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Alternative Food Networks – the Case of CSA in Norway

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Declaration

I, **Irene Moe**, declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree.

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ABSTRACT

Community-supported agriculture (CSA) is an alternative food network (AFN) connecting producers and consumers, while also providing possibilities for consumers to be directly involved with food production. This study explores AFNs, exemplified with CSA in Norway, regarding how they strive to tackle some of the negative consequences of the agro-industrial food system (such as negative externalities on the environmental and primary producers, and the distances between consumers and processes of food production). In this study, the Norwegian CSA principles are discussed through a theoretical assessment as regards to how these principles address the possible negative externalities. In addition, Norwegian CSA producers of selected CSAs in the South-Eastern part of the country, are interviewed about operational challenges and opportunities, and how they connect people with food production. The findings imply that CSA operations (CSAs) have the potential to reduce negative externalities of the agro-industrial food system in different ways. The challenges between consumer- and farmer-driven CSAs differs to some extent, and there generally seems to be room for more members involved. The CSAs are context specific, and there are various ways they involve people, both regarding those directly involved with the CSA (e.g. through volunteer/mandatory work, harvesting and events) and indirect ripple-effects on the broader community (e.g. on schools and through social inclusion). CSAs could benefit from receiving more public attention and support regarding possibilities to reduce negative environmental externalities, how they can act as learning arenas, how they can provide primary producers (especially vegetable producers) with stable incomes and have positive health impacts on those involved.

SAMMENDRAG

Andelslandbruk («Community-Supported Agriculture») er et alternativt matnettverk som forbinder produsenter og forbrukere, samtidig som det gir forbrukere muligheten til å være direkte involvert med matproduksjon. Denne studien undersøker alternative matnettverk, eksemplifisert med andelslandbruk i Norge, angående hvordan de forsøker å håndtere negative konsekvenser fra det agroindustrielle matsystemet (som for eksempel negative konsekvenser på miljø og primærprodusenter, og distansen mellom forbruker og prosesser knyttet til matproduksjon). De norske andelslandbruksprinsippene er diskutert via en teoretisk evaluering, i denne studien, når det gjelder hvordan de tar tak i mulige negative konsekvenser. I tillegg er andelslandbruksprodusenter i selekterte andelslandbruk på Østlandet intervjuet om operasjonelle utfordringer og muligheter, og om hvordan de kobler folk til matproduksjonen. Resultatene tyder på at andelslandbruksdriftene har potensiale til å redusere negative konsekvenser av det agroindustrielle matsystemet på ulike måter. Utfordringene og mulighetene i forbrukerdrevne og bondedrevne andelslandbruk varierer i noen grad, og det virker generelt som at det er plass til at flere medlemmer involverer seg. Andelslandbrukene er veldig kontekstspesifikke, og det er mange måter de involverer folk. Dette gjelder både for de direkte involvert med andelslandbruket (f.eks. med frivillig/obligatorisk dugnad, høsting og arrangementer) og når det gjelder indirekte ringvirkninger på resten av samfunnet (f.eks. via skoler og inkludering). Andelslandbruk kunne dratt nytte av mer oppmerksomhet og støtte, med tanke på deres muligheter til å redusere miljøkostnader, hvordan de kan fungere som læringsarenaer, hvordan de kan gi produsenter (spesielt grønnsaksprodusenter) en stabil inntekt og hvordan de kan bidra til helsegevinster for de involvert.

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1. INTRODUCTION

Long distances between producers and consumers are creating ecological, social, and economic knowledge gaps about food production processes (Clapp, 2016). The agro-industrial food system is depending less on natural processes and people and is more dependent on machinery and chemical inputs to increase yields (La Trobe & Acott, 2000). The industrialisation of food production has globally led to the agro-industrial food system, which has had both positive and negative consequences. The agro-industrial food system has brought easy access of fruits and vegetables to all parts of the world throughout the year, improved food security, provided low prices of food, and redistributed food surpluses to parts of the world with food deficit (Clapp, 2016). However, tremendous environmental issues are caused by the expansion and intensification of agriculture (Foley et al., 2011), and many primary producers are locked into contracts with tight specifications (Lang, 2003). Lamb (1994) states that economic forces in the marketplace have made sustainable agriculture difficult for primary producers, and that the economic forces act more as barriers between producers and consumers, than bridges.

To address some of the negative externalities of the agro-industrial food system, different alternative food networks (AFNs) are globally becoming increasingly visible (Galt, 2017). AFNs strive to address social, economic, and environmental dimensions of the agro-industrial food system and to limit distances between producers and consumers (Jarosz, 2008). AFNs are highly innovative, with community-supported agriculture (CSA), subscription schemes, internet sales, cooperatives, the Farmer's Market and others (Solemdal & Serikstad, 2015). CSA operations (CSAs) differ from some of the other AFNs, because they allow consumers to connect with food production. Food production is also a way of connecting citizens with nature. Connecting people with nature can have positive effects on public health and contribute to greater ecological understanding and respect towards nature (Soga & Gaston, 2016). Cox et al. (2008) believe CSA can support a broader understanding of social and ecological struggles worldwide, by providing learning arenas for shareholders built around food production.

CSA is an agricultural model striving for a more ecological, economic, and socially just food system, through direct and local links between producers and consumers (Paul, 2015). CSAs are built on principles that may varies with each country, but the idea is the same: through

pre-payments and agreements often lasting for one year at the time, people can buy a “share” of the total production grown in the CSA, to become “shareholders” (members) (Andelslandbruk, 2018a). The model secures a producers’ income regardless of low yields, as the producer shares the production risks (and rewards) with all the shareholders (Andelslandbruk, 2018b). In addition, the shareholders often participate in ‘dugnad’ (community work) and harvest their own food, supporting the producers while learning about processes related to food production. The harvests usually include a variety of different vegetables, but some CSAs also includes meat, eggs, honey, and other types of food products (Andelslandbruk, 2018a).

This study will explore CSAs in Norway, where the CSA phenomenon is relatively new concept. The Norwegian agricultural sector has been somewhat sheltered from impacts of globalisation, compared to many other countries (Hvitsand, 2016). However, recent trends towards import liberalisation have contributed to increased domestic efficiency demands (Hvitsand, 2016; Meld. St. 11 (2016-2017)). Norway is also amongst the countries in Europe with the highest market concentration, with few corporate actors controlling the market (Meld. St. 11 (2016-2017)). Vegetables are less regulated products compared to other agricultural products (meat, corn and oilseeds, dairy products, and eggs) in the Norwegian context (Markedsreguleringsforskriften, 2017). Hence, efficiency demands in the agricultural sectors, coupled with a concentrated market, may make sales especially difficult for vegetable producers. Luckily, Norwegians have become more aware about negative externalities of the agro-industrial food system, which motivates them to support local food production and to learn where their food is coming from (Bugge, 2015). CSA producers seeking AFNs, in combination with consumers interested in supporting local food production, are factors stimulating the growth of AFNs in Norway.

This study’s purpose is to address negative externalities of the agro-industrial food system, and to investigate alternatives for producers and consumers alike, through AFNs. The CSA model is chosen as the alternative network to explore, because it connects the consumer to the producer, and the food production itself. The study examines the Norwegian CSAs potentials to limit negative consequences associated with the agro-industrial food system. In addition, the study will explore different CSA producers’ challenges and opportunities in regard to their CSAs. As the sustainability of food system largely depends on how people relate to food, how the different CSAs can play a role in connecting citizens with food production will also be assessed.

The theoretical framework used, is the metabolic rift-theory, and more specifically McClintock (2010)'s division of the metabolic rift into the ecological, social, and individual rift. These "rifts" can be referred to as gaps or disruptions describing negative externalities of the agro-industrial food system. In general, the rifts describe ecological disruptions in the agro-industrial food system stimulated from capitalist agriculture (ecological rift), negative externalities caused by commodifying land and labour (social rift), and negative externalities resulted from consumers becoming disconnected with food production processes (individual rift). Analysing the global food system using the metabolic rift theory reveals how small-scale and rural populations have been disadvantaged, and how ecological alienation has become one of the greatest obstacles to tackling environmental degradation caused by food production.

1.1. Purpose and research questions

In relation to negative externalities of the agro-industrial food system and the increased importance of moving towards sustainable food systems, the purpose of this study is to explore alternative food networks exemplified by community-supported agriculture (CSA) in Norway. To do this, three research questions (RQs) are explored:

- **RQ 1:** In which direct ways can CSA principles have potentials to mend negative externalities of the agro-industrial food system?
- **RQ 2:** How do the CSA producers perceive challenges and opportunities in relation to establishing and running a successful CSA?
- **RQ 3:** How do the CSA operations involve citizens to food production, directly or indirectly?

The first research question (RQ 1) will be assessed theoretically by relating CSA principles to negative externalities of the agro-industrial food system. The second and third research questions (RQ 2 and 3) are answered through analysis based on qualitative data collection with CSA producers. In relation to the CSA model being an AFN trying to address social, economic, and environmental dimension, RQ 2 is about investigating potential challenges CSA producers experience. In connection with the challenges, potential opportunities may also be revealed. Investigating challenges can shed light on potential pitfalls that could benefit from receiving more attention, to ensure strong and viable CSAs long-term. By investigating opportunities, one could find examples of operational styles CSA producers potentially can

adapt, while exploring possibilities of how the different ways CSAs can unfold. As minimising the social, ecological, and economic knowledge gaps of food production processes are considered important on the road towards sustainable food systems, RQ 3 is about seeing how the different CSAs involve citizens with food production.

1.3. Structure of the thesis

The thesis is divided into seven chapters. Next chapter will present information about the CSA model, history, presentation of the Norwegian principles and other relevant information. The third chapter is specifically about the Norwegian context, presenting a background about the agricultural market situation (especially for vegetables producers) and the spaces created for AFNs through increased consumer mobilisation and producers seeking alternative networks. Further, the fourth chapter present the theoretical framework used to address negative externalities of agro-industrial food system. Chapter five is presenting the methodology used, followed by chapter six presenting the findings of the research questions and discussions. The last chapter provides the thesis' conclusion.

1.4. Concepts and definitions

The below list defines concepts used in the study, organised alphabetically:

Concepts	Definitions
Agro-industrial food system	According to FAO (2016), the agro-industrial food system is the most common food system, dominated by few multinational corporations through vertical integration. It is a complex food system recognised with long supply chains and processed food. Local food systems are on the other side of the scale, with short supply chains, minimally processed food supplied by local producers for local consumption.
Alternative food network (AFN)	Jarosz (2008, p. 232) states that: “AFNs are defined in four major ways: (1) by shorter distances between producers and consumers; (2) by small farm size and scale and organic or holistic farming methods, which are

contrasted with large scale, industrial agribusiness; (3) by the existence of food purchasing venues such as food cooperatives, farmers markets, and CSA and local food-to-school linkages; (4) by a commitment to the social, economic and environmental dimensions of sustainable food production, distribution and consumption”

Biodynamic
agriculture

According to Trimarchi (2009):

“Biodynamic methods are considered a form of organic farming, but biodynamic farming expands on organic's sustainable and natural approach with a holistic, farm-as-an-organism school of thought. “Further: “Like organic farming, biodynamic farms stress biological methods in regard to humane treatment of animals, food quality and soil health (such as green manures, cover crops and composting). However, biodynamics takes it a bit further. In addition to organic biological practices, biodynamic practices also incorporate metaphysical aspects of farming.”

Capitalism

The Merriam-Webster (2018) dictionary defines it as: “an economic system characterized by private or corporate ownership of capital goods, by investments that are determined by private decision, and by prices, production, and the distribution of goods that are determined mainly by competition in a free market».

Commodification

Oxford Dictionaries (2018) define it as: “The action or process of treating something as a mere commodity.”

C-CSAs/F-CSAs

Refer to consumer-driven (C-CSA) or farmer-driven (F-CSA) CSAs

CSA

Soil Association (2010, p. 3) generally defines community-supported agriculture (CSA) as: “A partnership between farmers and consumers where, at best, the responsibilities and rewards of farming are shared”, and where the partnership is a relationship based on mutual trust, openness, and shared risks and rewards.

CSAs

Short for CSA operations

CSA producers	In this study, CSA producers are those responsible for running the CSAs. CSA producers can either be in C-CSAs or F-CSAs.
Dugnad	According to Nordbø (2018) the word ‘dugnad’ stems from Norse and is the Norwegian word used to describe unpaid volunteer work community members do in fellowship. The dugnad can for instance be initiated to help a neighbour or others with work that is hard to perform alone. The dugnad is often followed with food and drinks.
Food security	The definition agreed to at the 1996 World Food Summit reads that: “Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 1996).
Food system	According to the Committee on World Food Security (2015): “Agriculture and food systems encompass the entire range of activities involved in the production, processing, marketing, retail, consumption, and disposal of goods that originate from agriculture, including food and non-food products [...]”
Organic agriculture	IFOAM (n.d.), the international organic umbrella organization, divides organic agriculture in four principles: <ul style="list-style-type: none"> • Health: “Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible” • Ecology: “Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them” • Fairness: “Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities” • Care: “Organic Agriculture should be managed in a precautionary and responsible manner to protect the health and

well-being of current and future generations and the environment»

Sustainability/
sustainable
agriculture

To define sustainability and sustainable agriculture, one can use the FAO (1991) definition of sustainable development. It reads that sustainable development is:

“...the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable”

Vertical
integration

Collins Dictionary (n.d.) defines it as: “the joining together of all companies or firms involved in manufacturing a product into one company or firm”

2. COMMUNITY-SUPPORTED AGRICULTURE

The CSA arrangement imply that consumers enter risk-sharing relationships with producers, through an up-front payment prior to the growing season (Allen IV et al., 2017). Consumers then become shareholders, and some say it is the closest way to become a farmer, without really being one (Devik, 2015). The economic arrangement of CSA has attracted interest from diverse audiences. Researchers, local food system advocates and policy-makers find it compelling as social relationships between producers and consumers are reshaped (Allen IV et al., 2017). This chapter is devoted to the CSA model presenting an historical overview, the CSA principles and ways of operating, some challenges CSA producers have experienced, and last, a presentation of the C in CSA – the community.

2.1. Historical overview

The modern CSA originated in Japan in 1971 with the name *teikei*, literally meaning “partnership”, but with the philosophical meaning “food with the farmer’s face on it” (Henderson & Van En, 2007). According to Henderson & Van En (2007), the “Japanese Rachel Carson”, Sawako Ariyoshi, alerted consumers in 1971 about the dangers of agricultural chemicals, much like Rachel Carson did with her book “The Silent Spring” published in 1962 (Henderson & Van En, 2007). Many consumers, especially mothers, were increasingly anxious about the food safety. Concerned housewives consequently joined researchers and formed the Japanese Organic Agriculture Association in 1971. Together they formed partnerships where producers and consumers were united and encouraged to help one another (now known as *teikei*). According to Hill & Kubota (2007), *teikei* partnerships shot up like bamboo shoots after heavy rainfalls, in the 1970s and 80s.

Within few years, in the late 1970s, several biodynamic farms with remarkably similar organisations were formed in Switzerland (Henderson & Van En, 2007). These biodynamic farms were based on ideas by the Austrian Rudolf Steiner (1861-1925) (McFadden, 2013). Today, it is still unclear whether they arose fully independently from Japanese influence (Henderson & Van En, 2007).

In 1986, the first two documented CSAs started in the United States (Paul, 2015). In 2016 in Europe, at least 22 countries practised CSA - with France being “in the lead” (European CSA

Research Group, 2016). Apparently, 6300 initiatives produced food for half a million people in Europe in 2016 (European CSA Research Group, 2016). From 2006-2012, four CSAs were established in Norway, but now (May 2018) 82 are registered throughout Norway (Andelslandbruk, 2018b). CSAs appear to mostly be a phenomenon in the Global North.

2.2. Principles and context-specificity

Lamb (1994) note that within the general partnership, or agreement, of the CSA, there is room for variations depending on resources and desires of those involved. Robyn Van En (Henderson & Van En, 2007, p. 3) supports this, stating that “food producers + food consumers + annual commitment to one another = CSA and untold possibilities”. The CSAs may for instance be either consumer-driven (C-CSA) or farmer-driven (F-CSA), involve shareholders in various degrees, and offer different agricultural products (Soil Association, 2010).

The CSA model in Norway is based on five core principles (Andelslandbruk, 2018c):

- 1) dialogue about the agricultural operations
- 2) transparent economy
- 3) shared yields, shared risks
- 4) involvement of shareholders
- 5) sustainable farming operations

According to Andelslandbruk (2018c), the principle of 1) dialogue about farming operations allow the producer to have dialogue about the location’ production possibilities with consumers, in relation to what should be produced in which quantities. A production plan and a budget are often decided upon in a yearly meeting. A 2) transparent economy secures sustainable operations and decent payments for farmer, gardener, administration, or other key persons central to the operations. The transparent economy should cover all production costs. The pre-payment in advance of the season, means the 3) risks and yields of the production are shared, despite of yearly variations. The shareholders pay for a share of the production, rather than for specific amounts. Considering the 4) involvement of shareholders, the shareholders take direct responsibility for their own food supply. What is expected from the shareholders, when it comes to instance harvesting, distribution and dugnad, is clarified in advance of the season in each CSA. Last, the 5) sustainable farming operations should strive to sustain and

promote the health of soil, plants, and animals. They should strive to be in a responsible, cautious way for the environment and for present and future generations. Organic agriculture is closely associated with CSA today, but there are no requirements for the operations to be organic (Andelslandbruk, 2018d). Some CSAs think certifications are unnecessary because the CSA allow for direct contact between the producers and shareholders, which is creating a foundation of trust (Andelslandbruk, 2018d). Other CSAs wish to have the organic certification - especially if they want the possibility of sell (excess) food as organic, outside the CSA (Andelslandbruk, 2018d).

2.3. Challenges

Self-exploitation and poor work compensation for farmers, high turnover rates, overproduction, and lack of a strong core group, are challenges found through reviewing literature. One of the biggest challenges of the CSA model globally, is how to provide food for low-income members. These examples will be elaborated in this sub-chapter.

Despite the principles in CSA saying you should include all costs of production, a central challenge in many CSAs is to provide fair work compensation (Paul, 2015; Brown & Miller, 2008; Galt, 2013; Henderson & Van En, 2007). Paul (2015) found that CSAs provided superior income and employment if comparing them to average farm incomes in the United States. Still, the payments were far from living wages. Regardless, the farmers frequently discussed non-monetary forms like lifestyle benefits as compensation, including seeing “labor come to fruition, the opportunity to work with the land, the unlimited supply of healthy food during the season, joy received from feeding the community and loved ones, and the rewards of educating future farmers” (Paul, 2015, p. 8). However, if fair compensation is not provided to those who spill their sweat, Paul (2015) worry the CSA model will not be sustainable long-term. Galt (2013, p.361) note that although self-exploitation in CSA should not exist, “self-exploitation in CSA is a real phenomenon and is unjust because of the value that farmers provide to their members and society more broadly”. Galt (2013) believes it exists as part of a social embeddedness, as the CSA producers feel a strong obligation to shareholders, cutting into their own economic wellbeing. That farmers postpone their own financial needs, can particularly be the case the first year(s) (Henderson & Van En, 2007).

Developing a strong core group and committed shareholder involvement can be central for the viability of CSAs (Henderson & Van En, 2007). Data from studies examining the impact of a

core group management model¹ show that CSAs forming core groups has higher incomes, more workers and were engaged in social events and way to include low-income members (Brown & Miller (2008). This may however only apply for CSAs wishing for high interaction levels amongst shareholders, as the core group otherwise may imply higher transaction costs for the producers (Sanneh, Moffit & Lass, 2001). Regarding interactions levels amongst shareholders, a challenge experienced by some CSA producers is shareholders assuming the CSA will function regardless of whether they show up to support or not (Henderson & Van En (2007). Henderson & Van En (2007, p. 277) state that: “farmers have given up on CSAs because they did not know how to organize the support they needed from the members, or members either did not understand or know how to give the help that would have kept their farmers going”.

High turnover rates (the percentage of people dropping out at the end of each season) rates can also be experienced by some operations (Lang, 2010), as well as overproduction (Woods et al., 2009). To handle excess food, some CSA sell the food through farmer’s markets or donations it to food bank (Woods et al., 2009). Other ways over dealing with excess food, are to sell the food to restaurants, give it to workers, use it for animal feed or composting, or donate it directly to people in need (Woods et al., 2009).

Donating food to food banks, or to donate it directly to people in need, are two ways of including low-income members. Including low-income members is a central challenge for CSAs (Paul, 2015), because of the pre-payment and more labour demand associated with biodiverse farming. Other ways to include low-income members, are through differentiating membership share prices, for instance through having student shares or shares based on donations from others (Henderson & Van En, 2007). Lamb (1994) gives the example of how all shareholders have paid a small amount extra, which has provided one full share for every 25 families or a reduced cost for several families. External help is also an opportunity. Henderson & En (2007, p. 230) note that “most community food security projects are sponsored by non-profit organizations, which are seeking innovative ways to solve the complex and interrelated problems of hunger and poverty in the current food system. As an example of this, the municipality in Ås and Norske Kvinner’s Sanitetsforening² have paid six

¹ CSAs having core groups where shareholders get involved with the CSA management

² The Norwegian Women’s Public Health Association

full shareholder membership fees for refugees from Syria and Afghanistan to join Dysterjordet CSA³ season 2018 (Keene, N, 2018, personal communication, 28 April).

Despite the challenge of including low-income members, CSA membership is found to be profitable if you compare the membership fee to what you would pay for organic produce in grocery stores (Cooley & Lass, 1998; Farnsworth et al., 1996; Sabih & Baker, 2000; Conner, 2003). For instance, shareholders in a Canadian CSA saved 39 % compared to purchasing the organic produce in a local supermarket (Sabih & Baker, 2000). There may however be yearly variations, and the shareholders must pick up the shares regularly.

2.4. Community

Internationally, Henderson & Van En (2007) argue that member participation varies tremendously from CSA to CSA. Pole & Gray (2013) note that literature range from CSA models involving full community support, to CSAs where community only plays a limited role. Examples of how CSAs attempt to involve members, are by holding events, planning activities, and requesting volunteering (Pole & Gray, 2013). To involve people, Henderson & Van En's (2007) present ideas about offering trial periods, to communicate in various ways (through meetings, newsletters, or other means), to ask members what they want and involve them with long-term operational goals, to offer choices of involvement at different levels, and to offer farm tours and educational programs, amongst other things.

The distinguishing feature of a CSA, compared to other AFNs, is CSA's capacity to establish communities around interwoven issues such as food, land, and nature (Groh & McFadden, 1997). Group involvement, has along with deliveries of fresh produce, led to social and nutritional benefits for CSA shareholders (Brown & Miller, 2008). Allen IV et al. (2017) argue the community in CSA can contribute to changes in health and lifestyle behaviours. Their study found positive potentials for changes in food lifestyle behaviours for shareholders', if comparing shareholders' lifestyle behaviours prior and after joining a CSA. Those who reported they had 'poor health' prior to becoming a member, had the most overall changes. Ostrom (2007) supports that CSA involvement leads towards healthier eating habits with more, fresher, and greater varieties of vegetables, as well as less shopping.

³ CSA in Ås, Norway

Kis (2014) believes the CSA community is immune to the ‘hurry virus’ and argues that people involved reclaim the time and tranquillity to make meaningful connections with people, nature, and themselves. Kis (2013) also believes the CSA provides a “whole-systems way of thinking”, and that the CSA is far away from the notion of capitalist consumer culture of efficiency, calculability, and predictability.

3. THE NORWEGIAN CONTEXT

This chapter presents the background and context considered relevant to explain the emergence of AFNs in Norway. Vegetable production and consumption will be a focus area, as vegetables are broadly associated with CSA. The chapter is divided in two parts: the agricultural market situation (3.1.) and how space is being made for AFNs (3.2.).

3.1. The agricultural market situation

Many different aspects could be brought up to explain the prevalence of AFNs concerning the Norwegian agricultural market situation, but I have decided to focus on market concentration, increased vertical integration and private label use (3.1.1.), import liberalisation (3.1.2.), and vegetable production and consumption (3.1.3.).

3.1.1. Market concentration, vertical integration, and private labels

Three grocery chains (NorgesGruppen, COOP and REMA) control 93 % of the domestic food market in Norway, leading to a strong market concentration (Meld. St. 11. (2016-2017)). A fourth grocery chain controls 4 %, whereas independent actors stand for just under 3 % of the market shares. Meld. St. 11. (2016-2017) notes that Norway is amongst the countries in Europe with the strongest market concentration at supplier-, distribution- and grocery store level. Vertical integration is also increasing and the grocery chains' use of private labels (Meld. St. 11 (2016-2017)). High market concentration through vertical integration and private label use result in grocery markets potentially outcompeting already established brands, leading to fewer independent and alternative food distribution channels (Meld. St. 11 (2016-2017)). Apparently, the vegetable sector is amongst the sectors where the vertical integration has developed furthest. Production contracts, and wholesalers owned by the grocery chains dominate the vegetable sector, and there has been several acquisitions and mergers in the sector the last years (Meld. St. 11 (2016-2017)).

3.1.2. Import liberalisation

Good quality soil for food production is a limited resource in Norway. Only 3.7 % of the total land area is used for cultivated agricultural production (Gundersen et al., 2017) and Norway's

self-sufficiency based on energy demands is below 50 % (Eldby & Smedshaug, 2015). This means that the country currently is highly dependent on imports. Regardless of self-sufficiency, imports are probably not something Norway would choose to be without both considering the consumption of chocolates, coffee, and the fact that “Friday tacos” is becoming part of their national identity (“Friday tacos Norway” currently has 2.8 million Google search-results). As mentioned, Hvitsand (2016) argues that Norway has been somewhat sheltered from the agricultural globalisation with a diversity of agricultural regional policy instruments ensuring domestic production. In contrast to many other countries, Norwegian agricultural politics is built around a close relationship between farmers and the state, with farmers being able to influence political goals decided by the Parliament (Bunger & Tufte, 2016). To reach the four basic agricultural goals⁴ and to lead desired domestic agricultural politics, import protection is amongst the most important pillars of the Norwegian agricultural model (Bunger & Tufte, 2016). However, trends towards a gradual trade liberalization over the last decades due to international trade agreements, has decreased Norway’s protection strength (Meld. St. 11 (2016-2017)).

Loss of regulation spaces in the agricultural politics, has led to consolidation and structural changes at all areas of the food industry seen through acquisitions and mergers, and production units being shut down (Meld. St. 11 (2016-2017)). Cheaper imported products are increasingly challenging domestic food, especially because the Norwegian food industry has higher costs compared to many other countries regarding investment costs, salaries, and domestic raw materials (Meld. St. 11 (2016-2017)). The import liberalisation engenders a continuing industrialisation and efficiency demands, amongst other things exemplified by the removal of livestock from pasture lands and the increased import of feed and food (Hvitsand, 2016; Meld. St. 11 (2016-2017)). The import of feed in Norway, is particularly associated with soya (protein rich) import from Brazil, which is directly or indirectly contributing to deforestation, increased land concentration and social issues (Lindahl, 2014). Hvitsand (2016) argues that the efficiency demands in the agricultural sector can lead some farmers to search for AFNs.

⁴ The agricultural political goals are currently 1) food security, 2) agriculture throughout the country, 3) increased value creation, and 4) sustainable agriculture

3.1.3. Vegetable production and consumption

It is recommended that Norwegians should eat more vegetables and less meat, as meat production (livestock and feed) is responsible for 90 % of the country's agricultural greenhouse gas emissions (KS, 2016). The public health message agrees Norwegians should eat more vegetables pointing out that although there has been a positive development in the Norwegian diet the last 30 years, only one in five Norwegians eats the recommended amount of fruits and vegetables (Meld. St. 19 (2014-2015)).

In Norway, the number of agricultural operations with open field-vegetables is reduced with 40 % the last ten years while the area per operation has increased with 10 % (Meld. St. 11 (2016-2017)). This implies a trend towards fewer and bigger production units, where efficiency demands make profitable vegetable production challenging. Meld. St. 11 (2016-2017) underlines that the vegetable production is characterised by a high degree of specializations concentrated in few geographical areas. For instance, 85 % of the Norwegian tomatoes are produced in the Rogaland county.

Vegetable producers can experience many challenges. The climatic conditions, yield variations, limited resources of good quality soil, increased import liberalisation, and the grocery chains' high market concentration, are some of these challenges (Meld. St. 11 (2016-2017)). The vegetable contracts associated with the grocery chains' wholesalers, are also great challenges for the vegetable producers. According to Rønning et al. (2013), the producers get requirements regarding volume, quality and delivering conditions, but the delivering chances depend on the market situation at a specific time, as the grocery chains control volumes and quality according to market demands. This contrasts with other agricultural products; meat, cereals and oilseeds, milk and dairy products, and eggs, in the Norwegian domestic market (Markedsreguleringsforskriften, 2017). For these agricultural products, market regulators have the obligation to accept products from producers⁵ regardless of geographical location. Market regulations must additionally strive to achieve desired prices for products⁶ through balancing the supply and demand in the market (Markedsreguleringsforskriften, 2017). When it comes to the prices of vegetable products, Meld. St. 11 (2016-2017) states the prices of imported products often are directional for the prices of the Norwegian vegetable products.

⁵ This is referred to as "mottaksplikt" in the Norwegian context

⁶ This is referred to as "målpriser" in the Norwegian context

It can be especially demanding to get into the market for organic producers (Norwegian Agricultural Authority, 2014). Organic production requires good agroecological understanding and the ability to adapt to local conditions. This makes it more labour intensive and often difficult to produce quantities desired by wholesalers. Some argue the certified organic agriculture within the agro-industrial food system is pushed away from its original ideology, because the sustainability is threatened through policy instruments and production pressures demanding for agricultural intensification (Hvitsand, 2016; Solemdal & Serikstad, 2015).

In relation to organic agriculture it has been argued how CSAs can act as “spearheads” for other farming operations. Through experimenting with different methods and vegetable varieties, CSAs can potentially find alternatives for other farming operations and thus guide them (act as spearheads) towards improved farming practises (Hvitsand, 2014; Solemdal & Serikstad, 2015).

3.2. Making space for alternative food networks (AFNs)

Solemdal & Serikstad (2015) states that AFNs differentiate the food market, allow the producer to communicate about the operations through direct contact with consumers and can increase the consumers’ willingness to pay for high quality products. I will in this sub-section present two factors I believe are important for making space for AFNs; an increased consumer awareness (3.2.1) and an interest in growing own food (3.3.2). The last part (3.3.3.) presents information about CSAs in Norway.

3.3.1. Increased consumer awareness

Norwegian consumers have become more aware of negative externalities of the agro-industrial food system and the globalisation of food. Consequently, many Norwegians engage in different forms of consumer mobilisation and the cultural status of Norwegian food has increased in recent years (Bugge, 2015). Bugge (2015, p. 2) write that:

“Nothing seems to taste worse for today’s food consumers than products that are associated with industrialised and globalised systems of mass production and distribution, for instance fast food and processed food. The same is true for products that are a result of intensive production methods: farmed salmon, large-scale chicken farming, eggs from battery hens, imported vegetables and so on.”

Bugge (2015) believes the consumer awareness and mobilisation is not only symbolising health and sustainability, but also the notions of a Nordic lifestyle characterised by an active outdoor life and simplicity. Fresh, natural, local, seasonal, real, short-travelled, organic, healthy, authentic products were ascribed great value by consumers. The idea of “food from nature” gave particularly positive connotations.

As mentioned before, some consumers also have a discontentment towards official organic certifications. Although organic agriculture symbolises healthier food made with more sustainable agricultural practises, discontentment about organic certifications may partly explain why consumers and producers seek to buy or sell organic produce in AFNs (Hvitsand, 2016). One view is that the agro-industrial food system has pushed notions of organic agriculture away from the holistic philosophy and original ideology (Hvitsand, 2016; Solemdal & Serikstad, 2015; Torjusen, Lieblein & Vittersø, 2008). Solemdal & Serikstad (2015) note that regulations of certified organic agriculture are influenced by economic conditions (like import liberalisation), have led to structural rationalisation and production pressures for farmers. According to Jacobsen (2007), environmental movements regard official organic regulations worldwide as too liberal. The critiques state that the standards regarding animal welfare are too low, and that there is a lack of regulations regarding working conditions and salaries of farmer and regarding how far products can be transported.

3.2.2. Interest in growing own food

Together with an increased awareness, people increasingly want to connect with processes of food production. The later years, the interest in learning about and connecting with food production - especially in urban areas where opportunities have been narrowed (Bernhoft et al., 2017). Allotment gardens, school gardens, colony gardens, cultivation boxes and CSAs, are some examples of how people connect with the processes of producing food (Eikenæs, 2016). In 2017, Oslo had over 100 different initiatives related to urban agriculture (Bernhoft et al., 2017). Through the municipality’s homepage you can even adopt your own cultivation box in chosen areas of the capital (Oslo municipality, n.d.).

3.2.3. CSAs in Norway

In Norway, the first CSA⁷ was established in 2006. The popularity started to rise especially from 2013 and by now (May 2018), 82 Norwegian CSAs are registered (Andelslandbruk,

⁷ Øverland CSA located right outside of Oslo

2018b). Most of them are situated in the South-Eastern part of Norway, but there is at least one in all 18 counties (Anderlandbruk, 2018b). The CSAs are either consumer-driven or farmer-driven. Øverland CSA is an example of a consumer-driven CSA. It has many gardeners, a daily leader, a core group and 450 shareholders (highest amount in Norway) – and a waiting list (Anderlandbruk, 2018b). The largest farm is the farmer-driven CSA, Virgenes CSA, with over 20 ha (Anderlandbruk, 2018a). From the beginning, nine CSAs have closed their operations (Anderlandbruk, 2018b).

Who gets involved with Norwegian CSAs? Hvitsand (2016) found in a survey that shareholders generally are highly educated living in urban or peri-urban areas. They ate less meat and fish than the average Norwegian, and nearly 40 % of the households had children and youths included in the membership. Bringing children to the CSA seems to be important for many parents. A shareholder in a Norwegian CSA thought the whole membership fee was worth all costs, when her daughter was ecstatic over the fact that carrots grow in soil (Storstad, 2016).

Apart from bringing children to CSAs, Hvitsand (2014) found that strong motivations were to have access to local food, to get a better selection of organic food and to increase organic food consumption, to do environmentally friendly actions in practise and to adopt local knowledge. Shareholders generally found it meaningful to grow own food, thought politicians should prioritise environmental issues more, saw the importance of supporting local agriculture and believed that increased life quality is not in contradiction with reduced consumption. The CSA experience, not just the food, was also important, and the shareholders were willing to pay more for food in a CSA than elsewhere. Shareholders were also motivated by staying healthy and in shape.

4. THEORETICAL FRAMEWORK

The theory of the metabolic rift was first used to describe problems related to ecological and social sustainability resulted from capitalist agriculture and industry (McLaughlin & Crow, 2007). Inspired by McClintock (2010), this study divides the metabolic rift-concept into the ecological rift, the social rift, and the individual rift. I consider these rifts helpful regarding putting aspects of food production in a global and historical perspective, and to explain negative externalities of the agro-industrial food system – especially on primary producers and rural populations. I see the framework as especially purposeful in relation to the CSA model. This is because of how the CSA model moves towards a decommodification⁸ of food (Hinrichs, 2000), and how the social rift very much concerns around negative externalities of commodification. Further, connecting people to the land through food production is an important aspect both related to CSA model, and the individual rift which concerns around ecological alienation.

Before dividing the chapter into parts about the ecological, social, and individual rift, the original notion and background of the metabolic rift theory is presented, along with some agricultural history. "Nothing in biology makes sense except in the light of evolution", is a famous quote by Theodosius Dobzhansky (1973). I believe this quote also can be transferred to historical trends and events outside the field of biology, to explain present-day trends and events.

The metabolic rift is a concept by Karl Marx (1818-1883), describing disruptions in ecological and social issues - especially regarding nutrient cycling and rural-urban relationships resulted from capitalist agriculture and industry (McLaughlin & Crow, 2007). The theory describes disruptions in the natural systems (e.g. nutrient cycling), as resources from rural areas are transported linearly into urban areas where it ends up as waste, without being brought back to the land (Foster, 1999). The consequence is soil fertility loss, and a continuous dependence on inputs like fertilizers and pesticides to make up for the losses (Foster, 1999). As this continue, soil fertility losses drive the expansion of agricultural lands in new fertile areas, often affecting rural populations.

⁸ As shareholders pay for a share of the total production, rather than specified quantities.

The agricultural treadmill, a classical theory by Cochrane (1958) can be used to explain the mechanism driving efficiency demands, and the dependencies on external inputs, in capitalist agriculture and industry. Through the commodification of food in a classical capitalist economic system, primary producers become “price takers” and competes to produce food with low economic costs to maximize economic profit (Gabre-Madhin, Barrett & Dorosh, 2002). Gabre-Madhin et al. (2002) explain that those who adopt a new technology early on reaps income gains, by increased net returns of producing food at a low cost. An increased supply will then reduce the price of the commodity, and later adopters of the new technology must make technological progress to not fall behind. Non-adopters suffer losses as the prices fall, while their unit costs remain the same. The consumers benefit from lower prices, and the early adopters benefit (at least short-term), but late adopters and non-adopters never benefit (Gabre-Madhin et al., 2002). Inevitably, this agricultural treadmill with short term technological fixes generates new metabolic rifts (McClintock, 2010).

The agricultural revolutions can provide historical insights of the development of agricultural technology. Foster (1999) notes that although many refer to a single agricultural revolution, agricultural historians commonly refer to a second and a third agricultural revolution. The first agricultural revolution occurred over several centuries as a gradual process. It is associated with technical changes like improved techniques of crop rotation, manuring, drainage, and livestock management, as well as enclosures and a growing centrality of market relations (Foster et al., 1999). The critique considering the metabolic rift, was in the time of the second agricultural revolution (1830-1880), a period characterized by a soil chemistry revolution and the growth of the fertilizer industry. The third agricultural revolution occurred in the 20th century and involved:

“[...] the replacement of animal traction with machine traction on the farm and the eventual concentration of animals in massive feedlots, together with the genetic alteration of plants (resulting in narrower monocultures) and the more intensive use of chemical inputs – such as fertilizers and pesticides.” Foster et al. (1999, p. 374)

Identifications of the global food regimes, can help us identify metabolic rifts on a global scale, especially considering North-South relations. Giménez & Shattuck (2011) argue there has been three major global food regimes (GFR). The first GFR (1870-1930) is recognized by cheap food and raw materials from tropical and temperate colonies (the South) fuelling industrialisation in the North, as imperialism led searching for fertile land in new areas. The second GFR (1950s-1970s) is recognized by the flow of food being reversed from South to

North, to North to South, due to agricultural surpluses in the North. These agricultural surpluses in the North began as food aid. The Green Revolution adopted in the Global South is also characterised by this period, which contributed to weakening peasant agriculture and the power of large landowners. The third GFR (1980s – present), also called the corporate food regime, emerged from global economic shocks in the 70s and 80s and is characterised by a shrinking resource base, liberalised global food trade, unprecedented market power, profits of monopoly agri-food corporations, increasingly concentrated land- ownership, as well as a growing opposition from food movements (Giménez & Shattuck, 2011) – such as people involved with AFNs.

Next, the ecological, social, and individual rifts will present negative externalities resulted from capitalist agriculture and industry in the agro-industrial food system.

4.1. The ecological rift

McClintock (2010) argues that the metabolic rift mostly referred to by scholars, is the ecological rift. This rift is about the disruptions in biophysical relationships triggered by new modes of capitalist production, and the ongoing expansions as more rifts and shifts are created. He brings in the often-cited examples of capitalist agriculture in Europe and North America that in the 19th century led to a soil fertility crisis and the imperialist expansion. Through the imperialist expansion, they searched for new fertile areas elsewhere leading to a “geographic displacement” and ecological crisis elsewhere⁹.

The expansion of agriculture has impacted habitats, biodiversity, carbon storage and soil conditions, whereas the intensification of agriculture has led to water degradation, increased energy use and widespread pollution (Foley et al., 2011). The ecological effects from agriculture are worrisome, both for people and the planet. According to Rockström et al. (2017), agriculture is the world’s single largest driver of global environmental change, while simultaneously being highly affected by global environmental changes.

The consequences of agriculture hav accelerated after 1950 - Steffen et al. (2015) argue there has been a post-1950 acceleration in Earth System indicators (Steffen et al., 2015). Rockström et al. (2009) identify nine planetary boundaries to describe the safe operation space of humans

⁹ This is concordant with Giménez & Shattuck (2011) description of the first global food regime, in which cheap food and raw materials were sent from the South to the North.

in the Earth System. Rockström et al. (2009, p. 1) argue that: “Transgressing one or more planetary boundaries may be deleterious or even catastrophic due to the risk of crossing threshold that will trigger non-linear, abrupt environmental change within continental- to planetary-scale systems.” Their estimation shows that humanity has already transgressed three planetary boundaries, namely for climate change, the rate of biodiversity loss, and for changes in the nitrogen cycle, all of which are closely related to impacts of industrial agriculture. Regarding biodiversity loss in relation to food, there is a growing trend towards a standard global food supply that is relatively species-rich at the national level, but species-poor at the global level (Khoury et al., 2014). Limited genetic diversity can increase the vulnerability to climate change and make adaptations to local conditions challenging. In relation to biodiversity loss worldwide large-scale industrial agriculture contributes to, Ceballos et al. (2015) state the exceptionally rapid loss of biodiversity in the last few centuries indicate a sixth mass extinction. The loss of biodiversity leads to a subsequent loss of ecosystem services.

The many ecosystem services and function nature provides has been receiving increased attention as they provide many direct and indirect benefits to humans (de Groot, Wilson & Boumans, 2002). As an example, Camps-Calvet et al. (2016) identified 20 ecosystem services in relation to urban gardens and how they could benefit air purification, local climate regulation, global climate regulation, soil fertility maintenance, pollination, provide biodiversity and many other things. Reintroducing food production and green areas to urban areas are especially important, as cities often have ecological footprints that far exceeds the area of the city itself (Rees & Wackernagel, 1996).

4.2. The social rift

As Clapp (2016) mentioned, there are many factors about the agro-industrial food system considered positive: easy access of fruits and vegetables to all parts of the world throughout the year, improved food security for many – especially in urban areas, low food prices, and redistribution of food surpluses to parts of the world with food deficit. It has also liberated time to do other activities.

This sub-section will however address some of the negative social externalities that should be considered on the roads towards more sustainable food systems. These externalities are associated with the food commodification of capitalist agriculture in the agro-industrial food system.

Commodification of land and labour are central to the social rift, and that the commodification of land and labour are two interrelated processes theorized by Marx as primitive accumulation (McClintock, 2010). The declined productivity in one area resulted from an ecological rift, drives the expansion of land markets to new areas in search of fresh land (Conde & Walter, 2015). Since industrial farming reduced the labour demand by man, McClintock (2010) states that a host of pressures in the Global South has dispossessed rural populations and fuelled the growth of megacities and slums across the globe. The land expansion is often associated with the term ‘commodity frontier’ (Conde & Walter, 2015). Local people who lived or is living in commodity frontiers, may see their land being enclosed, polluted, or removed, and must deal with the associated social and environmental costs (Conde & Walter, 2015). Lamb (1994, p. 6) notes that:

“An important point to consider with land use is that when we buy and sell land we are buying and selling a human right. Think for a moment: Who can exercise the right to use a portion of the land? It is those people with enough money in their pockets to purchase it. Rights of use are determined by economic power, often disregarding the need of the community. In most cases, small, diversified, sustainable farming operations cannot compete with industry and wealthy individuals in obtaining land, and consequently land is often priced out of the market as far as agriculture is concerned.”

An aspect of food commodification in the existing economy, is according to Lamb (1994, p. 3) that it is only production-driven focusing on “keeping businesses alive and profitable for as long as possible even if the product is not really needed”. As an example, he brings up an example of overproduction, in which for instance the Bovine Somatotropine-hormone was injected into lactating cows to increase milk production – despite the overproduction of milk in USA. This made other dairy farmers go out of business, who consequently could not afford staying in the business when milk prices in the market were lowered.

In relation to primary producers continuing their agricultural operations, Clapp (2016) states that the circumstances of farmer livelihoods in both rich and poor countries are determined more easily as corporate actors are becoming more powerful. This has resulted in skewed power differentials, long supply chains and often long distances of transport. Lang (2003) states that many primary producers are locked, as they must follow tight specifications and contracts.

Further, increased processing and packaging, and the cheap food ideology has led cultures and traditions to gradually be obscured, limiting the socio-cultural significance of food (McClintock, 2010). When discussing the commodification of food, Clapp (2016, p. 19) argues that: “We have moved increasingly away from food being viewed primarily as a source of nourishment and a cultural feature of society, and toward food as any other product that firms produce, sell, and trade.” McClintock (2010, p. 200) argues that: “diabetes, heart disease and obesity have followed on the heels of junk food consumption worldwide”.

Regarding how the food commodification in the agro-industrial food system affects food security, Tschardt et al. (2012) debate the agro-industrial food system is undermining the food security of those who need, as about one third of the food is being insufficiently wasted and another third is fed to livestock. Additionally, low-income people often cannot afford high quality food, and Khoury (2014) worry that not enough attention is given to people’s nutritional security.

Considering the human population increase and to tackle environmental problems and to produce food where it is needed, Tschardt et al. (2012) advocate for more small and diversified farms relying on biodiversity and ecological processes like beneficial trophic interactions, soil food webs and so on, emphasising that these farms show greater productivity per area than monocultures. This is referred to as “the paradox of the scale”.

Commodity markets in agriculture in relation to financialization, are receiving increased attention (Kerckhoffs, van Os, & Stichele, 2010; Clapp, 2016; McMichael, 2012). The attention mainly revolves around price fluctuations, as the volatility in the world food market in the 2007-2008 food crisis revealed that there are underlying forces shaping the agro-industrial food system and prices (Clapp, 2016). For instance, hunger riots emerged in many poor countries across the world after the rising food prices in 2008. Kerckhoffs et al. (2010) argue the people’s right to food through the Universal declaration of Human Rights, is being undermined through sharp food price increases. The increased interdependence between commodity and financial markets, is considered to influence the fundamentals of ‘demand and supply’, contributing to food prices falling or raising in ways hard to predict (Kerckhoffs et al., 2010). As the world food economy is increasingly being tied to trends and activities in the financial investment sector, Clapp (2016) calls for a radical reduction in corporate concentration and control, to scale back the financialization of food.

In summary, the commodification of land and labour has led to a social rift can lead to cost shifting through power dissymmetry causing inequalities and the dispossession of common

land to the hands of a few. Negative health externalities and vulnerability towards price fluctuations also affect consumers and producers also affect consumers and producers worldwide.

4.3. The individual rift

The social rift of capitalist industrial agriculture, has led to what Marx called an alienation of labour and nature, manifested in the perception of the self as external to the environment (McClintock, 2010). This is what McClintock (2010) terms as the individual rift.

McClintock (2010) argues that the alienation from labour has made the worker separated from the land and the means of production. As the labourer no longer owns the finished products, the result is additionally an alienation of the whole production process, which leads to the de-skilling the labourer and the loss of knowledge. The alienation leads to an “internalized rift in our cognitive and experiential understanding of ourselves as functional organisms existing as a part of a larger ecosystem” (McClintock, 2010, p. 201).

How the loss of human-nature interactions affects individuals poorly, should receive more attention, according to Soga & Gaston (2016), especially in a time when many people live in urban settlements. Soga & Gaston (2016) emphasise that people with regular contact with nature show positive relationships to psychical and psychological well-being, as well as social contacts and cohesion, and it is thought to be vital in ensuring social, emotional, cognitive, and motor development in children and youths. They also state that the “vitamin G” (in which G stands for greenspace), is a necessary ingredient for a healthy life and this “vitamin” can be equally efficient as conventional forms of medical treatments (Soga & Gaston, 2016). The “nature deficit disorder” is also acknowledged, as green vegetative exposure is essential to children’s cognitive development, and helps reduce crime and mental fatigue (McClintock, 2010).

Pyle (1993) coined the concept “extinction of experience” to describe the ongoing alienation with nature resulting from the loss of human-nature interactions, and the negative consequences of it. The negative consequences are about, additional to the public health issue, how extinction of experience discourage pro-environmental attitudes, behaviour, and emotions and creates a negative feedback loop and a cycle of more disaffection towards nature (Figure 1) (Soga & Gaston, 2016).

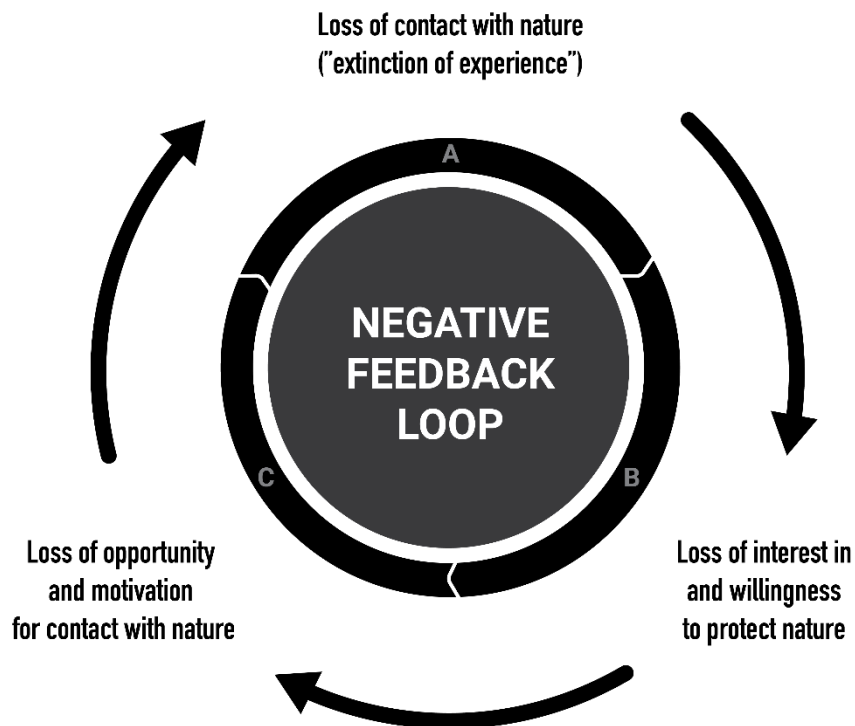


Figure 1. Remake of figure by Soga (2016) presenting the negative feedback loop resulting from the ‘extinction of experience’ of human-nature interactions. Illustrations with help from Kristián Kierulf.

Soga & Gaston (2016) believe the extinction of experience phenomenon is a fundamental obstacle to reverse global environmental degradation and to achieve healthy societies. They therefore call for researchers and policy makers to focus more on how to reconnect people with nature. Soga & Gaston (2016, p. 97) write:

“Evidence shows that loss of interactions with nature changes people’s attitudes toward nature, including the value they place on it, their beliefs concerning the environment, their perceived norms of environmental ethics, and their willingness to protect nature.”

Apparently, there has been given much attention regarding how the affection towards nature seems to be developed during childhood, but according to Scott, Amel & Manning (2014), nature-based activities can also affect the self-reported pro-environmental behaviours of adults. When it comes to connecting with nature through food production and the positive effects it can have, Camps-Calvet et al. (2016) found an overwhelming dominance of cultural ecosystem services (12) in relation to ecosystem services in urban gardens: social cohesion & integration, placemaking, political fulfilment, biophilia, quality of food, aesthetic information,

nature & spiritual experiences, relax & stress reduction, entertainment & leisure, exercise & physical recreation, learning & education as well as maintenance of cultural heritage. All these cultural ecosystem services, except from the ‘political fulfilment’, were regarded as highly valuable by the practitioners.

To summarize what the individual rift (the alienation from labour and land (nature) is, a quote by McClintock (2016, p. 202) about how urban agriculture (UA in this quote) can mend the individual rift is presented:

“By physically labouring the soil, sowing seeds, cultivating, harvesting and preparing food, UA mends individual rift by reengaging individuals with their own metabolism of the natural environment. Not only do experiences in the garden bring the urban farmer, gardener or beekeeper into direct contact with the biophysical environment – soil, plants, water, sunshine, rain, worms, insects, birds [...], but also allows him or her to experience and metabolize the surrounding landscape, transforming it into a product that he or she can consume.”

5. METHODOLOGY

Secondary data was used to answer the CSA principles' potentials to mend negative impacts of the agro-industrial food system. To explore CSA producers' challenges and opportunities, and how they connect people with food production, qualitative research methods were used.

One of the most obvious dissimilarities between qualitative and quantitative research, is how qualitative research are concerned with words rather than numbers. Another aspect associated with qualitative research, is the inductive relationship between theory and research where the theory is generated out of the research (Bryman, 2016). In qualitative data collection, you often start off with general research questions, select relevant sites and subject for study, collect data, and then make a conceptual and theoretical framework based on your data interpretation. The conceptual and theoretical work can then make you tighten the research question(s), and possibly lead to further data collection (Bryman, 2016)¹⁰. The way one can open the eyes for new aspects and broaden the vision ('generate new theory'), is one of the advantages of using qualitative research methods.

Many stresses the importance of allowing theoretical ideas to emerge out of data collection and interpretation (Bryman, 2016). Some qualitative researchers argue that qualitative research should have an importing role in testing theories as well. Silverman (1993) note that qualitative researchers are becoming increasingly interested in theory-testing. This study does a little bit of both – testing and exploring. The study both wishes to see if previous findings/theories (for instance previous CSA challenges experienced) apply to Norwegian CSAs, while also uses a somewhat explorative approach¹¹ to learn more about CSAs in the Norwegian context. This explorative approach led to the theoretical framework used. Additionally, the involvement of shareholders became increasingly evident during the interview process. This directed the interest towards aspects about connecting citizens with food production, leading to the third RQ about involving people with food production.

¹⁰ This contrasts to the deductive approach, associated with quantitative research methods, in which research is generated from theory. In quantitative research you usually start off with literature reviews, concepts, and theories, followed by creating research questions, collect data and so forward (Bryman, 2016).

¹¹ Dudovskiy (2018) say explorative research helps to give a better understanding of a problem and explores topics with varying levels of depths. It does not intend to provide conclusive evidence and the researcher may also be willing to change his or her directions.

5.1. Sampling approach and data collection

Data to answer RQ 1, about how the CSA principles can have potentials to mend negative impacts of the agro-industrial food system, are based on a discussion about secondary data collected in previous chapters. Secondary data is defined by Bryman (2016, p. 696) as the: “analysis of data by researchers who will probably not have been involved in the collection of those data, for purposes that may not have been envisaged by those responsible for the data collection. Secondary analysis may entail the analysis of either quantitative data or qualitative data”. RQ 1 is assessed theoretically, based on already presented information about the CSA model (chapter 2), the Norwegian context (chapter 3) and the theoretical framework (chapter 4).

To answer the second and third research questions, data was collected through qualitative in-depth interviews with CSA producers. At andelslandbruk.no/kart, one can see where all the CSAs in Norway are located. CSAs are located throughout all of Norway. However, I decided to sample respondents in the South-Eastern part of Norway because of the high CSA concentration in this area. There were also many CSA varieties regarding whether the CSAs were consumer-driven or farmer-driven, located rural or urban, or were established recently or not. Different types of CSAs were required for the interviews to see how perceive to get a broad understanding of different challenges, opportunities, operational ways and perceptions. Six in-depth interviews were conducted. The sampling approach used was purposive sampling. Purposive sampling can be defined as a sample “in which the researcher aims to sample cases or participants in a strategic way, so that those sampled are relevant to the research questions that are being posed” (Bryman, 2016, p. 694). The type of purposive sampling used was typical case samplings, in which the samples exemplifies a dimension of interest (Bryman, 2016), and snowball sampling, in which respondents gave tips about potentially useful cases/respondents (CSAs/CSA producers). The list of informants and some information about the CSAs can be found in Appendix 1. To establish contact for the data collection, emails were sent to the respondents.

All interviews were conducted in homes (farmer-driven CSAs) or inside buildings at the locations of the consumer-driven CSAs. The locations of the interviews can also be found in Appendix 1. All interviews were conducted in winter/spring 2018.

The interviews were semi-structured with a somewhat explorative approach, allowing the conversations to take go a bit off road, depending on the context and their experiences. Semi-

structured interview guides have a series of questions, but also allows the researcher to ask further questions in response to the replies (Bryman, 2016), which was helpful in this context. The semi-structured interview guides were particularly interested in learning about if the CSAs were experiencing some of the challenges others have experienced found through the literature review. Eventually, more questions were asked about how CSAs connect people with food production, as this became increasingly evident and interesting. The interviews varied to some extent depending on the context (e.g. farmer-driven/consumer-driven) or if there was something particularly interesting about a specific CSA that was useful for the research. An approximate interview guide can be found in Appendix 2.

5.2. Data analysis

Data analysis for RQ 1 about how CSA principles directly can mend negative externalities of the agro-industrial food system, was done through focusing on each of the five Norwegian CSA principles at the time. I then linked each principle to secondary data provided through previous chapters.

When it comes to the data analysis of RQ 2 and 3, interviews were transcribed continuously during the data collection process. To do the analysis, transcriptions were printed, and marker pens were bought to cover all the different aspects (different colours) considered useful information. When doing the analysis for RQ 2, what were perceived as challenges were first identified, followed by useful operational experiences related to if the CSAs were farmer-driven or consumer-driven, and urban-rural relationships.

For RQ 3, the colour coding was used to identify how CSA can act as learning arena through the involvement of shareholders (direct involvement), and through connecting with the broader community (indirect involvement).

When it comes to coding the informants, codes are used throughout the study to not have to write personal names and to separate farmer- and consumer-driven CSAs. F-CSA 1, 2 or 3 represent a farmer-driven CSA and C-CSA 4, 5 or 6 represent a consumer-driven. The codes used for informants are also found in Appendix 1.

5.3. Methodological challenges

Initially and throughout the process of collecting data and writing, the plan was use a mixed research methods approach of both quantitative and qualitative research methods. A survey was made and sent on email to all CSA producers in Norway (found through andelslandbruk.no/kart), to learn more about Norwegian CSAs and the CSA producers. However, during the data collection of the qualitative interviews, the many ways CSA can involve citizens to food production became apparent. I thought this was highly interesting and created a RQ about it. However, this made it increasingly difficult to incorporate findings from both quantitative and qualitative research methods, and to find a theoretical/conceptual framework incorporating both. Although my motivation was there to incorporate both types of data collected, the satisfactory information received from the interviews made it increasingly appealing to focus on only the qualitative data. This process definitively was an eye-opener, especially regarding the possibilities of theories or conceptual/theoretical frameworks that potentially could be used (because of information overload), and the importance of narrowing things down. Narrowing things down can be particularly challenging for cases such as CSAs that holistically can be related to a diversity of factors (social/cultural, economic, environmental, political, historical, local, global, personal, and so forth).

Now, focusing on solely qualitative research, there are some criteria that can be used to assess the quality of the research related to the concept of trustworthiness. Trustworthiness entails criteria of 1) credibility, 2) transferability, 3) dependability, and 4) confirmability (Guba & Lincoln, 1994).

The 1) credibility is about the correspondence between the researcher's observation and the theoretical ideas they develop. Surely, if another person did this research, they would probably have had somewhat different ideas and interpretations – especially if they had different study backgrounds. Regarding the 2) transferability, which is about the degree in which the findings can be generalised across social settings, this study is not likely to be representative. Although many may share similar traits, it is for instance not always the case that CSAs involve their shareholders. It also depends in what context you are, and location – e.g. is the CSA a consumer-driven CSA, is it in the South-Eastern part of Norway, or in the US. CSAs are very context-specific, and making generalisations, especially through qualitative research methods, are difficult. What is found about the CSAs in the South-Eastern part of Norway, may even not be representative for other areas in Norway – or even for other

CSAs in the South-Eastern part of Norway. Third, the 3) dependability is about whether the study can be replicated. Replication of the study is not like in quantitative research which is more like baking under constant surroundings. The study could be replicated to a small degree through looking at the interview guide, but the findings would never be the same depending on time and place. The semi-structured interview guide, with a somewhat explorative approach, may also result in interviews taking a direction to something new, but potentially useful to the research questions. Maybe the interviewer, based on the data collected, will even wish to change the research questions to something else. Last, the 4) confirmability, is about the objectivity of the study. As my study program is international environmental studies, and because I am personally a shareholder in Dysterjordet CSA in Ås, I cannot deny that I do not have subjective opinions about CSAs. Personal perceptions and values may influence the data collection, interpretations, and findings, despite wanting to be an objective researcher. I hope however that this “subjectivity” may benefit the research, as I have a good understanding about the CSA model. It has also led me to do research about topics, e.g. identifying challenges experienced, that can be important for CSAs long-term and for moving towards sustainable food systems. In addition – to stay as objective as possible under the circumstances, I avoided interviewing Dysterjordet CSA where I am a member myself.

5.4. Ethical considerations

In relation to social research and ethical consideration, Diener & Crandall (1978) divided ethical principles in four main areas about whether there is 1) harm to the participants, 2) lack of informed consent, 3) an invasion of privacy, and 4) whether deception is involved.

Regarding 1), a potential ‘harm’ that can be thought of, regards the participants who spent time responding to a survey that will not be used for further research. If this was the case with many researchers, respondents could lose their faith in researchers and their potential to use the data collected. In relation to 2), all respondents gave an informed consent, and were informed about the research. Considering the surveys, there were information about the research project presented to respondents, which also said that they gave an informed consent by answering the survey. In relation to the interviews, they were informed by the research prior to the meeting, by email. Additionally, when meeting they gave signatures saying they were informed about the research, that it was ok to use an audio recorder during the interviews, and whether they agreed to being presented in the study or be anonymous.

Regarding 3) the respondents agreed to meet in their homes, and there were few personal

questions asked. There could have been more questions related to the economy, but it was not asked about explicitly, and only brought up coincidentally and open-heartedly by the respondents. In relation to 4) about deception, we could talk about how the survey is not being used. However, it was not intentional and since this is 'just a master thesis', it is hoped that the respondents will understand.

Prior to the data collection, information about the research was sent to NSD (Norsk Senter for Forskningsdata), the Norwegian Centre or Research Data, who approved the research.

There are two more aspects that can be mentioned. The one is that all interviews were in Norwegian, meaning that all the data collection quotes used, are translated from Norwegian to English. This may impose a risk of eroding the initial meaning. The other aspect is; since it was decided to focus more on CSAs role of involving shareholders throughout the data collection process, as this aspect increasingly came up, the respondents in the first interviews may not have had the equal chance to respond to these aspects compared to the later respondents.

6. FINDINGS AND DISCUSSION

This chapter is divided into three parts, each part representing the three RQs.

6.1. Mending “rifts” with CSA principles

Through RQ 1, I want to know which direct ways the CSA principles have potentials to mend negative externalities of the agro-industrial food system. To answer this, I will relate the CSA principles to the ecological, social, and individual rift. McClintock (2010) theorized about urban agriculture in relation to the metabolic rift in his paper: “Why farm the city? Theorizing urban agriculture through a lens of metabolic rift” - in comparison, I basically attempt to answer: “Why CSA? Theorizing CSA principles through a lens of metabolic rift”. The negative externalities of the agro-industrial food system the Norwegian CSA principles can have direct potentials to mend are elaborated in the five parts, where each part represents each of the Norwegian CSA principles: dialogue about farming operations, transparent economy, shared yields and risks, involvement of shareholders and sustainable farming operations.

6.1.1. Dialogue about farming operations

Principle 1, promoting dialogue about farming operations, is most likely to mend consequences of food commodification (social rift). At the time when planning what should be produced (or the time when signing contracts) it is difficult to foresee what will be profitable in the future – this account particularly for vegetables in Norway. In Norway, market regulators are not regulating vegetable prices the same way as for other agricultural products (meat, corn and oilseeds, milk and dairy and eggs) (Markedsreguleringsforskriften, 2017), and the prices of imported products are often directional for prices in the Norwegian market (Meld. St. 11 (2016-2017)). In addition, delivery chances depend on the market situation at a specific time, and the vegetable producers are not given rights to deliver (Ronning et al. (2013). Long distances associated with the agro-industrial food system (intermediaries, travel distances etc.), makes it difficult for producer to connect with consumers, and vice versa. Through dialogue about farming operations with shareholders prior to the season, the shareholders (consumers) can tell what they are interested in, and in what amounts (Andelslandbruk, 2018c). As the producer can connect with consumers and their needs, the

socio-cultural significance of food mentioned by McClintock (2010), can more easily be safeguarded as consumers can ask for varieties and products that otherwise would not have reached the market. As the producers get a market outside the agro-industrial food system, the producer can more easily avoid tight contracts. Overproduction associated with efficiency demands in the existing economy of the agro-industrial food system could also be avoided, as Solemdal & Serikstad (2015) note that direct contact with consumers can increase the willingness to pay for high quality product. Inevitably, the ecological rifts are also reduced as a consequence of the opportunity of direct contact with consumers.

Meanwhile consumers talk about their needs, the producer can inform about local production possibilities (Andelslandbruk, 2018c), potentially giving consumers a better understanding of aspects related to food production (seasonality, prices of inputs, work force required and so on). Hence, the dialogue about farming operations could potentially increase the understanding of food production, the respect for producers and reduce the social, economic, and ecological knowledge gaps mentioned by Clapp (2016).

6.1.2. Transparent economy

In comparison to principle 1, a transparent economy can also limit consequences of food commodification. The principle of transparent economy implies that all costs (production costs and labour costs) should be open for the shareholders to see, and that actors should get fair payments (Andelslandbruk, 2018c). As Lamb (1994) states, economic forces in the market place act more as barriers between producers and consumers, than bridges, and it makes sustainable agriculture difficult. In capitalist economies, the goal is profit based on private ownership with the result often being unsustainable agriculture with cost-shifting on the environment or workers involved. If the economy was transparent for all agricultural operations, I assume it would influence consumer choices towards more ethical and sustainable consumption. With a transparent economy and honesty in the food system, the people can see if the salaries are fair, that the food is safe, and that paid money are not contributing to social or environment costs, like for instance new commodity frontiers (e.g. by directly or indirectly contributing to soy production in Brazil?). A transparent economy will therefore also have potentials to reduce ecological rifts associated with unsustainable agriculture, and food being transported long distances. As trust with a transparent economy and the direct contact between producers and consumers associated with AFNs, trust can be gained for small-scale biodiverse farmers as it becomes clear how much labour is needed, and

what inputs are needed to get the outputs. The producers can thus increasingly be kept away from the capitalist agricultural treadmill described by Cochrane (1958), associated with unsustainable short-term technological solutions to survive market competition.

Producers should without no doubt get fair payments for their labour, to secure sustainable agriculture. However, an unfortunate aspect is how low-income people's access to healthy and nutritious food decreases, with increased payments to the producers (and thus increased prices). According to Paul (2015), one of the most important challenges of CSAs, is how to include low-income members. This is an important aspect of AFNs that should be considered on the road towards more sustainable food systems benefitting both producers and consumers. Luckily, some CSAs are finding ways to include low-income members who may not have the same food security as other members of the society (Henderson & Van En, 2007; Lamb; 1994). The CSA model, in contrast to some other AFNs, may have good potentials to include low-income members as they have membership fees that could be funded (like with Dysterjordet CSA in Norway), or because other shareholders can help with the distribution of excess food to shelters (Henderson & Van En, 2007). In addition, through having cheaper member fees for students, as Henderson & Van En (2007) used as an example, one can include people who are likely to have less capital. This could potentially be easier in CSAs than in AFNs with using unit prices, due to higher transaction costs for the seller.

In conclusion, transparent economy has a potential to make it easier for primary producers to practise sustainable agriculture and to ensure the public health of consumers through promoting safe food. The community must however be willing to pay and have the capacity to do so. Low-income members should not be excluded from their rights to healthy and nutritious food, so one should strive to find ways to include low-income people who often can be poorly affected by externalities (like health costs and limited access to land) of the agro-industrial food system worldwide.

6.1.3. Shared yields, shared risks

This principle has very much to do with the social rift, and the aspect of food commodification. As shareholders pay for a share of the total production, rather than for unit prices of different 'commodities', CSAs climb down the ladder of commodification. Through paying for a share of the total production, it is instead the share that is commodified. Still, you holistically acknowledge the risks of farming and that food is not like any other commodity that can be produced, sold, and traded - as Clapp (2016) points out. Through pre-payment and

the partnership between producers and shareholders, the shareholders agree to share risks (and rewards) of the production with the producers in agreements usually lasting for a year. This limits the effects of primary producers being locked into tight specifications and contracts of the agro-industrial food system, in which the producers might bear the costs or poor yields themselves. Pre-payments can also limit the need for producers to take loans to buy the inputs (e.g. seeds, labour), and the risk of ending up with debts (Paul, 2015), and the producers (and shareholders for that matter) can avoid being affected by price volatilities in the market resulted from shifts in food supply and demands, and increasingly by the financialization of food commodity markets (Kerckhoffs et al., 2010; Clapp, 2016; McMichael, 2012). Thus, through having shareholders who agree to share the risks, it becomes easier for the producer to work in a way that is not solely production-driven. From one year to another in relation to the CSA, especially when the number of shareholders stabilizes, the producer is likely to get more stability and flexibility regarding the income and what is produced, if comparing it to vegetable producers in the agro-industrial system. As Hvitsand (2014) mentioned, shared risks can also allow the producer to experiment with different production techniques, and therefore act as a spearhead for sustainable farming techniques.

Compared to people with the means who potentially could be shareholders in several CSAs to distribute their risks, low-income members may not afford high risks related to food production. Still, CSAs often are associated with a wide variety of vegetables, the risks are spread to amongst different varieties in the total production. Although one variety will fail completely, it is likely to be others doing well. If comparing this to monocultures, often associated with the agro-industrial food system, one increasingly risks total failures of entire productions. As Khoury (2014) highlighted, wide varieties of vegetables can limit the trends towards a standard global food supply, and increase the nutrition security of those involved.

Considering the commodification of land in relation to the social rift, capitalism very much revolves around private land to accumulate private profit. Sometimes the ownership of the land used by CSAs is private (mostly farmer-driven CSAs), other times it is being lent (mostly consumer-driven CSAs). The CSA shareholders must pay for shares to gain access to production shares. Thus, the land is commodified, as someone is likely to have all rights. Still, through the partnership and through being many shareholders, the costs of access to land (e.g. rent) is being distributed amongst several people. The inclusion of low-income members is still an issue. Despite this - the fact that people can buy a share of the land's production, probably gives more people access to land than what would otherwise have been the case in

relation to food production in the agro-industrial food system. Additionally, through shareholders harvesting their own food (“shares”), the land is more used as common grounds for the community, rather than solely for capitalist production.

6.1.4. Involvement of shareholders

The principle of involving shareholders have the most potential to limit the individual rift, which is about the alienation from labour and land (nature). However, principle 4 would probably not be straightforward without the principles (1, 2 and 3) mending the externalities of food commodification in the agro-industrial food system. According to the theory, food commodification has separated people from the means of agricultural production through technological advances, with the result being a knowledge loss about the “products”, and the loss of understanding ourselves as part of a larger ecosystem. Mending externalities of food commodification first, can make it easier for producers to reconnect present-day consumers (distanced from food production), to food production, by giving the possibility to reconnect with the land on the CSA.

Involving the shareholders can help mending the individual rifts, by giving people a better understanding and knowledge about ecological processes of food production (“from farm to fork”), and an increased understanding of nature in general. For instance, Kis (2014) mentioned how CSAs increased the “whole-systems way of thinking”, and Cox et al. (2008) noted that learning through food production can support an increased understanding of social and ecological struggles. Potentially, the involvement of shareholders can encourage pro-environmental behaviours through limiting the “extinction of experience”, described by Soga & Gaston (2016). Ostrom (2007) noted that CSA involvement has led shareholders to shop less and change their behaviours towards more sustainable eating habits.

The health of those involved are also an important aspect of the individual rift, and the disconnection with nature. Through CSA, shareholders can have an increased “consumption” of the vitamin G (for greenspace) mentioned by Soga & Gaston (2016), and food production can provide many cultural ecosystem services for those involved (Camps-Calvet et al., 2016). Stress reduction can be particularly a benefit with CSAs, as Kis (2014) mentions how the time and pace can feel slower in CSA community - immune to the ‘hurry virus’.

Through helping the producers through dugnad, without getting paid for it through direct monetary payments (rather with fresh food, learning and so on), the principle can also be related to decommodification of labour and the social rift. Through dugnad and connecting

with food production as a community, the food can also increasingly be interpreted as a “cultural feature of the society”, advocated for by Clapp (2016).

6.1.5. Sustainable farming operations

Sustainable farming operations are most easily related to the ecological rifts, and the principle has most potentials to mend ecological rifts. Andelslandbruk (2018c) says the principle about sustainable farming operations should strive to sustain and to promote the health of soil, plants, and animals, and be responsible and cautious in relation to the environment, and present and future generations. In relation to the market economy, sustainable farming operations can be difficult in the frames of the agro-industrial food system. In comparison to principle 4, I believe the principles mending externalities of food commodification (1, 2, and 3) help make principle 5 achievable. Additionally, involving shareholders through dugnad (principle 4), reduces the labour demands per man, and makes the principle easier to achieve. Still, the principle in itself has the most potentials to mend ecological rifts, but some frames (like principle 1, 2, 3) makes it easier for the producer to practise sustainable farming operations without being pulled by economic forces associated with the agro-industrial food system.

The initial use of the concept of metabolic rift was about waste not being incorporated into the biological cycles, which resulted in soil fertility losses and dependencies on synthetic fertilizers and pesticides (McClintock, 2010). Through striving for sustainable farming operations in relation to CSAs, there are, as far as I am aware, no use of synthetic fertilizers or pesticides to promote growth. The CSAs must find other ways to bring nutrients to the soil (e.g. compost, manure from livestock or planting legumes fixating nitrogen back to the soil). The locality of the CSAs in relation to the consumer in addition reduces the need for packaged and processed food and the food travel distances. The local food production and consumption reduce the transport of resources and nutrients from areas potentially located far away. There may be some transport costs related to getting nutrients back into the soil in a CSA, but this vary from CSA to CSA, the location and context. If the farm is biodynamic and the farm is treated like an organism (its own ecosystem), as Trimarchi (2009) defined it as, the potential for mending the ecological rifts is considered high compared to many other farming operations.

6.2. Operational challenges and opportunities

CSAs can reduce negative externalities of the agro-industrial food system, but how do the CSA model work in practise? Do the CSA producers perceive any challenges and opportunities in relation to establishing and running a successful CSA? The following sections revolves around the findings and discussions in relation to farmer-driven or consumer-driven CSAs (F-CSAs and C-CSAs) (6.2.1.), start-up and networking (6.2.2.), economics (6.2.3.), shareholders (6.2.4.), urban-rural relationships (6.2.4.), excess food (6.2.5.) and a summary presented through a table (6.2.6.)

6.2.1. Consumer-driven and farmer-driven CSAs

This section will briefly present considerations regarding starting a consumer- or farmer driven that came up during the interviews, as they can have different needs and challenges that can be beneficial to keep in mind. The relationships within consumer-driven (C-CSAs) and farmer-driven (F-CSAs) CSAs may also be somewhat different, as well as the motivations (C-CSAs more motivated by social aspects?) and questions that need to be addressed regarding the operations - e.g. who will be the next season's daily leader in a consumer-driven CSA?

Lamb (1994) noted that although the CSA revolves around a partnership or agreement, there are many CSA variations depending on desires and resources of those involved. This context-specificity apply to the Norwegian context as well – I for instance both interviewed the consumer-driven C-CSA 5 with 11 members last season, saying they “are probably Norway’s smallest CSA”, as well as the farmer-driven F-CSA 2 which from 2018 will be “*only* a CSA”, letting go of deals regarding potato and meat deliveries etc.

The level of experience between the CSA producers in consumer- and farmer-driven CSAs seemed to differ. Both C-CSA 4 and C-CSA 5 had for instance hired gardeners in 60 % positions, and one of the initiators of C-CSA 5 started the CSA to get more experience and to learn, saying “I knew I could do things in my garden [...] but the thing was – I never did it, it never happened! So, why not start a CSA”. Farmers often have some agricultural experience from before, but F.CSA 2 say that to be an educated farmer from an agricultural school doesn't always need to be an advantage for running a CSA. He took an education in agronomy as an adult and says the basic knowledge is highly important but argues that some agronomist educations may make you believe narrow mindedly that: “you should have that

ploughing machine, that tractor, and do this and that”. Talking about farmer-driven CSAs and education, and how it differs from conventional farming, one respondent said that:

“The competence you need, to both grow kale, and carrots, and onions, and all these different things, it is something else. It’s a different way to think, that primarily takes basis in how to take care of the Earth. This also reflects how we can get the most yields – by taking care of this Earth long-term.”

One respondent talked about farmers who decide to start a CSA, and how it differs from the typical operations as: “you can have 100 people in the fields every week which you have to relate to.” C-CSA 4 believe the model is good for new farmers who wish to start with agriculture, as it can be hard to get into the market. She also believed the model has many potential ripple-effects for farmers, opening rooms for other opportunities.

In relation to gardeners and experience, one respondent in of one of the C-CSAs said it could be challenging to find gardeners with the competence needed in the CSA, saying “it’s so few with the competence”. She also believed it was hard to find gardeners wanting to “work eight months a year, and then don’t have a job”.

Another significant difference between consumer-driven and farmer-driven CSA, is the resources available: land and tools. The farmer-driven CSAs often have land right outside their doorstep, as well as helpful tools (if the farmer already have a farm, this may however not be the case for all farmers). All F-CSAs interviewed lived on a farm, with fields readily available. F-CSA 1 had for instance been doing vegetable production in the same scale 10 years earlier, before they “became too small for the big wholesalers”. They therefore already had all the tools needed, and of course the field, available. In comparison, the situation was a bit different when the residents’ association decided to start C-CSA 6: “it was these happy, unknowing farmers in the city, who you could say had no clue, so they had a pretty steep learning curve”, and “when you start from scratch, you have nothing. Literally, we had nothing, absolutely nothing”. They went to a neighbouring farm and rented a piece of land there (and also applied for some establishment funds from the county governor). Before C-CSA 6 moved to today’s current location, they had “just a field”, but they now have access to buildings (and toilets) and the possibility to build for instance a greenhouse. An opportunity C-CSAs have, is to be able to choose amongst several possible fields or areas – although the selection of fields may vary from place to place.

6.2.2. Start-up and networking

Although starting something from scratch can be particularly challenging, it seems like many of the CSAs has had good help from institutions to start-up, and that many are interested in the CSA model. For instance, both F-CSA 1 and F-CSA 3 both got help from Naturvernforbundet¹² to establish the CSAs. Naturvernforbundet in Vestfold hired someone to help farmers establish a CSA, as they got funding for this project. F-CSA 1 said he thought it was very favourable to be asked by someone else and that he do not think he would have started otherwise: “I think it was very important that the farmer didn’t have to do marketing himself. I would never have started unless somebody else asked us”. This can imply that there are more farmers who could be interested in starting a CSA, if they had some start-up assistance in the beginning. The project with Naturvernforbundet helped them, amongst other things, with spreading the words, organize information meetings and so on.

Oikos¹³ has also been a special for many of the CSAs. The CSA producers interviewed seem grateful about the project and think it is important to have a network. One of the respondents talked about a network gathering she thought was very interesting, with people from the whole country present and C-CSA 6 had an open farm-day with 150 people coming to visit, with help from Oikos. Two respondents said that: “They have been a very important in the whole networking part, to learn from each other’s good and bad experiences and being able to use each other like that has been indispensable” and “They have been a good support when we started. Oikos was there, and it was this whole sharing philosophy in the network. It was very nice for us in so that we could get started, knowing what we were doing – and to have somebody to look to.” F-CSA 2 said: “it’s important for CSAs to have a network around, so that they don’t have to go in the same traps. Because that’s what’s happening many places, one goes in the same traps and thinks it’s horrible!”

The project with Oikos was established in January 2015 (Landbruksdirektoratet, 2018), so the CSAs established before that didn’t get the same guidance. F-CSA 2 instead visited some CSAs in Europe to get some input about how they wanted it. C-CSA 4 had contact with the first CSA established in Norway (Øverland) and got a lot of guidance from them.

¹² The Norwegian Society for the Conservation of Nature,

¹³ Oikos – Økologisk Norge (English: Oikos – Organic Norway, Oikos for short) is an organization working for IFOAM’s principles for organic agriculture (health, ecology, fairness, and care). As part of the organizations’ CSA project, they have written a handbook for how to start a CS and created the website andelslandbruk.no. In the project there are national coordinators working with the Norwegian CSA network, offering guidance, courses and informational work related to the CSA model (Andelslandbruk, 2018e).

Additionally, she has been sitting in Oikos' board, and knew many resource persons from there. C-CSA 4 and C-CSA 6 are located quite close to each other, enabling them to have a lot of contact and to discuss with each other. C-CSA 4 say they would like to be a bit of a mentor to help other CSAs.

Last, the ecological aspect is not always easy, but Norsk Landbruksrådgivning (NLR), the Norwegian agricultural advisory services have helped many of the CSAs. This opportunity seemed to be highly subsidised in Vestfold because the county has been a “forerunner county” (Norwegian: foregangsfylke) for organic vegetables – decided upon by the state. F-CSA 3 and F-CSA 2 said you could get seven hours for free if you were deciding to change to organic operations, and that you “pay for 100 kroner an hour, although they usually charge 1000 kroner an hour.”

6.2.3. Economy: pricing and work

The transparent economy of the CSA budget provides insight for shareholders to see purchases, incomes, and that hourly working wages are not too low or high. The prices of the shares differ somewhat between the CSAs depending on working hours, what they offer, number of members, how many people who help in the field, purchases etc., and so does the incomes of the CSA producers. Through the interviews, the salaries and the economics were not investigated in detail, but many CSAs have their budgets available and open to the public through their homepages, or e.g. present it at annual meetings. Rather, through the interviews, some challenges and thoughts about work and the prices were aired.

First off, the CSAs differentiate the shares, in which the type of share and the prices vary. Through having cheaper or free shares for some groups, they are encouraged to join. F-CSA 1 has vegetables in their CSA, and the shares you can chose between are adult shares, shares for children between seven and 18 years, and free shares for children under the age of seven. He said they in a sense are subsidising families with children. F-CSA 2 have a vegetable share, meat share, hen share, «Christmas pork» share (ready in November with ribs, ham sticks, medists etc.), BBQ share (pork) and potato share. He also mentioned in the interview that they run a fixed price on all of them, but that it could be possible to get half prices for kids or if you eat very little (use the share seldom). F-CSA 3 have an adult vegetable share, a vegetable share for children over ten years, and a free vegetable share for children under 10. They also have a family share, a flour share, an egg share and a meat share. C-CSA 4 and C-CSA 6 both have vegetables in their CSAs, offering the same types of shares: a family share, senior share,

student share and a regular share. C-CSA 5 has regular share and a share for children between 9-16 (below is free). Having kindergartens as shareholders have also been tested by two of the CSAs, and will be looked into in chapter 6.3. Additionally, one of the consumer-driven CSAs who rented a field from the farmer, said the farmer had talked about maybe cooperating in the future through providing meat for the CSA. Another CSA mentioned maybe cooperating with a farmer close by, in which the farmer potentially could produce milk for the shareholders.

In C-CSA 5 and F-CSA 1 you also pay a “one-time amount” the first season you become a member, going to e.g. administrative work. This may be a potential idea for other CSAs as well. Before the CSA is “fully” established and number of shareholders not yet has stabilized, it can be hard to know how much e.g. administrative work there will be and the one-time payment could therefore potentially work as a buffer. If people have paid this the first season, it could also maybe motivate them to stay longer once they have become members. The payment must however not be too high, scaring them from becoming members.

Additionally, starting last season, F-CSA 3 and C-CSA 4 decided to have mandatory dugnads with the possibility of buying oneself out of it (both six hours), so if people already know in the beginning of the season that they will not prioritize meeting up for dugnads – they have this possibility that can also secure the producers payment for lost labour force.

F-CSA 2 said that a challenge they had had was to price themselves too low, because they did not know how much work it would be. There was a lot of basic work one may not fully understand before doing it a couple of times, F-CSA 2 said. However, he says that: “now we get it, now we get what works and what does not”, and that they have calculated a lot and think they can do good business through running “only” a CSA farm - because *that* (good business) is also important. He said: “I am a *farmer*, and I *need* to earn money. At the same time, I need predictability and I find that through the CSA model.” F-CSA 2 says he thinks some CSAs have the share prices too cheap, speaking of a CSA where they said they couldn’t increase the price of the share more, because they would lose members. F-CSA 2 think however that cheap share prices undermine the system, as one point in the CSA model is to give the farmer or the gardener what he or she deserves. It could be interesting to investigate what the shareholders think of the prices; would they be willing to pay more if e.g. some extra working hours were included in the budget, or would they be interested in contributing more with work themselves? Henderson & Van En (2007) said under-pricing shares were especially common the first year.

Regarding share prices, F-CSA 2 calculated what the food in their share (if you pick it up regularly) would cost at *Meny* (Norwegian grocery store). He said: “If you were to buy the share at Meny, organic food at Meny, a share would cost you 16 000 kroner or equivalent, so you would save *a lot* of money. But it has never been the thought that you should take part to save money, but you actually do, and we have checked it.” This is concordant with what was found in the literature review about CSAs being cheaper than organic produce in conventional stores (Cooley & Lass, 1998; Farnsworth et al., 1996; Sabih & Baker, 2000; Conner, 2003), although these studies were not in the Norwegian context.

In the starting phase it can be hard to know how many will be interested in the CSA operation, how much one can expect to work/earn. The economy of the CSAs seems to be highly dependent on the number for shareholders, as shareholders usually mean more working hours. Almost all CSAs said they would like to have more shareholders. There seems to be some level “self-exploitation”, which Paul (2015), Brown & Miller (2008) and Galt (2014) mentioned, also based on my data collection. One respondent had a 50 %-position now but would need an extra job if the number of shareholders didn’t increase, although the work-load in the CSA was thought to be a lot more than 50 %. In relation to work, C-CSA 6 who is hired in a 20 % position point out that she thought she and the gardener probably had worked a bit extra on top of what they got paid for and thought the working hours on top were rooted in an interest and engagement, as well as the fact that many things had to be done. Galt (2013) mentioned how “self-exploitation” may be a result of social embeddedness, as the farmers feel a strong obligation to shareholders – despite the principle of shared risks and rewards.

Two of the CSAs had people working with them on the CSA. One CSA said they had had work training with a man from Eritrea through NAV (the Norwegian Labour and Welfare Administration). F-CSA 2 got help from WWOOFers (World Wide Opportunities on Organic Farms) volunteering at the farm. At the website (WWOOF, 2018), it says: “WWOOF is a worldwide movement linking volunteers with organic farmers and growers to promote cultural and educational experiences based on trust and non-monetary exchange, thereby helping to build a sustainable, global community.” If you are a host, you open your home to receive visitors, and as a volunteer you help with daily tasks and get to experience life as a farmer. There seemed to be especially many Dutch people interested in doing this at F-CSA 2.

Last, some of the respondents got funding from institutions like DNB Stiftelsen (for greenhouse), establishment funds (for start-up), and rural development funds (to build a cold storage room), and land for C-CSAs seemed to mostly be highly subsidised – e.g. C-CSA 5

said that the farmer never sent them a bill, and that they doubted he would do it the upcoming season (they also had the opportunity to borrow some tools from him).

6.2.4. Shareholders

Opportunities for how citizens can be involved, apart from dugnad, as well as ripple-effects on the broader community, will be a topic when answering RQ 3. For an introduction, the CSAs arranged courses and events, and there were indirect examples of CSAs connecting with the broader community through schools and integration projects. I will however not go more into depth on that now. This part is divided in twos, representing challenges and experiences related to the involvement of shareholders (core groups, harvesting, and collective action (dugnad)) and aspects related to the CSA membership (recruitment, number, quitting).

INVOLVEMENT

Core groups: viable, dormant, or non-existing?

Developing strong groups can be important for successful CSAs (Henderson & Van En, 2007; Brown & Miller, 2008). The CSAs in this study have somewhat different experiences with the core groups. C-CSA 6 thinks the core group works in a great way with people taking different responsibilities that fill the whole spectre needed: “Some are on the strategic level, good at writing applications and search funding for different projects”, whereas others are more into the practical things, e.g. by making a sign for the field or fixing a broken grass clipper. She says some are also interested in the big questions, like: “how should we look like in 2025?”. Involving shareholders by setting long-term goals for the operations, was also suggested by Henderson & Van En (2007).

F-CSA 1 and C-CSA 4 both say the core groups have been very helpful, especially in the beginning. F-CSA 1 says that a core group of 5-6 people was established quite quickly in the beginning. He says a lot of work was done in the beginning, and that there is not much work left to be done anymore. C-CSA 4 says it can be challenging to keep up the engagement within the core group, although they may feel like they do what they are supposed to do, she had some expectations for them to take more responsibility for more action (events etc.) within the CSA.

Sanneh, Moffitt & Lass (2001) said the core group could also be extra transactional costs for the farmer, especially if he did not want a high interaction levels amongst the shareholders. One of the farmers in the data collection may confirm this, especially as the CSA is located quite rural possibly making high interaction levels on a frequently basis more difficult. F-CSA 2 said he did not have a clear core group, and when asked about how they did it with the core group, F-CSA 2 answered jokingly: “I am the dictator.” He further said that he had heard stories from CSAs with many strong personalities who go into a group thinking they are the world champions and can control things which affects the operations poorly. Although F-CSA 2 do not have clear core group with meetings etc., the farmer says they have had a nice symbiosis with people finding their roles and taking different responsibilities. Reflecting back on differences between consumer-driven and farmer-driven CSAs, he says: “but I mean, it’s *my* farm. Often it is a CSA operation where they maybe rent area or where there is a core group without any farmer... but I need some control, but I also think it makes thing go quicker at this farm, and that we get things done!” He further says that: “I don’t want it to be like “oh, I have to talk about it with someone else first”. No, let’s just do it! And that’s the way it has been all the time, and I have always said YES. I don’t think I have ever said no”. He says it might be that they form a core group in the future, but for now it has worked well without. Although this study is not about comparing consumer- or farmer-driven CSAs, it seemed like a strong core group was more important for the consumer-driven CSAs as they seemed to be more interested in high interactional levels amongst shareholders.

Harvesting

During the season, the shareholders usually get a weekly update (maybe less often towards late autumn) of what can be harvested, and sometimes how much each person can take. Otherwise, each person should harvest for his/her own consumption. Of course, the consumption depends on what type of food it is, and who you are, as some people eat more than others. One of the interviewees jokingly brings up an example of a senior pair eating enormous amounts of carrots:

“There is a married couple that asked: ‘Is there really no more carrots left now?’ And I have seen how much carrots they eat, it’s incredible! Those two, they walk and munch all day, and they are also home quite a lot, and thinks it is *so* good! They have it as a habit. When they harvest they always bring a big pile of carrots.”

A challenge F-CSA 1 has experienced when it comes to harvesting, is that it seems like many persons are signed up with one share, although he or she harvests for two. He said that, if one compares it with the Norwegian statistics of how many people live together after a certain age, there seems to be an overload of single persons within their CSA. It seems like many thinks that “one should be there every week the entire year, and if they are only there every 14th day, then it the same as half a share and they don’t need more than one”, but, he says, that cannot be the way the model works, and “if you are two, you should have two shares”. He says that these things are hard to judge, but the model is dependent on shareholders who pay - otherwise it won’t sustain. However, it is also based on trust, and they don’t want to check or control all these things unless it becomes a big problem affecting other shareholders poorly. In relation to this, F-CSA 2 say they used to be quite liberal at the CSAs considering harvesting, but then some Dutch people came visiting saying that it couldn’t be that way:

“It should be the way that every week you get a share that you can pick up, but if you don’t pick up the share, you lost it. Because it can’t be the way that: Oh, but I wasn’t here last month, so I take the double amount this month. That was the system we had, really.”

C-CSA 6 say that it can be easy to forget to tell the new shareholders exactly how things work, because it is easy to assume they know. She airs the idea of maybe hosting an introduction evening for the new shareholders, because they might feel a bit like “thieves in the night”: “Can I harvest this? Is it ok? Is it too much, too early, not too early?” She says a lot of communication is extremely important, especially considering the new members. F-CSA 2 say if somebody does things they shouldn’t do, one could always write things in the next harvesting message, saying “remember that...”, and explain how it works. He mentioned how somebody had harvested the whole plant of the peas, and not just the peas.

The ‘dugnad’

Pole & Gray (2013) note that level of involvement in CSA, range from models involving full community support to CSAs very the community only plays a limited role. The questions about how to organize the dugnad, and whether it should be mandatory or not, seems to be a big discussion in Norwegian CSA, and C-CSA 6 says: “I know it is a discussion at all CSAs no matter what structure it has, whether it is a co-ownership or if it is a farmer that needs extra help, all the places it is a discussion.” C-CSA 6 has decided to have a non-mandatory dugnad

once a week, because making it mandatory would imply more administrative work and transaction costs. Still, they encourage people to participate, saying “it doesn’t need to be planting out kale, it could be making a cake for an event or something else.” C-CSA 6 notes that some never show up, while others still participate a lot. F-CSA 1 has volunteer dugnads as well, and says it’s mostly the same people, maybe 10-15, showing up. F-CSA 2 say they have volunteer dugnads, but that they probably were one of the CSAs with the most mandatory work previously.

C-CSA 4 thought it had been hard to find a weekday that fitted everybody’s needs, so last season they established a new system: they meet on Mondays in week 1 of the month, on Tuesdays in week two etc. The response to the changes has been over all expectations, almost in a way that it was hard to prepare due to so many eager people ready and eager to work. She also means it was required of them to do it, because it created a completely different atmosphere and community-feeling on the field, and after the shift, they would often have coffee, cake, soup, or other things. The social aspect was incorporated into the dugnads at C-CSA 6 as well: “The first one and half hours is work, and the last half hour is for coffee and cakes”. C-CSA 5 say they have 10 hours of mandatory work, but thinks more hours usually are put in. Some shareholders are also support-members, who never show up or show up maybe 1-2 times a year – they might be living far away, have a cabin nearby, or just simply wish to support the initiative.

According to Henderson & Van En (2007) many shareholders assume the CSA will function regardless of whether they support or not. The first Norwegian CSA principle (dialogue about shareholders) should however make it clear what is expected from the shareholders. If what is expected cannot be fulfilled, an opportunity is how F-CSA 3 and C-CSA 4 have decided to have mandatory dugnads with the possibility of buying yourself out of it (both six hours). C-CSA 4 said they didn’t register who had been working, but that survey feedback showed shareholders wanting to be registered.

MEMBERSHIP

Recruiting shareholders

Many of the CSAs differentiate their shares as a way of recruiting, as we saw in the section about economy and the challenge of recruiting low-income citizens, will be a topic when

answering RQ 3 about involving shareholders. This section revolves around some challenges, experiences, and thoughts the interviewees had, when it comes to recruiting shareholders.

One aspect that came up, was that both the farmer-driven F-CSA 1 and F-CSA 3 do not like to market themselves, F-CSA 3 for instance said that she did not like to have to be one the sales offense, having “to be visible in social media, call newspapers and these things”. Luckily, both got help from Naturvernforbundet in the starting phase, doing most of the marketing for them.

All the CSAs seems to have been visible in newspapers. F-CSA 2 says they invited the newspaper who gave them five pages – both the front page and double pages. C-CSA 4 said it was not hard to market themselves initially, because media was very interested: “Newspapers, radio, TV and everything came here”. Although the newspaper usually serves as good publicity, F-CSA 1 comments on how newspapers may eventually not be interested in writing about them, because “They get tired of writing about things in the newspaper, and they can’t continue writing about CSAs every year in ten years.” He further says that, “that’s how it has been like here too, we had a lot of media cover the first year, and maybe the second, too, but then there was no interest.” C-CSA 6 also had some negative experiences with the newspaper, saying that they were very interested in “bad news” when hearing about why they decided to change fields. They did give the newspaper any bad news.

F-CSA 2 mentions how he thinks running a CSA would have been ten times harder without social media, both considering communicating with members and considering the publicity. Due to the active involvement of shareholders and the importance of communication, social media and the possibility of using Facebook, Instagram, online newspapers and so on, may therefore be a reason for the sudden boom of CSAs in Norway.

A challenge is still however that many people do not know what a CSA is, or what it entails. C-CSA 4 says that if they mention the word CSA (Norwegian: andelslandbruk) to someone who haven’t heard of it, “they think it’s one of these allotment gardens”. Further, she says: “I think many people don’t really know how it works, or what it is. So, there is a big job to do regarding that”. C-CSA 6 also says many probably have no idea they exist and agrees that there is a job to do. This can be a challenge, but also a potential for many new shareholders as the word gets around, and the increased consumer awareness (section 3.3.1) and the motivation to connect with food production (section 3.3.2.) hopefully creates ripple effects for others.

Other shareholders, friends or acquaintances seems to be good ways of recruiting people. F-CSA 1 thinks the word of mouth (Norwegian: jungeltelegrafen) is probably the best way to spread information to get people who are genuinely interested, instead of having people who do not really know what the model entails and who only stay short-term. Other ways are arranging open farm/field day, food festivals, courses etc., but we will not go more into depth about that here, this will rather be elaborated in sub-chapter 6.3.

When it comes to why shareholders are members, Hvitsand (2016) found that a great motivation was to get access to organic produce. This also seems to be the case for the shareholders in this study; C-CSA 4 for instance said that: “For many, it has to do with the fact that it is organic produce. It has a lot to say, because it is not so easy to get a lot of variation of organic vegetables in the stores”. At least two other interviewees agreed that they thought the access to organic produce was important for many, and that it can explain why CSA has become more popular in Norway, than in for instance Sweden and Denmark where the supermarkets’ selection for organic produce is broader.” It was briefly discussed with one respondents if she thought less people would want to be shareholders if the grocery stores offered more organic, but it was concluded that it might be the case for some, but that it also depended on their motivations for being shareholders. Luckily, Hvitsand (2016) found that shareholders found it meaningful to grow own food, and that thought the CSA-experience also was important. Some people searching for AFNs may also be reluctant to buying organic produce in grocery chains, because they believe the certification criteria are too liberal (Jacobsen, 2007).

An opportunity for the CSAs when it comes to recruitments, is that “there are many gateways for becoming a member”. Additionally, food production is something that is relevant for people in all ages, as everybody eats food. C-CSA 6 said that: “We often have three generations here, or for instance a grandfather who brings his grandchildren”.

Number of shareholders: room for more

It seems most of the CSAs wish they had more shareholders. F-CSA 1 says that the number of shareholders has evened out the last three years at about 170-180, but he believes there is room for more. C-CSA 4 has experienced having waiting lists at their CSA. The first year they had 100 shareholders, and after that it increased steadily. They consider themselves full at 200 shareholders, because that is how much they think a gardener, considering what they

offer of vegetables etc., can manage. If they would have more members, then «you would have to increase this, and then you would have to increase that». One year they had to tell people they were full, but she says it seems that some people think they are still full although they have more room now. C-CSA 3 started off with 50 and got 50 new the next year. They are now going in the fourth season, but find it hard to get 150 shareholders, which is their goal – she worries they have reached a saturation in the amount of people in the area who are interested. C-CSA 5 started off with 20 members the first season in 2016, but then shrunk to 11 members last season. R5 said she wishes they would reach 30, but that they did not market the CSA well enough. C-CSA 6 has experienced something few CSAs probably have experienced, namely to change the field where the CSA is situated. They started off in 2013 but changed the field last season. She says they were quite excited to see how many would come from the last field who previously basically had the CSA right outside the doorstep. She says: «It is not far from anything, but in the heads of people at Osebakken, it's very far», and that some have decided not to continue their membership, but new ones have decided to become members instead. At the time of the interview, they still had some progress left of reaching their goal of 150 shareholders.

High turnover rates, the percentage of the total amount of shareholders who quit at the end of every year, are experienced by some CSA operations (Lang, 2010). The CSAs of the data collection had varying turnover-rates - some percentages mentioned were 15 %, 15 %, 30 % and 50 %. Another interesting aspect that was brought to the attention by a respondent, was that some shareholders had shares in different CSAs thinking it was “nice to spread the risks, and to learn through other places”.

Shareholders who quit: mostly time constraints

F-CSA 1 mentioned three reasons for why he thinks some people quit, besides the ones who sign up without knowing what the model implies. One reason was that it wasn't as smooth as expected to harvest: “There are rainy days, sometimes muddy, and maybe an extra trip with the car. Another reason is that it takes time, and that applies for many, he says, the result being that they feel they are not using their share. The third reason that was brought up, was the F-CSA 1 thinks some shareholders (especially the younger generations) are expecting tomatoes, cucumbers, peppers, avocado, sweet potatoes, which this CSA find hard to grow without a greenhouse. They say they have some tomatoes and cucumbers that are rationed

out, but that these vegetables are not in their budget although they might consider building a greenhouse in the future.

The time and capacity were also the main reasons for why C-CSA 5 lost some members from first to second seasons. The same accounts for C-CSA 4 – if they don't prioritize spending time in the field, people think it gets too expensive. She comments: "if they only have time to be here three to four times during the season, it relatively does". F-CSA 3 additionally have the impression that some people think it is a bit too far away to regularly harvest. C-CSA 6 says it might be all different good reasons for withdrawing, e.g. family coordination making it difficult: "I mean, we compete with all sorts of things, like football and other things that are daily logistics when having kids".

6.2.5. Urban-rural relationships

A CSA is a model where it is an advantage to be located close to people. The fact that nearly all CSAs had members from the capital, although located quite far away from it, may reflect an interest from residents living in cities. Although it is an advantage to be situated in urban areas, some CSAs are located more remotely. The F-CSA 2 is an example of a more remotely located CSA, with only 10-20 local shareholders despite being a big CSA. The farmer says he would prefer having only local shareholders, and that: "It is a big advantage to run a CSA farm near a city. It should be. If I could choose, I would have a farm that was right next to a city, and it could be tiny, but I think I could make a good profit from it." To support this, F-CSA 1 who has a quite centrally located farm, say that most of the shareholders who stay shareholders the longest, live close by.

As a solution to being relatively remotely located, F-CSA 2 say they have decided to make it easier for people to get their shares, as: "half of the shareholders we never see, and then they disappear the year after." Thus, for a bit of extra cash, people can now pick up the packages in locations decided upon in advance. The shareholders could decide to have permanent deliveries (being preferred) or to let him know some days in advance what types of shares (see next section) to bring. The drop-offs are usually at a fixed location every time, and how many times the drop-offs take place depends on the time of the season, and the location (drop off might be e.g. every other week). The shareholders can of course also come to harvest themselves on the farm, but the opportunity for distribution to chosen locations, has made it easier for the shareholders to get their shares regularly than they would without the offer. This can be compared to other subscription schemes.

If there are not enough local shareholders, CSAs in rural areas can be challenging. However, one might work through it through innovative solutions, but it may mean more work for the producer unless there are volunteers/workers who can contribute.

Linking it to farmers, or previous farmers, in Norway, the CSA model may be more attractive for those who live or have moved closer to urban areas. They must wish to practise agriculture (small-scale) and preferably like social contact. Small-scale farming may also help to conserve soil in urban or sub-urban areas, where the land-use pressure for other means than agricultural production often is high (Brattestå, Skog & Thomassen, 2016).

6.2.6. Excess food

Woods et al. (2009) states that overproduction of food can be seen in some CSAs. Amongst the CSAs in the data collection, it varied if they had the possibility to store vegetables so that the shareholders could come pick up vegetables during the winter. Some had the possibility to store vegetables like potatoes, until February. Another CSA had buried carrots under the soil. At least one didn't have any storage possibilities, responding that the mice would have a party in the basement if they left potatoes there. One had gotten rural development funding (bygdeutviklingsmidler) to build a storage room at the farm. When storing food was not an opportunity, some of the CSAs used excess food as compost or let it stay in the fields.

Two other examples of dealing with excess food were brought up. The first season, F-CSA 1 got help to save excess food through Kooperativet in Oslo, a cooperative owned and run by members with direct sales of organic and biodynamic food produced locally (Kooperativet, n.d.). Another example of how a respondent dealt (or potentially would) deal with excess food, was through REKO. Apparently, REKO is a sales and distribution model for locally produced food which was established in Finland in 2013 and which has had a great success involving many producers and consumers (Bond, 2018). According to Bond (2018) a REKO is a network where local producers announce through Facebook, where and when they will meet. The customers can order the goods in advance. There are three rules and guidelines for REKO (Bond, 2018): 1) no intermediaries are allowed on the sales network, the producers must sell the goods themselves, 2) no membership fees for producers or consumers, and the place of delivery must be used free of charge. The administrative work related to the Facebook page must additionally be through voluntary work by producers or consumers, and 3) the producer himself is responsible and obliged to comply with rules regarding food safety,

accounting, and taxes. The first REKO came to Norway in December 2017, but now there are several happening throughout the country. REKO could possibly be an AFN for excess food.

6.2.6. Summary

Table 1 provides a summary of the findings in this chapter.

Table 1. Summary of findings from answering RQ 2.

<i>From section</i>	<i>Challenge</i>	<i>Opportunity</i>
Consumer-driven and farmer-driven	<ul style="list-style-type: none"> • Access to land, tools, and experience for C-CSAs • Finding gardeners with enough competence and who are willing to work only part of the year? 	<ul style="list-style-type: none"> • Access to land and tools (and experience) for F-CSAs • Agricultural education not always beneficial for CSAs? • C-CSAs could potentially choose between more locations
Start-up and networking	<ul style="list-style-type: none"> • Some farmers may be reluctant to start CSA without external help 	<ul style="list-style-type: none"> • There currently seems to be a good Norwegian CSA network (<i>Oikos</i> important)
Economy: pricing and work	<ul style="list-style-type: none"> • Income dependent on shareholders <ul style="list-style-type: none"> ◦ Hard to foresee how many will be interested • Some level of “self-exploitation”: too low pricing, more work than expected 	<ul style="list-style-type: none"> • All CSAs had share differentiation • To avoid “self-exploitation” <ul style="list-style-type: none"> ◦ ‘One-time amounts’ may act as buffers ◦ Shareholders paying themselves out of doing ‘dugnad’ possible • Some work- (e.g. WWOOFing) and funding support
Shareholders		<ul style="list-style-type: none"> • Arranging courses and events (see 6.3.2.) (ripple-effects apart from shareholders, see 6.3.3.)
Core group:	<ul style="list-style-type: none"> • Can be hard to keep up the engagement within the core group 	<ul style="list-style-type: none"> • Core group very helpful, filling different niches • CSA operation also possible without core group/board, but with shareholders taking responsibilities themselves
Harvesting:	<ul style="list-style-type: none"> • Some couples only pay for one share? 	<ul style="list-style-type: none"> • To avoid bulk-picking: Harvest shares are lost every week if not picked up (unless agreed upon otherwise)

Dugnad:	<ul style="list-style-type: none"> • Can be hard to find dugnad weekdays suitable for all shareholders 	<ul style="list-style-type: none"> • Opportunity to make dugnad weekdays fit for all: Monday first week a month, Tuesday second week a month and so on • Many different opportunities of how to organise dugnad: volunteer or mandatory (hours differ)
Recruiting shareholders	<ul style="list-style-type: none"> • Farmers, possibly more than in initiators of C-CSAs did not like to market themselves • Newspapers may become less interested over time • More organic produce enters grocery stores may result in loss of members only interested in organic produce (?) 	<ul style="list-style-type: none"> • Social media great opportunity for commercials • Word of mouth: good way to recruit loyal shareholders • Many gateways to become members?
Number of shareholders	<ul style="list-style-type: none"> • Still room for more • Varying turn-over rates (some quite high) 	<ul style="list-style-type: none"> • Often seem to stabilise • Varying turn-over rates (some quite low)
Quitting shareholders	<ul style="list-style-type: none"> • Mostly time constraints, or not knowing what the model entails 	
Urban-rural relationships	<ul style="list-style-type: none"> • Maybe challenging for rural CSAs 	<ul style="list-style-type: none"> • Share drop-offs in cities possible to secure shareholders • CSA most ideal near populated areas
Excess food	<ul style="list-style-type: none"> • Some have experienced excess food • Some did not have storage rooms 	<ul style="list-style-type: none"> • Storing vegetable • Compost • REKO possible AFN for excess food

6.3. Involving citizens with food production

How do the CSA operations involve citizens to food production, directly or indirectly? The principle of involving shareholders is linked to reducing the individual rift (ecological alienation) associated with the distance to food production resulting from the agro-industrial food system (see chapter 6.1.). However, how do the CSAs do this in practise?

This part is divided into three sub-sections. Next section is introducing a new concept I find helpful in regards to answering RQ 3. After that, how the CSAs involve the shareholders (6.3.2) and the rest of the community (6.3.3.), will be presented.

6.3.1. 'Restoration of experience'

Soga & Gaston (2016) write about how the 'extinction of experience', coined by Pyle (1993), and how this phenomenon is a fundamental obstacle to reverse global environmental degradation, in addition to a major public health issue. To answer RQ 3, I find it helpful to coin a concept to describe the positive feedback loop that can result from more human-nature interactions, which CSAs can provide through giving people the possibility to connect with nature through food production, and consequently possibly reduce the social, ecological, and economic, knowledge gaps mentioned by Clapp (2016). Thus, to reduce negative impacts of the 'extinction of experience', a 'restoration of experience' is necessary to create the desired positive feedback loop encouraging increased pro-environmental behaviours – see Figure 2.

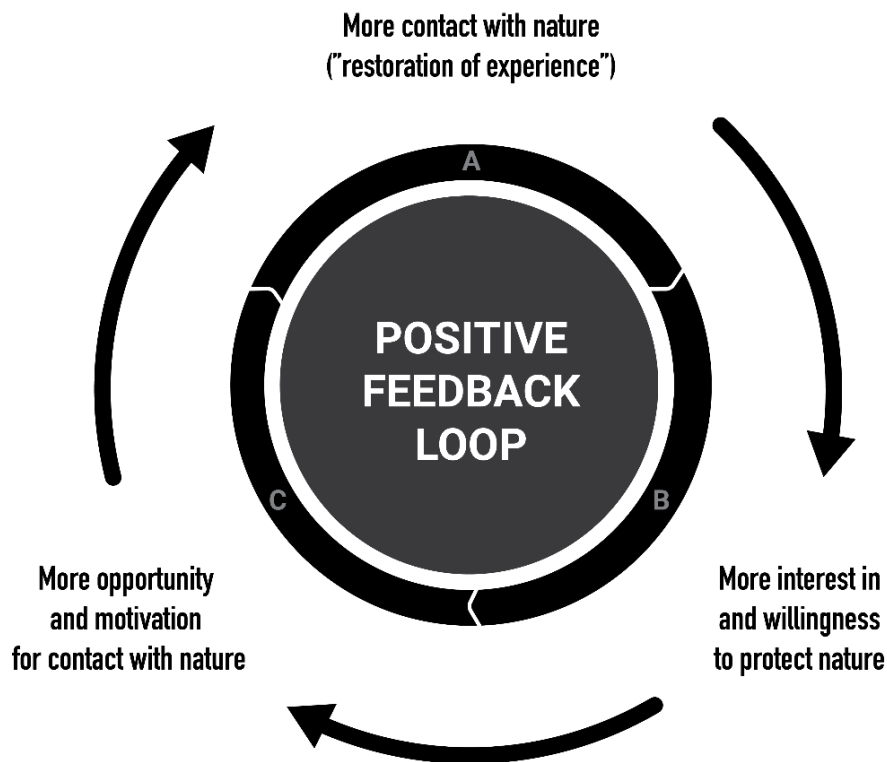


Figure 3. 'Restoration of experience' of human-nature interaction and the positive feedback loop it can create. A response to Soga (2016)'s 'extinction of experience'. illustrations with help from Kristián Kierulf.

In this study, I see how the CSAs can provide a restoration of experience through connecting them with food production and through acting as a learning arena, both directly with shareholders and indirectly with the broader community. One of the interviewees said, CSAs for instance can act as a learning arena for people through: "opening their eyes for food that

never reaches the table, because they have the wrong size, the wrong colours, because they have ruptured a little bit, or don't fit into the distribution boxes”.

6.3.2. Direct involvement with shareholders

How does the restoration of experience look like within the CSAs, regarding the direct involvement of shareholders?

There seems to be many ways in which the shareholders are involved with the CSAs, and many opportunities for the CSA to act as a learning arena. The obvious ways are through the dugnad and the harvesting, common for many CSAs. These are major parts of why CSAs have great potentials to reduce the individual rift and increase the restoration of experience. Henderson & Van En (2007) recommended CSAs to involve people in various ways. Some examples the CSAs in the data collection involve shareholders apart from dugnad and harvesting, are through courses and events – for instance with help from the core group, or other shareholders. Courses the CSAs (both farmer-driven and consumer-driven) have been (or are) arranging, are for instance about fermentation, food preservation methods, grafting, farm to table-events, wild plants, stock, or broth preparation (Norwegian: kraftkoking), and sour dough-baking. C-CSA 5 even invited a man from NIBIO (Norwegian institute for bioeconomy) to have a course about soil improvement using coal.

The shareholders involve themselves in various degrees, apart from the dugnad and harvesting. C-CSA 6 talks about how they want to invite people to be “nerdy”, without always having to ask CSA producers or the core group for allowance - as an example, how a shareholder had a grafting project using his old “childhood apple tree”, as he wanted to introduce the apples he so fondly remembers from his childhood to the CSA, was mentioned. There was another shareholder installing water of his own accord, as he thought it was a fun project.

Cox et al. (2008) highlighted that CSAs provide a setting where knowledge about food and aspects related to it (e.g. personal, animal, and environmental health), are discussed and shared. In comparison, C-CSA 4 emphasized that many of the shareholders are great resources for “teaching” others about food production and aspects related to it. In addition, the *community* around learning and food production seems to be important for many – in comparison, Hvitsand (2016) found in her study that the CSA experience was important for many shareholders. One CSA producers I interviewed said that the CSA is a lot “about the community, to be in nice surroundings and together be ecstatic about the carrots that sprouts”.

Other comments showing a community, and how the community acts as a learning arena, were: “You notice there is a lot of talking in the fields, about the plants, the plant cultures – they come with tips, I come with tips. And absolutely, it’s a learning arena” and that “To do things together and learn seem important for many.” Some of the CSAs have different groups the shareholders are involved with. F-CSA 2 for instance have a honey group, an herb group, and a beer brewing group using barley grown on the farm. C-CSA 6 is perhaps the CSA with the most groups, having a “feast and fun”-group, herb group, greenhouse group, fruit and berries group, garlic group, green fingers group, fixing group, strawberry group, food group (sharing recipes etc.) and eventually a tomato group. When talking about the social aspect of dugnad, one of the respondents said they would sit afterwards “with a coffee cup or a cup of tea, and talk about food, vegetables and everything else”.

Through learning, there are many stories of how shareholders have had epiphanies on the fields. The epiphanies are especially about how much work food production can be, and how the vegetables can look very different from in the store. One interviewee said: “Mostly, people are very interested, but there are also many people with absolutely no clue about what it takes to produce food. They have *no clue*”. About learning and realising how different vegetables can look, one comment was “It’s a lot of learning, both for children and adults. People are used to seeing carrots already clean in the store all year round, but here they can come and realize that ‘Oh, I can get a purple carrot? How fun!’”. One epiphany-story was about a man who got a jaw-drop when he realized he had to sow all the cabbage seeds in modular trays at the end of March, but he couldn’t harvest them until it was almost the end of the year. Afterwards, it was mentioned how the man definitively would eat the entire cabbage and not throw anything away, after knowing the whole process and the fact that the work: «It is physical, it is handwork with soil under the nails, and it takes some time». In relation to learning where food comes from, how it is produced and getting an increased understanding and respect, two of the respondents said: «I try to tell that the *story* is half taste, and people understand more of that now” and “There is something fundamental about how it makes sense to grow good food”.

Learning to produce food yourself seemed to be important for many, especially for parents wanting to show their children how food is produced and to be able to “pull a carrot out from the soil”. Many families bring their children to the CSA and as Soga & Gaston (2016) argues, connecting children with nature is especially important, because it can have positive impact on the cognitive development, the motor development, the psychological and physical well-

being, and affect the pro-environmental behaviour in the present and the future. To focus on and restore opportunities for experiencing nature for children is therefore important, which CSAs can contribute to. However, there are also many families who don't have the capacity or interest in joining a CSA. Having kindergartens as shareholders can therefore be a great way to connect children, who otherwise would have had difficulties in experiencing these types of arenas. C-CSA 6 and C-CSA 4 both said they have kindergartens as shareholders, and F-CSA 2 said they have had visits from kindergartens many times. C-CSA 6 said they have three kindergartens as shareholders, who visit the CSA and use the area around for trips. Although, connecting children with food production can be important, Scott, Amel & Manning (2014) noted that connecting adults with nature can also increase their own self-reported pro-environmental behaviour. This can be important to keep in mind when moving to the last-part of answering RQ 3 about connect the broader community with food production.

6.3.3. Indirect involvement: Ripple effects on the broader community

Both considering the restoration of experience to solve environmental issues and for public health, some form of involvement through ripple-effects of CSAs could benefit the broader community. In the global North, CSAs often seem to attract people who are already conscious and aware (Henderson, 2010), but do they have any potentials for limiting the ecological alienation for other citizens as well?

Specifically, regarding Norwegians and public health issues, it is well known that green areas stimulate for physical activity and reduce stress, but 80 % of the Norwegian inhabitants live in cities or urban settlements where green areas often are limited (Meld. St. 19 (2014-2015)). CSAs in urban areas could therefore be especially good. Additionally, mental health issues are big challenges with one fourth of the adult population having a mental illness, and with a worrisome increase the last decades regarding mental illnesses amongst children and youths (Meld. St. 19 (2014-2015)). Simultaneously, only three out of ten adults fulfil the physical activity requirements, and Norwegian 15-year old boys are supposedly amongst the most physical inactive in all of Europe (Meld. St. 19 (2014-2015)). It was also earlier presented how Norwegians should increase their vegetable consumption (KS, 2016; Meld. St. 19 (2014-2015)).

Having kindergartens as shareholders, as we presented in the previous sub-chapter, can be considered a ripple effect of CSA. In addition, how a woman donated herbs from her own

garden when she was moving to a different location, or how a farmer donated a lot of used windows that will be used to build a greenhouse, can also be considered ripple-effects.

The data also provided several other examples of ripple-effects reaching the broader community, and thus have CSAs can have potentials to reduce the social, ecological, and economic knowledge gaps mentioned by Clapp (2016). Some of these ripple effect-examples are already experienced, others are in the idea-phase. One example of an experienced ripple-effect is for instance that the municipality has asked C-CSA 4 to do urban farming with vegetable beds in Skien city centre, due to their high competence in gardening. They started doing it last year and will do it again this year, even bigger. In the city centre during the summer, there will be many people seeing the vegetable beds, and additional to making a nice atmosphere to be in, the vegetable beds could also potentially inspire others. Another example that is still in the idea-phase, is that F-CSA 2 potentially would provide room for having interns from e.g. agricultural education, but it was important that they wouldn't be interested in how big the milking robot was, but rather be truly interested because they care.

The rest of this sub-chapter are divided into four sections: connecting with schools, connecting with location, connecting with inclusion, and connecting with ecology.

CONNECTING WITH SCHOOLS

Regarding connecting with schools, one interviewee talked about that it was harder to organise something with schools because the school budget made it difficult. It was therefore mentioned that it could be more beneficial to work towards for instance the municipality. Interestingly, C-CSA 6 is now part of a project with Den Naturlige Skolesekken¹⁴ to include the CSA in the local primary school's curriculum, for the 5th, 6th and 7th grade. The project had the first phase in the 2016/2017 and has the second phase in the 2017/2018 school year. C-CSA 6 say that their goal is to tick off some of the things in the curriculum, through using the CSA as a learning arena across different courses and disciplines whether it is in the food and health-course, natural sciences, physical education and so on. When asked what kind of activities they do, C-CSA 6 says that are involved with harvesting and that the teachers are prepared for tasks to give the children, in math it could for instance be "how much space do

¹⁴ Den Naturlige Skolesekken "the Sustainable Backpack" is funded by the Norwegian Environment Agency, and was initiated by the Ministry of Education and Research in cooperation with the Ministry of Climate and Environment to promote knowledge and awareness about sustainability through education (Natursekken, n.d.). C-CSA 6 is also funded by Centre for Science Education (Naturfagssenteret) for this project.

you need for sowing this much kale with this distance, or how many carrots do you get if you weigh *this* many carrots, or how many carrots do you need for *this* average in kilos”.

Considering food and health, she said they for instance had done harvesting and afterwards made food on the bonfire. C-CSA 6 continuously said that: «A fun aspect is that the kids eat everything! ‘I love brussel sprouts!’ Oh, really? Because they have picked them themselves, they will eat it. It’s something else than picking things in the store. And, ‘look at this squash, it’s enormous, I harvested it!’”

F-CSA 2 also has an agreement with the primary school, where first graders can come to the farm and see how it is like. F-CSA 2 says another wish is to include the food and health-course through a share, saying that “I could for instance say that in a share it is included that I come visit and talk about something, and that they could come visit the farm. Additionally, they could get deliveries of seasonal food to the school.” He talked about seasonality and how it is easy to think that food is not affected by seasons, because you often have everything in the grocery store, at all times of the year.

CONNECTING WITH LOCATION

Especially the consumer-driven CSAs were in locations many people normally would visit without being shareholders, and therefore has a potential to connect the broader community and maybe make others more curious about how the food is produced, increase their awareness, and inspire – deliberately or not. For instance, C-CSA 4 is part of a bigger organisation (Telemark Landbruksselskap), located at an old farm (Århus gård) which is visited by several thousand people a year. They rent out locations, act as a food culture centre, have a rebuilt “iron age farm” as part of the location, have offices and other activities. C-CSA 5 is located next to an old manor house in a place with a café, a gallery, handcrafts, stores etc. They say the CSA is a bit neutral now, but that they hope it can act more as a display garden in the future. They are inspired by the old kitchen garden tradition and have decided to call it Stjernehagen (“the Star Garden”) as they have eight garden beds positioned to look like a star. Additionally, the manor farm is arranging the asparagus festival, concerts, and is in a nice environment for walks, biking etc. C-CSA 6 was moved to an old priest farm (the priest’s residence requirements ceased in 2015) and is now located close to a forest (mostly oak trees), cultural memories, hiking trails and a beach with view to the fjords and have plans of building a barn that can receive many visitors. All the consumer-driven CSAs therefore have great “to show themselves” to the broader community. The farmer-driven CSAs also had this

possibility, depending on the location. F-CSA 2 which is located quite rural, for instance said they had visits from the tourist association once a year, as well as open farm days.

CONNECTING WITH INCLUSION

In the literature review, it came up that one of the biggest challenges of the CSA model is the recruitment of low-income members (Paul, 2015; Henderson & Van En, 2007). This may be even more of an issue in places other than Norway without proper welfare agencies helping people to avoid poverty (e.g. NAV in Norway), and where ensuring people's food security is a greater issue. Still, it is something that should be considered in Norway as well, as everyone benefits from healthy vegetables and food, and CSAs may act as welcoming places for everybody regardless of age, gender, religion, ethnicity and so on, in a healthy environment. C-CSA 4 said that: "I think it such a good way to meet, meeting over food. And I think of refugees and so on, and how I think it can be good for integration". Additionally, working with the land can feel meaningful while for instance being unemployed, and connecting with the rest of the community can be hard if you e.g. being refugee not yet knowing the new language. It may also be beneficial for people who struggle with health issues (psychological or physical), due to CSAs potential health benefits (e.g. the 'vitamin G' for greenspace) and potential cultural ecosystem services like for instance social cohesion & integration, placemaking, food quality, relax & stress reduction, exercise & physical recreation, learning & education, and so on (Camps-Calvet et al., 2016). If the potential benefits are acknowledged, this may be something that could receive attention from organizations, municipalities, and others, through e.g. funding, as the CSAs themselves may potentially not have the capacity to do so themselves.

In the data, there are some examples of social inclusion apart from those who already are shareholders. For instance, when talking about refugees, C-CSA 4 said they have had introductory classes visiting their CSA, and one time, over 80 persons came visiting. One autumn, C-CSA 4 also had a man from Eritrea for work training through NAV, the Norwegian Labour and Welfare Administration, helping out at the CSA. F-CSA 2 also had WWOOFers volunteering at their farm.

CONNECTING WITH ECOLOGY AND KNOWLEDGE

Another way CSAs can have ripple effects to the rest of the community and involve others with more sustainable food production and consumption, is through acting as a spearhead, as Hvitsand (2014) and Solemdal & Serikstad (2015) have elaborated, in addition to reintroduce traditional and local knowledge that has become nearly forgotten but which may have potential to again become appreciated and trendy, due to an environmental focus and awareness.

Due to shared risks and rewards and because CSA producers and shareholders alike often think it is fun to learn and experiment, CSAs can acknowledge and reintroduce knowledge and methods, as well as test and find new ones. Considering old methods, a lot of the methods CSAs use, have been known for long but become nearly forgotten in recent decades. One of the respondents said that the coursing, can be for people who didn't learn from their grandmother how to ferment. Further, it was said that the older shareholders often had a competence the younger generation was in progress of forgetting, e.g. composting. When people involved with the CSA learn, they can also bring along knowledge to others they meet in their ways, through having their own ripple effects on friends, family, acquaintances and so on, and maybe even bring some knowledge forward to future generations, as the generation now is "a generation that has no clue about where the food comes from and have no idea how to pickle beets". One of the respondents talked about building an underground food cellar and said: "It is not that hard! We have just forgotten that everything doesn't need to have a switch for electricity to be to work." When talking about organic agriculture, one said that many tricks of how to do things had been lost, and that <it can be quite banal how people gets very surprised, 'oh, can you do that?' Yes! It was in fact the way we did it up to about fifty years ago, then it was actually quite common".

More related to acting as a spearhead, as Hvitsand (2014) discussed, experimenting and learning through the CSA can help the broader community through providing solutions or alternatives. At least two CSAs mentioned it would be fun to be involved with research regarding the agriculture, and one of these CSAs may be in a project regarding regenerative agriculture, researching how to reduce greenhouse gas emissions through binding carbon in the soil. In addition, F-CSA 2 said they wanted to be in the absolute forefront when it comes to sustainability and good animal welfare. In the last 50 years, there has been a lot of tractor use and ploughing, but they wanted to redesign the farm. F-CSA 2 said: "We think a little bit opposite, we will look into what is smart to do." They will do something referred to as holistic

management¹⁵ - for instance, they have the pigs in the forest, and have the cows in systems including hens, which will rotate. They will also plant trees for agroforestry¹⁶. As CSAs are located throughout all of Norway in different locations and settings, they can potentially be great for learning how to adapt to local conditions, to experiment, and find alternative methods, which can also benefit the broader community – which Hvitsand (2014) also discussed.

¹⁵ According to Holistic Management International (2018): “Holistic Management is a value-based decision-making framework that integrates all aspects of planning for social, economic, and environmental considerations.”

¹⁶ Agroforestry can be defined as “a collective name for land-use systems and technologies where woody perennials (trees, shrubs, palms, bamboos, etc.) are deliberately used on the same land-management units as agricultural crops and/or animals, in some form of spatial arrangement or temporal sequence» (FAO, 2015).

7. CONCLUSION

This thesis first explored how CSAs can reduce negative externalities of the agro-industrial food system. It then investigated CSA producers' operational challenges and opportunities, and finally looked at how CSAs can connect citizens with food production.

By connecting the CSA principles to the metabolic rift theory, I found that the CSA's first three principles which focus on (1) farming operations, (2) maintaining a transparent economy and (3) sharing risks and rewards, have the potential to counteract the commodification of food and labour that is associated with the agro-industrial food system. These three principles make it easier for the producer to meet principle four, which is to involve people with food production, and principle five to practise sustainable farming operations.

When establishing and running the CSA, many got help from external institutions. Furthermore, there is a strong CSA network in Norway in which CSA producers have the possibility to connect with each other. My research shows that this support can be invaluable. One farmer interviewed said he would not have started the CSA without external help.

Spreading the word about CSAs is important to attract more shareholders. The number of shareholders can influence the viability of CSA operations. Having kindergartens as shareholders can be a great opportunity for CSAs to gain more shareholders. Once shareholders have joined, CSAs have different ways of maintaining them. Their proximity and time availability were important to if they remained members. Shareholders who quit seems do mostly do it because of time constraints. Those located near the CSA were the most loyal over time. One CSA producer occasionally packs the share harvests and transport them to facilitate shareholders located far from the CSA. This may however be time consuming for the farmers.

The CSAs had multiple ways to connect shareholders with food production. To directly involve shareholders, CSAs arranged courses and events in addition to the dugnad and harvesting. The CSA producers' impressions are that many shareholders have very little knowledge about food production, and that learning about food production is valuable to them. Therefore, in some CSAs shareholders were divided into groups (herb group, garlic group, fruit and berries group and so on) to develop specified skills and to connect with other shareholders.

By providing a learning arena which can involve people with food production, the CSAs can facilitate a 'restoration of experience'. Thus, by decreasing the distance from food production associated with the agro-industrial food system, CSAs can counteract the extinction of experience. How people view nature is considered one of the biggest obstacles to combat environmental degradation (Soga & Gaston, 2016), however through the CSAs restoration of experience, positive feedback loops can lead to increased pro-environmental behaviours. Connecting people with nature can also have positive health effects psychologically and physically and provide cultural ecosystem services.

The CSAs positive impacts are not limited to the shareholders. What came as the biggest surprise during the data collection process, were all the ripple-effects CSAs can have on the broader community. This is important because CSA often attract people who already are conscious and aware of negative externalities related to food production. Thus, CSAs can potentially help to reduce social, ecological, and economic knowledge gaps, for citizens in the broader community.

I identified four potential areas in which the CSAs can connect with the broader community: connecting with schools (to include CSAs in school curriculum), connecting with location (especially the C-CSAs), connecting with inclusion (refugees, work training, volunteers), and connecting with ecology and traditional knowledge (acting as a spearhead for other producers, and to share knowledge others outside the CSA). As the Norwegian CSAs are located in all counties, they have great potential to connect with schools. They also have great opportunities to act as arenas for integration/inclusion, as food, and food production, is something that concerns everybody and is relatable for all people in the society.

The AFN exemplified by CSA, can benefit producers and their potential to practise sustainable agriculture while at the same time connecting people with food production. CSAs can also connect with the broader community through ripple-effects. The ripple-effects benefits for society deserve increased acknowledgement. External funding may however be needed to fulfil the CSA's potentials to reach out and connect. Additionally, the CSAs' potential depends on the CSA producers' aims and opportunities. I hope this study can contribute with important findings related to AFNs, and particularly the untold possibilities of the CSA model.

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APPENDIX 1: LIST OF INFORMANTS

Respondent	Information about CSA
F-CSA 1, Sverdstad CSA, Asbjørn Lavoll	Sverdstad CSA (farmer-driven) in Sandefjord is run alongside other farm operations, at biodynamic-organic farm (since 1986). The CSA's first season was in 2014- The CSA consists of 1 ha with vegetables, 40-50 fruit trees and some berry bushes. The farm additionally has 15 milking cows, 20-30 heifers and grass and corn (for both animal and human consumption).
F-CSA 2, Virgenes CSA, Tore Jardar Wirgenes	Virgenes CSA (farmer-driven) in Kvelde started off in 2012 and will in 2018 be 100 % a CSA. They offer eggs, vegetables, potatoes, meat (lamb, pork, chicken, oxen), honey, barley (e.g. for beer) and the possibility to fish in the Lågen river. They have spent a lot of time to redesign the farm with holistic management, and they wish to plant trees for agroforestry. WWOOFers (see wwoof.net) sometimes stay to volunteer.
F-CSA 3, Grette CSA, Ann Helen Hagen	Grette CSA (farmer-driven) in Nykirke started off in 2015. The residents moved to the farm in 2013. They offer vegetables, egg, meat (pork) and flour for CSA shareholders. The farm also has "wool pigs" (Mangalitz, an ungarian breed), sheep (old Norwegian short tail landrace), peacocks, goats, cats, hens, horses, and pigs.
C-CSA 4, Århus CSA, Tove B.B. Hoppestad	Århus CSA (consumer-driven) in Skien started in 2011 and is part of Århus farm owned by Telemark Landbrukselskap. The CSA employs the daily leader in a 20 % position and a gardener in a 60 % position. The CSA took over research fields for berries and additionally has herbs, vegetables, and tomatoes in a tunnel.
C-CSA 5, Stjernehaugen CSA, Ida Lynghaug	Stjernehaugen CSA (consumer-driven) in Moss is also known as «Andelshagebruket Røed på Jeløy SA». It started in 2016 and is located by Røed manor house surrounded by protected cultural landscapes. The manor house has a long tradition of hospitality, and you can now find e.g. a café, a gallery, crafts businesses. The CSA has kitchen gardens as a concept.
C-CSA 6, Porsgrunn CSA, Anna Sofie Willumsen	Porsgrunn CSA (consumer-CSA) in Porsgrunn changed location in 2017 to Eidanger priest farm. They were previously called Osebakken CSA, located at Osebakken. The CSA employs a daily leader (20 %) and a gardener (60 %). They are part of a pilot project about incorporating the CSA in the primary school's curriculum.

APPENDIX 2: INTERVIEW GUIDE

- General information
 - o Start-up
 - o The process
- Core group
- Challenges
 - o Have you had any challenges?
 - o Do you have any challenges now?
- Did/do you get any help/assistance from “outsiders” (e.g Oikos)?
- Shareholders
 - o Who are they? From where? Concious?
 - o Number of shareholders (stable, increasing, decreasing?)
 - o How are they involved (e.g. dugnad, events)?
- Are other people involved in any ways?
- Long-term plans for the CSA?
- Particular topics for the specific CSA
- More they want to share?



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