required to explain what and how they learned. If they answered no, they had the option of explaining why not.

The questionnaire was sent to thirty-nine shareholders at Anda, and nine responded, producing a response rate of 23%. It was sent to 115 shareholders at Sandnes, and thirty-one responded, producing a response rate of 27%. However, the actual response rate is higher because the target population is smaller than 115, as it only includes returning shareholders (so that they could answer based on at least 1 year of experience). I do not know the exact number of shareholders representing the target population, because it was unnecessary for Torill to keep track of who is a new shareholder and who is returning; there is just one master list of current shareholders. Based on Torill's guess that about 30% of shareholders do not return every year, I estimate a true response rate between 30-36%. At ByAuk, the questionnaire was sent to twenty shareholders and nine responded, producing a response rate of 45%. According to Bryman (2012), these are all sub-optimal response rates. However, as I used analytical logic in this study (further described in data analysis section below), I analyzed the questionnaire using analytic generalization, not statistical generalization. The purpose of this questionnaire was not to make broad statistical claims about shareholders' learning processes, but to give me an initial idea of what shareholders believe they learn, to uncover patterns and areas of interest to follow up with through my other methods.

2.3.3 Semi-structured interviews

For each CSA, I interviewed its farmers and at least two of its shareholders. I conducted thirteen interviews in total. Farmer interviews took place in November and December of 2022 and lasted about fifty minutes. They served to introduce me and my project to the farmers in my study, provide me with background and contextual information, and hear farmers' perspectives on their CSAs as learning arenas. Shareholder interviews took place in June and July of 2023 and lasted ten-twenty minutes. They served to complement my participant observation findings: I asked interviewees to tell me about their learning, and then whether they agreed with my findings so far in the form of a list of "learning sources". I spoke with interviewees with a more specific focus on my research question than the conversations with fellow *dugnad* and *driftslag* participants. Complementing participant observation and semi-structured interviews allowed me take advantage of characteristics exclusive to each method, such as "seeing through others'

eyes" from the former, and then hearing about a "greater breadth of coverage" from the latter (Bryman, 2012).

The selection of interviewees was self-evident for the farmer interviews, and they all responded positively to my request for an hour-long semi-structured interview. To select shareholder interviewees, I had each farmer send out an email on my behalf asking for volunteers. I interviewed six voluntary shareholders. I interviewed three additional shareholders after meeting them during *dugnads* and asking them if they would be willing to chat with me the next time they came to the CSA farm to harvest.

To ensure an appropriate setting in which the interviewee felt comfortable (Repstad, 2004), all interviews took place on the respective CSA and were conducted in Norwegian. They were recorded in my mobile phone's Diktafon application, which uploaded recordings directly to my Nettskjema account. For farmer interviews, I wrote a general interview guide that reflected the overarching line of questions I intended to follow (see Appendix C). I edited this into individual interview guides for each CSA to reflect which general information I still lacked after reading their websites, social media pages and relevant news articles. Following Bryman's (2012, pp. 496-499) checklist for a successful semi-structured interview, I piloted the farmer interview guides on my aunt, who is not a farmer, but is familiar with the agricultural and social concepts I covered. She helped me edit my questions to be more natural and understandable, because this was my first attempt at writing and researching in Norwegian at an academic and specialized level. By the time I started interviewing shareholders, I had not only become more knowledgeable about my research topic, but also much more comfortable and fluent in Norwegian. This conceptual and linguistic competency led me to having less structured interviews, although I still wrote myself interview guides – I just relied on them less (see Appendix D). I wrote these guides based on what I felt that I lacked from the questionnaires, namely a deeper perspective on the specific aspects of their CSA membership that leads to learning experiences, or in other words, their learning sources.

Table 1: Summary of my methods

Method	Anda CSA	Sandnes CSA	ByAuk CSA
Participant Observation	Initial farm tour/observational walk; annual meeting; four *dugnads*; received weekly emails with updates and harvest announcement	Initial observational walk, annual meeting, four *dugnads*, one communal harvest; member of closed Facebook group where updates, recipe exchanges & harvest announcements, are posted	Initial observational walk, annual meeting, 12 *driftslag-dugnads,* one Shareholder Day; member of closed Facebook group where updates, recipe exchanges & harvest announcements, are posted
Questionnaire	23% response rate	30-36% response rate	45% response rate
Semi-structured Interviews	one in-depth interview with Randi (50 min); four shareholder interviews (10-20 min)	one in-depth interview with Torill (50 min); two shareholder interviews (10-20 min)	one in-depth interview with Yngve & Sven Are (50 min); one interview with Tone (20 min); three shareholder interviews (10-20 min)

2.4 Methods discussion

While I reflected on the subject matter of my study throughout my research process, I would like to use this space to share my reflections on the entire process. This was a very challenging and very rewarding project to undertake, as its qualitative and inductive nature left me with a lot of complexity to interpret on my own. As an agroecology student, I believe strongly in the transdisciplinary, participatory and action-oriented approach described by Méndez et al. (2016), which is also the resonating approach in this Agroecology program at NMBU. Though I kept these tendencies in mind, my research was not particularly participatory in the sense that it did not involve the research subjects in the design and facilitation of inquiry. It was also not explicitly action-oriented as there was no defined, actionable goal, for example “to inspire food sovereignty targets” or “support the movement of CSA”. To study the real-world phenomenon of learning at CSA farms, I think it would be pertinent to embrace the characteristics of

participation and action-orientation more whole-heartedly (in other words, to have used Participatory Action Research [PAR]). This is not to downplay my own findings, just to reflect over the extent to which it relates to the aspirations of agroecological research and be transparent about my normative values in social research (Bryman, 2012). I have found that learning, especially informal learning, is a complicated system of resources, opportunities, motivations and outcomes and having a multiplicity of perspectives (from inside and outside academia) could have created a more actionable and relevant insights (Pretty, 1995). I have been inspired by the notion of democratized and popular education since before I began my agroecology degree, so the potential I see in this kind of study of learning processes is big. It is important to recognize and reflect on how the phenomenon of learning at CSA farms could be a very exciting thing to research using PAR while embracing the essence of participatory agroecology. Nonetheless, given the scope of my capabilities and resources as a first-time student researcher, the result is still something I am proud of and find important.

2.5 Data analysis

My strategies for data analysis were primarily informed by - once again - Yin (2018)'s book on case study research, as well as Repstad's (2004) book on qualitative methods in sociology, *Mellom nærhet og distanse* (English: Between proximity and distance). I chose a multi-case synthesis analytic technique as it is presented by Yin (2018). This set me up to first conduct individual analyses of each farm case, which produced a field report of sorts reflecting learning sources, pathways and outcomes. I considered these findings in relation to frameworks of informal learning and ultimately compared each case's findings against each other. This study is grounded in replication logic (as opposed to sampling logic) and analytic generalization (as opposed to statistical generalization), because employing sampling logic and statistical generalization in a study that researches only three CSA farms presents the obvious problem of under-representation: a sample of three cannot lend itself to statistically significant findings on the nature of all 85+ CSA farms in Norway. Rather, replication logic and analytic generalization is founded on an interest in the entire unit of study, which in this instance is each CSA farm case (Yin, 2018). This multi-case study uses replication logic to come to an analytic generalization based off a holistic and time-intensive research process for three separate but similar CSA farm

cases. I expected similar results, or a “literal replication” (Yin, 2018), due mainly to the shared element of hands-on participation.

To transform data into an analysis, Repstad (2004) encourages one to “play” with their data until patterns and concepts arise, for example by arranging notes into matrices or placing them in thematic envelopes. Consequently, my analytic process involved many, many sticky notes of quotes and codes, which I arranged and re-arranged into different types and scales of categories for “what” and “how” people learned at each CSA farm (see Photo 1, below). I began by analyzing the questionnaire responses, which produced piles of sticky notes representing fragmented categories of “what” people learn. This was incredibly helpful to begin with, but the bulk of my analysis came with the task of connecting these data back to their context with threads of “how” learning processes occur. Indeed, Repstad (2004) writes that

> … qualitative research is occupied with describing the whole – entire, concrete environments and whole persons, not just isolated ‘variables.’ Such holistic concepts can show up quite intuitively, and not always at the writing desk (p. 105, own translation).

Photo 1: Photo 1. "Playing with the data”: my sticky-note process of matching questionnaire findings to interview findings, which to Repstad (2004)’s point (above), did not always happen at the writing desk... (Photo: Giannina Beckstrøm)

My interview transcripts were full of stories that showed a fuller picture of a learning process. I analyzed these case-by-case. As I translated the transcripts from Norwegian to English, I loosely coded for experiences and opinions relating to the interviewees' learning processes, focusing specifically on "how" they learned. Then, following what Kvale & Brinkman (2009, pp. 208-209) describe as "coding for meaning," I read through the transcripts more meticulously and developed phrase-based codes. I organized these codes and quotes on sticky notes to summarize each interview before synthesizing them together. I also arranged my fieldnotes and reflections into chronological order. Fitting these data sources together, I used a version of the "explanation building" analytic technique (Yin, 2018) to reveal various stories of learning. Although this technique is designed for explanatory case studies (which my study is not), I found it useful in building narratives for illustrative examples of learning that I observed and experienced on the CSA farms.

The inductive approach I took in this research left me with primarily my own collected data to build from, but I consistently referred to literature of informal learning for inspiration and guidance. Eventually, I ended up with a map of learning processes based on my own interpretations of the data, ideas taken directly from reflective conversations with research participants, and theoretical frameworks offered by existing literature. I used the same processes (sticky note categorizations, narrative-building, relating to literature) for each individual case, then used a cross-case synthesis technique to analyze them on a grander conceptual scale. The result was a systemic map of learning sources, pathways and outcomes.

2.6 Study propositions

Before I began researching, I had an inkling that the answer to 'what and how people learn on CSA farms in Norway' would be grounded in the phenomenon of hands-on participation, which is a key component of how most Norwegian CSAs operate (Andelslandbruk Norge, s.a.[b]). This "inkling" became my main study proposition, which is the part of a research design that "directs attention to something that should be examined within the scope of study" (Yin, 2018, p. 27). Crucially, Yin also notes that cases must be "sufficiently comparable along important dimensions … to warrant a presumed common finding between them" (p. 198). Therefore, I

selected farms cases that all involve a strong element of on-site and hands-on participation for the CSA shareholders. They are also all farmer-run (as opposed to member-run).

2.7 Case selection

I initially utilized Økologisk Norge's national CSA project database (see andelslandbruk.no/kart) to identify all the CSA farms listed in Rogaland, Norway. Out of the seven listed, I contacted the five that seemed most active based on their websites and local news articles. I received three replies from farmers responding positively to my request to connect and potentially be part of my research, one reply from a farmer who did not have the capacity to be part of my research, and no response from the fifth farm. Following the three positive replies, I had a phone call, in-person or email exchange with each farmer. One of these farms turned out to have transitioned out of a CSA model and into a vegetable box scheme and given the lack of shareholder participation on this farm, I did not include it in my research. Luckily, through conversation with another farmer, I learned of a new CSA in its first year and not listed on the CSA project database; I contacted this farm by email and received a positive reply. This left me with three CSA farms to include in my study that shared the element of hands-on shareholder participation, yet differed in size, age and rurality.

2.8 The CSA farm cases

The farm cases are presented in Table 2 (below) to show their key characteristics relevant to my study. A written description of each farm case is found in Appendix E.

Table 2: CSA Farm case descriptions

CSA characteristic	***Anda CSA***	***Sandnes CSA***	***ByAuk CSA***
Location	Klepp Stasjon, Klepp	Vatneli, Sandnes	Storhaug, Stavanger
Names of farmers	Randi & Tormod	Torill	Yngve, Sven Are (founders) & Tone (employee)
Farm context	Located on family's farm which also has goats, hens, and flower business	Located on family's farm which also keeps cows, sheep, honeybees, berries and fruit	Located in urban residential area on land that belongs to Stavanger Municipality
No. of shareholders	60	125	50

Cropland area	3.200 sq. meters	10.000 sq. meters	2.500 sq. meters
Year established	2021	2015	2022
What is included in CSA shares	Vegetables, potatoes, herbs; option for additional "greenhouse share"; farm also sells flowers	Vegetables, potatoes, herbs; farm also sells honey	Vegetables, potatoes, herbs
Agricultural principles followed	Follows organic principles; not Debio-certified	Grows organically; CSA portion of farm is Debio-certified	Follows regenerative principles; not Debio-certified
***Dugnad* requirement**	8 hours	6 hours	6 hours
Typical *dugnad* tasks	Sowing, planting, weeding, prepping and maintaining fields, misc. projects needed on the farm/CSA	Sowing, planting, weeding, prepping and maintaining fields, misc. projects needed on the farm/CSA	Building beds, planting, weeding, misc. projects needed on the property (also applies to typical *driftslag* tasks)
Harvesting	Weekly self-harvesting from May to late October	Weekly self-harvesting from May to November; option to join communal harvest for extra guidance	Weekly self-harvesting from May to late October
Social events	Summer party, Autumn party	Sankthansfest, Autumn party	Weekly Shareholder Day, Autumn Party
Participants	Farmers Randi & Tormod, shareholders (incl. local school class who integrate CSA with lesson plan)	Farmer, shareholders	Farmers, shareholders (incl. local school class who integrate CSA with lesson plan), volunteer team (incl. community members & work/language placements from the local refugee & volunteer centers)

Each farm represents an individual case. With a multi-case study protocol, I used the same methods to research each farm.

Photo 2: The beet field at Sandnes CSA during a weeding dugnad. (Photo: Giannina Beckstrøm)

3. Results & discussion

My results show that the CSA farm cases in my study are learning arenas. I found learning sources, pathways and learning outcomes that connect to create a map of learning processes. This is the result of a straightforward, two-parted question that guided my research: *what* do people learn, and *how* do they learn it? The result is a conceptual map of learning processes (see Figure 1, below).

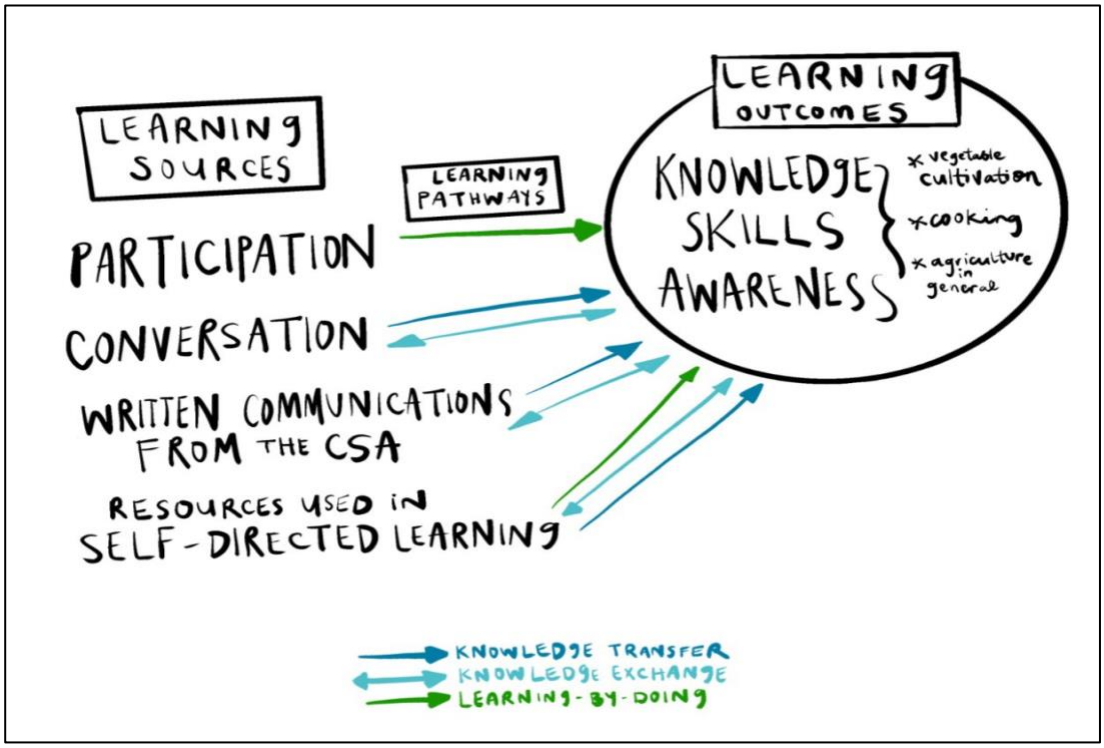


Figure 1: Visual representation of the learning sources, pathways and outcomes I observed.

What people learn comes in the form of learning outcomes, which are knowledge, skills and awareness related to vegetable cultivation, cooking, and agriculture in general. As for *how* CSA participants learn, four primary learning sources emerged: 1) participation, 2) conversation, 3) written communications from the CSA, and 4) resources used in self-directed learning. I use the term "learning pathways" to describe the avenues connecting learning sources and learning outcomes, and they are 1) knowledge transfer, 2) knowledge exchange, and 3) learning by doing. These pathways can come from more than one source, and result in more than one learning outcome.

However, as Repstad (2004) writes,

> A recommendation and a warning are in order when it comes to the use of analogies and metaphors. They can be enlightening, fun and worth reading, but they must not be taken too literally. Then we eat the menu instead of the dinner, to use some imagery… [p. 108, own translation].

Accordingly, I am careful to point out that the map of learning processes I found is more complex than it is represented as in Figure 1. In reality, I saw that people learned in a combination of ways, from a combination of sources, and the outcomes can be both direct and indirect. This learning map is also difficult to isolate into fragmented descriptions. Thus, the following presentation of my findings is formatted as *what* is learned (outcomes) and *how* it is learned (sources and pathways), but in explaining them I will include their linkages.

3.1 What is learned: Learning outcomes

Learning outcomes for participants at Anda, Sandnes and ByAuk CSAs relate chiefly to:

- Knowledge and skills related to vegetable cultivation (both in general, and specific to the organic or regenerative principles used at the farm)
- Skills related to using and cooking more vegetables
- Awareness of the work, time, and organization it takes to grow vegetables at scale
- Organization and planning, in relation to vegetable production and people management

Questionnaires sent to shareholders at Anda, Sandnes and ByAuk provided me with initial insight to the extent to which they consider their CSA a learning arena. Responses shed light on their learning outcomes in terms of new knowledge, new skills, new or different habits, and new or different opinions, or different "types" of learning. Table 3 (below) reviews the extent to which each of these types of learning were actualized for the respondents.

The majority of respondents consider their CSA a learning arena. Most reported gained knowledge and skill, and slightly less reported changed habits. At Anda and Sandnes, most did not change opinions, while at ByAuk, more than half did. If respondents answered "yes" to learning any of these types, they were asked to elaborate. These responses yielded categories

of knowledge, skill, habit and opinion for each CSA (see Appendices F, G, H and I for bar graph representations of each knowledge type).

Table 3: Questionnaire responses from each CSA case, condensed

CSA farm case	Question (by learning type)	Yes	No
Anda CSA	Do you consider your CSA a learning arena?	8	1
	Gained knowledge	8	1
	Gained skill	8	1
	New/different habits	8	1
	New/different opinions	2	7
Sandnes CSA	Do you consider your CSA a learning arena?	30	1
	Gained knowledge	28	3
	Gained skill	27	4
	New/different habits	26	5
	New/different opinions	15	16
ByAuk CSA	Do you consider your CSA a learning arena?	9	0
	Gained knowledge	9	0
	Gained skill	9	0
	New/different habits	7	2
	New/different opinions	6	3

Knowledge. The most common overarching category of gained knowledge at all three CSAs is practical knowledge relating to cultivation. At Sandnes, responses referred to organic agriculture in particular, as well as general vegetable cultivation. At ByAuk, most responses mentioned included soil health, new vegetables, and regenerative agriculture practices. These categories of knowledge reflect the respondents' respective farm practices, as Sandnes CSA is certified organic and ByAuk emphasizes their use of regenerative principles.

Skill. The most common category of new skills at Anda is cooking, including food storage and conservation. Sandnes' responses referred to cooking and various skills related to cultivation (harvesting, planting, storage). Once again, most responses at ByAuk focused on soil health, as well as cultivation skills.

Habits. The most common habit change reported by respondents from all three CSAs was eating more vegetables, followed closely by other cooking and eating habit changes. These include prioritizing seasonality, basing meals off weekly harvests, and being more creative in the kitchen. Some of those who answered "no" to having new habits explained that they already had food habits that prioritized local, organic and/or vegetable-based consumption.

Opinions. The extent to which there was a reported change in opinion varied from farm to farm. At Anda, just two respondents named changed opinions which related to the importance of local agriculture and the ability to be self-sufficient. Sandnes' respondents demonstrated an increased respect for farmers and agriculture, and the importance and feasibility of organic agriculture. At ByAuk, the importance of local agriculture and local knowledge, as well as the awareness of new agricultural methods, were the most common changes in opinion. Of those who elaborated on why their opinions did not change, most responses reflected a pre-existing attitude of the importance of local and organic agriculture.

Responses to the optional, open-ended question at the end of the questionnaire delivered useful insights as well. Most respondents expressed positive feelings about their membership in general, with specific mentions of their farmers' agricultural competency and that they spread their knowledge to shareholders. Other responses echoed findings from the previous questions, for example having a greater respect and appreciation for the value of food and a greater awareness of natural cycles.

I found that the questionnaire results aligned with the learning outcomes that shareholders described to me in interviews. They acquire or develop knowledge and skills for vegetable cultivation, they are challenged in the kitchen to use new recipes, try new methods to cook, and learn to conserve or store the vegetables from their harvest shares. They also develop a sense of awareness for the reality of organic and/or regenerative agriculture in their local context. Interviews focused more on shareholders' learning processes than their learning outcomes. The following section will describe these learning processes in terms of the learning sources and various learning pathways.

Photo 3: The leek and red onion beds at Anda CSA, marked with clear signage. (Photo: Giannina Beckstrøm)

3.2 How it is learned: Learning sources & pathways

3.2.1 Participation: learning by doing

Active participation in the CSA farms' growing operation is central to the shareholders' involvement, and in the case of ByAuk, it is also the way in which volunteers are involved. I found participation to be the most important learning source because it is often intrinsic to the other sources. By being present at the CSA farms and carrying out various farming tasks, participants are provided ample opportunity to learn by doing. This includes learning something new, building upon previous knowledge and skills, as well as developing conceptual understandings.

It is particularly obvious that people learn experientially when they are faced with a vegetable or task that is new to them. For example, if an unfamiliar vegetable appears on the harvest

announcement, then shareholders must open their senses to a searching process, which can result in a memorable learning experience. John Dewey (2005)'s foundational contributions to the theory of experiential education draws focus to a "true" experience in which senses are engaged and "the material experience runs its course to fulfillment … a piece of work is finished in a way that is satisfactory" (pp. 36-37). As such, learning by doing is strengthened when the learner embodies the task and encounters a result. A shareholder from Anda explains that he learned what a new vegetable is after this kind of experience that Dewey (2005) describes:

> We also learn when we come to harvest our shares. There are some tips and tricks about how to harvest, what to harvest [on the harvest announcements], but if you aren't familiar with a certain vegetable, then you have to search for it. I've never seen savoy cabbage, for example, in the grocery store before.

Later in the interview, this shareholder expanded on the process of his experiential learning:

> ... you do something and you also have a result afterwards. So, you have to think a little, what do I do with this? We have brought home a lot of salad, for example, so we are also faced with the challenge of using it all. It can possibly be a source of learning.

Even if someone is familiar with a vegetable as it usually appears in the grocery store, they may not be aware of what it looks like in different phases of growth. Torill, the farmer from Sandnes CSA, provided an illustrative example of a time she witnessed this kind of learning:

> We had one shareholder who came walking through the potato fields when the potato plants were quite tall, and she said, "I can't figure out where the potatoes are!" "No," I said, "I'll come show you." So, I think she learned something there ... that you can't see the potatoes because they are buried underground, and we have to dig them up!

A shareholder at Anda shared her perspective as a food and health teacher who has brought her classroom to the farm to harvest ingredients for class. While this includes formal learning for the students, she recognizes that there is value in the greater exposure as well, from simply being present at the farm: "there's something different about being here, instead of seeing it in a picture or just picking it up packaged in the store." Another example comes from a

shareholder at Sandnes, who told me that her kids know more about vegetables because of the CSA. It is exciting for them to use their hands to dig and discover in the dirt, and now they know that potatoes and carrots grow underground, and they are not always as clean as they appear on the grocery store shelves.

I found that learning by doing happens both instantly and over time. A shareholder from Anda reflected on the potency of experiential learning through participation:

> It starts with the practical things, and that's a slow way to learn, in many ways. I mean, you absorb much more information if you read, and fast. That is, in relation to the time it takes. But from my perspective, it will be more robust when you get to experience it. Also, it sparks interest and curiosity, in me at least.

Experiential learning over time at the CSA farms is driven, in part, by watching the natural progression of vegetable growth and seasonal variation. Shareholders and volunteers can participate anywhere between March and October, and being exposed to the farm environment at different points in the season can enlighten people to an awareness of how dynamic an agricultural landscape is. In the case of participating for more than one year, shareholders witness the principle of crop rotation in practice, since this is used by all three CSA farms. In fact, learning about crop rotation was commonly mentioned in the questionnaire as well as my interviews. An illustrative example comes from a shareholder at Anda:

> I've never thought about how you should switch where you plant, and all that. I learned that here. Crop rotation, that's what it's called. How would I have learned about this if I hadn't been a part of this? It would never have happened. I would have just gotten worse and worse potatoes every year, without understanding why. So, this is totally new.

In this way, learning by doing can come from "learning by seeing," as well. This may be especially visceral at ByAuk because its physical area is still developing, and participants witness and take part in its expansion. The growing area nearly doubled from last year to this year, and much of the *driftslag* and *dugnad* work centered around building new vegetable beds and setting up two new tunnels. Learning how to build a vegetable bed was a heavily mentioned

learning experience from shareholders and volunteers I spoke with at ByAuk. This CSA is located in a residential neighborhood and close to a popular walking path, so this visibility presents greater opportunity for incidental learning (as in unintentional learning by happenstance [Marsick & Watkins, 2001]) among people outside of the CSA community as well. Over the past two years, shareholders as well as local passersby have seen the area transform from an overgrown and unused lawn into a lush network of diverse vegetable and flower beds. Watching and/or taking part in this visible expansion of the CSA area can lead to an understanding of the timescale at which agricultural production takes place, and at which it can be built up from scratch. I observed that the greater community's curiosity was easily piqued by the happenings at ByAuk. As quoted by a shareholder, "it's fun to see people passing by here and see that there are questions asked by the passersby." During my weekly participant observation at ByAuk I saw many people stop to watch or talk to us as they walked by. Some became "regulars," took coffee breaks with us and seemed to enjoy staying up to date on the garden's progress and various methods. Thus, ByAuk's urban location provides exposure to a greater breadth of people and can become a site of experiential learning for anybody who happens by.

While I observed people learning a lot of *new* things, conversations and interviews shed light on the fact that a lot of learning happens by further developing building upon what one already knows. This development or expansion of knowledge and skill is also commonly grounded in experiential learning. As an illustrative quote, one shareholder told me, "It's one thing to 'know' a thing when you read or hear about it, but it's a whole other thing to experience it with your hands." Another example comes from a shareholder interview from Sandnes:

> There are also some of these things that I already know from before, but this is where I get to retain, locate and further develop what I can. It's also the fact that there's good contact with the earth, so it's sort of more than just gaining knowledge, it's kind of the whole picture thing - I really like that, the whole cultivation process. To have that contact with the earth, to be outside, to share and to develop it further, I like it very much.

This quote illustrates how the CSA farm can be the site of not only knowledge acquisition, but knowledge development. It also shows how, for this shareholder, participation cultivates a holistic understanding and appreciation for her role in the vegetable production. This leads me to a final finding for how participation is a learning source: it allows people to uncover or develop positive emotions about their local and participatory agriculture. In a 2023 survey of shareholders, nearly 80% reported that CSA had improved their quality of life (Milford & Devik, 2023). This is akin to the "enchantment" that Hvitsand (2016) describes among Norwegian shareholders' feelings of reattachment to place after meaningful participation in their CSA farms. Here is an illustrative quote from a shareholder at Anda:

> I'm also learning, in a way, that this means a lot to me ... I just feel that it does me so well to come every time. To come and harvest, it's just like time stands still when I'm here. It's just me, and I'm just thinking about everything I'm going to make for meals. Today I'm going to have guests, so I think "oh yes, I can make arugula pesto, I can also make kale chips, I'm also going to make a salad," and I'm like, [makes happy noises]. I enjoy it.

On a similar but different note, Torill explained that she sees that sometimes, after a season of membership, people realize that to participate in CSA is not for them. It can become too much work to come and harvest every week, show up for *dugnads* even if the weather is poor (see Photo 3, below), and some people decide that the amount of active participation required is not worth it to them in their circumstance.

Photo 4: Looking out over the potato fields at Sandnes CSA, taken during a communal harvest on what was recorded to be the rainiest day the region has ever experienced in June. (Photo: Giannina Beckstrøm)

3.2.2 Conversation: knowledge transfer and knowledge exchange

The second learning source, conversation, often comes as a result of the first learning source, participation. Throughout the season, CSA shareholders, volunteers and farmers come routinely together for *dugnads* and these events often become social events in their own right. This is particularly true at ByAuk, which organizes its *dugnads* as weekly Shareholder Days for the CSA community to have a common time and place to meet. With over 120 shareholders at Sandnes CSA and nearly sixty at Anda CSA, it is likely to meet someone new at every *dugnad,* and my experience participant observing these gave me a strong impression that people naturally drift into topical conversations about things CSA related. This finding is echoed by interviewees at all three farms who voiced that by being in a group of other people with a shared purpose and interest, conversations tend to present good opportunities to pick up new information. A

shareholder at Sandnes CSA said that being at *dugnads* "has always been very pleasant, and we talk from A to Z about planting and different things." Similarly, a shareholder at Anda CSA explained:

> When we start to do something, you might find something surprising, perhaps a kind of weed that you haven't seen before, and so you start talking to each other. It is, after all, an informal scenario. So there's a lot of learning in social contexts.

Another shareholder from Anda CSA highlighted that the entire community, not just the farmers, represent sources of learning for each other:

> Then there are many other people at these *dugnads*, and it is first of all social. Everyone has one thing or another to contribute when it comes to knowledge, especially knowledge about what we're doing. After all, it's not just the farmers who contribute, everyone does. I find that very interesting.

Tone, from ByAuk, echoes this sentiment that the entire CSA community can represent a hub of diverse knowledge:

> I have also learned that people have an incredible amount of knowledge, both shareholders and those who are part of the volunteer team, and the people we talk to. There is so much oral knowledge about things that you can get by listening to people or taking the time to the conversation around it.

I observed that some conversations were structured as a direct transfer of knowledge (as in, one person teaches another), while others were structured more as knowledge exchange (learning together). These represent the two primary learning pathways born from conversation. As an example of the former, a shareholder at Sandnes explained to others working on the same *dugnad* task what water kefir is and how to start it at home. Since nobody else knew about water kefir, this shareholder was teaching the others new information through a unidirectional transaction.

Another example of direct knowledge transfer often occurred while receiving instruction from the farmers either at *dugnads,* in harvest announcements, or through updates posted on social

media pages. During *dugnads* at Anda CSA, I observed that the farmers, Randi and Tormod, consistently presented not only instructions for the tasks, but the purpose of them too. For example, Randi explained that the salad seedlings sitting in their trays outside the greenhouse were undergoing a process of 'hardening' to acclimate them to the outdoor conditions they will eventually be planted in, but until then they had to be taken in during nighttime. Another example was when we rolled out canvas field covers, Tormod explained that this was a way to manually suppress weeds instead of using herbicides. At Sandnes CSA during a weeding *dugnad*, we observed that there were many more weeds concentrated on one side of the field. Torill explained that last year, canvas field covers were folded over this zone in a way that made it inaccessible to weed, so the weeds had a better chance to establish themselves. These examples demonstrate how farmers transfer knowledge in the form of conceptual understandings as well as immediate, practical skills.

At ByAuk, the farmers have a shared goal to "think out loud" as they describe the tasks to volunteers and shareholders. Tone, ByAuk's employee (who I include when I write of ByAuk's "farmers") shared with me during an interview an example of the conscious way that she, Sven Are and Yngve communicate:

> [I explain that] here, we use wool in the beds, but on the salad, we use straw, because there is a lot of lanolin in the wool, and you might not want the taste that in the salad that you eat raw. So just to explain why we do what we do, I think that creates wonder, and that creates knowledge to those who are involved. Of course, you also have to feel whether people are interested or not. But what I notice is that on the shareholder days, and in the volunteer team [*driftslag*], we talk a lot about why things are the way they are.

As a result, the farmers at each CSA farm are clearly seen as trusted sources of knowledge. The farmer at Sandnes, Torill, has the most years of experience in producing organic vegetables and managing CSA shareholders and has a background in teaching and agronomy. One of her shareholders confirmed,

> That's right, she's very good at communicating. That is my experience. She is so, "to the point," and not just a boring communicator, she has positive and good ways of communicating.

This speaks to an important finding that surfaced at all three farm cases: the facilitation and communication skills of the farmers plays a large part in how their CSAs manifest as learning arenas. As identified by Marsick & Volpe (1999), an action that can enhance learning is to "making time and space for learning" (p. 5). In my interview with Sven Are and Yngve from ByAuk, they emphasized their intention to let conversations and collaboration take the time it needs instead of sacrificing it to be more time efficient. Yngve said, "[the work] doesn't have to be so efficient because you have people with you, and having the people with you has value in itself in a way." In an in-depth interview with Randi from Anda, she admitted to me that she is a "list person," and that she tries to communicate clearly so that people with any level of experience can feel welcome and capable at the CSA. I found that she is successful in this regard: her weekly harvest announcements, for example, are often accompanied by descriptive updates about the crops in relation to the weather and time of year, as well as detailed notes about how to harvest (see Appendix J for an example of Anda's harvest announcements). This gives shareholders access to a lot of topical and context-specific information that guides and/or teaches them about vegetable cultivation. An interviewee explained that "its [at *dugnads*] that we learn, to be able to talk to Randi, hear how she does things and how she thinks." From the questionnaire sent to ByAuk shareholders, one response reads "I have had many conversations with Yngve and Sven Are that are bubbling over with newly acquired knowledge and experiences, and they spread it to others." These examples, as well as findings from every interviewee I spoke with, support my finding that shareholders and volunteers consider their farmers as experienced, knowledgeable and trustworthy sources of information. Nonetheless, I observed that there was always an atmosphere of curiosity and openness in the way the farmers communicated.

This easy atmosphere hosted by the farmers helped instances of knowledge transfer morph into instances of knowledge exchange. At ByAuk in particular, I was struck by how intentional the farmers are to create a collaborative learning environment, in which the spirit of inquiry is

shared among everybody involved. There was a clear attitude of trial-and-error, flexibility and reflection in the way that they planned for the season and took into account the many variables that affect how and when crops grow. While Yngve, Sven Are and Tone are all extremely knowledgeable, their transparency about their own learning processes creates fruitful opportunities for others to join in on it. Here is an excerpt from my interview with Sven Are and Yngve, which sums up the friendly and collaborative atmosphere at ByAuk:

> The way people learn is by participating in and performing different tasks. When they build beds, right, they see how it's all put together. It's 'learning by doing.' And we often get questions from the shareholders that we don't know the answers to [laughing]. So, we just google it. Then there's a bit of humor in it; we google it together and find out about it together.

I observed people "finding out about it together" as a regular approach to learning at the CSA farms, either in the form of knowledge exchange (comparing success stories for keeping snails out of the garden, for example), but also in the form of knowledge co-creation. Utter et al. (2021) define this as:

> … the co-creation of knowledge as a collaborative process involving two or more actors, who are intentionally integrating their knowledge and learning, resulting in the development of insights and solutions that would not otherwise be reached independently.

In most cases, these were either conversations about tips for cooking or the home garden, as these topics are relatable to many shareholders. They were usually kicked off by a story or casual conversation. For example, in a conversation about elderberry flower syrup at a *dugnad* at Sandnes CSA, someone brought up that you can make dandelion syrup in the same way. This led to a fruitful back-and-forth about different harvesting and syrup-making techniques, as well as a collective brainstorm about what other flowers might be made into a tasty syrup. Learning through knowledge exchange and co-creation applies to the farmers as well, who all expressed that they valued the community that made up their CSA for its diverse knowledge. As quoted by

Randi, “I'm open to the fact that I can't do everything, that others can do things that I can't. Because people come with different experiences.”

The opportunity for learning through conversation can also be because of a greater intentional approach to fostering a learning environment on the part of the farmers. For example, Tone from ByAuk describes their culture that prioritizes meaningful interaction:

> I also think another thing that makes learning happen is that we create time for it. When we have volunteer teams [*driftslag*], we use the time we need, and we are not always very efficient. But it is not the point to get things done straight away, but to actually create time for good conversations, and language training is an important part of that. But often the language training revolves around something that has to do with plants too. So to give time to that – for example we use mostly manual labor, or we use our hands for the most part – we are not very efficient. But it’s because we want the community, and the greater community that sees us working, to know that we do things together and maybe that means we also do things slowly.

However, some interviewees shed light on how this conversation-based learning is dependent on one’s personality. For example, after explaining that she did not always have the time to stay behind after *dugnads* or harvests to talk to others, one shareholder wondered if this may impact how much she learns through the CSA compared to more social people. On a similar note, a different interviewee from Sandnes pointed out:

> I’m the social type, so it’s not like [learning through conversation] applies to everyone. But it’s nice to talk to people because you know they care about this. It’s easy to ask for tips and tricks.

This speaks to the fact that motivation and interest are important factors that influence the extent to which someone experiences their CSA farm as a learning arena, particularly for the learning pathways of knowledge transfer and exchange.

Photo 5: The corn, bean and pumpkin beds at ByAuk, with both straw and wool used as covers. The popular walking path is seen to the left. (Photo: Giannina Beckstrøm)

3.2.3 Written communications from the CSA: knowledge transfer and knowledge exchange

Learning can happen during participation and conversations in the field, but it may also come through active exchanges and communications in the CSAs' online spaces. These communications represent the third learning source, which is utilized primarily by the learning pathways of knowledge transfer and knowledge exchange.

One steady form of written communication comes to shareholders in the form of a weekly "harvest announcement," sent out by farmers to inform them of what and how much they should harvest (see Appendices J, K and L for examples from each CSA). They also include instructions on how to harvest, where in the fields to find the crops, and other useful information such as storage tips. Through knowledge transfer, these harvest announcements

are concrete sources of information that teach new or further develop shareholders' knowledge about how to harvest the specific vegetables in their shares. An interviewee from Anda describes that she looks forward to the harvest announcement every week:

> It comes every Sunday, and in a way, I learn a little bit about new plants that I have not been familiar with before. And I think it's exciting to dive into new recipes based on the ingredients I have, and that I'm allowed to just cook according to what's available at the time.

Each CSA has a private Facebook group where farmers can post these harvest announcements as well as other pertinent information, such as videos or photos to demonstrate proper harvesting technique, representing another avenue for knowledge transfer. ByAuk and Sandnes also have public Instagram pages. These social media pages are also used for farmers to post updates about the crops and farming methods, often in relation to the time of season or current weather. This can provide readers inside and outside the CSA community a chance to connect local scale knowledge to a greater system of agricultural factors.

The CSAs' Facebook groups are also sites of knowledge exchange. I observed that shareholders share recipes and ideas for the vegetables in the weekly share, posting photos for inspiration. This year, Torill organized a collaborative online recipe book for shareholders at Sandnes for the same purpose. I found that ByAuk and Sandnes' Instagram pages also foster knowledge exchange as people comment on posts with questions and receive answers from the farmers or other users chipping in. Because these online communications are geared directly toward sharing relevant information about the CSA, they are concrete sources for people to stay updated and potentially learn or develop knowledge.

3.2.4 Resources used in self-directed learning: knowledge transfer, knowledge exchange and learning by doing

The previous learning sources can be the grounds for learning unintentionally, but they can also represent how people learn intentionally, or with self-directed learning. This final learning source is a catch-all category for the resources CSA participants utilize in their self-directed learning endeavors. This learning source is dependent on one's own interest and motivation to

learn, and it is fueled by curiosity that may have been sparked by experiences at the CSA, but it may also be the reason someone joins the CSA in the first place. I found that self-directed learning among shareholders happens in a number of ways. One is by approaching farmers for advice about anything vegetable cultivation-related, thus using the pathways of knowledge transfer and exchange. Another common situation is by referring to other resources such as internet searches, books, films to dig more deeply into skills or concepts related to CSA, sustainability, or agriculture in general, which could employ any of the three learning pathways. Additionally, shareholders explore new recipes and skills in the kitchen as a result of diverse and/or abundant harvest shares, and in this way using the pathway of learning by doing. They may also consult other people or resources and use the pathways of knowledge transfer and exchange. Farmers, too, utilize all three learning pathways to learn through self-directed learning as they develop and maintain their CSAs.

As I described in the previous section, shareholders and volunteers at all three CSA farms considered their farmers as go-to sources of information and knowledge. That they facilitate an organized and communal food production seems to position them as informal yet deeply trusted experts in the eyes of the rest of the CSA community, and position them as a primary resource for knowledge transfer and exchange.

An example of an established instance to learn from the farmers, Torill hosts communal harvesting sessions at Sandnes, where she accompanies shareholders to the fields to guide them through the process. She encourages first-time shareholders to attend at least one of these. It was at one of these communal harvests that I observed an illustrative example of how Torill represents a trusted knowledge source: a shareholder came to Torill with a cucumber-related question, despite having researched the matter beforehand. Although this shareholder engaged in self-directed learning from other resources first, she ultimately took it up with Torill, whose local experience and knowledge was shown to be considered most trustworthy and relevant.

At Anda and ByAuk, I also observed shareholders asking the farmers for tips and clarifications about their home gardens. Sometimes questions arise as a direct response to the explanations

given by the farmers. In this way, the knowledge exchange processes I described earlier to illustrate unintentional, conversation-based learning can spark an intentional process self-directed learning as well, so to separate instances of self-directed learning and those which arise from other sources is not always an accurate way to understand how people are learning. Moreover, interviewees from Anda helped me conceptualize that engagement, curiosity and motivation combine to create a more potent learning process of self-directed means. For example, one interviewee who is passionate about growing his own food said,

> … when it comes to learning, it is often a personal commitment if you're doing it in your spare time. So, we talk a lot with Randi when we're here. I think that when it comes to seeking information, especially at home, it depends on personal commitment.

With a similar sentiment, a shareholder at ByAuk explained:

> I've actually been [learning on my own] for quite a long time. I've watched some movies that are incredibly fascinating, the *Biggest Little Farm*, have you seen it? Yes, it was fantastic. So I've had that interest for quite some time now. Here, I get the practical part too, it's kind of part of it.

Torill noted the element of interest and curiosity in our interview as well, saying that although she thinks everyone must learn something by being present at the farm, those who *want* to learn probably learn much more. They might ask more questions, look things up, experiment in the kitchen, or do other things that augment the CSA as a learning arena for them. An interviewee at Anda explains the link between experience, curiosity, and self-directed learning:

> It's that curiosity that I think is so nice. But that curiosity must be triggered in some way. This is where it is triggered ... I would never have read about cabbage if I hadn't been here. Why would I do that? It might have been like a recipe: how to make cabbage stew, to put it a bit plainly ... It must be one activity or another, or something practical, that leads to triggering such self-directed learning.

However, self-directed learning may also be the result of curiosity, interest or self-motivation that exists independently from CSA involvement. One or more of these is usually preconditional

to the people who are involved with CSA. A shareholder from Sandnes emphasized her interest as the main factor in her learning, as opposed to the CSA:

> It's because I'm interested in it, right? So, it's hard to know where you're picking things up. I mean I love gardening and growing, so I read a lot about it, so it is difficult to quantify how much comes from the farm.

In the case of a self-directed learning process being the motivation to join CSA, this can steer participants to utilize their on-farm participation and conversations to this end. This was the case for a volunteer at ByAuk, who is retired and wanted to learn more about gardening so he could improve the one he had at home. By asking lots of questions, he inadvertently created a learning environment for others who were present. Indeed, informal learning is often "linked to the learning of others" (Marsick & Volpe, 1999, p. 5).

As for self-directed learning in the kitchen, many questionnaire respondents described that they have been forced to learn how to conserve and store their vegetables to avoid food waste. In describing new skills and habits, respondents from Sandnes reported being more creative in the kitchen to prioritize vegetables from their CSA shares. Here is an example from an interview with a shareholder at ByAuk:

> Last year I tried to almost not buy any other vegetables, just try and use up what we had from here. Maybe I supplemented with a little bit of garlic because they didn't have that much garlic. So just being like, this is what we've got so this is what we'll make our dinners from. So, I made food that I hadn't ever made before or used ingredients I had never used before.

I found that the spirit of self-directed learning is alive in the farmers as well. After answering a carrot-related question at a *dugnad*, Tormod explained that he is learning more every season because they are always trying new things and are curious about the process. He and Randi have a self-directed learning process that involves tapping into networks on and off their farm. As for utilizing the knowledge of their shareholders, Randi gave the example that:

> There is one shareholder in particular who is here a lot and I like to ask her for advice. When she comes to *dugnads,* we discuss a bit, not just asking, but discussing.

Self-directed learning at ByAuk was most apparent in the farmers' attitude of adaptability and experimentation at the CSA. Because ByAuk is currently in its second year, its farmers are still experiencing a learning curve. As an example, Tone shared that

> … there is a great deal we do not know, there is an awful lot; we don't know how long it takes until the garlic is ready, we don't know because we're working a bit with various factors.

She went on to say, "we have learned that there is always a new challenge in relation to pests, for which there are no concrete answers either, so we just have to try." This illustrates that their self-directed learning manifests through an attitude of trial-and-error on the farm, or in other words, learning by doing. However, they still have decided resources that they consult, because as Yngve and Sven Are said in their interview:

> Yngve: you know, you have to start somewhere. And if you are going to consider a lot of good advice, then it can suddenly become too much, in a way. So we were a bit afraid that we would have a lot of people giving us advice, that we wouldn't be able to navigate it.
>
> Sven Are: It's hard to know who is right, right? People have a lot of opinions about everything, so it can be difficult to know what the best advice to get is.

This sentiment was echoed by the farmers at Sandnes and Anda CSAs as well (and this is an area in which they have all developed their people management skills). To navigate the development of their CSAs, all the farmers tap into both informal and formal networks. Formal networks include those provided by NLR (annually hosting an agricultural advisor, attending field visits to other farms, taking courses) and Økologisk Norge (taking courses, attending smallholder and CSA farmer gatherings, reading their CSA handbook). There is also an informal network of CSA farmers in the area, so they can share experiences, questions and visits with a very relevant group of people. In fact, I found that the farmers at each of the CSA farm cases in

my study were familiar with each other. As the most experienced farmer, Torill was a source of mentorship or advice for both ByAuk and Anda.

In conclusion, I present a fundamental consideration for how people learn: I found that the main reason that the CSA farms in my study present as learning arenas is because its participants are actively involved in purposeful activities in a social setting. To put it simply, people are doing things and they are talking about the things they are doing. These groups of people hold a range of experiences, interests, and knowledges, so participating and conversing in them almost always provokes an informational setting. Thus, the learning sources of participation and conversation are key features of the learning arenas found at the CSA farms in my study. Moreover, there are the related, more conceptual features of curiosity, interest and motivation. These are influencing factors that create, augment, and are the result of learning processes in all the sources, pathways and outcomes I found. Now that I have described my findings in the terms of learning sources, I present an expanded version the original visual representation (Figure 2, below).

Figure 2: Visual representation of the learning sources, pathways and outcomes expanded to depict influencing connections of curiosity, motivation and interest and identify key sources.

4. Further discussion and implications

4.1 Informal learning: incidental, self-directed, and socialization

I define a learning arena as *any place that presents the opportunity to learn and (deliberately or inadvertently) encourages learning*. This definition accounts for learning that is formal or informal, conscious or subconscious, as well as intentional and unintentional. Formal learning was found in instances of integrating school curricula into ByAuk and Anda CSAs by having classes as shareholders and using the CSA as an extension of their formal schooling under the umbrella of health, food and sustainability learning goals (see Svela, 2022). However, most of the learning I found is classified as informal, because these CSA farms are not embedded within formal educational institutions (Schugurensky, 2000; Marsick & Watkins, 2001).

In a proposed taxonomy of informal learning, Schugurensky (2000) defines three forms: self-directed, incidental, socialization and presents them in terms of the learners' intentionality and awareness (i.e., being conscious of learning as it happens). Self-directed learning is both intentional and conscious; incidental learning is not intentional but is conscious; socialization is neither intentional nor conscious (see Table 4).

Table 4: Forms of informal learning, adapted from Schugurensky (2000)

Form	Intentionality	Awareness at time of learning
Incidental	No	Yes
Self-directed	Yes	Yes
Socialization	No	No

I found this framework useful for its qualifiers of intentionality and awareness, which help conceptualize the variety of manifestations that informal learning can take on. Further, to borrow from Schugurenksy (2000), "it is in this sphere, so disregarded and so under-researched, where most of the significant learnings that we apply to our everyday lives are learned" (p. 2). The learning processes at the CSA farms in my study ranged from intentional to unintentional and conscious to unconscious. According to Schugurensky (2000)'s taxonomy, the first three learning sources from my findings (participation, conversation, and communications from the CSA) can be understood to be different expressions of incidental learning, because they can

result in new knowledge, skills and awareness even if learning was not the intention. This incidental learning represents a practical byproduct of shareholders' involvement, born from their active participation and the steady network of communication that comes with it. However, these first three sources can also be sources for self-directed learning, as I observed that intentional learners utilize these sources in their quest for more knowledge and skill. I also found that cases of incidental (unintentional) learning will often lead further to intentional pursuits of self-directed learning, as an incidental learning outcome sparks curiosity that loops back around to start a learning process anew. Based on a holistic view of the like-minded and friendly social dynamics of the CSA farms, I also found that CSA participants may learn by Schugurensky (2000)'s third informal learning form, socialization. However, this form of learning is more difficult to identify given the fact that it can only be understood in hindsight (as it is, by definition, an unconscious learning process). Figure 3, below, is a visual representation of my findings, expanded once again to include the aspects of awareness and intention that qualify the different forms of informal learning as described by Schugurensky (2000).

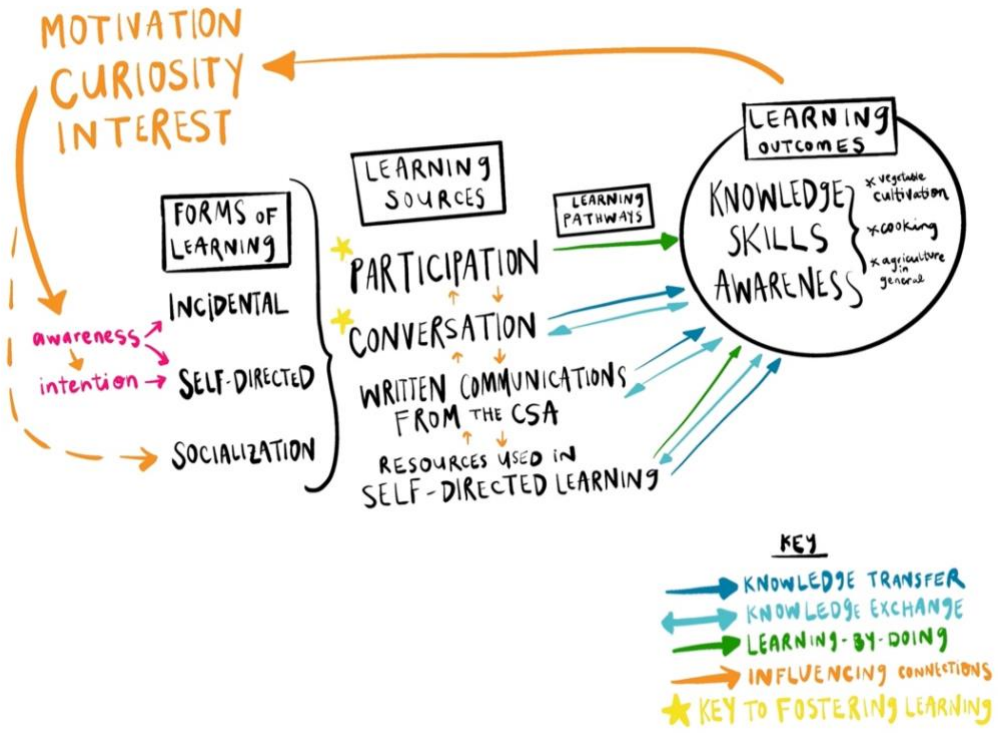


Figure 3: Visual representation of my findings that include different forms of informal learning as presented by Schugurensky (2000).

4.2 Expanding on the learning source of conversation: social dynamics and transformative learning as a potential topic of further study

In a study of the transformational potential of Norwegian CSA, Hvitsand (2016) found a tendency for members to join their CSA with "internalized values and attitudes when it came to ethics around food consumption and production." This tendency surfaced in my study as well, where many interviewees and respondents to questionnaires mentioned that their values led them to joining their CSA in the first place. Additionally, the majority of questionnaire respondents, whether they changed opinions or not, expressed values of local, organic, participatory and/or sustainable agriculture. In this way, socialization (Schugurensky, 2000) may be seen as a process that precedes and is then strengthened by CSA membership. There is a common narrative among CSA participants that can create a culture based in these values, which can in turn steer participants toward unintentional and unconscious processes of acquiring or further developing them. One interviewee from ByAuk reflected over the common interest among the shareholders at the CSA:

> I guess that maybe, a starting point as well, is that many of us are involved here have an interest in this anyway. So I guess one of the next questions is like how are you going to get other people interested in it as well? Because you don't want this to just be an echo chamber, only learning and developing your learning in that group, like you want this to be a societal thing.

This shareholder identified the risk for the impact of CSA to be isolated to those who already have certain normative assumptions about sustainable food and agriculture. While this may limit the immediate societal impact of CSA, it may also foster learning for the people within that group. Everson (2015)'s study of informal learning at CSA farms in Minnesota, USA remarked that

> In some respects the CSA was a perfect environment for informal learning because the CSA members voluntarily paid for their membership, which meant they started with an emotional, as well as financial, commitment. Additionally, the high level of informal learning in my study may also reflect the strong homogeneity of participants in terms of socioeconomic and educational circumstances. Bandura's [1986] social learning theory

> predicted that 'the more like observers are to models in status and characteristics, the greater is the likelihood that similar actions will produce comparable results' (p. 297).

Everson (2015) points out that voluntary commitment and homogenous backgrounds of shareholders can create conditions more conducive to learning. While my study did not account for socioeconomic or educational backgrounds like Everson (2015)'s, it did reveal a dominant ideology among participants in support of local and sustainable agriculture, which color their motivations and interests to engage with the work and each other. Hvitsand's inquiries into Norwegian CSA, however, uncovered a homogeneity in shareholders' educational backgrounds as well as ideology (2014; 2016).

In slight contrast to Everson (2015)'s use of social learning theory, learning amongst a like-minded group of people may also mean that learning processes on the scale of conceptual development may "hit a wall" if normative assumptions fail to be challenged. In transformative learning theory (Mezirow, 2003), the ambition is to

> … transform problematic frames of reference — sets of fixed assumptions and expectations (habits of mind, meaning perspectives, mindsets) — to make them more inclusive, discriminating, open, reflective, and emotionally able to change (p. 58).

This process involves critical reflection and judgement that produces a shift in worldview and is often spurred by "disorienting dilemma" (Mezirow, 2009). Given the potency of the learning source of conversation that I found in my study, it could be important to consider the social dynamics of the CSA environment to assess if and how people trigger critical reflection for each other. Indeed, if transformative learning is the goal, then it would be interesting to study further the degree of ideological homogeneity among participants. Although I did not collect data for this purpose, I did see that a few varieties of motivations and opinions surfaced in questionnaire responses, potentially indicating a less ideologically homogenous population than other studies suggest. While the *dominant* ideology expressed was one of pro-organic and so-called sustainable agriculture, some individuals reported "not having an opinion about organic" or joining for the primary purpose of self-sufficiency in an increasingly vulnerable global food system. In another study of Norwegian CSA, Westskog et al. (2020) found that

shareholders had different understandings of the sustainability that underpinned their motivation for CSA membership:

> … some were concerned with organic food production and animal welfare, while other were concerned with solidarity with Norwegian farmers and desired a value chain that was less dominated by profit goals and few dominant actors (own translation).

This presents the potential for CSA farms in Norway to be a meeting place for different motivations that trigger critical reflection for participants when they converse with each other. This would require attention to the political landscape of Norwegian agriculture and the Norwegian cultural norms for challenging others' opinions.

4.3 Discussing CSA as a transformative act on different scales: participatory structure, transformative learning for individuals and the collective

Norwegian CSA may still be considered a transformative act for its structural organization based on a closer, more transparent producer-consumer relationship (Hvitsand, 2014; 2016). In terms of what that means for CSA as a learning arena, my findings that the farmers represent trusted sources of knowledge echo those of Everson (2015)'s study of informal learning at Minnesotan CSA farms. She writes that

> Not only did the CSA members view the farmer as a reliable source of information, they also trusted the farmer to provide them with good advice as well as good food … Instead of anonymous food, CSA members were eating food grown by someone they knew and liked. This connection and trust provided a safe place for people to begin to think differently about food (pp. 181-182).

This "connection and trust" with their farmer is inherent to the way shareholders learn from participation, conversation, communication from the CSA, and self-directed learning. Moreover, the elevated participation of shareholders is one of the five principles of Norwegian CSA (Andelslandbruk Norge, s.a.[a]), so shareholders in my study have a greater opportunity to interact with their CSA farmers than typical CSA farms in other parts of the world. By

contributing to the farming operation through *dugnads* and by harvesting their own shares, Norwegian shareholders embody a participatory agriculture scheme that is advocated for by activists and scholars within agroecology and food sovereignty (URGENCI, s.a.). Pretty (1995) describes how participatory models of research and action are important in the quest for sustainability because it combats the prevalence of positivist science paradigms in areas that are dependent on more contextual understandings, such as agriculture. By involving more actors in the development of agricultural knowledge and awareness, more relevant and empowering insights may be achieved. Pimbert (2018) identifies CSA as a productive site for popular education due to its participatory bent, where consumers are given more active roles in defining how and what they eat. This promotes the concept of knowledge democracy, which gives individuals the opportunity to become well-informed, and in turn promotes the concept of food democracy, which allows consumers actively contribute to their food system (Adelle, 2019). To bring the matter back down to the local scope of my study, Norwegian CSA shareholders' active participation can be seen as a tool for helping consumers to take on a more empowered and informed role in their food procurement (Hvitsand, 2016). This study was an attempt to pursue a gap in the literature about the value of participatory food spaces in terms of how and what people learn as a result of their participation.

To consider CSA as transformative because of its propensity to foster learning begs the question, can CSA farms be considered *transformative* learning arenas? Kerton & Sinclair (2009) found instances of individuals' transformative learning through organic food consumption in a case study in Canada. In my investigation of learning processes at the CSA farm cases, I recognized some outcomes that may demonstrate transformative learning on an individual scale as well. These instances related primarily to a new worldview that recognizes the complexity, time and labor resource requirement, and feasibility of agriculture and organic agriculture in particular. I will share one illustrative example from a shareholder at Anda, who described her newly acquired, reflective and more holistic perspective of agriculture:

> When you get close to food, in a way you gain a different kind of respect for both food production and nature. I've been thinking so much about the farmers in this dry season, and sending my prayers up for rain, because [now] I just know how vulnerable it is.

> Things can be destroyed so quickly. It also is so connected, all of it. So, I have learned both a bit of overall and detailed knowledge.

The tendency for transformative learning on an individual scale was something that cropped up intermittently as I built my understanding of the CSA farm cases as learning arenas, but it was not something I specifically collected data or analyzed for. Therefore, I believe this would be another interesting area of research to pursue for future studies, especially because uncovering the extent to which transformative learning occurs for CSA participants may inform actions toward more consumer aware and sustainable food systems.

However, in recent years agroecology scholars have brought attention to the need for "learn for transformation" on a grander scale than the individual (Anderson et al., 2019). To this end, and as an extension of the argument for participatory food systems, knowledge exchange and co-creation are identified as important mechanisms (Šūmane et al., 2018; Anderson, Maughan & Pimbert, 2019; Utter et al., 2021).

In my study, the knowledge exchange learning pathway (including, to a smaller degree, knowledge co-creation) showed itself to result in mostly practical knowledge and skills, with some degree of awareness of agriculture in general. After investigating various agroecology learning efforts in Europe, Anderson, Maughan & Pimbert (2019) found that learning and creating practical knowledge is only one facet of improving agroecological food systems. Their focus lies in the learning procedures, or how the practical knowledge is produced. Four pillars of these transformative learning procedures are identified: 1) *diálogo de saberes* ("wisdom dialogues"), 2) horizontal learning, 3) combining political with practical, and 4) building and strengthening networks. Pillars one and two are the most relevant to my discussion of whether my findings point to Norwegian CSA farms as transformative learning arenas for the collective. The first pillar, *diálogo de saberes,* encompasses participatory schemes for different actors to contribute to the co-creation of knowledge and thus support more inclusive and relevant insights. Herein lies a potential for CSA as sites for transformative learning if it not only considers farmers' learning, but also "emphasiz[es] the need to consider consumers as key subjects in agroecology and agroecology learning" (p. 537). The second pillar, horizontal

learning, is connected to this as it is understood to strengthen learning by removing strict hierarchies of knowledge. While I did observe a knowledge hierarchy at the CSA farms at which farmers were placed at the top, they did not seem strict as farmers routinely embraced insights from shareholders with the pathways of knowledge exchange and co-creation. The third and fourth pillars in Anderson, Maughan & Pimbert (2019)'s study refer to learning processes with the goals of political and activist movements, which is not something I observed (nor specifically gathered data for) at the farms in my study. However, Storstad (2016) studied shareholders' relationship to activism at a CSA outside of Trondheim, Norway and concluded that their CSA involvement "was understood by many informants to have something to do with political ideology, but none of interviewees saw this activity as a form of political *activism"* (p. 64, own translation, italics in original). In my study, learning sources, pathways and outcomes were localized to the specific farm and mostly practical knowledge, and no collective or explicitly political objectives surfaced. There may have been political objectives on a personal scale but as for the collective "learning for transformation" (Anderson et al., 2019), the learning processes from my findings fall short.

This brings me to my concluding thoughts for this discussion. Norwegian CSA can be transformative for its structure, which embraces the power of consumer participation and empowers closer producer-consumer relationships (Hvitsand, 2016). This participatory structure also lends itself to meaningful learning experiences because it supports pathways of learning by doing, knowledge transfer and knowledge exchange (Pretty, 1995; Pimbert, 2018). To evaluate whether these learning processes are of a transformative nature would require further study, although I suspect that some individuals' learning experiences may fit this description. To zoom back out to transformative learning on a collective scale, it seems the procedural essence of these CSA learning arenas are not explicitly political or movement-oriented enough to support the food sovereignty goal of "learning for transformation" (Anderson et al., 2019; Anderson, Maughan & Pimbert, 2019). However, further research and thought is needed in this area before any claims on the collectively transformative character of learning at CSA farms can be made.

5. Conclusion

In my quest to understand what and how people learn at three CSA farm cases in southwestern Norway, a list of learning sources emerged: 1) participation, 2) conversation, 3) written communications from the CSA, and 4) any outside resources used in self-directed learning. I identified three learning pathways: 1) learning by doing, 2) knowledge transfer, and 3) knowledge exchange. These learning sources and pathways resulted in the primary learning outcomes of knowledge, skill, and awareness related to cultivation, cooking, and agriculture in general.

Most learning at the CSA farms is classified as informal, since it takes place outside formally academic, institutionally sponsored or explicitly educational efforts. Informal learning can take different forms and entail degrees of intentionality and awareness at the time of learning (Schugurensky, 2000). In my study, I recognized many occasions of incidental self-directed learning, and found potential for learning by socialization.

As explained in more detail in the discussion section, I believe this study presents three interesting topics for further research, all related to the agroecological ambition of food system transformation. The first is to focus on the social dynamics of CSA farms to understand how the learning source of conversation (i.e., how people learn from each other) may or may not present conditions "disorienting" enough to lead to instances of transformative learning (Mezirow, 2009). The second, similarly, is to design a study with the specific goal of uncovering the extent to which Norwegian CSA farms can be considered *transformative* learning arenas for the individuals involved. I identified reflective and potentially worldview-shifting learning experiences, but only a more intentional study for identifying the evidence of transformative learning would be able to answer this question. The third area for future study I suggest is to focus on the transformative nature of the learning *processes* as described by Anderson, Maughan & Pimbert (2019). This could compare or argue for individual-level transformation versus collective-level transformation.

References

Adelle, C. (2019). The role of knowledge in food democracy. *Politics and Governance*, 7 (4): 214–223. DOI: 10.17645/pag.v7i4.2084

Andelslandbruk Norge (s.a.[a]). *Grunnprinsipper for andelslandbruk i Norge*. Available at: https://www.andelslandbruk.no/storage/images/2021-Grunnprinsipper_brosjyre_web_BM.pdf (last accessed 09.08.2023).

Andelslandbruk Norge (s.a.[b]). *Hva er andelslandbruk?* Available at: https://www.andelslandbruk.no/hva-er-andelslandbruk/introduksjon-til-andelslandbruk (last accessed 07.08.2023).

Anderson, C. R., Binimelis, R., Pimbert, M. P. & Rivera-Ferre, M. G. (2019). Introduction to the symposium on critical adult education in food movements: learning for transformation in and beyond food movements—the why, where, how and the what next? *Agriculture and Human Values,* 36: 521–529. https://doi.org/10.1007/s10460-019-09941-2

Anderson, C.R., Maughan, C. & Pimbert, M.P. (2019). Transformative agroecology learning in Europe: building consciousness, skills and collective capacity for food sovereignty. *Agriculture and Human Values,* 36: 531–547. https://doi.org/10.1007/s10460-018-9894-0.

Bandura, A. (1986) *Social Foundations of Thought and Action*. Englewood Cliffs, NJ: Prentice-Hall.

Bawden, R. J. (1991). Systems thinking and practice in agriculture. *Journal of Dairy Science,* 74 (7): 2362-2373. https://doi.org/10.3168/jds.S0022-0302(91)78410-5.

Bjune, M. & Torjusen, H. (2005). Community supported agriculture (CSA) in Norway: A context for shared responsibility. *Consumer Citizenship: Promoting new responses* (1): 99-113.

Bryman, A. (2012). *Social research methods.* 4th ed. New York: Oxford University Press.

Dewey, J. (2005). *Art as experience*. London: Penguin Books.

Everson, C. (2015). Growing opportunities: CSA members, CSA farmers, and informal learning in the USA. *Studies in the Education of Adults,* 47 (2): 176-184. https://doi.org/10.1080/02660830.2015.11661683

Fadnes, K., Frydenlund, J. & Mathiesen, H. F. (2018). *Grunnlag for utvikling av jordvernmål for Jærområdet: fagnotat til planprogram for Regionalplan for Jæren.* Ås: NIBIO.

Francis, C., Østergaard, E., Nicolaysen, A. M., Lieblein, G., Breland, T.A. & Morse, S. (2016). Learning agroecology through involvement and reflection. In: Méndez, V. E., Bacon, C. M., Cohen, R. & Gleissman, S. R. (eds.). *Agroecology: a transdisciplinary, participatory and action-oriented approach.* Boca Ranton: CRC Press.

Gleissman, S. (2016). Transforming food systems with agroecology. Agroecology and Sustainable Food Systems, 40 (3): 187-189. https://doi.org/10.1080/21683565.2015.1130765

Henderson, E. & Van En, R. (2007). *Sharing the Harvest: A citizen's guide to community supported agriculture*. 2nd ed. White River Junction: Chelsea Green Publishing.

Hvitsand, C. (2014). *Økologisk spydspiss: andelslandbrukets rolle i å fremme bioøkonomi, og økt kunnskap om og forbruk av økologisk mat.* Bø i Telemark: Telemarksforskning.

Hvitsand, C. (2016a). Community supported agriculture (CSA) as a transformational act: distinct values and multiple motivations among farmers and consumers. *Agroecology and Sustainable food systems*, 40(4): 333-351.

Hvitsand, C. & Leikvoll, G. K. A. (2023). Alternative food networks: motivations for engaging in and the contribution to more organic production and consumption of food in REKO networks in Norway. *Agroecology and Sustainable Food Systems*, 47(3): 441-465. https://doi.org/10.1080/21683565.2022.2164823

IPES-Food. (2016). From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems. Brussels: iPES-Food.

Kerton, S. & Sinclair, J. A. (2010). Buying local organic food: a pathway to transformative learning. *Agriculture and Human Values*, 27 (4): 401-413. DOI: 10.1007/s10460-009-9233-6.

Kildahl, K. (2022). *Utsyn over norsk landbruk ved starten av 2022.* Ås: NIBIO.

Kvakkestad, V., Berglann, H., Refsgaard, K. & Flaten, O. (2018). Citizen and consumer evaluation of organic food and farming in Norway. *Organic Agriculture*, 8: 87–103. https://doi.org/10.1007/s13165-017-0176-8

Kvale S. & Brinkman S. (2009). *Interviews: learning the craft of qualitative research interviewing.* 2nd ed. Los Angeles: Sage.

Marsick, V. J. & Volpe, M. (1999). The nature and need for informal learning. *Advances in Developing Human Resources,* 1 (3): 1-9. https://doi.org/10.1177/152342239900100302

Marsick, V. J., & Watkins, K. E. (2001). Informal and incidental learning. *New directions for adult and continuing education*, 89: 25-34. https://doi.org/10.1002/ace.5.

Méndez, V. E., Bacon, C. M., & Cohen, R. (2016). Introduction. In: Méndez, V. E., Bacon, C. M., Cohen, R. & Gleissman, S. R. (eds.). *Agroecology: a transdisciplinary, participatory and action-oriented approach.* Boca Ranton: CRC Press.

Mezirow, J. (2003). Transformative learning as discourse. *Journal of Transformative Education*, 1 (1): 58-63. DOI: 10.1177/1541344603252172.

Mezirow, J. (2009). Transformative learning theory. In: Mezirow, J., Taylor, E. W. & Associates (eds.). *Transformative learning in practice: insights from community, workplace, and higher education.* San Francisco: Jossey-Bass.

Milford, A. B. & Devik, A. (2023). *Grønnsaker i fellesskap: resultat fra spørreundersøkelse med medlemmer av norske andelslandbruk.* Ås: NIBIO

Pimbert, M. (2018). Democratizing knowledge and ways of knowing for food sovereignty, agroecology and biocultural diversity. In: Pimbert, M. (ed). *Food sovereignty, agroecology and biocultural diversity: constructing and contesting knowledge*. London: Routledge.

Pretty, J. (1995). Participatory Learning for Sustainable Agriculture. *World Development,* 23 (8): 1247-1263. DOI:10.1016/0305-750X(95)00046-F

Repstad, P. (2004). *Mellom nærhet og distanse.* 3rd ed. Oslo: Universitetsforlaget.

Rogoff, B., Callanan, M., Gutiérrez, K. D., & Erickson, F. (2016) The organization of informal learning. *Review of Research in Education,* 40 (1): 356 – 401. https://doi.org/10.3102/0091732X16680994.

Schurgensky, D. (2000). *The forms of informal learning: towards a conceptualization of the field.* WALL Working paper no. 19. Toronto: Center for the Study of Education and Work. Available at: https://tspace.library.utoronto.ca/bitstream/1807/2733/2/19formsofinformal.pdf

Standal, K. & Westskog, H. (2022). Understanding low-carbon food consumption transformation through social practice theory: The case of community supported agriculture in Norway. *The International Journal of Sociology of Agriculture and Food,* 28 (1): 7-23. https://doi.org/10.48416/ijsaf.v28i1.452

Storstad, O. (2016) Individualisert aktivisme: en studie av fenomenet andelslandbruk. *Sosiologi i dag*, 46(2): p. 56-78.

Šūmane, S., Kunda, I., Knickel, K., Strauss, A., Tisenkopfs, T., des Ios Rios, I., Rivera, M., Chebach, T. & Ashkenazy, A. (2018). Local and farmers' knowledge matters! How integrating informal and formal knowledge enhances sustainable and resilient agriculture. *Journal of Rural Studies,* 59: 232-241. https://doi.org/10.1016/j.jrurstud.2017.01.020

Svela, H. (2022). 'Tverrfaglighet og dybdelæring i åkeren og på skolekjøkkenet', *Mat og Helse* (2): 28-31.

Ulfeng, H. (2022). *Utsyn over norsk landbruk – ni interessante fakta.* Ås: NIBIO.

URGENCI. (2016). *Our European Declaration.* Available at: https://urgenci.net/our-european-declaration/ (last accessed 08.13.2023).

URGENCI. (s.a.). *About us.* Available at: https://urgenci.net/about-us/ (last accessed 08.13.2023).

Utter, A., White, A., Méndez, V. E. & Morris, K. (2021). Co-creation of knowledge in agroecology. *Elementa: Science of the Anthropocene,* 9 (1): 00026. doi: https://doi.org/10.1525/elementa.2021.00026

Westskog, H., Arnslett, A., Solberg, N., Aasen, M., Julsrud, T. E. & Standal, K. (2020). *Share-On – prosjekt om lokalsamfunnsdeling og bærekraft.* Oslo: CICERO.

Wight, R. (2015). *Community supported agriculture as public education: networked communities of practice building alternative agrifood systems.* PhD thesis. Cincinnati: University of Cincinnati. Available at: http://rave.ohiolink.edu/etdc/view?acc_num=ucin1427798047

Yin, R. K. (2018). *Case study research and applications: design and methods*. 6th ed. Los Angeles: SAGE Publications.

Appendices

Appendix A: Case Study Protocol

Adapted from Yin, 2018 (pp. 93-104)

Goal: "A set of substantive questions to be used in collecting the case study evidence" (p. 93). Consider it meta guide for the researcher to remain on-target and consistent across cases and throughout the duration of the study. It also helps anticipate problems or difficulties.

4 sections:

A. **Overview of the case study** – objectives, auspices, case study issues, relevant readings
B. **Data collection procedures** – for protecting subjects, identification of likely data sources, presentation of credentials to field contacts, logistical reminders etc.
C. **Protocol questions** – to be kept in mind by the researcher while collecting data
D. **Tentative outline of the report** – format for data, presentation and use of other documentation

A. OVERVIEW OF CASE STUDY & ME AS A RESEARCHER

The objective of this case study is to explore and describe the knowledge dynamics and learning processes at Norwegian CSA farms. This can inform both academic and political spheres of the potential utility of Community Supported Agriculture as a driver for food system transformation.

This multi-case study includes three cases of Community Supported Agriculture (CSA) in Rogaland, Norway. Rogaland is a south-western county home to the historically agrarian area *Jæren* as well as Norway's fourth-largest city, Stavanger. Norwegian CSA is a relatively new phenomenon, its first farm registered in 2005 and there are over 85 today. Internationally, CSA has been a form of alternative producer-consumer relationship since the 1960s, with roots in Japan and the USA (Storstad, 2016). While the number of CSA farms in Norway is steadily growing, they are concentrated in Viken county, particularly around the capital city Oslo. Rogaland, on the other hand, is home to 6 CSA farms registered on the national database, plus at least one more. I chose this locale for my study because it has not yet been included in the academic literature about Norwegian CSA, and because of my personal relationship to this area. Stavanger is where I was born and where most of my family lives. While I grew up in the USA, I retained a relationship with my family in Stavanger as well as very Stavanger-esque dialect of the Norwegian language. In short, I have a connection to this area and it's where I am best able to communicate in Norwegian. To minimize my cultural and language barriers as a (half-)American researcher in Norway, I felt that the Stavanger region was the best place to locate my research. The three cases in this case study are *Anda Andelsgard* in Klepp, *Sandnes Andelslandbruk* in Sandnes, and *ByAuk* in Stavanger.

There is a gap in the literature about Norwegian CSA, pertaining to the learning processes these farms can and do host. Scholarly articles from Bjune & Torjusen (2005), Hvitsand (2014; 2016), and Storstad (2016) focus on Norwegian CSA and make mention to the learning processes they foster, but only in passing. Thus, I attempt to fill this gap by asking the research questions:

How can Norwegian CSA be considered a learning arena?

My study is an exploratory and descriptive multi-case study, employing the use of participant observation, semi-structured interviews, and a questionnaire from October 2022 to July 2023.

B. DATA COLLECTION PROCEDURES

Data collection will be performed at the three farms over the course of several months and multiple phases of CSA operation. My farm selection process began with overviewing all 6 CSA farms registered on andelslandbruk.no and reaching out to each of them through email. 5 responded, 4 of them positively toward my request to include them in my research. After an initial phone call with one of them, I decided not to include them as a case because they were in the process of phasing out of CSA model and toward a vegetable box model. I confirmed the other three CSAs through email and visited each of them on my own to familiarize myself with their physical context. My first meetings with each of the farmers varied: at Anda, I met Randi and Tormod when I first visited their farm and was given a tour; at ByAuk, I attended their first annual meeting and met Yngve and Sven Are shortly before it began; at Sandnes, I met Torill when I knocked on her door to have an interview. My data collection was conducted through the use of three methods: participant observation, semi-structured interviews, and a questionnaire. The following sections will detail each method's procedure for data source identification, protection of research participants, and other logistics.

1. Participant observation
    a. *Consent.* I began my entire research process by confirming with three CSA farms' farmers that I can use their CSAs as case studies. They subsequently invited me to their annual meetings to give me the opportunity to introduce myself and my project to the shareholders present. In this way I gained verbal consent from both farmers and shareholders that I could be present for participant observation, to collect observations and quotes in a way that kept shareholders anonymous. I presented an information letter to farmers that included my data procedures for research subject protection.
    b. *Relevant data sources & logistics.* Since my focus was on all learning processes at CSA farms, including those of farmers, volunteers and shareholders, participant observing the various activities was pertinent to my study. I took part in annual meetings, *dugnads*, shareholder harvests and joined Sandnes and ByAuk's private Facebook groups for shareholders.

2. Semi-structured interviews
    c. *Relevant data sources.* I identify all CSA participants as relevant data sources to investigate learning processes at the farms. I aim to interview all farmers, plus two-four shareholders (and in the case of ByAuk) and/or volunteers. For shareholder/volunteer interviews, I included a note at the end of the questionnaire received by all shareholders and had farmers send out a request on my behalf. I also approached shareholders I spent time with during *dugnads* if they would be willing to be interviewed. This resulted in two shareholder interviews from Sandnes, four from Anda, and four from ByAuk (which included shareholders who also volunteer in the *driftslag*.)
    d. *Consent and data protection.* At the start of every interview, I presented my information letter and received written consent to be interviewed. All shareholder interviewees remained anonymous, while data from farmer interviews are identifiable by first name. I

transcribed and translated the interviews myself and removed all identifiable information from shareholder quotes included in my thesis.

e. *Logistics*. The goal was to conduct interviews in a space familiar and comfortable for the interviewees, so they took place at their respective farms. I prepared loose interview guides for each interview, began by presenting the goal of the interviews and a "disclaimer" that I wanted it to feel more like a conversation than an interview.

3. Questionnaire
    f. *Relevant data sources.* I identify both shareholders, and in the case of ByAuk, volunteers, relevant data sources. Farmers are exempt because I have already held in-depth interviews with them. The questionnaire was sent out via email by farmers on my behalf because in keeping with the data security classification of my study, I did not have access to personal contact information. At ByAuk, it was logistically possible to send the questionnaire to shareholders, so volunteers were not included in the data.
    g. *Consent and data protection.* The questionnaire was done on Nettskjema, a data-secure software connected to my NMBU email account. It was anonymous and was designed not to ask for any personal information.

C. **PROTOCOL QUESTIONS**

These "protocol questions" are questions that are posed to me, the researcher, as I navigate the line of inquiry from my research questions to my findings.

What and how do people learn? *Hva og hvordan lærer man ved å delta i andelslandbruk I Norge?*

How is it linked to participation and the social aspects of CSA? *Hvordan kan læringsprosessene kartlegges på måter man deltar?*

- What are the activities that CSA participants are involved in? How do these activities differ between CSA members, farmers, and volunteers?
    - Collect data about what people do on the farms and how they relate to the farm throughout the whole year. Include data sourced from my own experience and from what I observe (through participant observation) and from posing the question directly to participants (through questionnaire & interviews).
- What are the key differences and similarities between the three case farms?
    - Gather data from internet search, farmer interviews, and personal observations. Describe the community of participants at each farm and their respective roles.
    - Focus on the characteristic of participation – compare the ways in which people can and do participate at each farm, as this is a key aspect of my research proposition.
- How can I connect the subject matter of peoples' learning (the "what") and the processes that produce it (the "how")?
    - Use sticky notes as a visual and conceptual aid in analysis:
        - Using data from the questionnaire and interviews, compile all the things people report to learn, then all the ways in which people participate in CSA

- Write these things down on individual sticky notes, then arrange them into categories
- Sourcing directly from the responses that explicitly note how they learned, draw connections between *what* people have learned with *how* with a solid line.
- Sourcing from observations, draw connections with a dashed line.
- If other plausible connections – based on a hypothesis or unclear data – emerge, then draw connections with a dotted line and make this as a goal in further data collection:
- Follow up these "dotted line connections" by incorporating them into interview questions.

D. **TENTATIVE OUTLINE OF REPORT (updated August 2023)**

1. Introduction
    a. Present CSA/CSA in Norway as alternative food network gaining traction
    b. Overview of CSA motivations and impact
        i. Include literature specific to learning at Norwegian CSA
    c. Overview of learning processes studied at other CSA (more robust)
    d. Define informal learning
    e. Research questions
2. Methodology
    a. Methodological considerations
    b. Research plan, design (qualitative, inductive)
    c. Data analysis (replication logic and analytic generalization)
    d. Case selection/case descriptions
    e. Methods
    f. Methods discussion?
3. Findings
4. Discussion & implications
5. Conclusion
6. References (use NMBU-Harvard citation)
7. Appendices
    a. e.g., interview guides, examples of harvest announcements, questionnaire report

Appendix B: Questionnaire

Hva og hvordan lærer du ved å delta i andelslandbruk?

Dette er et anonymt spørreskjema om læring og andelslandbruk – det vil ta 5-10 minutter å fullføre.

Du har mottatt dette fordi du er andelshaver hos [andelslandbruk], et av andelslandbrukene jeg forsker på til min masteroppgave. Problemstillingen er: **Hva og hvordan lærer folk ved å delta i andelslandbruk? Hvordan er disse læringsprosessene knyttet til de ulike måtene folk deltar på?** Derfor gjelder dette spørreskjemaet bare for de som har vært andelshaver i minst 1 sesong.

Dine svar vil være anonyme datapunkter i min masteroppgave, som er et prosjekt for å utforske, beskrive og kartlegge læringsprosesser innen andelslandbruk. I tillegg til dette spørreskjemaet vil jeg bruke deltakende observasjon og intervjuer for å samle inn data – om du er villig til å bli intervjuet kan du ta kontakt med meg via epost: giannina.sol.gaspero.beckstrom@nmbu.no.

På forhånd, tusen takk!

Giannina Beckstrøm

* = obligatorisk spørsmål

Del 1: Generelt

*Hvor mange år har du vært andelshaver hos [ditt andelslandbruk]?

*Hvordan har du deltatt på [andelslandbruk] som andelshaver? *Kryss av de alternativene som passer.*

- Dugnad
- Årsmøte
- Infomøte
- Høsting av andelen din
- Gårdsbesøk
- Sosiale arrangementer på [andelslandbruk] - *skriv inn hvilke nedenfor*
- Bidratt til andre aspekter av andelsgårdsdrift (f.eks. tatt bilder, vedlikeholdt sosiale media, osv.) - *skriv inn hvilke nedenfor*
- Annet - *skriv inn nedenfor*

*Synes du [ditt andelslandbruk] kan kalles en læringsarena? *Jeg bruker begrepet "læringsarena" for å beskrive ethvert miljø der folk lærer. Læring kan skje med eller uten intensjonalitet, med eller uten bevissthet, og i både formelle og uformelle sammenhenger.*

Del 2: Hva og hvordan lærer du?

De følgene spørsmål dreier seg om hva du har lært i form av kunnskap, ferdigheter, vaner og meninger, og hvordan du lærte det.

*Siden du ble andelshaver, har du tilegnet deg ny kunnskap? *For eksempel, om matproduksjon, matlaging, økologisk drift, eller om andre ting.*

- *Hvis JA: Beskriv den nye kunnskapen. Hva førte til denne kunnskapen? Hvordan fikk du denne kunnskapen?
- Hvis NEI: Kan du utdype? Hva kunne vært annerledes for at du kunne ha fått ny kunnskap?

*Siden du ble andelshaver, har du tilegnet deg nye ferdigheter? *For eksempel, ferdigheter innen matdyrking, matlaging, redskap eller verktøy, organisering, samarbeid med andre, osv.*

- *Hvis JA: Beskriv hvilke ferdigheter du har lært, og hvordan. Om du utvidet ferdigheter du allerede hadde, beskriv gjerne dette også.
- Hvis NEI: Kan du utdype? Hva kunne vært annerledes for at du kunne ha fått nye ferdigheter?

*Siden du ble andelshaver, har du endret dine matvaner? *For eksempel, mer eller mindre handling av en viss type mat, hjemmekompostering, osv.*

- *Hvis JA: Beskriv endringene, og hva førte til at du endret matvanene dine.
- Hvis NEI: Kan du utdype? Hvordan er matvanene dine de samme som før du ble andelshaver?

*Siden du ble andelshaver, har du endret dine meninger om landbruk? *For eksempel, endret eller nye meninger om økologisk drift, om kortreist mat, om det globale mat systemet, osv.*

- *Hvis JA: Fortell litt om hvilke meninger du har endret, og hva som førte til at du endret mening.
- Hvis NEI: Kan du utdype? Hvordan er meningene dine de samme som før du ble andelshaver?

Er det noe mer du har lyst å fortelle om hva eller hvordan du har lært som andelshaver? Her kan du for eksempel fortelle om en betydningsfull opplevelse som førte til din læring.

Spørreskjemaet er ferdig, tusen takk for at du svarte!

Til våren og tidlig sommer vil jeg være med på ulike dugnader og arrangementer hos [andelslandbruk] som en del av min deltakende observasjon. Etter hvert vil jeg gjerne intervjue noen andelshavere - om du er villige til å snakke videre om dine erfaringer knyttet til læring i andelslandbruket, eller om du har spørsmål om prosjektet mitt, kan du ta kontakt via epost: giannina.sol.gaspero.beckstrom@nmbu.no eller si fra når vi treffes på [andelslandbruket]!

Appendix C: Example interview guide for farmer interviews

***Før vi begynne, er det greit at jeg tar opp intervjuet? Det vi bli sendt direkte til en sikker server.**

Takk at du tar tiden nå å snakke litt med meg om dette – jeg sette stor pris på det!

Introduksjon

- Jeg studerer en masters i agroøkologi ved NMBU på Ås
- Forsker på andelslandbruk som en læringsarena – skal skrive masters oppgave om dette
- Vokste opp i Vermont, USA, men har familie her i Stavanger.

Hensikt

- Forstå sammenhengen og detaljer om driften til andelslandbruket
- Fokusere på faktorer som kan påvirke det som en læringsarena - ta opp potensielle læringsprosesser til både gårdbrukere og andelseierne
- Kartlegge gårdbrukere sine ressurser og kunnskapsnettverker

Bakgrunn

Jeg begynner med noen kjapt spørsmål om andelslandbruket ditt, bare for å få en forståelse om sammenhengen her. Jeg leste litt på nettet og husker litt fra tidligere samtaler, så noen ting vil jeg bare bekrefte.

a. Andelslandbruket blei etablert i …
b. Hvor mange andelshavere?
c. Hvor stort er landarealet?
d. Hva produsere dere? (kategorier, f.eks. grønnsaker, meieri, etc.)
e. Ikke Debio godkjent, men driver økologisk
f. Er andelshavere pålagt å bidra med dugnader? I så fall, hvor mange timer?
g. Kan du beskrive noen typiske dugnader?
h. Er det andre måter andelshavere kan bidra til driften?
i. Er det din fulltidsjobb å drive andelslandbruket? Hvis ikke, hva er din annen jobb?
j. Kan du kort fortelle meg hvorfor du startet andelslandbruket?

Takk. Resten av intervjuet vil handle om læringsprosesser i forbindelse med andelslandbruket. Jeg er interessert i hvordan andelslandbruk kan eller ikke kan være en læringsarena for andelshavere og/eller gårdbrukere.

Jeg bruker begrepet "læringsarena" ganske løst - det inkludere både formelle deler (kurs) og uformelle deler (samtaler, det man lærer fra å være til stede på andelslandbruket).

<u>Andelseierne</u> sine læringsprosesser og ressurser

1. Ville du kalt Anda Andelsgård en læringsarena? Har du fått tilbakemelding om hva eller hvordan folk lærer?

2. I så fall, er det spesielle deler av driften som du tenker de lærer mer av? (F.eks., praktisk erfaring på landbruket, nyhetsbrev, høstemeldinger, forhold til hverandre og/eller dere, kurs, sosiale arrangementer eller møter, osv.)
3. Er det deler av driften du har lagt opp på en spesiell måte for at folk skal lære (f.eks. kurs)? Er det viktig for dere at folk lærer noe om jordbruk eller mat?
4. Synes dere at andelslandbruket har skapt et felleskap blant de som er med?

<u>Din</u> læring og <u>dine</u> ressurser

1. Hva har du lært noe siden du startet andelslandbruket? (Alt gjelder, fra tekniske ferdigheter og kommunikasjons ferdigheter, til ny kunnskap eller nye ideer og meninger.)
2. Lærer du fra andelshaverne?
3. Hva er dine hovedressurser for informasjon eller veiledning? Du fortalte meg litt om det siste gang – jeg husker du nevnte håndboken fra Økologisk Norge, noen nettkurs, og at du har kontakt med andre i regionen som også driver med andelslandbruk. Jeg kan tenke at du bruker forskjellige ressurser for forskjellige ting, men kan du gi en oversikt om hvor du nytte informasjon fra når du lurer på noe?
4. Mangler du ressurser på noen måte? Er det noe du kan tenke på som hadde hjulpet deg med å drive andelslandbruket?

Ok, da er jeg ferdig med mine spørsmål. Er det noe mer du har lyst å si eller snakke om? Har du noen spørsmål for meg? Tusen takk!

Appendix D: Example interview guide for shareholder interviews

***Før vi begynne, er det greit at jeg tar opp intervjuet? Det vi bli sendt direkte til en sikker server.**

Formål: å høre om din erfaring som andelshaver, og ditt perspektiv om hvordan Anda kan eller ikke kan kalles en læringsarena. *OBS: Jeg bruker begrepet "læringsarena" ganske løst - jeg inkluderer både formelle og uformelle læring, i tillegg til læring som skjer både med og uten bevissthet eller intensjon.*

For meg og for denne oppgaven, er en læringsarena ethvert sted som fremmer muligheter til å lære på noen måte.

Problemstilling: Hva og hvordan lærer man ved å delta i andelslandbruk?

Bakgrunn: Fra en spørreundersøkelse og fra min deltakende observasjon har jeg fått inn mye om hva folk lærer (hvordan å så, høste, grønnsaksdyrking generelt, og i tillegg ferdigheter innen matlaging og oppbevaring). Men jeg føler at jeg mangler litt om hvordan folk lærer. Svarene på spørreundersøkelsen antyder at praktiske erfaring ligger under nesten alt folk lærer, men jeg vil gjerne høre litt mer.

1. Hvor lenge har du vært andelshaver? Hvordan deltar du? Gi en oversikt av ditt medlemskap her.
2. Hadde du tidligere erfaring med landbruk eller noe lignende? Eller var dette her ganske nytt for deg da du ble andelshaver?
3. Lærer du som andelshaver? Har du mer kunnskap eller ferdigheter nå enn før du ble andelshaver?
    a. HVIS JA: Hva er kildene til din læring?
        i. Fortell litt om hva. Vær spesifikt om hvordan du lærte det.
        ii. Hva synes du fører mest til at du, og andre folk og, lærer her?
            1. Praktiske erfaring, samtaler med andre, høstemeldinger
            2. Selvstyrt måter (bruk av internett, bøker, prøving og feiling)
        iii. Er det viktig for deg at du lærer noe nytt? Er du opptatt av å få inn ny kunnskap/ferdigheter, eller er det bare en konsekvens av å være med på andelslandbruket? (intensjon og bevissthet)

    b. HVIS NEI:
        i. Fortell mer. Hadde du kunnskap fra før, eller er det at du synes du fremdeles ikke kan mye om landbruk selv om du har vært andelshaver i [#] år?

ii. Hvis folk lærer her, ville du sagt at det på grunn av noe annet? Hva da? (For eksempel, jeg kan tenke meg at folk som lærer her lærer fordi de er allerede interessert i landbruk og ville lært opp dem selv uansett.)

4. Hva er din opplevelse av andelslandbruket som en sosial arena? Har du samtaler med andre på dugnader? Hvis ja, har du opplevd at du har lært av andre på gården?
    a. Når jeg har vært med på dugnader, har jeg opplevd at det er naturlig å snakke med andre mens man jobber. Sånn har jeg lært mye om diverse ting, som for eksempel å bruke ender mot snegler i hagen.

5. Så lenge i forskningen har jeg fant ut at folk lærer mest av:
    a. praktiske erfaring
    b. samtaler med andre andelshavere og bøndene
    c. formidlinger fra bøndene som for eksempel høstemeldingene og sosiale media.
    d. selv-styrt læring

Er du enig? Er det noe annet du ville inkludere som fører til at andelshaverne tilegner mer kunnskap eller ferdigheter?

Nå er jeg ferdig med mine spørsmål. Har du noe mer du har lyst å si, eller har du spørsmål for meg?

Tusen takk!

Appendix E: CSA farm case descriptions

Anda Angelsgård:

Anda Andelsgård, or Anda CSA, is centrally located in the village of Klepp Stasjon in the municipality of Klepp. It began in 2021 with 20 shareholders and has grown to about 60 shareholders in 2023. The CSA produces shares including vegetables, potatoes and herbs on approximately 3.2 dekar of cropland. Shares include vegetables, potatoes and herbs, plus an additional optional share for greenhouse vegetables such as tomato and cucumber. The farmers, Randi and Tormod, have backgrounds in education and accounting, respectively. The farm is also home to chickens, goats, and Randi's flower business, and their production follows organic principles. Shareholders contribute eight hours of *dugnad* anytime between March and November, and they harvest their own shares beginning in May until the end of the harvest season, usually late October. A typical *dugnad* can involve any part of the vegetable cultivation process (sowing, planting, weeding) as well as general upkeep like stone picking and preparing the fields for the upcoming or next season. Shareholders can sign up for communal *dugnads* on an online calendar, or contribute hours on their own if the farmers have a task for them to do. The CSA hosts social gatherings for its shareholders based on interest and availability, usually one or two parties each season.

Sandnes Andelslandbruk

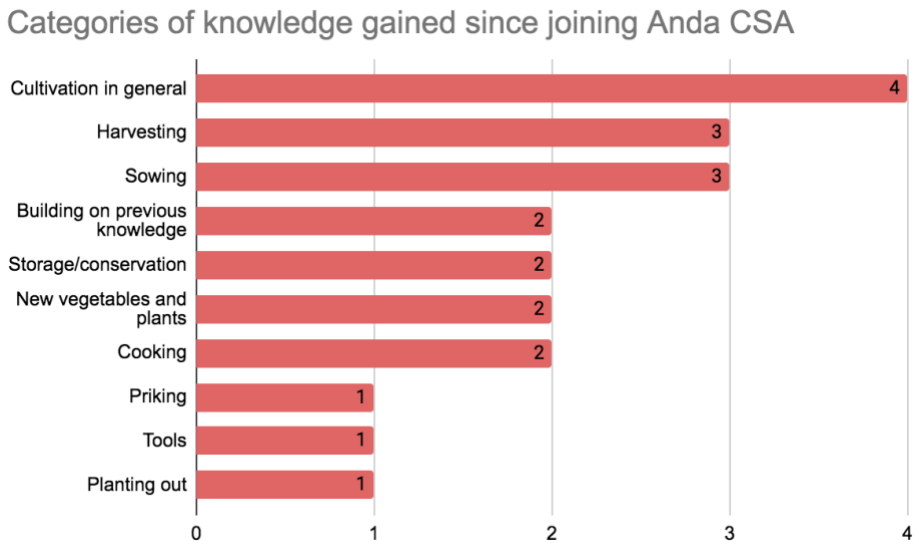
Sandnes Andelslandbruk, or Sandnes CSA, is located four kilometers outside the city center of Sandnes in Sandnes municipality. It is the largest and oldest of the three CSA farms I studied. It opened in 2015 with 60 shareholders, has grown to 125 shareholders in 2023, and produces vegetables, potatoes and herbs on ten dekar of cropland. A typical harvesting season stretches from May to November. The farmer, Torill, has a background in education and agronomy, and keeps a herd of cows and sheep that are not associated with the CSA. The CSA portion of the farm is certified by Debio, Norway's primary organization for organic certification. Shareholders are required to contribute 6 hours of *dugnad* anywhere from March to November, as well as

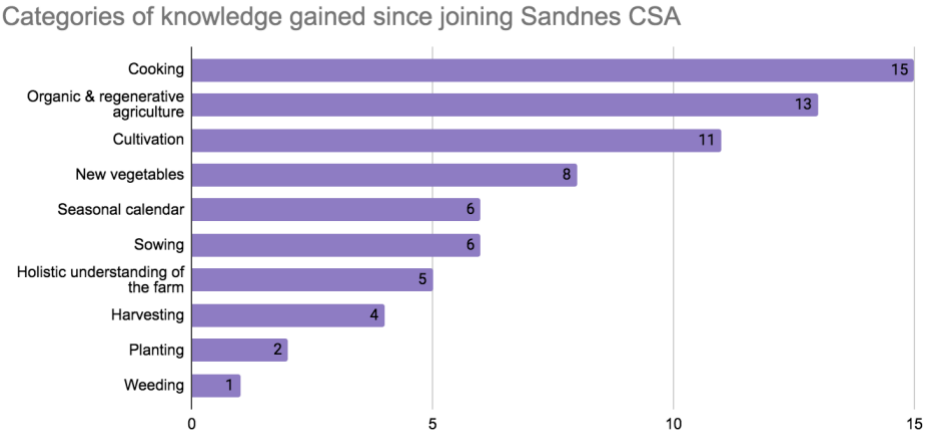
harvest their own shares. Typical *dugnad* activities are sowing, planting, and weeding in the fields, tidying up or preparing them for the upcoming season, or any other odd jobs that are needed. There is an online calendar for shareholders to sign up for communal *dugnads* or they can contribute hours on their own time, if Torill has a task to assign them. Torill also hosts optional communal harvesting days where she guides new shareholders through the process and answers questions. Depending on the year, there are also one or two social events open for the CSA and wider community, such as a Sankthans party and an Autumn party.

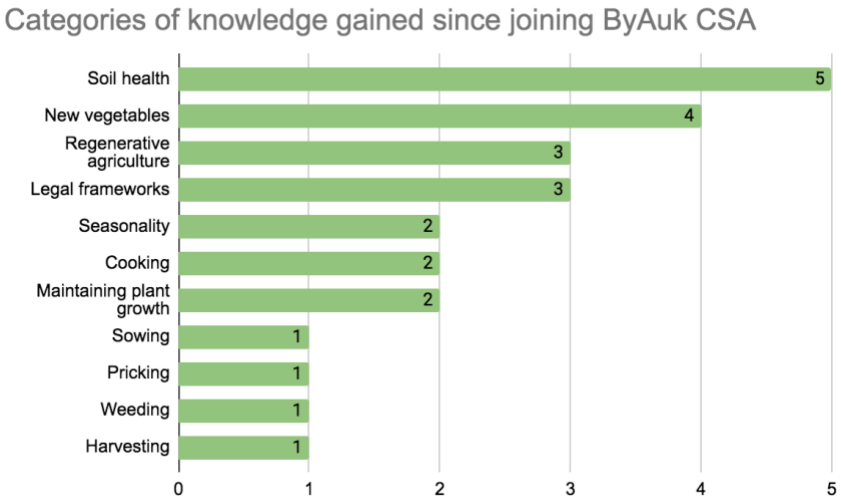
ByAuk

ByAuk is an urban CSA in the residential neighborhood of Storhaug, Stavanger, and is the newest of the CSAs I studied. ByAuk is a non-profit organization, set up as a CSA located on land owned by Stavanger Municipality. However, the goal of ByAuk is to provide the greater community with a beautiful and accessible park and expose it to urban agriculture. It started in 2022 with 25 shareholders, and now has 50 shareholders in 2023, producing vegetables, potatoes and herbs on approximately 2.5 dekar. Shareholders harvest their own shares from May to late October and are required to participate in 6 hours of *dugnad.* Its operational structure differs from the other CSAs: in addition to the founders, Yngve and Sven Are, there is another employee, Tone. On Tuesdays, Wednesdays and Thursdays, they have volunteer teams to get most of the work done, this is called *driftslag* (English: working team). Volunteer teams include shareholders, ordinary volunteers, and work and language training placements from the local refugee and volunteer centers. In this way ByAuk embodies its social mission to be an inclusive place for all community members to socialize and learn. In addition to the *driftslag*, there is a Shareholder Day every week in the harvesting season for shareholders to socialize, harvest and/or contribute their *dugnad* hours.

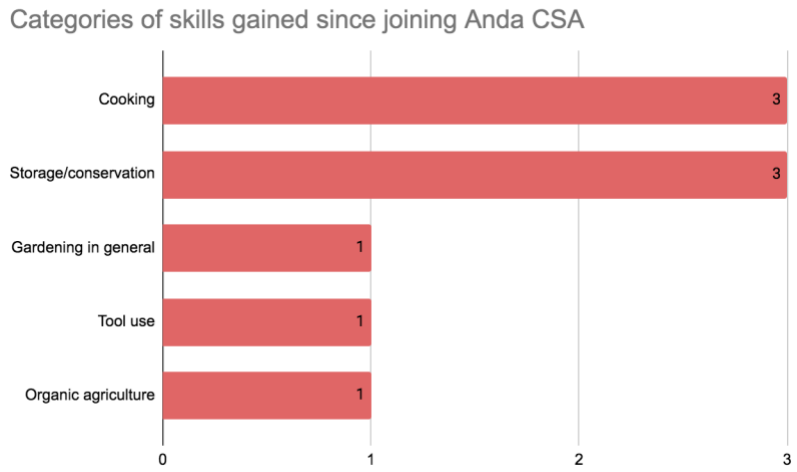
Appendix F: Coded categories of knowledge gained since joining CSA

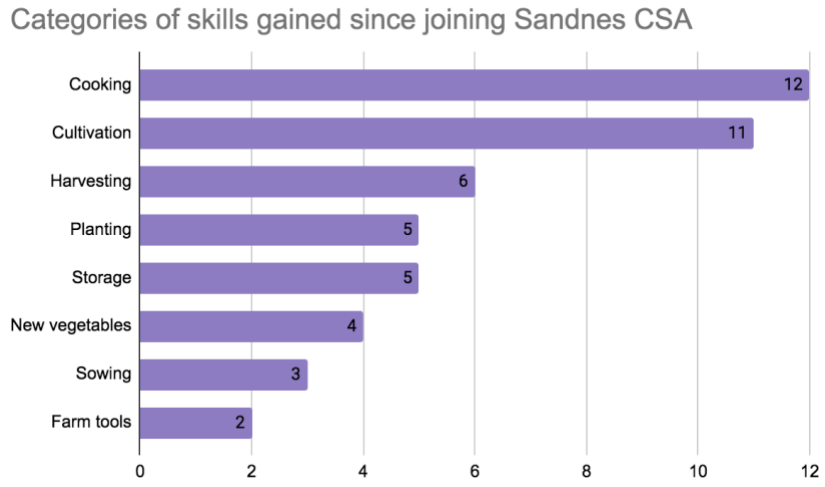


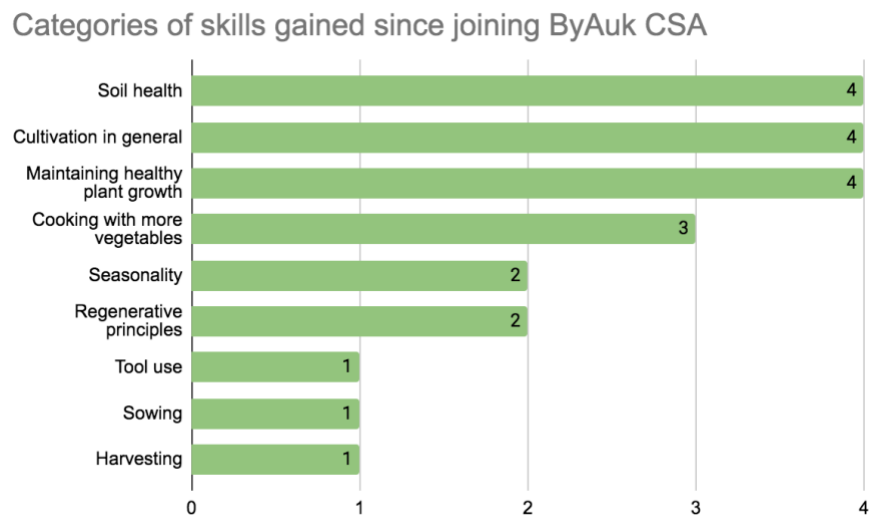




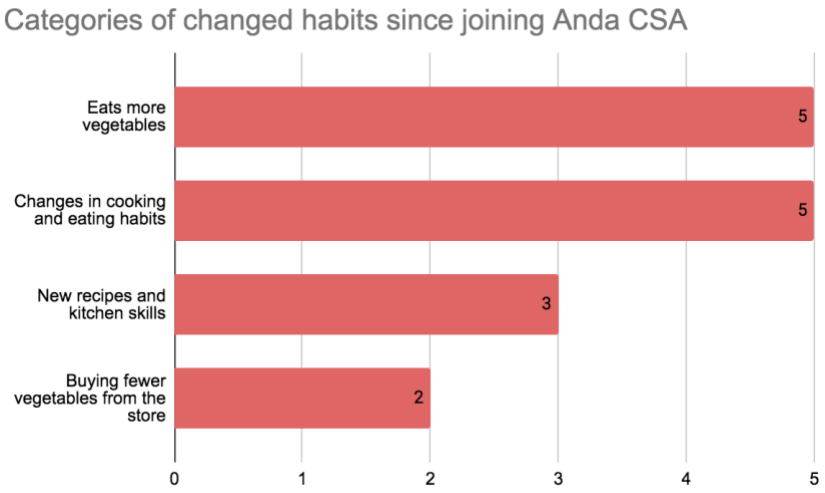
Appendix G: Coded categories of skill gained since joining CSA

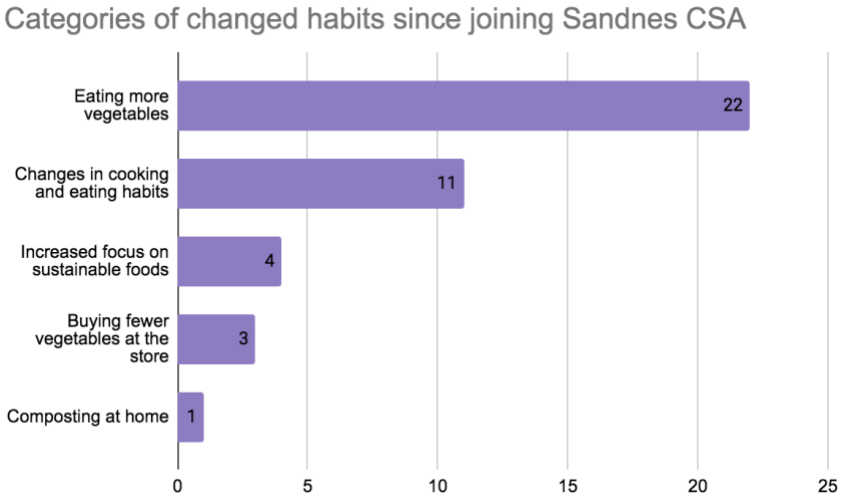


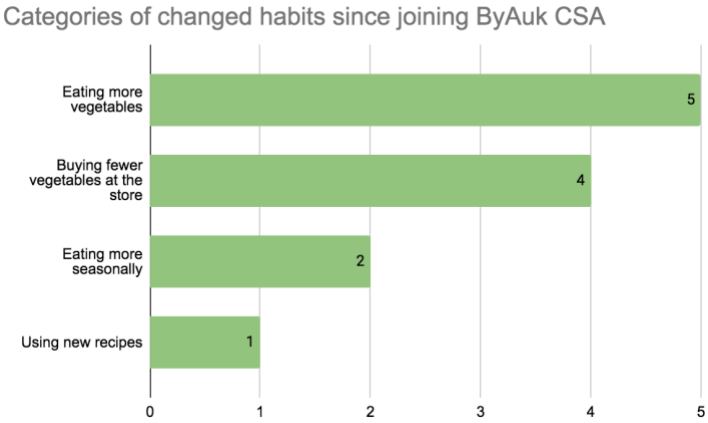




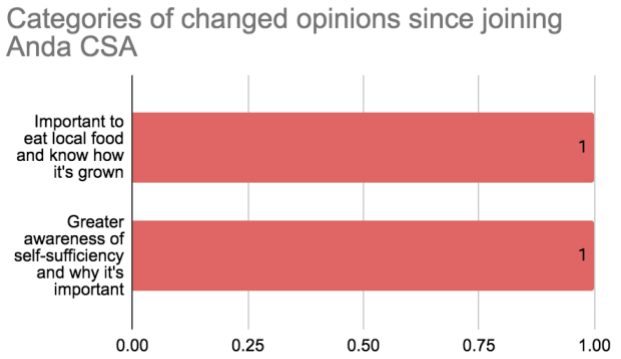
Appendix H: Coded categories of habits changed since joining CSA

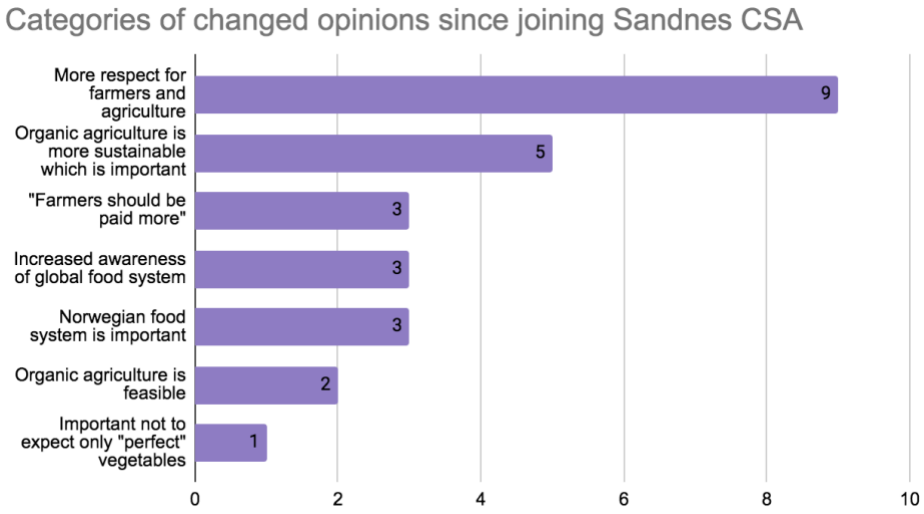


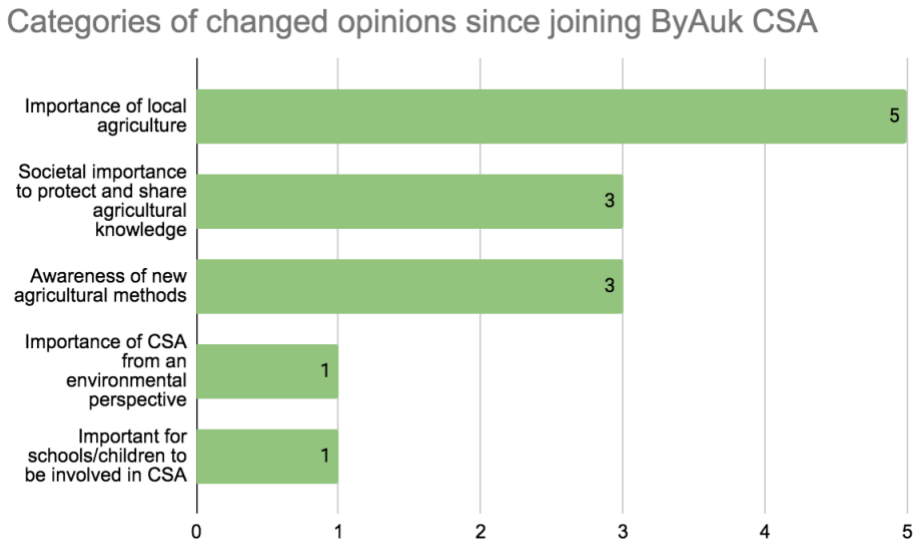




Appendix I: Coded categories of opinions changed since joining CSA







Appendix J: Partial example of a harvest announcement from Anda CSA

Haustemelding veke 31,

31. juli - 6. august, 2023

ANDA ANDELSGARD

Kva?	Kor?	Kor mykje?	Korleis?	Andre kommentarer
Pipeløk	Bak lageret	Ta det du treng	Klipp/knip av, ikkje riv opp med rota.	
Diverse urter og etande blomar	Bak lageret, i pallekarmane	Plukk litt av dei urtene du har lyst på	Klipp/knip av, ikkje riv opp rota.	
Rabarbra (nytt denne veka)	Bak lageret	2 stelkar	Ta tak langt nede og riv opp/riv av stelken. Skjer av lauvet og kast det i komposten eller gi det til geitene.	Rabarbraen har vokse opp på ny etter at vi hausta den før sankthans, så nå tek vi ein ny runde med hausting.
Basilikum	I veksttunnell nr 1. Merk at dette er for alle andelshavarar, ikkje berre for dei som har veksthusandel	Plukk litt	Klipp/knip av, ikkje riv opp rota.	
Bondebønner (nytt denne veka)	På hovudfeltet mellom poteter og blomstene til Anda blomstergard	5 belgar (ta dei største)	Klipp/riv forsiktig av	
Stangbrekkbønne – kobra (nytt denne veka)		5 belgar (ta dei største)		
Buskbønner – domino (nytt denne veka)		5 belgar (ta deis tørsta)		
Poteter, Arielle	På hovudfeltet, ved sida av sukkerertene	3 planter	Bruk greip og spa opp potetplanta. Rist jorda godt fleire gonger og plukk opp alle potetene du finn, både små og store. Spa frå enden av fåra. Ei får om gongen	Det er dessverre ein del skurv på potetene, men berre skrap/skrell det av om det ikkje er for mykje, så smakar dei like godt.
Diverse blomar	Mellom plenen og kvitløksfeltet	Plukk deg ein bukett.		NB. Ikkje frå blomstergarden, kun frå andelsgarden.
Kvitløk	Inne i rommet ved vasken.	3 løk.	Vi tek opp resten av kvitløken måndag, slik at vi kan få rydda kvitløksfeltet og evt. planta/så noko nytt der.	
Kålrot (nytt denne veka)	På hovudfeltet	1 kålrot	Riv opp med rota. Skjer av blada og kast dei i tilhengeren eller gje dei til geitene.	
Knutekål Superschmelz	På hovudfeltet mellom blomkål og kålrot	1 knutekål	Skjer av stelken under knutekålet/nederst på knutekålet. Den kan vera veldig hard. Blada kan du skjera av og kasta i den rød tilhengere, eller gi dei til geitene.	
Grønnkål	På hovudfeltet. Midt i kålfeltet der nettet er tatt av.	1-2 blad	Ta av dei nederste bladene. Klipp/knip av blada, ikkje riv opp planten med rota.	Plukk gjerne bort gule, visne blad og kast dei om du ser nokon på planten der du haustar.
Rødt grønnkål	På hovudfeltet. Lengst inne i radene med grønt grønnkål.	3-4 blad	NB. Ikkje ta dei øverste blada i midten. Då kjem det ingen nye blad på grønnkålet.	
Blomkål (rød og grønn) og romanseco (nytt denne veka)	På hovudfeltet mellom grønnkål og brokkoli.	1 blomkål (rødt eller grønt) eller 1 romanesco	Skjer av blomkålet og la resten av planten stå igjen.	
Brokkoli – to ulike sortar	På hovudfeltet. Gå gjerne eit stykke inn i fårene for å sjå om det er nokon klar.	1 brokkoli av ein av sortane	Skjer av brokkolien og la resten av planten stå igjen.	Brokkoli belstar er veldig store, veks veldig rart, og ser ikkje så fine ut, men fint om de tek dei allikevel før dei går i blomst.

Appendix K: Partial example of harvest announcement from ByAuk

Høstemelding uke 30

Hva?	(Bilde)	Hvor?	Hvordan?	Hvor mye?
Ekebladsalat Rød og grønn		11, 12, 13, 14	Plukk blader	Det du trenger
Sukkererter		23, 24	Knip av	En håndfull
Ruccola		7	Plukk blader	Det du trenger
Rabarbra		39, 40, 41	Høst med kniv, Bladene kan legges i komposten.	Det du trenger
Gressløk		39	Klipp av. Blomstene kan også spises.	En håndfull/ Det du trenger

Squash OBS! Finnes i både gul og grønn		22,50,57, 58,60,68,69, 116-120	Høsteklar om den er <u>minst</u> 15 cm	1 per andel
Palmekål. / Svartkål		85 + 86	Plukk de største bladene.	Det du trenger.
Kålrot/ Kålrabi		84 + 87	Skjær av ved jordoverflaten. Ta de største først	1 per andel
Knutekål		Ligger i redskapsbod + noen igjen i bed 86		1 stor eller 2 små
Grønnkål. (Grønn og rød type)		91-95	Plukk blader, de nederste først	Det du bruker

Appendix L: Partial example of a harvest announcement from Sandnes CSA

Høstemelding #11 7.7-14.7.23				
Hva kan høstes	**Rekke**	**Hvordan**	**Hvor mye**	**Lagring**
Sitronmelisse	urte-kasse	Klipp av blader	Det du trenger	
Timian	urte-kasse	Klipp av små greiner	Det du trenger	
Gressløk	urte-kasse	Klipp av så mye som du vil ha.	Det du trenger	Kan fryses/ tørkes
Salvie	urte-kasse	Klipp av så mye som du vil ha. Blader som gjelder her.	Det du trenger	
Oregano	urte-kasse	Klipp av så mye du vil ha av blader, små kvaster.	Det du trenger	
Eplemynte	urte-kasse	Plukk små stilker eller blader		
Løpstikke	urte-kasse	Klipp av hele lange greiner. Denne urten passer godt som buljong	Masse:-)	
Rabarbra	ved tunell	Vi kjører en siste runde med rabarbra før den får stå i fred til vinteren. Dra i stilken langt nede. Start med de største stilkene. Rabarbrablader kan legges mellom plantene som dekke, eller kastes i komposten ved vasken (hvit dunk)	10 stilker pr andel	
Agurkplante	nede andre tunell på bord	Bruk inngang nede i andre tunell. Nederst på bordet står agurkplanter i pluggbrett. Hvis du er usikker så står det merkepinner i brettene. Det ligger små potter ved siden av. Står jord i trillebår. Pott om selv. De trenger større potter hjemme om ikke så aøtfor lenge.	Det er fremdeles endel igjen. Hvis noen vil ha flere er det bare og forsyne seg.	
Sukkererter	Kart 20 øverste gjerde	Det er sukkererter på det øverste gjerdet, bruk begge sider av gjerdet. De som har tatt kan gjerne vente en uke slik at alle får nå i starten. Det er allerede plantet nye.	En håndfull nå i starten	
Mangold	Kart rad23	Her plukker vi kun blader. Dvs, blader med stilk. La hovedstilken på planten stå igjen og løsne stilken til mangoldbladet helt inne ved "stammen"/ Plukk de største som er nederst på planten. Da kommer det mange nye blader hele sommeren	Det du trenger til din/e andel/er. Mye!!	

Norges miljø- og biovitenskapelige universitet
Noregs miljø- og biovitskapelege universitet
Norwegian University of Life Sciences

Postboks 5003
NO-1432 Ås
Norway