Norwegian University
of Life Sciences

Master's Thesis 2016 60 ECTS
Faculty of Veterinary Medicine and Biosciences
Department of Plant Sciences

Alternative Food Networks; A question about farmers' resilience

Kirsti Berg
Master of Science in Agroecology

AKNOWLEDGEMENTS

It is important for me to thank all my fellow agroecology students that I have had the pleasure to get to know during the study of agroecology. It has been challenging, interesting and rewarding. I sincerely wish all of you the best of luck and happiness as agroecologists. I also like to thank fellow student I met with during courses in landscape plants, beekeeping, Norwegian agrology politics and other courses for their friendliness and cooperation.

Then I like to thank all the lecturers that have been involved in the study. The form of the main agroecology course was very stimulating.

Professor Geir Hofgaard Lieblein and Postdoktor Anna Marie Nicolaysen have been my supervisors and I am very grateful to them.

My informants deserve great thank for giving the time and hospitality and for answering my questions and for sharing part of their life-stories with me. I appreciate that very much.

Thanks and kisses to my family that have been supporting during the process of writing and an extra hug to Nils Christian for all the cups of thea and all the meals served and for reading and commenting on my manuscript.

ABSTRACT

The aim of this study is to explore how different AFNs contribute to Norwegian organic farmers resilience. This is done by looking into the various food networks a handful of farmers are engaged in. The value-chains are studied to see how the farmers are situated in the value-chains and who controls the different activities. The resource use and economic return is studied and also the potential for growth.

AFN stability is discussed using Actor Network Theory.

The assertion that AFN value-chains are short is not always true. As this study documents, they may also be long and include intermediaries.

For the four farmers in the study, it is clear that the AFNs are contributing to the resilience, giving economic gain and social embeddedness in the form of appreciation and identity.

Use of translation mechanism may strengthen the farmer's position in the networks. For one of the networks, a self-growing community, the translation failed and the community was ended.

The work is based on interviews during the late summer and autumn of 2015 with six producers/farmers representing different types of AFNs; Self-growing community, Organic mill, Buyers cooperation, Farm restaurant, CSA and Direct sales in farmers Market and in-farm.

TABLE OF CONTENTS

INTRODUCTION

The aim of this study is to examine in detail a number of different Norwegian Alternative Food Networks (AFNs) to explore how they contribute to the resilience for the organic farmers. We know that there are many different types of AFNs and that they have been categorized in different ways. We also know that some AFNs have shorter value-chains than equivalents in the mainstream food system and it is an assumption that this gives the farmers in AFNs more of the activities and better price for their produce than they would have in the mainstream food system.

But how exactly do this look from the Norwegian farmer's point of view? A farmer can be involved in more than one alternative food network. How do the networks look like? How do the different value-chains look like in terms of activities and how do they deviate from the mainstream value-chains that could have handled the same food? Detailed knowledge of different alternative food networks and their value-chains may be instrumental for bottom-up development of the AFNs for the individual farmer, and can maybe also be of value in discussions about cooperation among farmers. The networks and the value-chains lead to issues about ownership and power in the various networks and how networks may be stable over time. Some concepts like institutional embeddedness in Norwegian farming need to be discussed.

BACKGROUND

The research field Agroecology range from critiques of the conventional and industrialized farming and food networks, appraisals of agroecology and alternative food networks, discussions about trust and the farmer-consumer relationship, discussions about local/global food systems and to how alternative food networks can develop in rural areas close to cities (Renting et al., 2003; Jarosz, 2007). Some research has shown that there are many problems regarding AFNs. AFNs are not necessarily progressive and may well be exclusionary. (Jaroz, 2007). In the presentation of farmers in Seattle's alternative food network, we learn that selling in Farmer's Market can cost time and mileage and that one may meet considerable competition from other organic and non-organic farmers. There is an ongoing adjustment to consumers' needs and the competition. Selling locally is not necessarily a secure position, as even the most idealistic organic farmer may have friends that resist organic food. Jarosz (2012) concludes that 'AFNs are not static objects or sets of relationships. They emerge from political, cultural and historical processes and they develop out of interactions between rural

restructuring and urbanization in metropolitan regions.' This points to the possibilities of utilizing smaller spaces for diversified farms when larger farms with monocultures are changing into urban developments.

Agroecology. Cited from Altieri 1995, agroecology is "The application of ecological concepts and principles to the design and management of sustainable agro ecosystems". The term 'agroecology' has changed subtly as the field of knowledge has developed. Agroecology does not only concern itself with biophysical agricultural processes, but incorporates aspects of sociology and economics (Wibbelmann et al., 2013). Francis et al. (2003) defines agroecology as the ecology of food systems, seeing the need for defining agroecology in a way that can guide research, education and action in an increasingly complex global agriculture and food system. The main question or concern for the authors is the need for bringing agroecology from focusing on efficiency and sustainability on farm and local level to a higher level that includes not only the whole agricultural food system, but also the need to take into account a broader set of issues when analysing alternatives for the food system. Francis et al. advice to 'embrace the wholeness and connectivity of systems' and 'focus on the uniqueness of each place, and solutions appropriate to its resources and constraints' that is, 'broadening the focus to analyzing all components of the food system and how they interact'. (Francis et al., 2003). This broader view distinguishes agroecology from organic farming. Wezel et al. (2009) discuss the term 'agroecology' and find that it to-day means 'either a scientific discipline (as Francis et al., my comment), agricultural practice, or political or social movement.

In the AFN literature, it is often not stated what kind of agriculture practice that is involved.

The academic field of agroecology often emphasizes a conflict between on the one hand industrial farming and the industrial, often global, food systems, and on the other hand small scale local, organic, sustainable farming. There has been recognition of that 'the two systems can be intertwined or combined in different and distinctive ways' (Jaroz, 2007; Morgan and Murdoc, 2000) but this hasn't had any substantial consequences for the popular definition as opposites. Even if there is a softening in the critique of 'the global' and a more reserved attitude about 'the local' the main critique of the industrial farming and food system prevail.

Agroecology is for many researchers the necessary solution to the problems connected to industrialized farming.

Industrial farming and food systems. Industrial farming, as an opposite to sustainable farming, is known to be degrading the soil and environment through the use of pesticides and excessive use of artificial fertilizers, damaging the habitats necessary for healthy biodiversity (Altieri, 2000). In some countries, industrial farming links to land grabbing (IIASTD, 2008; De Schutter, 2010; TNI, 2013) and violation of the right to food. Even if capable of producing large quantities of food, industrial farming in many respect do more harm than good. Closely intertwined with industrial farming, we find industrial food systems. International trade mechanisms exploit farmers and indigenous knowledge in developing countries and leads to more poverty among small farmers while food exports flourish. (Barker, 2007). Industrial farming is only one part of the global food system, where big chains of activities/value chains stretching from the seed manufacturer to the shelf of the super markets are owned by relatively few market operators. In Norway, the consumer market is dominated by three umbrella organizations each with their own mainstream food chains, where most of the value-chains from farm to shelf are owned by the mainstream food-chains, obtained by vertical integration in the chains (NOU 2011:4; Porter, 1985).

Small scale and local. Small scale organic farming has been connected with a range of qualities such as being local, securing closer contact between producer and consumer, right to land for indigenous people and the right to food. The national political, social, geographical and climate context may decide what will be in focus and the priority for each country.

Pro et cons for local. The paper most in favor of the local that I know about is 'Coming into the Foodshed' (Kloppenburg at al., 1996). The 'foodshed' is used as an analogue to watershed, the water in a certain area running downhill to merge in the same direction. The main idea seems to be that we shall take part in the collective production as well as the collective consumption where we live. Two citations; 'Of course, we see that the question of food is simply a specific case of the general failure of late capitalism ..' and; 'Thinking and acting in terms of the foodshed is an indicator of our commitment to work, not simply to reform the food system but to transcend that system entirely.' I read that as a policy for decomposing the capitalist system. As an opposite, 'Avoiding the Local Trap' (Born and Purcell, 2006), declare that there is 'a tendency of food activists and researchers to assume something about the local scale' and that the assumption that local is inherently good, is the 'local trap'. Born and Purcell argue that scale is a socially construct and that there can be nothing inherent about any scale. However, scale may be a strategy. Even if local scale is the strategy, one may need to establish networks with other local interest as well as networks that

transcend the local and therefor may help to broaden the sales to other markets (Born and Purcell, 2006).

In the article 'Beyond the divide: rethinking relationships between alternative and conventional food networks in Europe' Roberta Sonnino and Terry Marsden (2006) argue that defining food as 'local' at the point of purchase 'does not necessary expose the degree to which such products are embedded in, or reliant upon, alternative economic and social networks which extends back to particular territories or producers.' (Sonnino and Marsden, 2006; Feagan, 2007).

In the work of Marsden et al. (2000) and Murdoc at al. (2000) on short food supply chains, SFSCs, they distinguish between two types of short food chains; one they call spatially proximate, where the products are farmed and sold in the same region so that the consumers are conscious about the local embeddedness of the products, and one they call spatially extended, where the products are sold to consumers outside the region, and who may have no personal knowledge of the area (Maye and Kirwan, 2010). One feature with SFSCs is that they include small and medium enterprices (SMEs) in the food chain, including sales via Internet.

As opposites of SFSC we have the trade with local, specialized wine and cheese, organic and non-organic, which are sold via relatively long food-chains across the world. A person in India or Norway can have intimate knowledge of wine and can distinguish wine from one small plot from another in the same area.

Politicians. When EU planned the expansion eastwards, it was a need for a change in the Common Agriculture Policy (CAP). An expert group evaluating pros and cons of the existing CAP launched a heavy critic of the agricultural establishment. (Buckwell et al., 1997/archived 2006). Even so, EUs Community strategic Guidelines for rural development (programming period 2007 to 2013), (EU 2006, 2006/144/EC) shows that the emphasis will be on developing jobs and making the rural environment attractive for the people that otherwise are exspected to crowd the cities. Politicians will not be the driving force to enhance more sustainable farming, but to support what is most economical sustainable in a short perspective.

AFNs. Frustration both on the producer side and the consumer side have led to the evolvement of a range of alternative food networks (AFNs)[1]. They represent a variety of goals and aspirations both on the farmers' side and that of the consumers.

There has long been a growth of AFNs in USA and Europa. Also there has been a growth in the number of published papers. Searching for scholar papers 2015-2016 with search string Alternative food systems in USA gave 15 900 hits in April 2016.

Goodman distinguishes between Northern American AFNs and European AFNs (Goodman, D (ed.), 2003). While Europe has focused on alternative food network more in terms of how local food network may contribute to rural businesses and development (as CAP, my comment), North American literature has focused more on oppositions to the conventional food system and often in radical political terms (as for example Coming into the foodshed, my comment).

Mapping AFNs. Much research has been going on to map the various types of AFNs, not least to understand the diverse ways in which they attempt to reconfigure relationship between food producers and food consumers, and how they may evolve. The various ways AFNs are categorized can be quite confusing, because the underlying different values and aims are not clearly stated.

Laura Venn et al. (Venn et al., 2006) wish to demystify the collection and classification of AFNs. To be included in their analysis of up-to-then papers about AFNs, each AFN had to encompass at least one of the following parameters: '

- An attempt to connect consumers, producers and food, in a new economic space which re-embeds food production and consumption.
- Non-conventional supply/ distribution channels - detached from industrial supply and demand distribution, and corporately controlled food chains.
- Adopted principles of social-embeddedness – founded or working on the principles of trust, community and often linked with a specific geographical location.
- Based around the notion of "quality" – promotes quality, either conventional or alternative, preserving traditions or heritage.'

[1] There is not necessarily any differences between 'system' and 'network', but in AFN papers 'network' seems to indicate the involvement of social relations between different actors in the food-chain.

Venn et al. claims that these four categories of AFNs will allow for covering the interests in consumer-producer relationship,' (Venn et al., 2006). Influenced by the strong rural development focus of CAP, sustainable or/and organic farming is not among the criterions. (Venn et al., 2006). Maye and Kirwan (2010) present a list of opposite characteristic of 'alternative' and 'conventional' agro-food networks but admit that many of the contrasting characteristics are difficult to maintain in practice.

From a holistic agroecologist's point of view, the need for economical sustainability must not be under-estimated. That some types of AFNs, as Community Supported Agriculture (CSA) have a short value-chain is emphasized in many articles (Renting et al., 2003; Hinrichs, 2002) and some claim that the short value chain is giving the farmer/producer a better income than if selling the products via the mainstream food chain. This may prove to be dependent of the scale of the produce and the farmer's possibility to handle direct sales of large amounts of food. Some authors seek to explore the boundaries for success that AFNs may have according to national/local policies and other contextual factors (Karner, 2007; Jaklin et al., 2015; Terragni et al., 2009; Galiato, F., 2011). Jaklin et al. ask why farmers do collaborate with a food co-operative (civic network) in Vienna, Austria, and found that farmers and co-op members share their criticism of the mainstream system, but maybe for different reasons as they missed clear common goals.

Growth of the individual AFN may cause some concerns. There will possibly be need for adjustments both for the suppliers and the administration of the AFN. The box scheme Adamah Biohof in Austria grew from 50 boxes per week to become the biggest box scheme in German-speaking countries. (Kummer, 2015). As the scheme grew, the farmers that could provide larger quantities became more important in the box scheme. Co-operation and coordination with small producers was too time-consuming. The upside is to keep administration simple, the down-side may be losing some of the legitimacy of supporting small local farmers. The farmers delivered to a diversity of food networks and valued the independence and flexibility of that, and also the close contact to consumers in local AFNs. But they also wanted the possibility to sell large quantities through conventional channels. (Kummer, 2015). 'Nevertheless, 16 of 19 interviewed producers wanted to deliver higher quantity because of the advantages Adamah provided.'

The box scheme does not bring the farmer and consumer face-to-face. Adamah mended this to some degree by providing subscribers with a leaflet with information of the products and the

providers. Buyers' co-operations likewise do not necessarily put the consumers and the producers face-to-face. Some of the farmers missed the direct contact as it was not the same as direct selling on-farm. Most farmers had contact only with one person from the co-op. That the co-op tried to fix this with group excursions to farms. 'However, these excursions depended on voluntary work and were organized twice a year. Apparently, this contact was not enough for some farmers.' (Jaklin, 2015).

AFNs in Norway. Until 2008 there were only two CSAs in Norway. Between 2011 and 2013 the number became 8-9 CSAs. Even so, there are a number of scholarly papers addressing AFNs in Norway and the Norwegian context. Elin Rømo Grande studied some of the earliest CSAs in Norway and gives a brief history of CSA development in Norway and Scandinavia. (Grande, 2009). Some see CSAs as means to promote bio-economy, and increase the knowledge of and use of organic food (Hvitsand, 2014). In a new paper she looks into CSA members' attitudes and values. She found that the statement 'Finding it meaningful to grow your own food' is given the highest average score, but that they are members for a range of different reasons (Hvitsand, 2016). Helene Klingsheim Austvoll has studied factors that influence the production and distribution system on farms and hence contribute to the potential expansions of AFNs. (Austvoll, 2014). She found 'six phenomena in the Norwegian food system of political and socio-demographic character that were particularly evident in the case study and that both support and restrain farm-based entrepreneurship and the development of CSA.' Farmers experience economic squeeze and they see AFNs as means to improving the farm economy. At the same time, farmers are dependent of getting rid of large volumes and hence depend of sales channels that they know will buy the production. 'When dealing with large volumes, standardized products are necessary.' (Austvoll, 2014). This may cause that farmers with less standardized products/production may choose AFNs. The Norwegian Agricultural Extension Service[2] was seen as a part of the mainstream system, not enough focused on organic production. AFNs can also be means to more social life for the farmer, that else may experience a degree of loneliness in the field. She sites Hendrickson and Heffernan; 'To be effective, these alternatives must be personalized and sustainable and propose a new vision, a vision of authentic social, economic and ecological relationships between actors in the food system'. (Hendrickson and Heffernan, 2002). At last she mentions the need for the "food citizen", the 'ethical consumer' that use 'consumption choices as expressions of social agency or citizenship.' (Lockie, 2008) and that Austvoll hopes is willing

[2] Agriculture advisory service

to stay with the AFN for a sustainable period of time. The growth in Norwegian AFNs is relatively modest.

The most influencing actants shaping Norwegian's agriculture are the country's shape, size, climate, population and culture. Next to this come the government and regulations, including the farmers' organizations, with subsidies to counteract the downside of the Norwegian farming environment with short growing seasons, low price food import and for many farmers, long way to the nearest market. (See more about the Norwegian context in Appendix.)

What we need to know more about regarding Alternative Food Networks. As Venn et al point out; we need to take the central and local context, included the institutional embeddedness in AFNs into consideration when trying to understand the real impact of different AFNs (Venn et al., 2006; Jaroz, 2007).

AFN literature says little about the network part, except for reconnecting consumer and producer. Even if opposed to the industrial model of food chain, where the farmer is excluded from most of the activities, and hence, the profit in the value chain, very little is said about the farmer's placement in the chain in the various AFNs. Placement may here be both the part of the value chain of activities that the farmer has control over, how stable the network is and how close the contact between farmer and consumer is. The power structures also need to be addressed. (Venn et al., 2006; Goodman, D and M.K. Goodman, 2009). Goodman advocate that 'only 'educated guesses' are possible about the economic impacts of AFNs, their temporal, spatial and evolutionary dynamics, and their stability in the longer term.' Goodman also point to that AFN case-studies fail to consider power relations within the farm household or farm enterprise.

There has been a growth of papers exploring Actor Network theory for discussions about power in networks. Power distribution can be changed by translation processes. (Law, 1992; Watts and Scales, 2015).

AFN(s) may represent only a small part of the produce and sales for a farmer. Two examples of Community Supported Agriculture (CSA) in Norway had only very small areas involved in the CSA, for one of the farms it was only 1 ha out of 40 ha. (Grande, 2009).[3] That means that

[3] Grande, Elin Rømo (2009) " Eating is an agricultural act" Community supported agriculture (CSA) in Norway. Mster thesis,Norwegian University of Life Siences, Department of International Environment and Development Studies (NORAGRIC).

a large part of the production moves through other food systems, namely the mainstream food-chains. It would be of interest to see all the food networks for a farm together, not only one of them. It may also be more than one AFN involved, organized as CSA, in-farm outlet or restaurant or different combinations. Some sales channels attract temporary or random customers. Some are like Farmers Market with random albeit many customers. CSAs and box-schemes presuppose regularity, member customers. All these alternative channels are parts of alternative food networks, the network being more or less organized, the members more or less strongly connected.

RESEARH QUESTION

The broad question may be if AFNs can develop to become of any significant competition to the industrial system. This it is of course an impossible question to answer directly, and the answer may not be the same for different AFNs and different parts of the world.

The broad question therefore has to be transformed into the local scale rather than the global. The question may then be; how does the AFN the farmer participate in support the farmer's resilience? This question can be answered by an exploration of a broad set of networks that the farmer/producer is part of, and an assessment of how each contributes to the resilience of the farm or farmer, with special focus on any AFN the farm is part of. What the farmer sells is also a question; is it food, health, social events or culture?

While many papers are focusing on consumer behavior or farmer-consumer contact, or political and cultural context, I would try to see the farm also as an asset and what the farmer does to utilize that in the best way. Cultural and social capital may well be part of an AFN, utilizing the cultural heritage of the farmed landscape and stately houses.

The research questions could be numerous, but for this thesis they are:

1. How does the AFN contribute to the Norwegian organic farmer's resilience?

2 How is the contact between the farmer and the consumers and what role has this?

3 Is the AFN relatively stable (to be relied upon)?

I have found it convenient and natural to choose certified organic farmers for this study, since there is no register available listing farmers using sustainable agrological methods. Then that would have been the main part of the study.

For question 1 and 2 mapping of the networks the farmer/informant is part of and the different value-chains are used. The detailed value-chains will show where the farmer is situated in the chain and how many activities divide the farmer and consumer. Do they meet at all? The various resources involved and the outcome is evaluated according to the few numbers about resources and income that are available.

For question 3 the evaluation is based on ANT with focus on network ownership and translation mechanisms.

MATERIAL AND METHOD

The study will be a multiple case study (Creswell, 2003; Yin, 2009; Baxter and Jack, 2008). According to Robert K. Yin (Yin 2009) case studies have a distinct advantage over other methods when:

> 'A "how" or "why" question is being asked about a contemporary set of events, over which the investigator has little or no control'.

Case study methodology aims at seeking deep understanding of the concrete example of the topic in the research, 'that the topic of interest is well explored, and that the essence of the phenomenon is revealed,' (Baxter and Jack, 2008). It will in essence be an exploratory case study, which, according to Yin, 'is used to explore those situations in which the intervention being evaluated has no clear, single set of outcomes' (Baxter and Jack 2008). Yin also states that 'The case study is preferred in examining contemporary events, but when the relevant behaviors cannot be manipulated. (Yin, 2009).

The field study was carried out in Norway. The Result chapter begins with a short description of the Norwegian context for farming and an overview over the cases.

Since possible differences in farmers' contexts and AFN's construction may be strongly expected, more than one case is included in the study. This may enlighten the various circumstances for the farmer in an AFN in terms of placement in the network, the power structure and the different value chains. The basic intent has been to explore differences between cases, even if it is difficult to predict what kind of contrasts that may occur. I purposefully selected a handful of cases that from first sight seemed to be different from each other.

I turned to Internet with some simple search parameters to find suitable interview objects. Cross examining several sites, I came up with a list of possible objects. That means all of the interview objects had an Internet site, for example in connection to OIKOS[4], Farmers Market[5], and sites promoting local farms that receive guests or some shops specializing in

[4] OIKOS is an ideal member organization (NGO) for everybody that has an interest for organic food and production.

[5] Bondens Marked was established in 2003 after the international concept Farmers Market. It is mainly an organization that provides an easy accessible market for sale of local food, including organic food. It was established by Landbrukssamvirke (Norwegian Agricultural Cooperation), Norges Bondelag (Norwegian Farmers Assosiation, Norsk Bonde- og Småbrukarlag (Norwegian Small Farmers Assosiation, Hanen (A Norwegian business organization for local tourism, food from local farm and in-land fishing, 400 members) and OIKOS. Bondens Marked is organized as a foundation.

organic food that presented their suppliers on their Internet site. The cases were distributed over 4 counties. For one of these counties, I interviewed central government's regional representative, the county administration, which is responsible for regional implementation of national agriculture politics, and the local agriculture advisory service[6], as suggested by Venn et al. (Venn et al. 2006). Since there are only small variations in the operation of these agencies in the different counties, I only made these interviews in only one County.

Information gathering and Material. Information sources have been; Interviews (Kvale, 2007), Internet with various promotion sites as well as government sites, transections of the farm (direct observation), and taking part in harvesting on the farm in case 6 (participatory observation). All promotion sites included information about contact person, which became the informant for the case.

All interviews were recorded and fully transcribed. Trancribed interviews have been presented for the main advisors at the university and for the sensors. To ensure that the informants could speak openly, it was agreed that only a summary should go into the research report. The summary were sent to the informants and approved. The summaries are presented in Appendix to the report.

As preparation for the interviews I printed out and read material from the AFN's Internet web sites and Facebook groups and the web sites for County Managers and other institutions.

The plan was to do in-depth semi-structured interviews. I had made a conceptual framework and a list of questions in connection to this. Already during the first interview, I realized that the premade questions were not going to work very well. I realized that the networks are not so much about formal networks as I had thought, but fluctuating networks consisting of easily changeable members/persons. The interviews became open-ended conversations, where my parts were only guided by the conceptual framework and an occasional eye on the question list, just to be sure that I did not miss any substantial information (as far as I could think of). The advantage to this approach 'is the close collaboration between the researcher and the participants, while enabling participants to tell their stories (Baxter and Jack, 2008). In this way 'the participants are able to describe their views of reality and this enables the researcher to better understand the participants' actions,' (Baxter and Jack, 2008).

[6] Landbruksrådgivningen (Norwegian Agricultural Extension Service).

Triangulation. The use of multiple data sources gives credibility to the data, according to Yin (Yin 2009) and Baxter and Jack (2008). 'Each data source is one piece of the "puzzle", with each piece contributing to the researcher's understanding of the whole phenomenon.' (Baxter and Jack, 2008). The data collection in this case study was collected from; the in-depth interviews, occasionally references by one informant to another, direct and participant observation and by searching the Internet. Some pictures were taken. The Internet information was gathered from government sites, promotional sites for Bondens Marked, Hanen which is promoting local food, and some AFNs. Maps over the farms and the surroundings was gathered from the site www.skogoglandskap.no which now is a service from the Norwegian Institute of bio-economy research (http://www.nibio.no/en, 2016) and was helpful in getting an overview over the farm's fields and houses.

A preliminary conceptual framework. To frame the case study and the various cases, I made a preliminary conceptual framework, shown in Figure 3 and used it as a guide for all the interviews in the study. The idea behind the conceptual framework is to envision the farmer and the farm in a holistic way, as an open system in connection to the wider world.

It presents the farm as well as the farmer as 'holons' (Koestler, 1967 in Brand and Bell 2007). Bland and Bell propose that 'intentionality is the primary criterion for identifying and bounding a holon. By intentionality we mean the active envisioning and seeking out a set of goals'. In a farm both the farm family and each individual in the family can be a holon in itself. So can the AFN, if it has an intention, and each member of any network likewise.

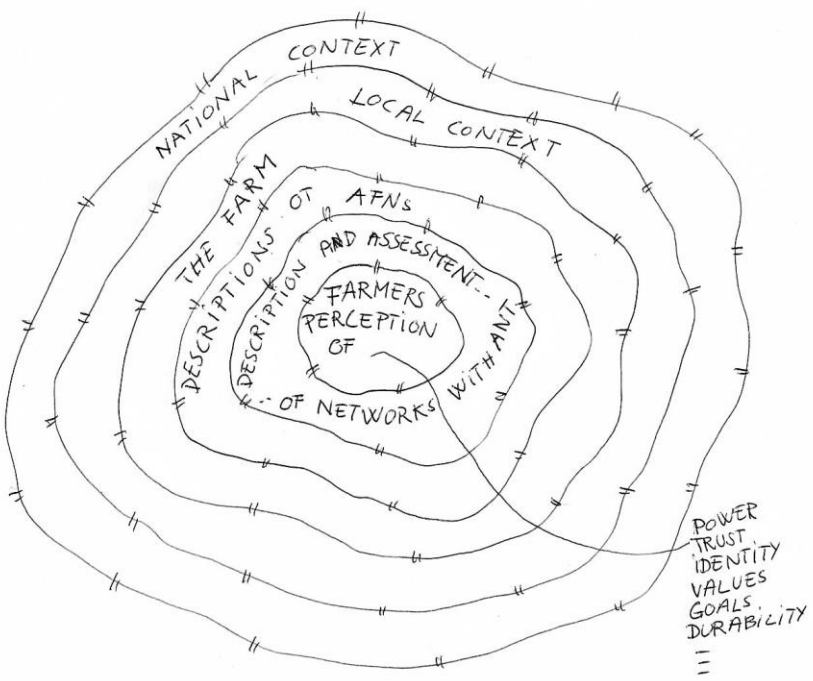


Figure 1 **Preliminary conceptual framework**. The interceptions of the lines indicate that every layer is both a part in itself and a part of a whole.

No prepositions were made for the study (Baxter and Jack, 2008), except for the obvious, that all the cases use social media in one way or another.

Concepts and theories.

The concepts of Value-Chains (Porter, 1985) is used to show some of the features of the cases. In the discussion, two theories about networks are used. One is The Strength of Weak Ties (SWT) (Granovetter, 1973), the other is Actor Network Theory (ANT) (Law, 1992; Latour, 1996; Watts and Scales, 2015).

The strength of Weak Ties (SWT). Mark Granovetter is an American sociologist that is 'best known for his theory The Strenght of Weak Ties[7] (SWT), which focuses on the spread of information in social networks.' [8] He made a study in late 1960 early 1970 of how people in Boston found new jobs and found that more than 80 % found a job, not through people they had close relationship with, but via friends of friends. This became the basis for his theory The Strength of Weak Ties (SWT). The reason for this success with the use of week tie networks, according to Granovetter, is that in your closest relationship, there will be a lot if overlapping information, while acquaintances know people that we do not know and therefor

[7] Granovetter, M.S. (1973) The Strength of Weak Ties, Amer.J. of Sociology, Vol. 78, Issue 6, May 13 60-80.
[8] http://www.slideshare.net/kcarter14/mark-granovetterswt-7310401?next_slideshow=2

can give us more novel information. Everyone that has searched the web for information should be able to agree to that.

Actor Network Theory (ANT). Actor Network Theory (ANT) claims that not only people take part in networks, so do things and technology. (Latour, 1996; John Law, 1992; Watts and Scales, 2015). This theory claims that an actant can literally be anything provided it is granted to be the source of an action.' '..that is, something that acts or which activity is granted by others.' (Latour, 1996). The definition of an actant is very similar to Arthur Koestlers *holon*, that of 'an *intentional entity* embedded in an ecology of contexts.' (Bland and Bell, 2007). Because 'actor' in social theory is associated with humans, 'actant' is used to cover both humans and non-human actors. Here and in the ANT literature, the two often are used as synonyms. ANT sees humans and non-humans as like-worthy actants in networks/ the social fabric and discusses the matter of power and wealth accumulation (Braudel, Fernand, 1982) in networks.

How is it, asks Law, 'that center may come to speak for and profit from, the efforts of what has been turned into periphery?' Law calls these centers for translating centers, centers that draw other resources to them by offering safety, comfort, ideology, visions. Some of the ways that center of translation operates, is to strive for durability and to execute a number of (overlapping) strategies to enroll other networks into supporting the center. Centers of translation are also called 'a single point actor' or a 'punctualized actor' in that the network through processes of translation become viewed as a common identity, with rules and co-ordination mechanisms.

To understand AFNs in terms of ANT we may ask; how is the AFN organized, who controls the network and what are the translating mechanisms? How can a farmer build a food network that can be relatively stable over a longer period of time? This crucial question may meet resistance in a field that strives for equality. The answer may be found in the balance between use of strong translation mechanisms that leads to convergence, and a more dynamic stance where translation to a greater extent will be ongoing processes.

> 'Durability is just another relational effect, not something given in the nature of things.' (Law, John 1992)

RESULTS

The result chapter start with a short description of the cases. Then I comment on the networks that the AFN farmers/producers are involved with and compare some of the value-chains for the diverse AFNs and the Norwegian mainstream food system. Next, various topics are discussed based on the cases and relevant literature.

Cases

Six cases were picked from the list of possible cases with the prerequisite of being organic and looking different from each other. It turned out that the farms in the study were involved in more than one AFN each, with different institutional involvement and with a wide variety of different value-chains.

Case 1, The self-growing community. The self-growing community is based in Oslo, but not limited by the city. This is sort of an extreme case with ordinary people growing herbs and vegetables in gardens and on balconies. The founders' idea was to enhance the self-growing of food to increase the understanding and appreciation of the farmers' work. The activities have been a set of meetings and seminars for self-growers and an extensive use of Internet and Facebook to stay in touch with the people in their somewhat widespread community. Facebook allowed for establishing of off-spring groups and a number of group were established independent of the main activities. This went a bit out of control, with the main network group suffering from losing peoples interest to the offspring group. To-day, not fully one year after the interview, the main network is closed down and the secretary has started a new more business-like network with meetings, seminars and with paying members instead of free networking. It also has an office with a 'green library' in a central and popular part of Oslo.

Case 2, The Mill. Holli Mølle is situated 17 km east of Ås, south of the capital Oslo. It is a mill that started out as an addition to the farming at Holli Farm, but has grown into a professional mill with a number of organic farmers as suppliers. The Mill is separated from the farm as a limited company and is owned by the miller and his family, except for the professional Chairman of the Board that owns 10% of the shares. The Mill sell to a wide range of networks or customer groups and is torned between being a local mill where the miller is meeting consumers face-to-face and the goal to sell more via wholesalers. All packets of flour that leaves the mill are labelled with the name of the farm that the flour in that particular packet originates from.

The Mill has its own transport lines (cars) that cover much of the central market. For a time the mill has employed people via the social services, which covers part of their wages. This practice will diminish as the latest project of automation of the mill's processes is finished.

Case 3, Buyers' cooperation. The buyers' cooperation Kooperativet is based in Oslo. It was started by a core group in April 2013 with the intention of being an alternative to the big mainstream food chains. The operations are regulated by 10 principles, among others that**:** All food should be produced due to organic/biodynamic principles, Food should be produced as local as possible, Food offered will be seasonal and Fair and direct trade is supported.

Picture 1 Outbound logistics/ preparing for handout of food bags at Matvarehallen; Kooperativet's main handout point in Oslo. In the background we see a number of food-shops. Picture by Kirsti Berg

The annual report for 2014 for Kooperativet shows that it has 1654 members and 150 peoples on a waiting list. People have to put in a request to be members, due to the need for planned growth.

All the work is carried out by the members. There are groups for; planning and buying food, group for buying and safe handling of meat and dairy products, internal and external communication, events, and a group for outbound logistics.

Kooperativet's mode of operation is that every other week one may order a bag of vegetables. There are monthly bags of meat or dairy products. The content of the bag is presented on the Internet site where one places orders two weeks in advance. The bag is then picked up in one of the three pickup-points in Oslo, where a working group take care of the logistics.

The members that are not part of any of the groups take their turn in helping out with the outbound logistics; filling the bags, handing out bags to the various members that come to pick up, controlling against the list of orders, cleaning up afterwards. All group-work are unpaid. Kooperativet has only one person in a paid part-time employment.

The network has been formally registered as a cooperative according to Norwegian law of cooperatives, with the name **Kooperativet SA**, and short name **Kooperativet**. The registration fee for new members is NOK 250,- and there is a yearly fee of NOK 250,- as well. Then of course, members pay for each bag they order. Approx. one third of the members ordered a food bag every other week/hand out. The annual result is added to the capital of Kooperativet SA.

Case 4, Farm and Restaurant. Møystad Farm is situated in Hedmark County which has some of the most fertile soil in Norway. The farm is 383 da of which 225 is fully farmable. Møystad is a farm/restaurant/conference center capitalizing on the culture and heritage of the area and the farm.

Picture 2-3 **Left: The main house at Møystad Farm.** http://www.moystadgard.no/index.php/gardens-historie/historie **Right: The barn, now used for seminars, events and parties.** (Picture by Kirsti)

The restaurant and in-farm shop and café utilize almost all the produce of the farm, except for grain produce on 60 da of land that is sold via an organic mill (much like Holli Mølle). The farm and business is run by Katrine, while her husband is working outside of the farm. All the workers she employs for the big restaurant events are paid standard wages. The farmer/restaurant manager is very clear that all work should be paid and that the prices for

food should mirror the real cost of production. According to her, almost every farm in Norway has some unpaid workers, being the parents of the farmer, siblings, woofers or cheap immigrant employees. She herself works full time in the farm/restaurant and she is also an elected representative for the 'green party' at the local level.

Case 5 Farm with CSA. Veflingstad Farm is also situated in Hedmark County and the farm and the houses mirror the rich soil and long farming traditions in this area. The farm has 314 da of land of which 284 is fully farmed. The farm has 30 cows. The milk is sold via Tine cooperation and the meat via Nortura. About 70 tons of potato has been sold directly to one of the umbrella organization, the one that recently has been bought up by the other three umbrella organizations left in the market. Selling directly to ICA meant he could trade outside a farmers' group. The newly organized CSA was established to replace the loss of income from the potato sale that stopped with the take-over.

Picture 4 View from the dining room to the vegetable field and grassing cattle (Pictures by Kirsti)

The establishing of the CSA was supported by Innovation Norge, both economically and with some training for use of social media. The CSA uses only 25 da of land and serves the 85 paying members, but can easily serve 200. Each member pays a yearly fee of NOK 2200. There is no obligation to take part in the work in the vegetable field, but one may if one like. When a row of vegetables is ready for harvesting, it is marked for harvesting and the members are then free to take whatever they want, and as much as they want.

Case 6, Partisan farmer. Kvittem is a farm in North Trøndelag County, where the farmer farms and lives in a traditional way with relatively small means. The farm is situated high up in the step hills north-east of the small city Stjørdal, and has 966.7 da of land, however, only 147 da is fully farmed, 38 da is natural grassland and the rest is forest and mire. Of the 147

fully farmable land, 15 da is used for traditional grain and for vegetables. The farmer has 11 cows now for the winter, along with some heifers and calves. He has also 13 hens which are free to roam outside. All the animals get only what is grown on the farm to eat. The milk is sold via Tine. However, the meat is sold directly to listed customers. All the slaughtering is done by a small slaughterhouse, just once a year, and the meat is delivered to the customers directly from the slaughterhouse ramp. He gets almost the double net price for this than he would have had from Nortura.

He keeps some milk for himself and makes his own butter and cheese. This cannot be sold due to health regulations. However, he can sell unpasteurized milk to random customers that drop in on the farm. He get much better paid for this milk, and better even, for the 'raw milk' directly after calving. This makes him feel appreciated.

He has an old traditional stone mill and grinds the grains before selling it at Farmer's Market where he also sells egg and vegetables. He has a network with Czech and Slovakian students and has regularly two students as help in the farm for short periods of time.

Picture 5 Towards Kvittem farm. The logs are ready for the winter. Picture by Kirsti

Networks

Network drawings. For each of the cases, overviews over networks were drawn. Here follows the network drawings for Case 1, 3, 5 and 6 as examples and a discussion on what the drawings may tell. The idea for the drawings came from Liza Potts. (Potts, 2008) who has shown various examples of modelling ANT networks, however, the models I present are modified to handle the vast number of different relations that some of the farmers in the cases take part of.

I have not found a good way to picture Actor-networks so that the three-dimensional character shows or the 'fibrous, thread-like, wiry, stringy, ropy, capillary character' Latour claims we must recognize characterize any modern society, but 'that is never captured by the notions of levels, layers, territories, spheres, categories, structure, systems' (Latour, 1996). The sketches I have made are more something to reflect upon, together with the information we have about the cases. The process of constructing ANT networks is time consuming and more ambitious than possible for this study. First the actants must be identified. Then one must follow the actants to trace the associations between them to be able to draw the relevant networks (Watts and Scales, 2015).

It is a lot the network drawings don't tell. One example is the use of cheap labor. Another is what the different friends and neighbors supply to the farms. In case 5, the farmer is dependent on the neighbor's onion-setting machine, and straw for blending in with the manure. In case 6 the farmer is also dependent on the neighbor for borrowing machinery. The third example is that the networks per se do not tell about the differences in use of resources for the different AFNs, the relative part of the income for each network or the nature of producer-consumer cooperation.

For Case 1, the self-growing community, there are several tings to notice. We see the core group and their networks that were used to start the activities. This is what Granovetter called the Strength of Weak Ties (Granovetter, 1973). The network was very successful for a few years with projects, seminars and popular events such as seed exchange events and plant exchange events. The core group with their networks was the main resources except for Helene, the secretary at the center. Information technology became the glue in this system. Information technology and Facebook to a great extent, brings everybody in contact with anybody and new groups and activities flourished. With the weak organization of the network, IT got the most influential role, a gatekeeper position in the network.

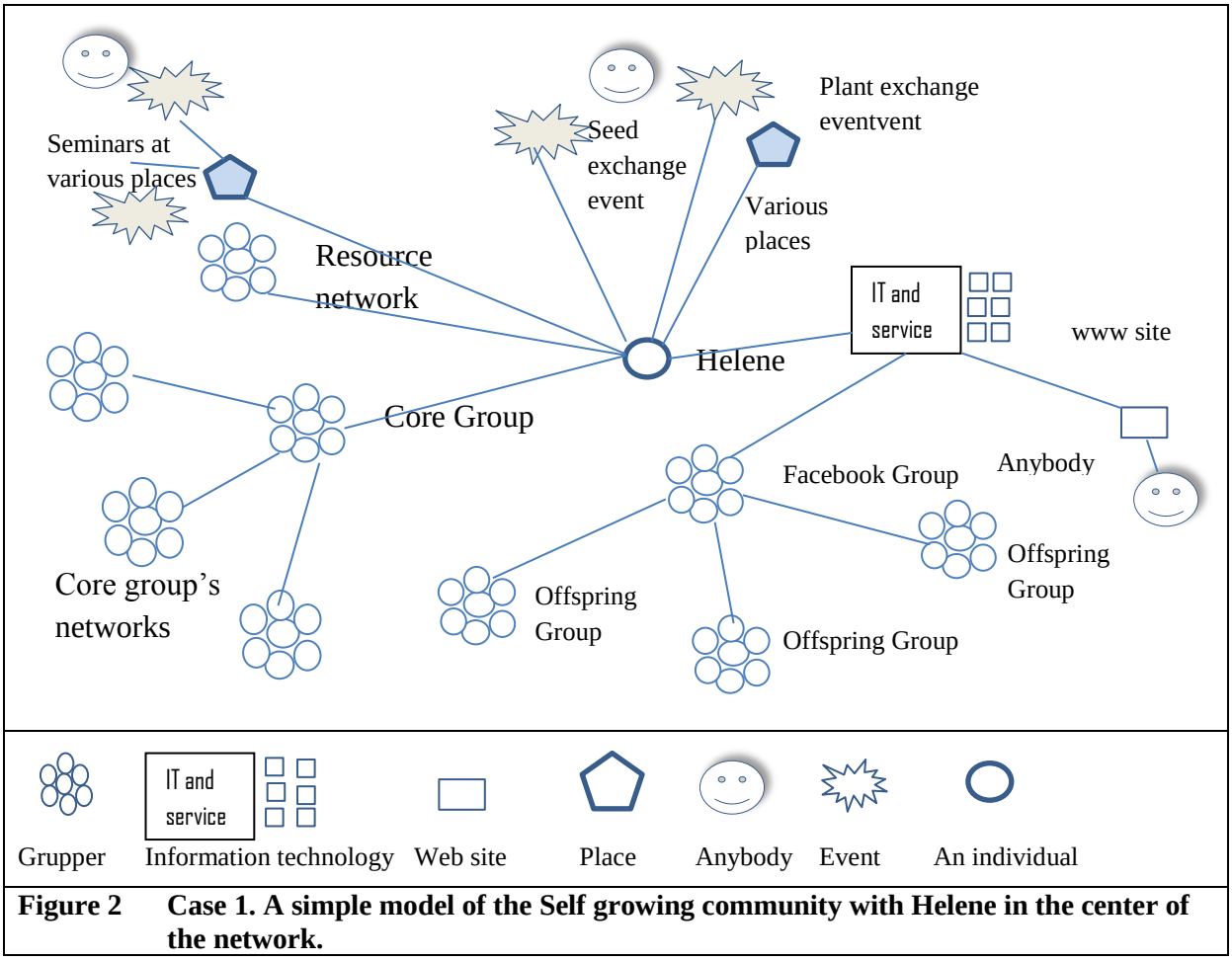


Figure 2 **Case 1. A simple model of the Self growing community with Helene in the center of the network.**

The networks for Case 3, Buyers' cooperation, seems very clear and simple. We have one the one hand; the Founder Group, Members, Working Groups, Mathallen (The Food Hall) and a few other places for hand-outs of products and IT-solutions that is the backbone in the administration of the Buyers' cooperation. On the other hand we have Farmers with different transport solutions and their other buyers, which may be one of the conventional chains with their integrated wholesalers and transporters. At the top we see the yearly event with potato harvesting and lunch at Alm where part of the members attend. The Bank is the only institution in the network except for the network itself (there will be others of course, like tax government and the like).

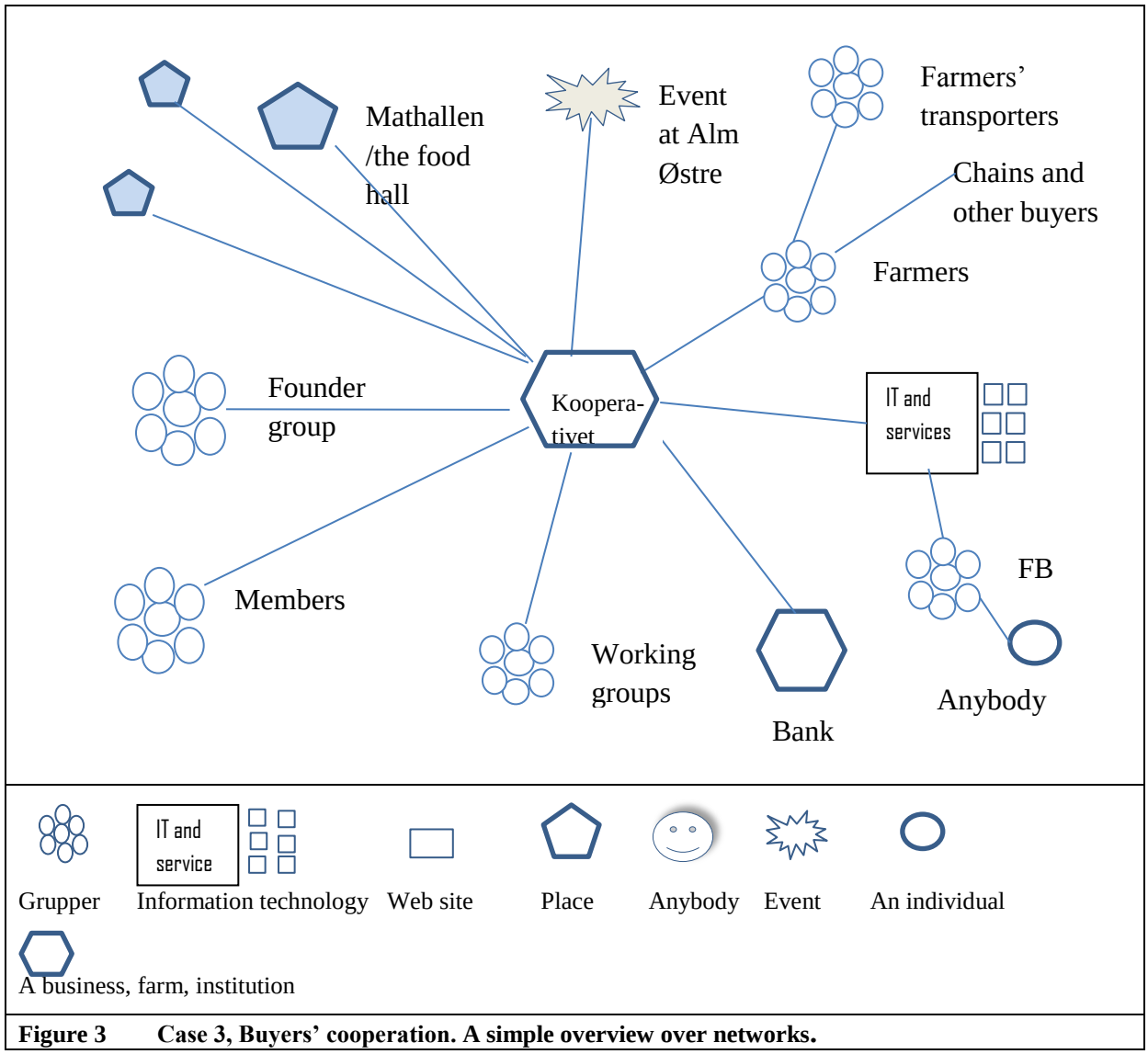
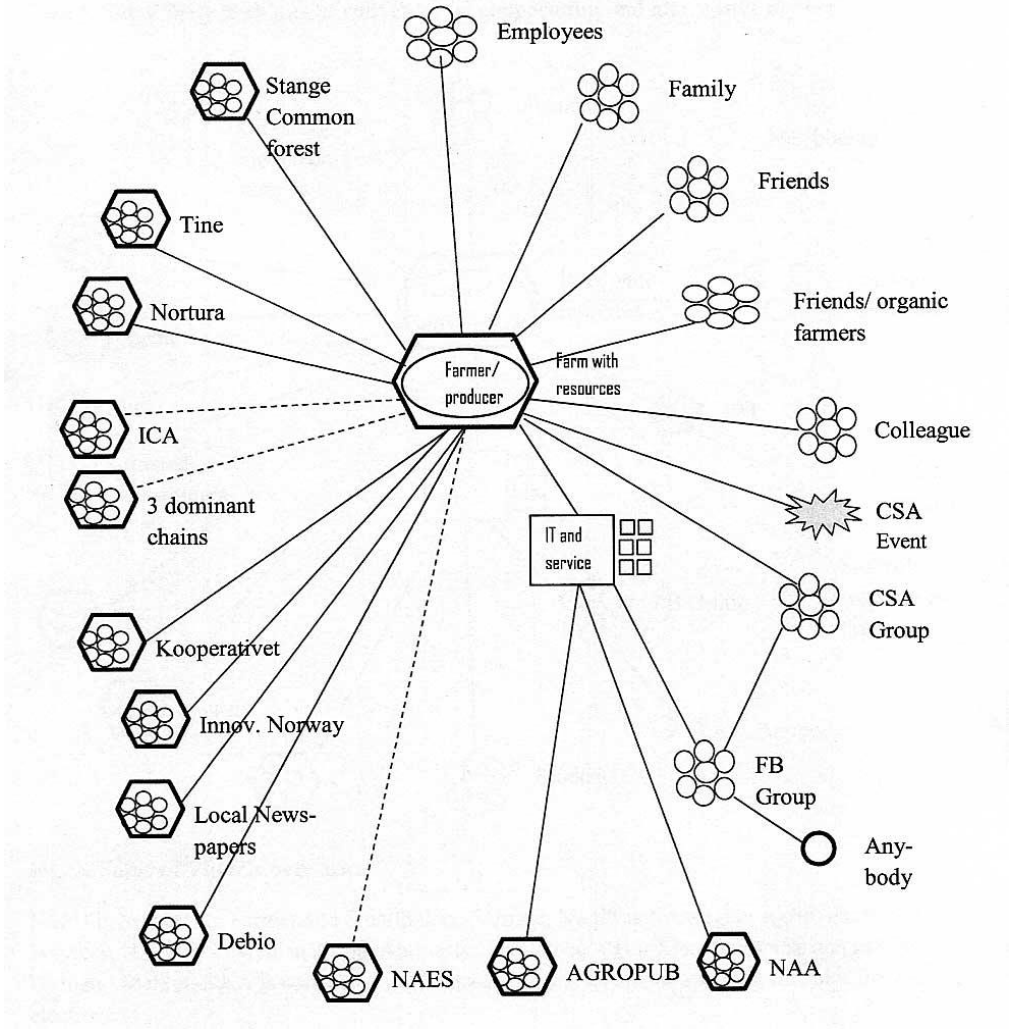


Figure 3 Case 3, Buyers' cooperation. A simple overview over networks.

In the sketch for Case 4, Farm and Restaurant, (not shown here) a lot of the different relations would be drawn with dotted lines, because the owner Katrine, does not see the various groups she are connected with as networks, but as customers or suppliers. She has also tried to cooperate with a group of organic farmers to establish a cold storing facility, but has not succeeded. According to Granovetter, there is an untapped resource in all the different groups networks (Granovetter, 1973).



NAES-Norwegian Agriculture Extention Service

NAA- Norwegian Agriculture Authority

AGROPUB- Research organization

ICA- Mainstream food chain

Debio- certification organization

Tine and Nortura – Farmers' cooperation with role as market regulators

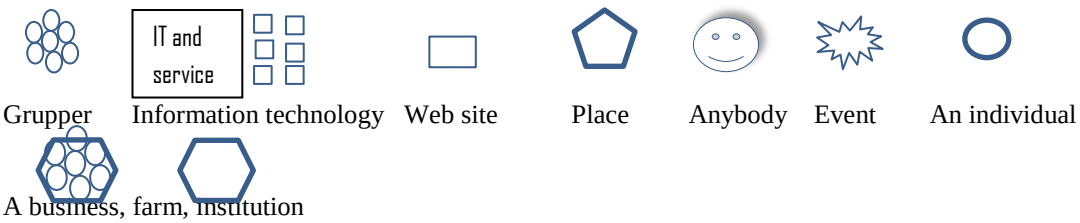


Figure 4 Case 5 Farm with CSA. A lot of relations to keep track of.

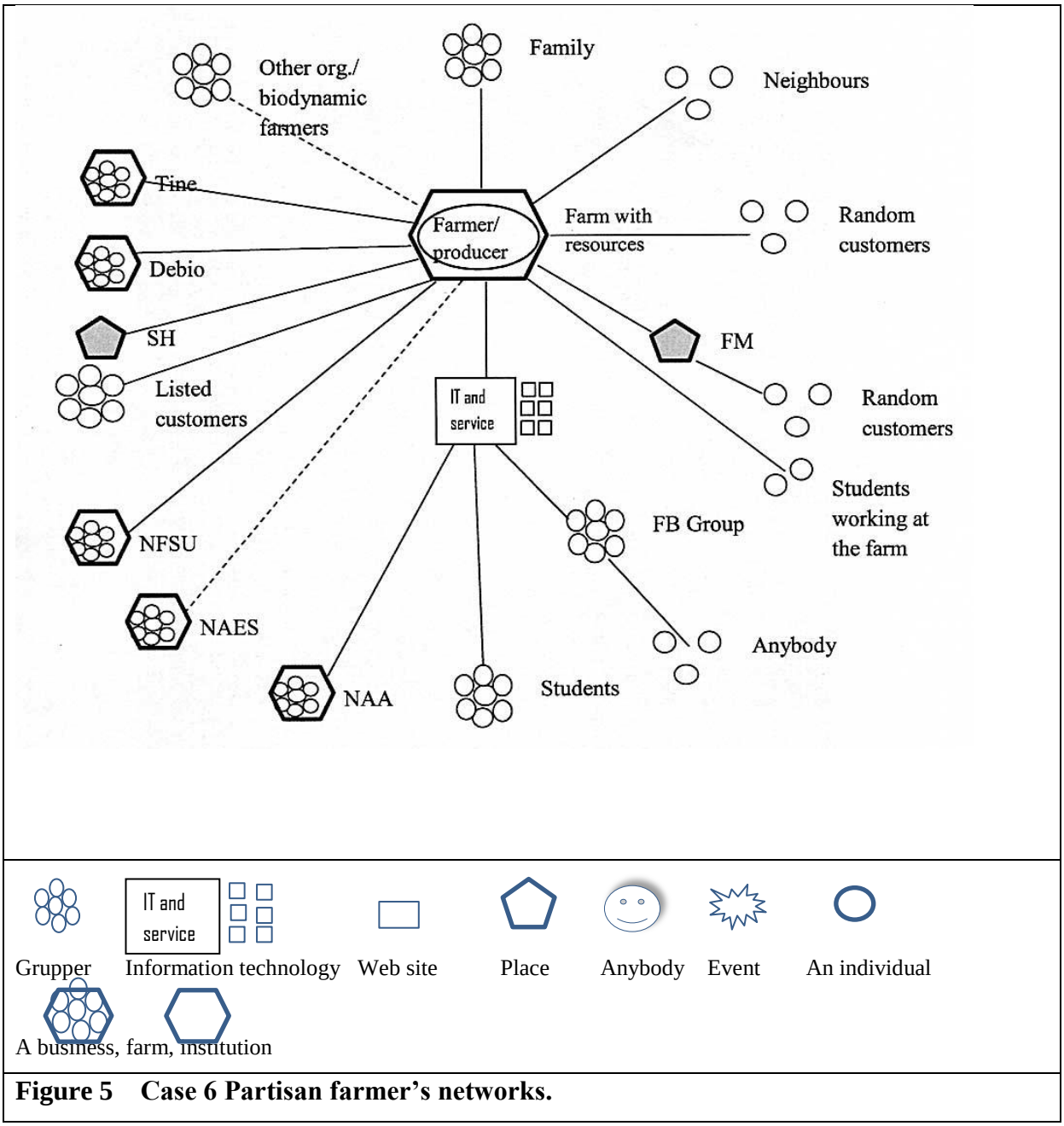


Figure 5 Case 6 Partisan farmer's networks.

Power actants in the networks

For all the cases, the sketches tell about the many networks of different kind and of the many actors involved. There are many public and private agencies in form of tax authorities, social services, certification agency, banks and other that the farmer must relate to. Then there are the farmers' cooperation for milk and meat that most of milk and meat-producers use, because it is mandatory for milk and because it is a lack of other options when it comes to meat. Then there are the alternative food networks. Case 2, 4 and 5 and 6 are involved in more than one AFN.

From an Actor Network Theory (ANT) point of view many of the mentioned actors may be seen as punctualized networks or centers of translation. In all the cases in this study, the Norwegian agriculture agreement is one such center of translation, or we may choose to address the farmers' unions and the Ministry of Food and Agriculture who every year take part in the shaping of the agreement. The farmers' cooperations for Milk and meat are centers of translation, even if they receive organic milk and meat, they decide wether the milk and meat reach the market as organic or goes into the mainstream process mixed together with non-organic produce.

Information technology is center of translation for every AFN in the study. All of the AFNs relate on Internet with web and Facebook for communication with members/consumers and for recruiting of new customers. At the same time, they have very little power over this actants. One may rather see the situation the other way around; the big operators of the Internet have succeeded in attracting the AFNs as customers. As we have seen in Case 1, the use of Internet and services on Internet may be important for the success of an AFN, but one should be aware of the distresses that may occur when giving competitors easy access to the network or open a Facebook group for comments.

The value-chains

The value-chains for the AFNs show the different activities from the farm to the consumer. The value-chain may be short or long. We can see who take part in the different activities, which the farmers take care of, which middlemen perform and if and when the farmer and consumer meet.

Examples of the value-chains for the AFNs are shown in the table below. The generic value-chain in Porter (Porter, 1985) shows; inbound logistics, Operations, Outbound logistics, Marketing & sales, and services. This may be suited when one wishes to compare the value-chains for two big co-operations. Here I show more details, the activities that go on from farm to consumers. Mapping the different value-chains to fit a comparable set of activities, took several iterations and ended up with comprising 17 activities/processes. Transport occurs at different stages according to customer/consumer group; likewise both processing (adding value) and negotiation/ordering/buying occur at several stages.

The differences between the food network that includes Tine/Nortura and the mainstream food-chains and the AFN value-chains in this study are not so much about short and long value-chains as other studies have proclaimed. There are AFNs with short value-chains and

those with long. One of the differences between the AFNs and the generic chains for milk/meat/via the mainstream food-chains is the order in which the price and volume negotiations take place and who that are involved. First, it is the farmers' organizations and the Ministry for Agriculture and Food that negotiate the volumes and prices for milk and meat. The milk and meat that are handled through the Tine/Nortura systems are transferred from the field to the processing unit and to cold storage, before one knows who is going to buy the food. From the cold storage, milk that is ordered by the mainstream food-chains is distributed to the individual store without any further negotiation. The transport and storing is kept to a minimum thanks to effective chain administration. For vegetables the price is negotiated between the farmers' associations and the connected umbrella organization, and is negotiated once again at harvesting time. From the field, the transport is increasingly done by the mainstream food-chains as part of the vertical integration that has been going on. The opposite of this pre-harvest negotiation is the Farmers Market sales, where the price is set (and maybe sometimes negotiated) in the buying situation. The opposite of the mainstream food-chains coordinated transport, is the transport from the mill in Case 2 to the various wholesalers, retailers, individual shops, groups of individuals and one and one individual. From a wholesaler, there is transport to retailer or processor, and there is transport from processors to retailers.

From the table of value-chains, we can see that there are AFNs with short value-chains and those with long. AFN do not inherently mean short value-chain. Also, when a producer is involved with many AFNs or customer groups, the consequence is a much more diverse and complicated transport.

The value-chain table also shows who take part in the various processes. There are no intermediators involved when Case 6, Partisan farmer, is selling at Farmers' Market, when Case 2, The Mill is selling to the local Kindergarten or when CSA members harvest the vegetables in Case 5, Farm with CSA. Actually, it is mostly for Case 2, The Mill, that we see use of middlemen, when the mill sells to wholesalers or customers that process the flour before further distribution. Because The Mill has its own transporters, they own the transport activities forward to the first-hand customers. From there, the customers control the transport.

At last, the value-chains without intermediators are the value-chains where the farmers and the consumers meet.

F= Farmer M= Middleman C= Consumer Cg= Comsumer group/ Consumer representatives Activity text ---------→ Activity number Value chain names	Negotiation of price and volumes	Farm activities	New , individual negotiation with wh.s.	Administering CSA/ presale	Transport to storinga/processing units	Storing/ processing	Direct sales/ Orderings in advance	Ordering/sales trans. with wholesaler	Transport to wholesaler	Processing at wholesaler (bakery)	Ordering/sales trans. with retailers	Transport to retailers shop	Processing by retailer	Presenting for sale	Sales/buying transactions/ handouts	Transport to home	Storing, processing and eating
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Generic for milk, meat	M	F			M	M		M			M	M		M	M C	C	C
Generic for vegetables	M	F	F M		M	M					M	M		M	M C	C	C
Case 4, Kollektivet Cg= consumer group		F	F C g									F or M			C g	C	C
Case 1, Self growing value chain		F C															F C
Case 5,(F1) is selling an ox to Case 4 (F2) who serves it in the restaurant		F1		F1 F2	F1	M						F1 or F2	F2	F2 C			F2 C
Case 5, CSA		F C		F C												C	C
Case 6, Partisan farmer selling at Farmers Market		F				F						F	F	F	F C	C	C
Case 2, The Mill selling to Kindergarten		Fx			F	F	F		F							F C	C
Case 2, The Mill selling to Bakery (with many outlets)		F			F	F	F		M	M	M	M	M	M	M C	C	C

Table 1 Generic value chains and examples of AFN value-chains from the cases.

Contact between the farmer/producer and the consumer.

Technically, the farmer-consumer connection can be read directly from the value-chains. The extreme case is Case 1, the self-growing community, where the grower and the consumer are one and the same. For the buyer cooperative in Case 3, only the acquisition group and the member taking part in the annual potato harvesting event will meet the farmer. The miller (seeing himself as the farmer) meets some of his customers, those coming to the in-farm shop and those he deliver to in person, as the Kindergarten. In Case 4, Farm and restaurant, it

happens all the time, consumers meet the producer in the café, the restaurant and in the farm's shop. In Case 5, Farm with CSA, the meetings take place in the farm and the farm's vegetable field. In Case 6 the meetings take place in the Farmers Market, at the slaughterhouse and on the farm.

In general, we can say that the producer and the farmer meet in persons only by direct sales, either within the farm or in direct meetings with the consumers outside of the farm.

The meanings attached to the meetings between producer and consumer from the farmers' point of view

The meanings attached to the meeting between producers and consumers from the farmers' point of view are that of identity, shared values, and of appreciations. The farmer in case 5 said that of all the groups he was related to, the CSA, was the group he found in the most harmony with his own values. Those values are not explicitly spoken, but when telling about his transit to bio dynamic farming early in 1994, he said:

> 'I asked myself about the chicken production we had been running since I were a little kid; it sure was not good for the chickens. And it was not healthy for the farmer, with a lot of dust, And I also were in doubt whether or not it was healthy for the consumers.'

In Holly Mølle every packet of grain or flour are attached with a label that tells which farm the product origins from and who is the owner, together with other product information.

> 'When one of my suppliers takes out a packet flour from the shop's shelves and see his own name and the farms name on it, that makes him proud.'

That is exactly the same as Adamah's box scheme, which gave the producers an identity by providing a leaflet with information about the products and the producers with every box (Kummer, 2015).

Buyers' cooperatives in Jaklin's study provide contact between the farmer and the cooperative's purchase group, but not between the farmer and the rest of the consumers (Jaklin et al., 2015). 'The more peasant-type farmers criticized the fact that contact with the food co-op was not as direct as selling at a farmers' market or directly on-farm.' A few event at the farm as in Jaklin's study was not be enough for those that prioritized that contact. However, the peasant-type farmers were all in a radical group 'dedicated to a collectively organized food system based on small-scale agriculture.' Some of them were openly anti-capitalist.

Maybe it is enough for most producers to have face-to-face contact with a few consumers to feel appreciated? According to Robin Dunbar (Anthropologist and psychologist) the number of people the average human brain can hold is 150, called 'Dunbars number'.[9] Can the farmer at in Case 5, Farm with CSA, keep contact with 200 members? Or 500? We tend to believe that social media enhance our ability to manage a larger number of relations, but that is not so. Gonçalves, B. et al. analysed a dataset of Twitter conversations collected across six months involving 1.7 million individuals to test Dunbar's number. They found that the 'data are in agreement with Dunbar's result; users can entertain a maximum of 100–200 stable relationships' (Gonçalves, 2011).

The concept of *social embeddedness* recognize that economic behaviour is embedded in a web of social relations and the importance of social connectivity. 'Social interaction may also be understood in terms of acknowledgement, attention, respect, friendship and sociability, all of which can be assumed within the concept of 'regard', as articulated by Sage (2003) in his study of alternative 'good food' networks in southwest Ireland.' (Maye and Kirwan, 2010).

In my opinion, all outcome for the farmers in the meetings with the consumer in this study; identity, shared values, and appreciations, are well placed within the concept of *social embeddedness*.

One concern about all the described meetings is that the consumer may take or is given, a rather passive role. Goodman and Goodman (2009) advocate that the 'failure to acknowledge the consumers as active partners in the emergence of AFNs is paralleled by the limited analyses of social relations of consumptions.' They foresee that the higher prices for quality food for the moment is a 'class diet' of privileged income groups, but that the situation may change with incorporation of quality food into the mainstream food-chains and that this will take away 'the moral charge of connection' inherent in many AFNs. It is difficult to imagine exactly how this can or will influence different types of AFNs, but it seems that for some AFNs (CSAs) it is the producer that set the agenda, while for others (buyers' cooperations) the buyers are. For a more democratic development it may be necessary to make time and room for common discussions and agreements about values, purpose and goals (Goodman, D and M.K. Goodman, 2009). This can be valuable in the aim for stable AFNs, in particular those that are initially organized for that, by membership, subscription or in other ways.

[9] http://www.newyorker.com/science/maria-konnikova/social-media-affect-math-dunbar-number-friendships.

The meetings take place, not only between the farmer and the consumers, but consumer to consumer. This may take place face-to-face for the AFNs like CSA and Farmers' Market, and via Facebook Groups for other AFNs. The meetings between consumers may also be a source for development of common identity, mutual appraisal and social companionship, and seems to be an important arena for building the network bottom-up.

Resources and return

Case 1and 3 are not applicable here. Land use for the AFNs varies. Case 2, The Mill uses the whole of the produce of Holli Farm and a number of other farms , and Case 4, The Restaurant, uses most of the land for produce that are consumed in the restaurant. Case 4 use 60 da of the land for grain, about 25% of the fully farmable land. This is sold to an organic mill that also provides organic grain for sawing. The milled grain may be sold from the mill to different organic sales channels and/or to the mainstream food-chains. Case 5, CSA and Case 6, Partisan farmer, use only very small part of their land for the AFNs. In Case 5, only 8 % of the fully farmed land is for the CSA's vegetable field. Case 6, the Partisan farmer, use 10% for vegetables. This is in accordance to Grande's study (Grande, 2009) where one of the farms in her study used only 2.5% of the land for the CSA.

The farms in the cases utilize the farms' resources differently from each other. We know that Case 2, Holli Mølle is renting the barn with the mill from Holli Farm. The mill has an estimated turnover of NOK 15 million for 2016 and a net result of NOK 1.5, which is 10% and quite OK. And that is after wages and paying the other farmers for their grain production. Case 4, Møystad, has revenue of NOK 1.5 million, of which she pays half to herself. Case 5, CSA, and Case 6, Partisan, get subsidies which are the main income for both the farms. In Case 6, the meat, egg, grain, vegetables are sold at Farmers Market and some milk (randomly) directly to consumers. While the farmer in Case 6 says he cannot enlarge the vegetable field, because he needs the field for grass and grains (grains also for the animals), the farmer in Case 5 has plans for expanding the CSA at least to 200 members, maybe more. At the time being the CSA add to the income, but has a potential for substantial revenue.

It is obvious that the restaurant business in Case 4 Farm and restaurant, which utilizes much of the farms resources is instrumental for the organic farming to-day. The same can be said about Case 2, The Mill. Case 5, Farm with CSA, sells both in the conventional food system and in the CSA. The CSA is new, but gives an addition to the income that ease part of the loss of the potato market, and has potential for growth, at least technically. In Case 6, the Partisan,

the farmer sells only milk via the conventional system. For him the alternative sales networks are imperative to keep him going as a farmer.

Knowledge transfer

It is not clear if some of the AFNs serve as agroecology knowledge sources for some of the farmers to-day. For the other way around it is more obvious; the consumers may learn something about sustainable agro culture by taking part in farm activities.

All of the farmers (Case 2, 4, 5 and 6) have some education in agro culture and/or have been brought up on a farm. The two that have transformed their farms from conventional to organic many years ago (5 and 6), had very good help from other farmers in the neighbourhood that had done the same before them. The partisan farmer in Case 6 have been on study tours both to Veflingstad (Case 5, Farm with CSA) and to Fokhol, Fokhol being a biodynamic farm in Stange in the near vicinity to Veflingstad (Case 5), but that is now some years ago.

The Norwegian Agricultural Extension Service is proved not that relevant (Austvoll, 2014) as research institutions with easy accessible websites where farmers may find practical advice and also connect with other experienced farmers and get advice for free. The famer in Case 5 with CSA told that he found help via the website for Agropub and the farmer in case 6, the Partisan farmer, clearly wasn't very keen on calling the extension service for help, even if he is a member of that service.

None of the informants mentioned YouTube where there is a lot of information about farming. This seems to be an untapped resource for information for the farmers.

In Case 5, Farm with CSA, the members have communicated to the farmer a wide range of different purposes to become a member of the CSA. Some like the opportunity for fresh air and the bicycling tour to the farm, others come to get the fingers into the soil, and some want to give their children an experience of how food is grown and where it comes from. It is not unrealistic to think that among the CSA members, there may be one with knowledge in biology, one in chemistry, one in plant science and so forth. Together with the farmer they could form a group for discussion of a wide range of problems and solutions for the success of the CSA. Similarly, the consumers who are taking part in CSAs should not only be on the receiving side for transfer of agroecology knowledge. In CSAs where the consumers are taking active part, consumers become co-producers or pro-sumers (Brunori et al., 2012;

Renting et al., 2012, Veen et al., 2012). Reciprocity depends on willingness from both consumers and farmer to participate.

The farmer in Case 2, The Mill, are transferring knowledge of organic farming of grain to farmers that think about converting to organic. He also cooperates with the suppliers by involving them in experiments with heritage grain. He is instrumental to growth of organic grain farmers in the area.

The Farmer in Case 6, Partisan farmer, has a woofer network that includes both Norwegians and Czech and Slovakian students. The Norwegians that take contact with him does that 'to take care of the last Norwegian farming'. The students come to learn how to farm in the traditional way that he provides deep knowledge about. His teaching thus has impact also outside of Norway.

Information technology plays an increasingly important role in knowledge transfer, farmer-to-farmer, farmer-to-consumer and consumer-to-consumer.

Problems with growth

Among the cases in my study, there have already been some difficulties due to growth of the networks. The self-growing community in Case 1, grew with a lot of new Facebook groups as offspring of the main group, but the centre of the network was too weak to become a centre of translation. Case 2, the Mill, has a need for more suppliers and to achieve that, they need to transcend the image of local that they have had until now. This calls for development of a new vision for The Mill so that values, purposes and goals (Collins and Lazier, 1992) are in harmony. For the Buyers' cooperation in Case 3, the problem has been to secure that everybody gets the same sorts and amount of vegetables in their bags. Since some of the farmers they buy from have to small amounts to offer, the core group (group leaders) will try to get an agreement with the members that the content may vary. From Kummer et al. (2015) we know that growth of Box-schemes may lead to the exclusion of small suppliers. For Case 4, Farm and Restaurant, there has been some problems with growing enough food themselves and thus have had to buy some potato from other organic farms. For now they buy the meat, but have plans for starting with meat cattle. For the CSA, the food network is still very new and has room for expansion. However, according to ANT, it is need for strengthening the translation mechanisms to keep the network stable. (Law, 1992; Latour 1996). Case 6, Partisan farmer, has reached the limits for the amount of produce. He has worked long term to get the consumers to buy more parts of the animals, as heart and liver and have had some

success with that. He has also had success with roasting of the barley before milling, which gives extra quality for porridge. He may still be able to get better paid for some products if he can add some extra qualities to them.

One thing that happens to some of the AFNs when they grow is that it becomes necessary to separate the AFN from the farm, and register it as a separate legal unit, for example a limited company. The integrated AFN of yesterday becomes a separate SME (Small and Medium Enterprise) to-day. One reason for this is the Norwegian financial system where an individual may go bankrupt, but never get free of the debt, in contrast to the rules for limited companies. As there may be need for investments, and along with that, bank loan, one may ultimately risk losing the farm. Separating the AFN as a legal object of its own can be a solution. Also, it may be easier to get a loan for an SME than for a private person. This has been the case at least for Case 4, Farm and restaurant and for Case 2, The Mill. The transformation from in-farm activity to separate entity makes the boundary between the farmer and the middleman somewhat blurred.

AFN longevity

One of the research questions is if the AFN is relatively stable, to be relied upon.

To discuss the matter of stabilization, I turn again to ANT, to the part of the theory that discusses power in the networks (John Law, 1992; Bruno Latour, 1996) and for now forget that his may be controversial to the ideas of equality, cooperation and democracy in AFNs. I see longevity as a better word than stability, making room for continually change. AFNs can then be seen as translation centres, that draw other resources to them by use of translation mechanisms like offering safety, comfort, ideology, vision, identity, or whatever means that can enrol and mobilize other networks into supporting the AFN. We may ask which translation mechanisms are in use in the AFNs and how the translation may be strengthened. From the cases we can map out several translation mechanisms that are in use:

- Some values and purpose statements
- Environment; fresh air, green fields, trees, flowers, pollinating insects, birds
- Cultural heritage; Farmed fields, houses and barns
- Cattle, animals
- Fresh Food, meat from grass-fed cattle
- Good Health
- Work-outs

- Knowledge (seminars, explanations of field processes and self-growing processes)
- Socializing in general and special events.

One of the strongest translation mechanisms is that of a vision that people want to be a part of. None of the farmer-owned networks, or the self-growing community or the buyer co-operation has a well-developed vision according to Collin-Porras framework. According to Collin and Lazier (1992) vision is not only a picture of an ideal future, but consists of values + purpose + a goal. All of the farmers in this study may gain from working with their visions. To-day, some have a set of purposes, but say nothing of the core values. Other have values, but no clear goal and so on.

Working to strengthen the vision (value, purpose and goal) may be a source for possible development of a stronger cohesion of the group, but also for democratic changes. Many different translation mechanisms are in use. It is now a question of ongoing translation.

Living with integration into the mainstream food-chains

Many AFNs, also most of the cases in this study, sell part of their produce directly or indirectly to the mainstream food-chains.

Supporting AFNs where produce from the farm is transported into the mainstream food-system can be seen as supporting the embedding of the farm and the farmer in the mainstream food system. Since we according to ANT may view the soil and the farmer, the fields and the cattle as part of the same network, in consequence the whole farm, the AFN and the AFN consumer as well become integrated in the global food system. It is a paradox that the consumers who turn their back to the mainstream food-system, at the same time comes to support it. State regulation of the milk market has led to a forced mix of the mainstream and the alternative food systems. The discussion between pragmatism and purism is still going on (Maye and Kirwan, 2010) but the goal may be different for different groups.

The mainstream food-chains of Norway are as deeply intertwined with the global food system as any. But Feagan says that ‘it is clear that global interconnectedness and some level of permeability is and will be the norm.’ and that any local food system should be aware of any tendencies of xenophobia, ‘purity’ aspirations and anti-democratic orientation.

It is possible to see that some of the AFNs may be utilizing an opening in the volume and price regulation. I think that is an interesting position. Weaknesses in the ‘conventional’ food

system can be explored to make room for alternatives (Hendrickson, M.K. and Heffernan W.D, 2002).

Revisiting the research questions

The first question is about the AFNs contributions to the farmers' resilience. For the farmers in the study, the AFNs clearly are adding to the farms' economical sustainability, from adding something to being the whole business.

All the farmers in this cases use AFNs trying to get better paid for their product and other input resources (houses etc.) but have different starting-point and different means. The mill that was an add-on to the farm developed into a disconnected business where the producer-consumer link is broken but is still giving a valuable added income to the Farmer and his family. For Case 4, The Restaurant, the utilization of 75% of the fully farmed land give a handsome income. For case 5, CSA, the income is good and have potential to become even better. For the partisan farmer in Case 6, based on the CSA's potential income per da and compared with the land use for case 6, the income from Farmer's market and direct sales of meat, is as good as that for the CSA. For case 6, the partisan, the income from the AFNs is instrumental for the farmer to stay farming at all, but have limited possibilities for growth.

Resilience is not just about money. The AFNs in Case 3, Buyers' cooperative, the CSA in Case 5 and the AFNs in case 6, all gives the farmers a flexibility that they feel they need and they appreciate. For the farmers in Case 5, CSA and Case 6, the Partisan, appreciation is clearly part of what the farmers get from the AFNs.

Question 2 is about the contact between the farmers and the consumers. The meanings attached to the meeting between producers and consumers from the farmers' point of view are that of identity, shared values, and of appreciations, all within the *concept of social embeddedness.*

The value-chain for Buyer's cooperative in Case 3 does not differ very much from the value-chain for the conventional food-chains and does not represent a strong producer-consumer relationship. The members of the Buyers' cooperative do not meet with the farmers. Only the acquisition group(s) meets with or talks to the farmers on a regular basis. There is a yearly event with potato harvesting at one of the farms, but that may be too little for farmers and consumers that want a closer contact. The Miller in Case 2 (part farmer, part middleman) has some contact with consumers at the farm and by direct deliveries to local consumers. The

CSA clearly gives many opportunities for contact, but it may be a bit much for the farmer and a bit too little for each of the members, may be not now in case of a substantial growth. The partisan farmer in Case 6, are well off with meetings at Farmer's Market, at the slaughterhouse and in the farm.

Question 3 is about stability. This is partly about power in the networks. That is about who owns the networks and how they are organized. The self-growing community in Case 1 has been closed since the interview. This was no big surprise, since the lack of resources and physical appearance and the growth of many offspring networks via Facebook, represented competing translations to the main network. The secretary for the network has started a new network, but this time with members, member fees, house where members can meet and with a 'green library'. The Mill in Case 2 and The Buyer's cooperation in case 3 is organized as cooperation according to Norwegian regulations with a board. The Mill has a very strong physical presence with functions that are important for the other grain farmers that are suppliers to the mill. The Buyer's cooperation has a member fee and a yearly fee in addition to the payments for the food and that represent a sort of translating mechanism. They also have 10 guiding principles that state the purpose and modes of operation that act as translation mechanism.

Case 4, Farm and restaurant, has very strong physical presence, which is a translation mechanism. So has Case 5, the CSA. The member fee for the CSA is for one year at a time, which may lead to some dropouts of members and the need for enrolment and mobilization of new members.

Both Case 5, CSA and Case 6, Partisan, deliver to the farmers' cooperation which again delivers to the mainstream food-chains. For this food network, that the farms clearly are parts of, the powers lies with the farmers' organizations and the Ministry for Food and Agriculture.

Case 6, the Partisan farmer, is in direct contact with the meat customers and they have to pre-order the meat. A written list acts as a contract and a translation mechanism. For Farmer's Market, it is the organization Farmer's Market that owns and run the market and that has the power in that sales network. Within that network, the Partisan farmer has his own network of consumers that value the quality of the food he sell, and this is also a translation mechanism, although weak, because of the easy opportunity for competing translations.

Farmers can explore the situation of power in the AFNs and deliberately construct translating mechanisms to strengthen the farmer's power in order to build a network with longevity.

Reflections about the study

The field work was very interesting, but could have been even more so if I could have revisited the informants for more conversation about some of the questions, especially about how they respond to my discussion of power in the networks.

REFERENCES

Altieri, Miguel A. (1995) Agroecology: The Science of Sustainable Agriculture. Westview Press, Boulder, CO.

Altieri, Miguel A. (2000) Modern Agriculture: Ecological impacts and the possibilities for truly sustainable farming, http://nature.berkeley.edu/~miguel-alt/modern_agriculture.html (last retrieved 2015.06.10)

Austvoll, Helene Klingsholm (2014) Alternative Food Networks Among Farmers in Norway: A Case Sudy on the Potential for Expansion. Master thesis, 30 credits, Norwegian University of Life Sciences, Faculty of Veterinary Medicine and Biosciences, Department of Plant Sciences.

Barker, Debbie (2007) The Rise and Predictable Fall of Globalized Industrial Agriculture. The International Forum on Globalization.

Baxter, P. and Jack, S. (2008) Qualitative Case Study Methodology: Study Design and Implementation for Novice researchers. The Qualitative Report, Vol. 13, number 4, 544-559. http://www.nova.edu/ssss/QR/QR13-4/Baxter.pdf

Bland, W. and Bell, M. (2007) A holon approach to agroecology. International Journal of Agricultural Sustainability 5(4), pp 280-294.

Born, Branden and Purcell, Mark (2006) Avoiding the Local Trap. Scale and Food Systems in Planning Research. Journal of Planning Education and Research 26: 195-207.

Brunori, Gianluca, Adanella Rossi and Francesca Guidi (2012) On the new social relations around and beyond food. Analysing consumer's role and action in Gruppo di Acquisto Solidale, Sociologica Ruralis, Vol. 52, 1-30. Blackwell Publishing Ltd.

Braudel, Fernand (1982) Det möjligas grenser. Civilisationer och kapitalism 1400-1800. Bind 1. Gidlunds, Stockholm 1982.

Buckwell, Allan, Jan Blom, Patrick Commins, Bertrand Hervieu, Maarkus Hofreiter,

Cresswell, John H. (2003) Research Design. Qualitative, Quantitative and Mixed Methods Approaches. Sage.

Heino von Meyer, Ewa Rabinowich, Franco Sotte and José Maria Sumpsi Vinas (1997/archived 2006) Towards a Common Agricultural and Rural Policy for Europe – Report of an Expert Group http://ec.europa.eu/agriculture/publi/buck_en/part.htm (Last downloaded 2015.06.10)

Collins, James C. and Lazier William C. (1992) Beyond Entrepreneurship. Prentis Hall.

De Schütter, Olivier (2010) Report submitted to Human Rights Council. (UN A/HRC/16/49)

EU (2006**), 2006/144/EC**, Community strategic Guidelines for rural development (programming period 2007 to 2013) http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32006D0144
(Last download 2015.06.10)

Feagan, Robert (2007). The place of food: Mapping out the 'local' in local food systems. Progress in Human Geography 2007, 31:23. DOI: 10.1177/0309132507073527.

Francis, C., Lieblein G., Gliessmann S., Breland T.A., Creamer, N., Harwood, R., Salomonsson, L., Heleniuis, J., Rickeri, D., Salvador, R., Wiedenhoeft, M., Simmonds, S., Allen, P., Altieri, M., Flora, C. and Poincelot, R. (2003) Agroecology: The Ecology of Food Systems. Journal of Sustainable Agriculture, 22:3, 99-118. Electronic publication, downloaded 2009.06.17.

Galiato, F., Paffarini, C., Musotti, F., and Chiorri, M. (2011) Institutional embeddedness in Organic Farming Systems, Proceedings in System Dynamics and Innovation in Food Networks 2011, 399-408

Gonçalves B, **Perra, N., Vespignani, A.** (2011) Modeling Users' Activity on Twitter Networks: Validation of Dunbar's Number. PLoS ONE 6(8): e22656. doi:10.1371/journal.pone.0022656

Goodman, D. and M.K. Goodman (2009) Alternative Food Networks. Elsevier.

Grande, Elin Rømo (2009) Eating is an Agricultural Act. Community Supported Agriculture (CSA) in Norway. Norwegian University of Life Sciences, Department of International Environment and Development Studies (NORAGRIC), Master Thesis, 30 credits.

Granovetter, M.S. (1973) The Strength of Weak Ties, Amer.J. of Sociology, Vol. 78, Issue 6, May 13 60-80.

Hendrickson M.K. and Heffernan W.D. (2002) Opening Spaces through Relocalization: Locating Potential Resistance in the Weaknesses of the Global Food System. Sociologia Ruralis, Vol. 42, Number 4.

Hinrichs, C. Claire (2003) The practice and politics of food system localization. Journal of Rural Studies 19, 33-45.

Hvitsand, Christine (2016). Community supported agriculture (CSA) as a transformational act – distinct values and multiple motivations among farmers and consumers. Agroecology and Sustainable Food Systems, V0l. 40, no. 4, 333-351.

IIASTD (2008) Agriculture at a Crossroads. http://www.grida.no/graphicslib/collection/iaastd-international-assessment-of-agricultural-science-and-technology-for-development (Last revisited 2015.06.10)

Jaklin, Ulrike, Susanne Kummer and Rebecka Milestad (2015). Why Do Farmers Collaborate with a Food Cooperative? Reasons for Participating in a Civic Food Network in Vienna, Austria. International Journal of Agriculture and Food, Vol. 22, No. 1: 41-46.

Jarosz, Lucy (2007) The city in the country: Growing alternative food networks in Metropolian areas. Journal of Rural Studies, doi: 10.1016/j.jrurstud. 2007.10.002.

Kloppenburg, Jack, John Hendrickson and G.W. Stevenson (1996). Coming in to the Foodshed. Agriculture and Human Values, Vol. 13, no.3.

Kummer, Susanne, Petra Hirner and Rebecka Milestad (2015). How growth of a local organic box scheme influenced supplying farmers. Acta fytotechn. Zootechn. 18, 2015 (Special Issue): 83-85. http://dx.doi.org/10.15414/afz.2015.18.si.83-85 .

Kvale, S. (2007). Doing Interviews. Sage.

Latour, Bruno (1996) On actor-network-theory. A few clarifications plus more than a few complications. Soziale Welt, Vol 47, 369-381.

Law, John (1992). Notes on the Theory of the CTOR Network: Ordering, Strategy and heterogeneity. Centre for Science Studies, Lancaster University.

Lockie, Steward (2008) Responsibility and agency within alternative food networks: assembling the "citizen consumer". Agric. Hum.Values 26, 193-201. Published online. Springer.

Marsden, T., J. Banks and G. Bristow (2000) Food supply chain approaches: Exploring their role in rural development. Sociologica Ruralis 4, 424-438.

Maye, Damian and James Kirwan (2010) . Alternative foos networks. Sociopedia.isa, DOI: 10.1177/205684601051.

Murdoc, J., T.Marsden and J. Banks (2000) Quality, nature, and embeddedness: some theoretical considerations in the context of food. Economic geography. Wiley Online Library.

NOU 2011:4 – Mat, makt og avmakt

Porter, M.E. (1985) Competitive Advantage. Creating and sustaining superior performance. The Free Press, NY.

Potts, Liza (2008). Diagramming with Actor Network Theory: A Method for Modeling Holistic Experience. IEEE. 978-1-4244-2086-/5/08.

Renting, Hank, Terry K. Marsden and Jo Banks (2003) Understanding alternative food networks: Eksploring the role of short food supply chains in rural development. Environment and Planning A, Vol. 35, 393.411.

Sonnino, R. and Marsden, T. (2005) Beyond the divide: rethinking relationships between alternative and conventional food networks in Europe. Journal of Economic Geography 6, pp 181-199.

Terragni, Laura, Hanne Torjusen og Gunnar Vittersø (2009) The dynamics of alternative food consumption: context, opportunities and transformations. Anthropology of food (online), S5. URL:http://aof.revues.org/6400

TNI – Transnational Institute, Agrarian Justice Programme (2013) The Global Land Grab. **www.tni.org**

Venn, Laura, Moya Kneafsey, Lewis Holloway, Rosie Cox, Elisabeth Dowler, and Helena Tuomainen (2006) Researching European 'alternative' food networks: Some methodological conciderations. Area 38.3, 248-258

Watts, Natasha and Ivan R. Scales (2015). Seeds, Agricultural Systems and Socio-natures: Towards an Actor-Network Theory Informed Political Ecology of Agriculture. Geography Compass 9/15 (2015); 225-236.

Wezel, A., S. Bellon, T. Doré, C. Francis, D. Vallod and C. David (2009) Agroecology as science, a movement and a practice. A review. Agronomy for Sustainable Development. Available online at: www.agronmy-journal.com.

Wibbelmann, M. et al. (2013) Mainstreaming Agroecology; Implications for Global Food and Farming Systems. Centre for Agroecology and Food Security Discussion Paper

Yin, R. K. (2009) Case Study Research. Design and Methods. Sage.

Yin, R. K. (2012) Applications of Case Study research. Sage.

APPENDIX

In the appendix the summary of each case is found. The texts in the summaries are approved by the informants.

After each of the summaries, value-chains and Collin-Porras framework some statements from each of the cases are placed. The value-chains in the appendix (Case 5 and 6) are not coordinated with each other.

CASEBESKRIVELSER

Case 1 MAJOBO - A self-growing community

Majobo is an offspring of Gaia:agenda, which was an initiative from architects, and others, investing time and energy to 'make our beautiful planet more sustainable'[10], as stated in an early website for the initiative. One aspect of this was the zero energy buildings, but the goals reached further.

Gaia:agenda aspired to be[11] 'a display window for a sustainable lifestyle. … In 2012-2014 we focused on "Food and soil where you live"', (In Norwegian easily abbreviated to MaJoBo.) and continues:

'MAJOBO invites to a national "dugnad"[12] for organic and local food. The goal is a broad debate and increased consciousness for organic and local food and to motivate organic growing in the city and in the farmland.'

According to the website[13] for Majobo, 'Majobo is a network organization that inspires to action, and work for local and organic food production because that is the future.'

'The vision for Majobo, is to:

- Create and spread Majobo-projects as a well-known concept in the whole of Norway

- Spread knowledge about the advantage of growing organic food

- Create good associations to the concept of "self-grown is well grown"'

It may seem a bit out of scope to include this organization in this thesis, but as one of the farmers that I have interviewed stated 'You don't have to go further back than 1950, then 60 % of all fruit and berries was produced by people themselves, in all of the western world, in peoples gardens and backyards. In all Europe and USA at least 60% was produced by people themselves.' Even if Majobo do not aspire to take over the country's food production, the idea is that everybody needs to grow something to be able to understand and value the work invested in food production. Actually, people inspired by the Majobo initiative, may form important networks for organic farmers along the road.

Majobo has a steering committee with people from academia, business, and organizations with connections to the area of agriculture and agroecology, a secretariat, a resource-group and a network of a large number of enthusiasts.

The secretariat is one person only, Helene Gallis, which are my key informant about Majobo.

[10] http://www.gaia-agenda.no/index.html (loaded October 2015)
[11] http://www.gaia-agenda.no/ (loaded October 2015)
[12] Norwegian word for a short time cooperative activity that is carried out on a (mostly) voluntary basis for the common good.
[13] http://majobo.no/om-oss-2/

The following information is taken from an interview I made with Helene on Juli 23 in 2015, if other sources are not stated.

The Majobo initiative was meant to be the main topic for Gaia:agenda in 2012, however, they soon realized they had launched a snowball and it became impossible to stop. Since then, Helene has been secretary for Majobo. The organization has changed a number of times since then, both in form and the way they work, partly because the interest has been growing.

The first activities in 2012 were a number of small network meetings, where they invited people to tell about their activities. The people that were invited came from the start-up peoples' already established networks. As an example, one of the founders, Marianne Leisner, had done seminars for school-gardens for many years. And 'the inner core' of Majobo searched through their networks to find people to invite to the network meetings. At the first meetings, 30-40 people came. From that group of people the network has grown, and network meetings were soon 50, then 70, and the largest network meeting was held with 200 people present.

The main activities that Majobo has are Growing for beginners, Seed exchange market and Plant exchange market.

Growing for beginners hosted 500 attendees this year (2015). The seminar is for everybody that hasn't grown anything since kindergarten and apparently, that is many. At the Seed exchange market, people come with seeds they have collected themselves. You may exchange as many small seed packets as you bring. It is really a trick to get people started, they learn that seeds are for free and they get a push to collect their own seeds and they thereby get an understanding that growing is a cycle. The plant exchange market is much of the same; you need to have a plant to exchange. This spring 700 seed packets and 500 small plants changed hands.

In addition, a number of classes and seminars are being held; add-on for the beginners course, soil seminar, seed seminar, hens in the city, beekeeping, permaculture and others.

Majobo has not organic growing as a precondition. Helene says:

'We try to be pedagogic, but people have to find their own way. However, no one will use pesticides and such stuff, because we do not use that in our courses. They learn other ways with us.'

Majobo is not only for city dwellers but for everyone that wish to grow something where they live. Some farmers have been ridiculing 'the balcony farmers' that believe they contribute to food production. But Helene has a different view:

'The important thing is not the food production as such, but people that has grown food themselves, no matter how simple, have experienced that it takes time and consideration and that a lot of things may go wrong, and they will have a better understanding and respect for Norwegian farmers and Norwegian food producers.'

‘Then you see it is logic that organic food costs more money. It is more mystical that some food is so cheap!’

‘And what has your growth or spreading-strategy been’, I asked. ‘Do you use seminars as spreading strategy?’ And before she can answer: ‘Are you one network or are there many?’

She answers:

‘Majobo is a fixed kernel and a big, big, loosely connected network. It is a very loose network where social media has a very important role. And that is what I see as the important difference from the organic movement that faded out in the 80-ies. The big difference is social media’.

Majobo had at the time of the interview; the website www.majobo.no with link to two facebook-sites; www.facebook.com/MAJOBOfan and www.facebook.com/groups/MAJOBOsvenner. Now it is only the Facebook sites that are in operation. The facebook site MAJOBOfan has 6.600 likes and the MAJOBOsvenner (Majobo friends) has more than 2.600 members. The last mentioned is a public group where everyone may post their pictures, Majobo-related links, questions and proposals.

Majobo’s dependence of and success with social media, made me rethink about networks. They don’t work like networks used to do. Social media sets a new standard for networking, not only for businesses, but for politicians, ideal organizations, universities, friends and families alike.

One feature with Facebook is that you may easily create new groups. So, if I have an idea, I can post it (as a member) on the public group MAJOBOsvenner and ask if anybody will join. And then we may just set up a new group for that idea. The network then expand totally out of control, still if you wish, you may stay in touch with ‘everybody’.

Identified networks

Network	Comments
Network among core persons	People that started MAJOBO
Core persons’ other networks	Networks that were activated to get people coming to the first meetings and other and new networks they may have
MAJOBO’s informational network on www.MAJOBO.no	Helene Gallis’s MAJOBO’s site with ‘followers’ (not there any more – things changes)
MAJOBOfan MAJOBOs	MAJOBO’s site on Facebook (6900 likes, February 2016)
MAJOBOs venner	MAJOBO’s ‘friends’ network on Facebook - open site/public group with members. (2652 members, February 2016)
Pop-up networks established by MAJOBO’s ‘friends’	Networks (Facebook groups) that have their offspring in MAJOBOsvenner.
Helen Gallis business network	Since the interview, Helene Gallis has established her

www.nabolagshager.no (neighbourhood gardens)	own business for services in connection with 'green city' idea. She has rented a small house in central down-town area for the activities, with room for seminars and room for a library.
People taking part in Majobo or Nabolagshager activities	This will for most be overlapping with other on-line relationships, as information about all activities, registering and payments are done via Internet.
MAJOBO's resource network	Network with persons from government, business and academia.
Nabolagshager's resource network	May overlap with Majobo's. Also people that are invited to give seminars and practical cources.
Other temporary networks	People that are met with in connections to applications for project funding and so on.

Fig.1 An overview over Helene Gallis' networks.

Organizational theory

As vision is a possible translation strategy (Law 1992), Majobo's vision is examined according to the Collin-Porras framework (Collins and Lazier 1992).

Vision according to Collin-Porras	**Comparison with Majobo**
Core values and beliefs - Guiding principles, philosophy of business and life	
Purpose - The fundamental reason for the organizations existence	'The vision for Majobo, is to: - Create and spread Majobo-projects as a well-known concept in the whole of Norway - Spread knowledge about the advantage of growing organic food - Create good associations to the concept of "self-grown is well grown"'
Mission - A bold, compelling, audacious goal	

Fig. 2 Majobo statements according to Collin-Porras' framework.

Case 2 Holli Mølle – The Mill

The case is based on an interview with the miller Trygve Nesje, when visiting his farm and mill.

The farm and the mill

Holli farm and the mill is situated approx. 17 km east of Ås and NMBU. The soil in this area is formed by ocean sediments and some strand area sediments laid bare after the land rose after the last Ice Age about 10-12 thousand years ago. Most of the soil is of very good quality, well suited for grain production.

The farm has 141 da of fully farmed land and 160 da of productive forest. Trygve Nesje has farmed conventionally since 1985. In 2000-2001 he made a transit to organic farming.

All the land is one plot around the house and buildings. The farmed land is divided in rotation plots and a six year rotation is used. Three years with grain, and three years with different green manure crop to let the soil have a rest, to better manage the weeds and to secure nitrogen in the soil.

However, the grain production is but a part of the activities on the farm. The other part, and eventually the main part, is the mill.

Trygve Nesje used two years to build the mill by himself and it was opened in the autumn of 2007. They have specialized in ancient/heritage grain species grown in Norway (and many places elsewhere) like Emmer, Spelt and Einkorn, all part of the Farro species. Wheat, Rye, Barley and Oats are also part of the product line. One common feature is that Holli Mølle specializes in local and short travelled heritage grain. All of which are grown organically, of course. And Holli farm delivers their grain to Holli Mølle as does a number of local/short distance other grain farmers.

The big conventional mill company is Felleskjøpet, owned by farmers, and is the actor that receive the most part of the grain grown in Norway. However, according to Nesje, organic farmers are so low in esteem to Felleskjøpet, it will take in every grain harvested by conventional farmers before even care to think of taking in organic grain. But the farmers don't have any drying capacity for grain anymore, because it hasn't been possible to maintain the grain dryers in each farm from an economically point of view. Therefore they cannot store the grain themselves. Holli Mølle however, has both drying and storing capacity and can receive grain directly from the fields from the network of organic growers Nesje has built. All the grain deliveries are tested for toxins by an independent third parties laboratory that also set the prices.

To have a local mill and one that have both drying and storing capacity is instrumental for organic grain farming in the area. And it is satisfying for the growers in more than this respect. They know that the grain will be used for food. And each packet with flour carries information about the grower, with name and address. This is done to make the farmer more visible and to make them more proud. Nesje is also working with Oikos, a body working to promote organic production, and meet together with Oikos when farmers that consider transit

to organic production ask for advice. Nesje then can tell about what Holli Mølle can offer and what the conditions will be. 'We are a part in the promotion of organic grain production as well as we are instrumental to take care of the producers we have' says Nesje.

The sales networks

Holli Mølle is presented in the web site for Bondens marked (Farmers Market) which is organized by the Norwegian Farmer and Smallholder Union. Here you will find contact information to the mill and also a link to Holli Mølle's own web site. On their web site, Holli Mølle gives information about the grain assortment and milling qualities, an overview over the producers that deliver to the mill and you may order.

Holli Mølle are supplier to both conventional and organic food chains and shops and has a diversity of sales networks that includes NorgesGruppen (owner of one of the three dominant food chains in Norway), the health product chains Life and Sunkost, a number of shops outside of any food chains, food subscription businesses, farm outlets, bakeries and private persons that buy independently or together with friends and neighbors.

Holli Mølle takes care of a lot of the distribution themselves. Three long distance distribution routes serves Trøndelag and Møre og Romsdal counties, Sørlandet (the south of Norway) an Bergen area. Bergen is Norways second largest city. One medium distance route and one short distance rout are in place, whereas the short distance covers pat of Vestfold county and Oslo. In the near vicinity, Holli Mølle distributes a lot directly to private persons, directly at the door. It may be one person, a group of friends that order together or a kindergarten.

'We come as the old milkman. We think that is cool. And when I deliver to a kindergarten, then I come through the kindergarten with a sack of flour on my shoulder, and have a bit of flour stains, and then; "Oh! There comes the Miller". And when we make a customer happy with that sort, they post it on Facebook, and they talk to 10 of their friends about it. And then we get them as customers as well.'

However, direct delivery is only possible locally. Deliveries to other areas and outside the normal delivery routes, are managed by local transport businesses in the various areas.

One type of relation is what Nesje prefer to call 'bridges'. One example is a shop on the west coast that they know via Nesje's daughter in law. The shop has access to the whole assortment from Holli Mølle, and is supplied once a month. If the customers would like to order 10 kg or 25 kg of some of the products, they can order via the shop, the shop send the order to Holli Mølle, and they deliver on the ordinary route. In that way, they may have contact with one customer and at the same time reach many.

It is a goal to make most of the deliveries through wholesalers. Most of the wholesalers are served via the ordinary delivery routes. Asko is wholesaler in NorgesGruppen, Vallidus engros for the various Life shops and Økogrossisten for the Sunkost shops. The various shops order to their wholesaler and get the products from them together with everything else they order from the wholesaler.

The knowledge networks

When asked, Nesje says he has no specific knowledge network. Occasionally he may join a seminar, but the main source of information is the capacity to continually absorb and make use of own experience from the field, both from growing grains and milling.

'I have two weeks of vacation. I work with grain 50 weeks every year. I don't want to focus on that the 51st week as well. I rather go to my cottage where I can go boating and fishing and relax. Eat prawns.'

However, he goes to Biofach in Nürnberg in February each year, 'The world's biggest congress for organic farming'. He also considers inviting some of 'his' farmers to join.

'Everything happens there. We spot new trends, make deals. It will become a more conscious strategy eventually, also to invite farmers to more sharing of knowledge and experience.'

'And if I get an idea, I ask one of the farmers to take out 20 da (so that we may test it)'.

However, as shown in the following, there are a lot of knowledgeable people connected to the farm and the mill.

The business and organization arrangements

Nesje about the start; 'We started the mill as a supplement to the farming. It took two years to build the mill and it was opened in 2007. It was favorable in regard to monetary development support. It released some money from local area development funding. We got some support from Innovation Norway both in 2007 and 2008. Since then, we have had no support from the government. We have done everything with our own means.' They risked everything by investing 6.5 million Norwegian kroner in the mill in 2005-2006 and had negative results many years. To get on, they had to separate the mill from the farm. 'No one wants to invest in a single person company. When the turnover is one and a half million Norwegian kroner, it may be included in the farm, however, when the turnover becomes 12 million kroner, it doesn't make sense.' The risk involved with the mill will then be a risk to the farm as well. The mill was separated from the farm as a limited company in 2010. It was hard times. In 2012 they nearly went bankrupt. However, from 2013 and onwards, the results have been ever better. Nesje has sold his shares (only shareholder) in the mill company and established a holding company that now is the owner of Holli Mølle. The farm owns the buildings and the mill pays a monthly rent. Nesje and his four children own 90 % of the shares. 'Then we have an incredibly professional director of the board that owns 10 %. We have done a lot of the necessary professionalism.'

'It has been many sleepless nights, but now I am not afraid any more', Nesje says.

Part of the professionalism has been to partly automate the mill. The last project is new packaging machinery which is now in place (March 2016). They found people to help with that but did a lot themselves.

The people working in the mill

Much of the success they have had recently is thanks to the use of approx. 4.5 work years of very skilled people. Nesje himself is employed as the manager of the mill and responsible for the daily operations. He has background from IT consulting before he took over the farm. Both his son and daughter in law have their master degrees and work in the industry and also have their duties on the mill. Part of the automation work is done by the help of a Swedish guy that are working part time at the mill and according to Nesje, he is a genius with automation. Then the mill offer part time work training to immigrants and refugees through the social services, where the social services pay a part of the wages. However, when the automatic packaging machine is set in operation, the less qualified jobs will diminish. It will be possible to expand the production without hiring more people.

The way forward - Satisfying the customers

To be able to utilize the drying, storing, milling and packaging capacity, they look for ways to grow.

To be able to grow, keeping the customers happy and being in touch with markets needs and trends is vital. 'It is crucial to deliver good quality and to be clear on what you stand for,' Nesjar says. 'However, in all communication we stress that we deliver short travelled, use only organic grains and emphasize heritage grain species. This we have communicated year after year, and the customers experience that we deliver accordingly.' The most important is to deliver good quality always.

To begin with, they were determined that they only should deliver Norwegian products. Now, they still have a preference for Norwegian grains, however, it depends on the quality. If a bakery gets one batch where the dough doesn't raise well, they will switch to another supplier at once. Because of the need for high quality grains, the supplier network is now expanded with farmers on the Swedish side of the boarder (not very far). 'And that is former Norwegian land' says Nesje with a laugh. 'The main thing is we have to deliver quality every day.'

The fact that they are small and able to evaluate each party of grain separately, let them utilize the grain better than the big mills.

A few words about economy

The farm has 141 da (approx. 35 acer) of fully farmed land used for organic grain. Because of the rotation scheme, half of the land is used for grain any year. According to the national agreement for farming support, the farm receives 500 NOK per da, which will be NOK 70,500. Then the price to the farmer is NOK 3 per kilo grain (approx..) which gives NOK 126,900. The sum is NOK 200,000 which is about half a normal wage in Norway. Then there is rent from the mill and dividend. However, it is not necessary very lucrative and explains why many Norwegian farmers have jobs outside the farm.

The mill, if we use the mills actual capacity to-day as a starting point, the mill receives 1 200 000 kg of grain. If every delivery is of good quality for humans, and all is Norwegian grown grain, the mill will receive NOK 1.50 per kilo in a special support scheme for

Norwegian grain, sum NOK 1 800 000. In addition, the mill will earn a difference between what the farmers gets from the mill and what the mill gets from the market.

The turnover for the years 2014, 2015 and 2016 (anticipated) was NOK 7 m., 10.2 m. and 15 m. The net results were NOK 0.5 m., 1.2 m. and 1.5 m.

The networks

No	Networks	Comments
1	Bonde-og småbrukarlaget	Norwegian Farmer and Smallholders' Union
2	Debio	Organic certification organization
3	OIKOS	Mandate to promote organic farming. Supported by farmers organization and Norwegian government
4	Farmers that are grain suppliers to the mill	Suppliers of grain to the mill, of which some cooperate in experiments with new grains.
5	Shareholders in the mill (family and external shareholder), shareholders board	Co-owners in the mill. High competence in various areas
6	Customers that by directly from the farm shop	
7	Local people that by directly from the mill and have the products delivered at home/kindergarten etc.	
8	Felleskjøpet	Norwegian farmers' cooperation for grains. Operates mainly for conventional farmers. Buyers of grains that doesn't keep human food quality from organic farmers for use in animal food production.
9	Wholesalers in the conventional food chain, that is for the various chains that are owned by one of the three main food chain owners in Norway (Norgesgruppen, Rema, Coop)	Asko is the wholesaler in Norgesgruppen. The wholesaler is between the producer and the shops. The shops in a chain typically order to the chain's ordering office which forwards the orders to the wholesaler. The wholesaler distributes the products to the various shops.
10	Wholesalers that specializing in health food and organic products	Økogrossisten is the wholesaler to Sunkost. Vallidus engross is the wholesaler for Life.
11	Shops, bakeries and private persons that are on the car delivery lines, either directly or via other freight operators	
12	Wholesalers that order drying and milling of special grains they buy themselves.	Separate value-chain.
13	Bakers that order flour mix after their own recipes that Holli Mølle keeps.	Separate value-chain.
14	Local organic farmers that have both cattle and grains	Customers for special tailored production of cattle feed. Separate value-chain.

15	Bank	Give loans, credits
16	Innovasjon Norge (Innovation Norway)	The Norwegian Government's most important instrument for innovation and development of Norwegian enterprises and industry. Supports companies in developing their competitive advantage and to enhance innovation.
17	NAV (The Norwegian Labour and Welfare Administration)	Gives support to employers that employ people with disabilities of different kinds that otherwise would not been offered jobs.
18	Employees from NAV	Immigrants and refuges
19	Other employees	The Swedish guy. Family members (shareholders)
20	Information technology	Website, Facebook with 2.100 likes

Fig.1 A number of the networks for Holli Mølle

Collin-Porras

Vision according to Collin-Porras	**Comparison with Holli Mølle statements**
Core values and beliefs - Guiding principles, philosophy of business and life	We are dedicated to traditional grain species that haven't been treated in laboratories. The experience shows that these often have contained more nutrients. We are dedicated to short traveled food.
Purpose - The fundamental reason for the organizations existence	When you are baking bread, we want you to know where the flour comes from, how it is treated and how it is grown. Each package of flour is marked with when the grains were milled, the durance period and which farm it came from.
Mission - A bold, compelling, audacious goal	

Fig. 2 Holli Mølle according to Collin-Porras. I

Case 3 Oslo Kooperativ – Buyers cooperation

Oslo Kooperativ was started by a core group in April 2013 with the intention of being an alternative to the big food chains.

I interviewed Amalie Kvame Holm from Oslo Kooperativ in their main food delivery place, Mathallen (The Food Hall) in Oslo, August 13. in 2015. The place was very noisy and in the middle of a busy activity of handing out food bags to members of Oslo Kooperativ.

10 principles regulate the actions;

1. All food should be produced after organic/biodynamic principles.
2. Food should be produces as local as possible.
3. The food offered will be seasonal.
4. Fair and direct trade is supported.
5. The activities should be environmentally sound.
6. Oslo Kooperativ promotes knowledge about food and organic/biodynamic farming.
7. Oslo Kooperativ is economically self-sustained through membership fees, members work in the chain and through sales of food to the members.
8. Oslo Kooperativ has transparent operations and transactions and build trust in all production and distribution operations.
9. Oslo Kooperativ is local and accessible, also economically. The price of food should be fair both for producers and consumers.
10. Oslo Kooperativ is a working cooperation that works for the common good and the local community.

200 people attended the first meeting. The annual report for 2014 for Kooperativet shows that it has 1654 members and 150 peoples on a waiting list. People have to put in a request to be members, due to the need for planned growth.

All the work is carried out by groups. There are groups for; planning and buying food, group for buying and safe handling of meat and dairy products, internal and external communication, events, and a group for outbound logistics.

Oslo Kooperativ's mode of operation is that every other week one may order a bag of vegetables. There are monthly bags of meat or dairy products. The content of the bag is presented on the Internet site where one also orders two weeks in advance. The bag is then picked up in one of the three places in Oslo, where a working group take care of the logistics.

The members that are not part of any of the groups, take their turn in helping out with the outbound logistics; filling the bags, handing out bags to the various members that come to pick up, controlling against the list of orders, steadying up afterwards. See pictures.

To-day, February 2016, 15 farms are presented on Kooperativet's homepage. Among these is Holli Mølle, Case 2 in this thesis. As I checked now, February 2016, also Veflingstad farm which is Case 5 in this thesis is one of the farmers, delivering potatoes in week 6.

Oslo Kooperativ has been formally registered as a cooperative according to Norwegian law of cooperatives. According to the registration, Oslo Kooperativ is formally registered as

Kooperativet SA, with short name **Kooperativet**. The startup fee for members is NOk 250,- and there is a yearly fee of NOK 250,- as well. Then of course, members pay for each bag they order. Approx. one third of the members ordered a food bag per week/hand out. The annual result in added to the capital of Kooperativet SA.

Kooperativet aims at buying a little from many farmers rather than a lot from a few. Problems with the production due to cold weather etc. can be a problem. This summer there has been more flour (and honey and eggs) than vegetables in the bags until a few weeks ago. Last year the salad was available much earlier. There may also be some problems due to member growth. Until now, there has been a principle that all bags should be alike, with the same content. This is something that now is under pressure. The food acquisition group will have a much more flexible situation if the members approve that there may be different content in the bags in different hand-out locations. For example; broccoli in location 1, tomatoes in location 2 and 3. That will give more flexibility for the farmers to deliver what they actually have. 'It is a far better degree of freedom even then, than the big food chains can offer, that's for sure.'

The involvement with the farmers is first and foremost the job for the food acquisition group (inbound logistics). But there are other opportunities to meet with the famers. In the autumn Kooperativet invited the members to take part in potato harvesting at Alm Østre, one of the farm that delivers to Kooperativet. This is an annual event.

Networks

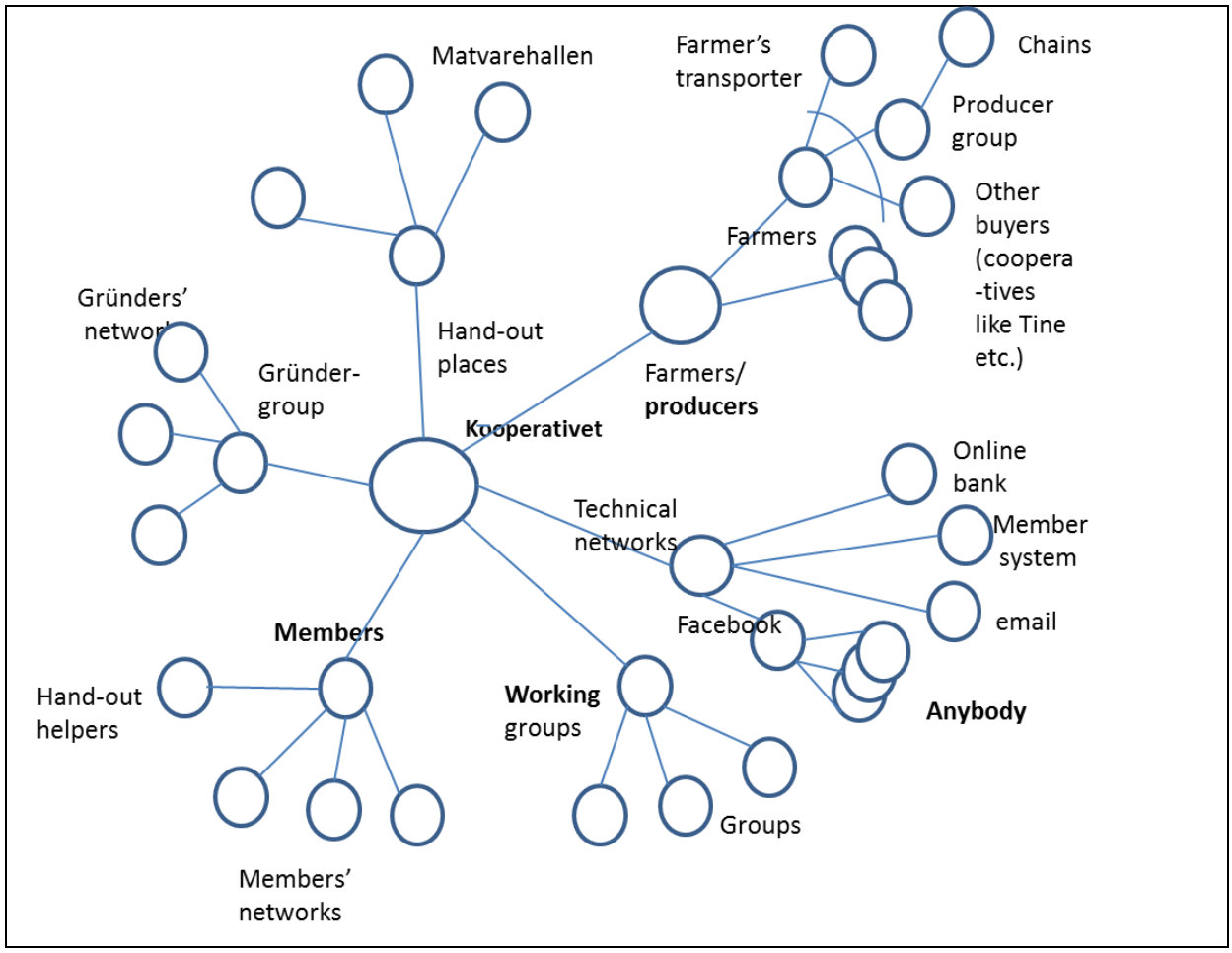


Fig.1 **A simple picture of networks in relation to Kooperativet.** The three-dimensional character of the network or the overwhelming actors of technology is not shown explicitly, only in some pieces.

Collin-Porras

Vision according to Collin-Porras	**Comparison with Cooperativet's principles**
Core values and beliefs - Guiding principles, philosophy of business and life	1. All food should be produced after organic/biodynamic principles. 2. Food should be produces as local as possible. 3. The food offered will be seasonal. 4. Fair and direct trade is supported. 5. The activities should be environmentally sound. 7. Oslo Kooperativ is economically self-sustained through membership fees, members work in the chain and through sales of food to the members. 8. Oslo Kooperativ has transparent operations and transactions and builds trust in all production and distribution operations. 9. Oslo Kooperativ is local and accessible, also economically. The price of food should be fair both for producers and consumers. 10. Oslo Kooperativ is a working cooperation that works for the common good and the local community.

Purpose - The fundamental reason for the organizations existence	
Mission - A bold, compelling, audacious goal	
Strategier For å nå mål	6. Oslo Kooperativ promotes knowledge about food and organic/biodynamic farming.

Fig.2 Kooperativet according to The Collin-Porras framework.

Case 4 Møystad farm – Farm and restaurant

For this case I interviewed Katrine Aalstad, the owner of Møystad farm. The interview was carried out on August 18. 2015. The main part of the interview was held in the big kitchen while Katrine was to and fro various tasks in the kitchen. Later on some student from NMBU came to do some weeding and we were all given a round-tour in the fields.

Case 4, as case 5, is located I Hedmark County, which has a total area of 725 km2 of which 101 km2 is farmed land. Most of this is formed in the geological period cambro-silur, which stretches from 410 to 550 million years back in time[14]. The soil is some of the best farming soil in the country.

Møystad farm has a very interesting history, stretching at least 1200 years back in time. http://moystadgard.no/index.php/gardens-historie/historie. The name (Møy = young/unmarried woman) indicates that it was an unmarried woman that took the initiative to establish a farm here. In the 1800, the farm was 600 da. In more recent history the farm was bought by Hedmark County and established as an experimental farm, because of its central location and fertile soil. Experiments with soil cultivation and different varieties of vegetables and grains were carried out and these are still going on in a part of the farm. Katrine and her husband Amund bought the farm from the Ministry for Agriculture in 2010, a total of 383 da, of which 225 da are fully farmable land. Katrine work as farmer and runs a restaurant for closed parties at the farm. Her husband work (in addition) 100% in an industry company.

Katrine says that the soil was very deprived when they started, much more than they had anticipated. In the period as experimental farm, the soil was tilled at least once a year. It will take time to restore the soil to a healthy state.

The production now is organic strawberries and raspberries, potatoes, grass and grains. They keep hens and plan to build a new stable for cattle (meat production). This year (2015) they expect 2,5 tons potatoe, 450 kg barley per da on 60 da's (27 tons) and the 100 square meters of strawberries yielded 100 kg in total. The plan for next year is to plant a new remontering sort that will give the double. The raspberries were eaten by deer this year.

The revenue from the products grown on the farm is negligible. The main income for the farm is from renting out of the farms buildings and from the restaurant. The restaurant has revenue of 1-1.5 million NOK of which the half is income for Katrine.

The restaurant is actually not only a restaurant, but a restaurant for small and large events and parties and a farm outlet where products from the farm and others are sold. The restaurant business uses rooms in the main house and in the converted barn. All the potatoes and vegetables are used in the restaurant business or sold from the outlet on the farm. The grain is sold to Strand Mill which also provides organic grain seed. Strawberries are used in the restaurant and some are sold to shops for organic products.

[14] http://www.naturarv.no/kambrosilur.386133-31978.html

The market contact is mainly via Internet. Møystad is part of a coalition of 13 farms situated around Mjøsa, Norwegian's largest lake. The coalition presents itself on Internet as '"Mjøsgårdene" – A Norwegian cultural heritage where local history and modern luxury unites.' A few citations:

'Our farms offer cafés, farmhouse shops, a variety of activities and adventures, accommodation with full pension or the possibility of cooking your own meals. We offer lunches, dinners, parties and conference facilities all year through.'

'In this particular area of Norway, the farms have always been an important meeting place for family, relatives, villagers, strangers and future new friends. Most of the farms were built with this in mind, making room for everyone, metaphorically and literally.'

'There's no need to ring the reception bell – you will be welcomed into our private homes and we promise to go the extra mile in order to make your stay at Mjøsgårdene an unforgettable experience..'[15]

In addition there is links to the farms' own Internet pages.

Pic. 1-2 **Left: The main hous at Møystad farm.** **http://www.moystadgard.no/index.php/gardens-historie/historie**	**Right: The barn, now used for seminars, events and parties .** Pictures by Kirsti
	

Every farm in the coalition is promoting each other by presenting leaflets from the various farms. Katrine leave handouts when she is bying food from other organic farms in the area, in particular a number of organic/bio dynamic farms; Alm, Fokhol, Veflingstad (Case 5) and Ommang which all has in-farm outlet and/or Community Supported Agriculture (CSA). However, the farmers are not used to promote their products, being used to deliver mainly to the farmers' cooperatives or directly to the wholesalers for one of the three monopolistic food chains in Norway.

There are many activities going on at the farm. One of Katrine's friends is giving yoga classes here. They are served breakfast when they arrive. When Katrine gives courses, there is also arranged dugnad, so everybody take part in some of the work at the farm. This is in order to communicate what it takes to make food, Katrine says. When people take part in activities on

[15] http://www.mjosgardene.no/english/

the farm, they will be familiar with the farm and the services provided, and this may results in more customers down the road.

I had an idea that organic farmers had some sort of network among them, but Katrine says that this is not the situation. Partly this is because even organic farmers are different from each other. She plans to use more perma-culture and establish an internal resource circulation on the farm. This is not the typical organic farming practice in this area. Two of the big organic farm in the area; Alm and Fokhol, also have focus on circulation, but being biodynamic, they have a different ideology (being antroposofs). And then again, some organic farmers use monocultures and deprive the soil in the same manner as conventional farming, says Katrine. She has tried to get some cooperation about cold storage on her farm, for further distribution to Oslo, but hasn't had any success so far.

Katrine buys meat for her restaurant from Veflingstad organic farm in the area (case 5), one ox at the time. Even so, she claims that they are not in a network, she look at the connection as purely a buyer-provider connection. She pays approx. three times the price than the farmers cooperation do. In her opinion, the farmer at Veflingstad could have had a good market selling meat to other restaurants, only he hasn't organized the sale for that. Farmers haven't been used to take responsibility for the sale the last 100 years, due to farmers' cooperatives for milk, meat, egg and grain. In some sense this may change now as some farmers start CSA on part of their land. Veflingstad has just started a CSA for vegetables and has got approx. 70 'partners'. This is not a Norwegian phenomenon, she says, 'but what people want, fruit and vegetables, are very work intensive productions or CO2-intensive with pesticides and chemical fertilizer. There are no other solutions. So, either you produce it in your back yard, which is the best, or you join a CSA and help the farmer. Else you will pay a high price.'

The organization OIKOS that promotes organic farming, she characterize as a 'city organization'. Debio, the certifying organization for organic farming is either not very popular with her. She does what she has to in order to keep the farm certified, but she absolutely refuses to certify the products. Why should she pay for not poisoning her products? 'If I should have Debio certification for everything, that would have taken the whole profit.'

As for using OIKOS and Debio for professional advice, she says that this may only be a question lather on, if she gets the time.

Her networks are among others; friends and contacts from her period working in the government and in the travel industry. She is a member of and elected representative for, MDG; the environment and green party. And, she continue 'I generally know a lot of people.'

Identified networks

No	Katrine's Actants/networks	Comments
1	The soil	
2	The houses	
3	The people renting the houses	Important source of income. Also their networks may be useful.
4	The machinery for the farm	
5	The coalition of farms	+ The other farms' networks, including their customers and (if utilized) the customers networks
6	Other organic farms in the area	+ Their networks, including their customers and (if utilized) the customers networks
7	Family	+ Family's networks
8	Friends	+ Friends' networks
9	Information technology with PC, Internet, mobile phone, email, Facebook etc. etc.	Anybody, known and unknown in the whole www.
10	Customers	+ Customers' networks
11	Politicians in own party and other parties	+ Their networks
12	Organic shops	+ Their customers
13	Bondens marked	(This I found out from their Facebook site) Random customers
14	Debio	Debio's networks and information they share with members

Fig.1 The table shows some identified networks at Møystad.

Collin-Porras

Vision according to Collin-Porras	**Comparison with Møystad's statements**
Core values and beliefs - Guiding principles, philosophy of business and life	Our philosophy is: what is good for our soil, is good for our farm, our planet and the health and happiness of our guests.
Purpose - The fundamental reason for the organizations existence	To provide short travelled food experiences in Møystad's beautiful rooms.
Mission - A bold, compelling, audacious goal	

Fig 2 Møystad according to Collin-Porras framework.

Case 5 Veflingstad farm – Farm with CSA

Veflingstad farm is situated in the vicinity of Mjøsa, Norway's largest lake and in the middle of the best farming land in Norway with black, rich, fertile soil dating back to cambro-silur. (See also case 4.) In this area people have farmed the land for more than 2000 years.

Aksel Melbye, now at the age of 53, was born on Veflingstad farm and has followed his parents as farmer on Veflingstad. The interview was carried out in the dining room, sitting at one side each of a traditional wooden table with a cup of coffee and a sandwich. Very quiet and with a view to the vegetable field which he has made for a new CSA he has started.

The farm is 314 da of which 284 is fully farmed land. Aksel took over the farm in 1993. It was then a conventional farm with chickens, pigs and monoculture grain production. Both the chicken and pig production were worn out and he had to do something with that anyway.

'I asked myself about the chicken production we have been running since I was a little kid; it sure was not good for the chickens. And it was not healthy for the farmer, with a lot of dust. And I was also in doubt whether or not it was healthy for the consumers.'

There are two farms in Stange area that had been organically farming and bio dynamic, for years and have had great influence on organic farming. (Alm and Fokhol farms.) They were consulted. Aksel joined with the farmer Trygve Sund on Alm farm during the winter 1994 and then he knew what to do. They started the transit to bio dynamic farming in 1994 and were fully converted next year. They didn't find it difficult, partly because of the support from Trygve Sund at Alm and Morten Ingvaldsen at Fokhol and partly because Aksel has worked with farming and in the farming community since his youth. They got their first four calves as a wedding present from Alm when Aksel and Alfhild married in 1995. To-day, the farm is certified organic (Debio).

Since then they have had milk production with delivery to Tine, potatoes with deliveries to Coop (chain) and later to ICA (chain). They also have had vegetable production with deliveries to the big chains, but this they found to unpredictable and have stopped that. For many years they have had yearly delivery of 70 tons of potatoes to ICA. Last year, however, they got a chock message; Coop had bought ICA. Now it is not certain that they can continue that delivery.

The cattle (oxes and old cows) are sold to one of the big slaughterhouses (Nortura). That is really a pity, because this is first class grass-fed cattle. Even if they get some little extra for organic cattle, it may be that the meat goes directly into the same production line as conventional farmed cattle. Aksel and his wife joined Alm and Fokhol and bought part of a local slaughterhouse in the hope that this could be fully organic. However, this was impossible to achieve with the old owners on board, as they continued with their old routines, and the shares were sold back to the old owners after some years. Aksel has tried to find other buyers for this first class meat, but has not succeeded in finding channels with the needed stability.

As for the price of the meat, it is not mirroring the cost. It is more a way of getting it sold than not. The value could have been the double, Aksel says, if they could find the right channels. Until now, the potato has been the motor in the economy. To mend the possible loss of income due to Coop's buying up ICA, they have started a CSA with a vegetable field of 25 da. With the fertile soil and perfect climatic condition in this area, this will give plenty of vegetables for until 200 persons from mid-summer and into the autumn. The price for a share (one person) is NOK 2200,- per year. Now there is 85 shareholders, and capacity to welcome more. The goal is to expand to serve 500 members.

The work in the vegetable field is done by the farmer and his two-three employees. Members may come and help on a voluntarily basis. The CSA members can harvest whenever they want, what they want, from the rows that are marked 'ready for harvesting'. They are also invited to get-together for planting in the springtime and weeding in the summer, most of all for the social side of it. The CSA was started last year with some funding from Innovasjon Norge. This also included classes in use of new social media. Veflingstad now has its own Internet pages at www.veflingstad.no.

The CSA for vegetables does not mean that delivery of milk and meat to the big actors will stop. Even if the price for the products is not sustainable, the subsidies make it worthwhile and necessary.

In addition to the work on the farm, full time for Aksel and part time for Alfhild, they both work outside the farm; Full time for Alfhild and part time for Aksel, both in the same hospital. Aksel help with patients that need a mature, secure person when they arrive. They have three children; one is 20 years old and in Stavanger, one is in high school and one in elementary school. The last one is taken by car to and from school every day. It is a busy life!

The resources

The basic resource of the farm is the rich soil and favorable weather condition. Cattle manure is blended with straw (from neighbors' grain production) and formed to a 'chain', 200 meters long in one of the fields. Every other day for a month the whole chain is turned. Then it will be almost like soil and is used as fertilizer, tilled down in the fields that are ready for tilling. In this way CO2 is stored in the soil.

Veflngstad's have 30 cows that are milked every day. They also have their own ox and a number of calfs. The cattle are the source of the valuable manure that together with straw make up the fertilizer for the fields.

They tend approx. 320 da grass fields, including some fields rented from neighbors. The potato field change place every year. The grass fields are tilled approx. every fourth year. Then legumes or barley is under sown as green fodder and will grow fast and be harvested before the grass has been long. At the same time nitrogen has been fixed in the soil. Then the grass will be cut later in the summer. The vegetable field has its own internal rotation.

Other resources on the farm are the houses, machinery and the people. In addition to the main house for the farmer's family, there is a house for his mother, one for shifting au pairs, and

one with room for two families, sometimes rented out, other times used for workers. There is a large barn for cattle and storage, one shelter for machinery, one workshop and one traditional, old storage house. The last mentioned is suitable for many activities and is also used to house lunch for the CSA members.

In addition to the farmers, there are two-three people working part-time on the farm, approx. two full-time working years. There are possibilities to house woofers and other part-time workers if needed, but for the time being this are ideas only.

One important resource is Stange Common Forest, 125 thousand da highly productive forest own by 2-300 farmers, organized as commons as Norwegian law requests. It works to enhance change and productivity in the farming and therefore the farmers are granted 75% back from the Stange Common for all they pay for wood building materials. For new build they get refund for each square meter of build.

The networks

Besides family network, Aksel has friends/networks bot among the organic and the conventional farmers. The conventional friends and colleagues not least, because he has grown up at the farm and worked in the farming community. The organic and conventional farmers belong to two different networks. The conventional network especially is not organized in any way, it is where he has his friends. And it is easy to get help, as for example with the straw for blending with cattle manure. For the most this is given for free. There is also help to get with machinery; when he are ready to set onions, one of his pals comes with his setting machinery, sets all the onions, get a cup of coffee and that's it. But of course, next time Aksel may be the helper.

The more professional advice networks are Landbruksrådgivningen and to some degree Debio, but Debio is more controlling. Agropub, the website for advise on organic farming, administered by Norsøk (Bioforsk) is very helpful. 'It is only to search for 'how to set garlic' and you have a lot of information in no time. You find other farmers that are experienced, you call, and you get all the help you need. I may call a farmer I never met and ask, we have a mutual language, and we share information. It is only to ask. It is almost an unwritten law that you give information. There is no competition in this.'

Both the organic and conventional professional networks are instrumental in keeping the farm going as an organic farm. Not at least the conventional network where he may get bot advice and lend machinery.

Tine, the farmers dairy cooperation, collects the milk and has most of the following value added processes. This is very efficient. Most of the cow and ox slaughter now goes to Gilde and Nortura, with some occasional exceptions (see case 4). Aksel has no plan for changing this. He has tried to get some deliveries to Oslo Kooperativet, but so far (summer 2015) without any success.[16] The potato deliveries to ICA has been a motor in the economy and

[16] He delivered potatoes to Kooperativet (Case 3) in week 6, 2016.

Aksel is looking for substitute for that. It is important to have regular buyers of all the 'mass products'.

Then it is the members of the CSA. Now there are 85 members, but this will change. A long term goal is to expand to 500 members. The CSA is the network that he feels shares his values and goals best. All the members are in favor of organic production, some in favor of local production. Some want to teach the children where the food comes from and some just like to take part in the weeding and the social activities.

The organic farming has some effect in the local community; the first 20 years they were laughed of, very few do that now. It was no doubt Trygve Sund at Alm that took the main toll. Now people see that it is possible to farm organic. It is also an example for young farmers that are taking over farms from their parents.

Innovasjon Norge was instrumental to get the CSA going. They applied for support and got starting help with Internet homepage and Facebook, marketing handouts etc. and money. The first marketing activity was to send a newspaper article to the local newspapers. That was very important marketing and for free.

Networks	**Comments**
The farm with all its' resources; the soil, the houses, the cattle	Physical presence that help attract CSA members
The Stange Common Forest	
Family	
Workers at the farm	Take part in the farming activities
Friends in the farming community	Helps with providing straw for blending with the manure
Friends/contacts in the organic farming community	Has been instrumental in the transition from conventional to organic farming
Colleagues in the hospital	
Tine – Farmer-owned wholesaler for milk/dairy products	Market regulator for milk. (Because of its dominant position it has a duty to deliver milk also to competitors. Collects all milk from Veflingstad. (30 cows)
Nortura – Farmer-owned wholesaler for meat and egg	Collect and slaughter most of the cattle ready for slaughtering.
ICA – Conventional Food Chain, now sold and integrated in the other three major Norwegian food chain organizations.	Used to receive 70 tons of potato from Veflingstad. At the time of the interview, Veflingstad was looking for a new wholesaler.
NorgesGruppen, Rema1000, Coop	Concventional and dominant food-chains that for the time being is blocking Veflingstads' potatoes from the market. According to Granovetter It may be incorrect to call it networks, however, they represent power structures with door-keeper function to the market.
Oslo Kooperativet – AFS, see Case 3	AFN in Oslo that is buying from a number of farmers. Veflingstad delivered potato to Kooperativet in week 6 this year (2016)
AGROPUB Norsøk (Bioforsk)	Website where it is easy to find professional help

Research organization	
Innovasjon Norge	Financed by ministries and public agencies. Help with advice and financing new activities. Helped Veflingstad with setting up website and Facebook side for CSA.
CSA members	85 members, each paying NOK 2.200,- per year. Different members have different reasons to join the CSA.
Local newspapers	Willing to write about local news.
Debio – Org. Certification Organization	Professional advice, but more controlling
Landbruksrådgivningen Norwegian Agricultural Extension Service	Professional advice, but for a fee. Has both a web-site and a Facebook side, but one has to log in to get acess to information.
Landbruksdirektoratet Norwegian Agricultural Authority	Administering state subsidies
Information technology; PC and other hardware, Internet with www, Facebook, email etc. Mobile phone.	Necessary for staying in touch with Veflingstad's CSA and for communicating to others that it is possible to become members.

Fig.1 Identified networks for Aksel Veibye, Veflingstad

Collin-Porras

Vision according to Collin-Porras	**Comparison with Veflingstad's statements**
Core values and beliefs - Guiding principles, philosophy of business and life	Food production should be healthy for the soil, the animals, the producers and the consumers.
Purpose - The fundamental reason for the organizations existence	
Mission - A bold, compelling, audacious goal	

Fig. 2 Veflingstad according to Collin-Porras

Friends in the organic farming community has been instrumental to the transition to organic farming. To-day, Aksel use the research organization Agropub's web to find professional help, that is; other farmers that have experience in practice from what he has questions about.

No	Value chain	Content for generic chain	Content for CSA	Content for sales to retailers, for example to Møystad (Case 4)	Alternative for sales to retailers
1		Farm activities F	Farm activities F	Farm activities F	Farm activities F
			Administering the CSA	Direct sales to Møystad	Direct sales to Møystad
2		Transport of products to storing facilities and processing units M		Transport of ox to slaughter-house M	Transport of ox to slaughter-house M
3		Storing/ processing M		Slaughtering and packaging M	Slaughtering and packaging M
4					
5		Transport to wholesaler M			
6					
7		Transport to retailer M		Transport to retailer/Møystad (inbound logistics for Møystad) M	Transport to retailer/Møystad (inbound logistics for Møystad) M
8				Processing M	Processing F2
9		Presenting for sale M		Presenting for sale M	Presenting for sale F2
10		Sales/ buying transactions M/C		Sales/ buying transactions M/C	Sales/ buying transactions F2
11		Transport to home C	Transport to home C		
12		Storing, processing and eating C	Storing, processing and eating C	Eating at the café/ restaurant M/C	Eating at the café/ restaurant F2/C

Fig. 3 The value-chains for the CSA and the direct sales of slaughtered ox to Møystad.

For both the value-chains, one difference from the generic chain is that the buying transaction between the farmer and the buyers (Members/Møystad) is done in advance, before any transport and processing.

For the two direct sales value-chains one difference is that in the CSA chain, the consumer meet with the farmer at the farm, in fact the members may have been consulted about what the farmer should grow. In the CSA the consumer take risk together with the farmer. The price for membership is relatively high, but the consumers buys not only the vegetables but also a social belonging with the other members by meeting them in the field and perhaps taking part in social events at the farm.

In the direct sales to 'retailers', there are two options; to view the retailer (Møystad) as a middleman, even if she is a farmer herself, or to view her as a second farmer. In both cases, the farmer from Veflingstad meets with a middleman between himself and the final consumer. The quality of the meal at the restaurant will be Møystad's responsibility and the consumer may have the experience of meeting the farmer, even if she technically is rather the middleman. There is no risk-sharing with the farmer with direct sales to a retailer/ other farmer. The farmer is paid better than he would have been with sale to Nortura, but he will have to pay the slaughterhouse for the slaughtering and maybe the transport to the slaughterhouse. The price difference will not be very big. (See Case 6)

Case 6 Kvittem Farm – Partisan farmer

Kvittem farm is situated high up in the steep hills north-east for the small city Stjørdal. The interview is done by the long table in the living room just outside the kitchen, where two students from Czech, Magda and Melka are busy making biscuits and making conservatives of the year's berries and plums. It's a fire in the stove in the living room, which is good, because it is cold outside; it is October, Norwegian autumn.

The soil here at Kvittem farm is stony clay for the farmed areas and in between there is mire (fens) and forest. The bedrock was formed in cambrio-silur and consists of shales and other rocks. The upper layers above the ancient sea-level of 128 meters consists of moraine in the hill-sides and the forest-clad tops, and else of peat and mire.

Vidar Kvittem's farm has an area of 966.7 da, however, only 147 da is fully farmed land, 38 da is natural grassland and the rest is forest and mires. He grows a small amount of grain; 2 da barley, 5 da with traditional spelt, and the same for traditional rye (svedjerug). He also has 3 da with 15 different vegetables, and he has a small kitchen garden with berries and fruit. One of the vegetables, a local variety of turnip, the Målselv turnip from Tromsø County north in Norway, is particular popular in Farmers Marked. The rest of the farmed land is grass to feed the cattle.

He uses crop rotation and has never the vegetable land in the same place. Green manure is not used, it is not necessary. 'It is the grass that builds up the best humus.' And of course, he has the cattle manure. Neighbors that don't have cattle, use green manure instead.

He has 11 cows now for the winter. The grassland cannot feed more. He also has some heifers and calves. In the autumn he sells calves and some heifers and old cows. This year he sold 7 calves, some heifers and old cows. He also keeps hens. Usually there are 15, but now there are only 13. The goshawk has taken two. The hens are free to roam outside. If they are to produce good quality eggs, they need a large area to find enough food. 'They live in great danger, but that is how it is' Vidar says. 'They are very active, poking into the soil and eating the whole day.' He also has a cat to keep the barn free from rats.

All the animals get only what is grown on the farm to eat. Instead of imported concentrates, they get whole grain from the farm's production. The hens get dried grass in the winter (same as the cows) which he hatches small so it is easier for the hens to eat. They also get vegetables as rutabaga and 'the whole packet'. The point is that they should eat something green, so they get vitamins in the winter too.' There is no rooster, so he buys new chickens from a breeder that provides organic chickens only. 'Fantastic hens' is Vidar's judgement.

He has his own old and traditional mill (Fossan mølle). The use of a small traditional mill is also a good sales argument. He does not have a separator to separate the milk and cream, but he does separate the cream from the milk and make butter from it. He also makes his own cheese. He uses a big pan that can be heated by fire to roost the barley before milling. One neighbor that has a threshing machine helps him with the threshing.

Other resources on this farm are of course the main house, the barn and a couple of sheds. Vidar has installed two hay driers in the barn, necessary in the often wet autumns in this part of the country.

The people

Vidar is not married. He never had the time. But he has to brothers and a sister, and his mother is still alive. His parents moved out from the farm in 1995. At that time it was modern to buy a house in Stjørdal (nearest small (very) town).

When it comes to neighbors, there is no time for hanging out. They may help each other and keep a good relationship, but have no time for entertainments.

Together with Vidar on the farm, are for the time being the two young Czech students.

'The first Czech students came here in 2006, and since then the word have been spread there, that this is a good place to work. Some creative students made an article for a newspaper in Czech, were they promoted this place something unbelievable, that I live in harmony with nature, here they eat only healthy food and that this is a nice place to stay and so on, of course only half is true. And then some have read it and then they mail me if they may come. I almost think that I am more widely known in Czech and Slovakia than in Norway, hehe!' The woofers are always women, because they may also do some work in-house (that the boys cannot) and always two and two, so they may keep each other company, as Kvittem is a quiet place and the working hours may be long. 'The que of students that wish to come here is long. Both from Czech and Slovakia. Even if Czechoslovakia was divided, Czech students study in Slovakia and vice versa. They don't mind, they cross the border in the same way as before. So also Slovak students come here, they have heard about the farm from the students in Czech.'

He pays the students on a daily basis, not much considering Norwegian wages, but OK from the student's point of view, even if they some days work may be 15 hours if it is a Farmer's Market day. The cattle need to be tended to in the morning and in the evening, market or not.

'It's really a green wave – I have requests from all over the world to come here to work. In the last years also some Norwegians have made requests out of pure idealism. They will both come here to learn, however also to help save the last rest of Norwegian agriculture. They can see that it is going to an end if not something dramatic happens. All the growth in Norwegian farming the last 10 years is based on soy import from Brazil. That is not Norwegian farming!'

How the products are sold

The products from the farm are milk, meat, eggs, grains and vegetables, occasionally some plums. The grains are traditional old grain species as spelt, rye and barley. He grows 15 different vegetables.

The milk is sold via Tine who collects the milk from the farm. Even if the milk is collected as organic, it is by no means sure that it will be labelled organic in the process at Tine. It depends on the market situation and on the total availability. Only approx. 46% of all organic

milk in Norway reach the market as organic. Some of the milk is set aside for his own use. And also direct sale from the farm has increased. This is not unproblematic; it is only allowed to sell casual. The health regulation does not consider unpasteurized milk healthy. Even so, many prefer unpasteurized milk because they have lactose intolerance. Therefore some take the trip up to Kvittem to buy unpasteurized milk. Last year he sold some 5-600 liters unpasteurized milk. He gets paid four times what Tine pays. Then he feels that the milk is really appreciated.

The raw-milk, the first milk after calving, is very sought after. He has an order list for next year already. The price is 10 times the price that Tine pays for normal milk. In between the raw-milk and until he can deliver to Tine again there is the milk he takes for his own use. He makes his own butter and cheese from this milk. Together from all the cows it may add up to two hundred liters. This butter and cheese he is not allowed to sell because is not certified as required.

When calves, heifers and cows are slaughtered, he uses a slaughterhouse that doesn't violate the organic quality requirements. (Eidsmo-Dullum, Kvål.) He takes back all the meat, hanged and sliced in two. He only sells half parts. All the slaughtering is made at the same time and he always has presold everything. The customers turn up at the slaughterhouse on the planned day to collect their parts. He has worked hard to get the customers to buy the harts, tongs, liver, and so on, and likewise to get the slaughter to take care of these parts in the slaughtering process. He now is able to sell much more of this and is satisfied that more of the animal is used.

It is the farmer's meat cooperative Nortura has 18 800 members as owners. Vidar is a member, but do not use Nortura for his slaughtering. He likes to know that his animals, that are only grass-fed are sold as such and to people that appreciate this unique quality. He slaughter only once a year, and then directly from the field and then the meat has the most omega-3. The meat will therefore taste very good and be very healthy.

If he had sold to Nortura the price would have been average NOK 35 per kilo. He takes NOK 95 from his customers; however, the slaughterhouse takes NOK 29 per kilo for the slaughtering and hanging of the meat. So then he gets NOK 66 per kilo instead of NOK 35 and earns NOK 31per kilo more than if he had delivered to Nortura. Many say he could take more than NOK 95, but it is important to be able to sell everything without much effort. Because his cattle don't get any Brazilian soy, they are not that fat as conventional cattle. The average slaughtering weight is 80 kilos, 40 kilos for half an animal.

The hens, now only 11, produce very good eggs that are easily sold. He uses some at the farm, but the majority is sold at Farmer's Market. He sells 6 eggs for NOK 30. Also the grains and the vegetables are sold at Farmer's Market. The grains are stone-milled on the small-scale old mill. Everything is easily sold at Farmer's Market.

'The Farmer's Market is the best market promotion in the world!' Vidar has been selling in Farmer's Market for 12 years. During this time he has become known for his good products

and restaurants call to get some of his products. However, the products are tailor-made for Farmer's Market and it is seldom that he has surplus for sales to others.

How he started organic farming

When Vidar started as the farmer, he was educated agronomist. But as he says; 'That education is nothing to brag about. We didn't hear one positive word about organic farming at the agronomist school. Of course, there were some that had some thoughts in that direction, but we only laughed at them.' When I ask how he started organic farming, he says. 'It came from within me. I just couldn't bear all the use of energy, fertilizers, spaying of pesticides and the use of big machinery.' But when he started, he didn't tell his neighbors. They would only laugh at him. He started organic farming in 1989. He says that it has been so much adversity that it was scary. The government had just only started to evaluate organic farming and there were no financial support. However, there were some farmers in Nord-Trøndelag County that had started early, and he came in contact with them. I asked if he knew the people in Vatn farm. I had wanted to visit that farm which are organic and are making cheese, but they were on the brink for going to Africa where they have some project. They had only been home for the cheese-making. A tenant manages the farm most of the year. 'Yes', said he, 'I know them. He (Anders Vatn) works for NORAD and has spent many years in Africa. I think he works with establishing farmer's advice office there. It was his father I learnt the most from. Ola Vatn. I think he started organic farming in the 70-ties or very early in the 80-thies. Then it was very little of organic farming In Norway. Eventually some other farmers converted to organic in Stjørdal area; Per Olav Aftdrett in Vikaunet and Kaia and Bjarne Iversen in Lånke. Those were the first that converted to organic in Stjørdal. They became a network where one could get advice and courage. They have less contact now when these people have been pensioned. From 1986 the research farm at Tingvoll started a section for Bionic farming as it was called then. Organic farming became a priority for Norway in the eighties and the beginning of the nineties.

After we finished the interview, we went out to harvest the onions. I told him that I had done harvesting onions one time before, at Fokhol farm in Hedmark County, when students from Ås visited this biodynamic farm for a week. Then he told me that he had been there twice on study-tours together with the farming advisory office. When he said that I must be the expert, because this was his first time with onions, I had to protest. I had only harvested onions and we placed them on the ground to ripen a bit more on the earth-warmth. I did not know how they were handled thereafter. I knew, though, that Aksel Melbye at Veflingstad had onions, maybe we could call him? (Case 5) It was really fun to learn that he had been visiting Veflingstad also. It was Aksel that had him starting with spelt (traditional grain). He and others could order spelt from him and he sent it up to Stjørdal for them. That was Vidar's start with spelt. I couldn't other than be excited about all the crossing lines.

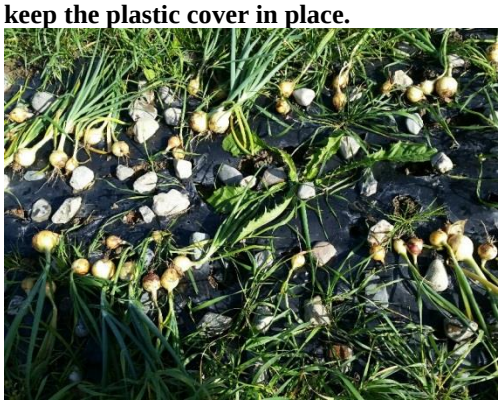
Even if Vidar is a member of the farming advisory office, and pays for that, he would not call them for advice. It would feel embarrassing for him. It ended with me calling Aksel Melbye and we got the needed advice. Then we could happily go to the onion harvesting. Vidar is a bit disappointed about the size of the onions, but else they were very fine.

After the harvesting, we had some lunch and then I called my friend with whom I stayed, to come and get me with her car. I took my leave and strolled down the small road and met her after 10 minutes and we were driving back to her farm.

It had been a most interesting day learning about small scale organic Norwegian farming. See the pictures below.

Pic 1 Towards Kvittem farm. The logs are ready for the winter.

Pic 2 Newly harvested onions among the stones that keep the plastic cover in place.



Pic 3 Vidar Kvittem strolling among the vegetables.

The networks

No	Vidar Kvittem's networks	Comments
	Family	Mother, two brothers and a sister
	Friends, neighbors	Vidar has not much time for socializing. Occasional cooperation with neighbors about machinery.
	Debio	Certification agency.
	Landbruksrådgivningen – Norwegian Agricultural Extension Service	Has been on several study-tours with Landbruksrådgivningen, both at Fokhol and Veflingstad (Case 5)
	Czech- and Slovakian students	Because of his good reputation among students,

		he has no problems with getting help from students that will experience how to run an organic farm.
	Norwegian Farmer- and Smallholders' Union	He is a member
	Farmers' Market	He sells vegetables and eggs at Farmers' Market.
	Other organic and biodynamic farmers	When he converted to organic he had a lot of help and inspiration from farmers that were among the first farmers that started to farm organic/biodynamic. Among the contacts are Aksel Melbye in Case 5 and some local farmers.
	The slaughterhouse Eidsmo-Dullum	Slaughter and hang his calves and cows and deliver the meat at their ramp. Here Vidar can meet with his customers that have preordered the meat and come to pick it up.
	Tine	Farmers' cooperative that collects the milk.
	Nortura	Farmers' cooperation for meat. Vidar is a member but do not use Nortura for slaughtering.
	Random customers	Random customers is 1) those that come to the farm for egg and milk and 2) customers at Farmers Market (grain/flour, vegetables, eggs)
	Listed customers	The customers that preorder meat
	Information technology	Vidar has PC equipment, Internet with web-site and mobile phone.

Fig.1 Some of Vidar's networks

Vidar's networks are first and foremost connected to the operation of the farm and sales of the products. The listed customers and the students are good examples of Granovetter's 'The strength of weak ties'. The students use their networks to spread information about the opportunities to work at Vidar's farm for a period. He doesn't have to advertise. Customers tell others about the meat and in this way he gets new listed customers.

From the point of view of Bourdieu, Vidar has more cultural capital than social. The farm represent a financial capital with all its' resources, and it is a combination of cultural (reputation) and financial (resources) capital and hard work he keeps the farm going and make a small living.

From ANT point of view, there are many strong centers in the totality of his network; Tine and Debio both has a certain power to judge his production. He is also very dependent of IT to keep in touch with the students and with customers. Farmers' Market is vital for sales of vegetables and eggs. On the other hand, Vidar has succeeded in a degree of translation, the customers of his are very loyal and so are the students.

The many physical resources make a strong physical presence and stability to him as a network.

When it comes to Collin-Porras framework for vision; core values and beliefs, purpose and mission (goal), I found nothing on his web-site for this. According to the interview, it was a strong personal idealism that made him convert to organic. This could have been transformed into statements that could have influenced customers in a positive manner.

The value chains

The value-chain for milk is shown in case 5. Here the value-chain for direct sales of meat and of sales in Farmers Market shown along with the value-chain of direct sales in-farm. (The generic value-chain is shown for comparison.)

We can see that the direct sales of meat involve the farmer I all but one of the processes (Slaughtering,..) while the two others involve he farmer all the way. Both the two last value-chains are much less complicated than the generic or the one for milk, and that the in-farm sales is the less complicated.

No	Value chain	Content for generic chain	Content for direct sales of meat	Content for sales in Farmers' Market	Content for direct sales from the farm
1		Farm activities F	Farm activities F	Farm activities F	Farm activities F
			Administering the listed customers	Some administering of sales in FM	
2		Transport of products to storing facilities and processing units M	Transport of animals to the slaughter-house M		
3		Storing/ processing M	Slaughtering, hanging, packaging M	Storing, milling, packaging F	Some storing of eggs F
					
5		Transport to wholesaler[17] M			
					
7		Transport to retailer/store M		Transport to Farmers' Market F	
8		Presenting for sale M		Presenting for sale F	
9		Sales/ buying transactions M/C	Sales/buying transactions F/C	Sales/buying transactions F/C	Sales/buying transactions F/C
10		Transport to home C	Transport to home C	Transport to home C	Transport to home C
11		Storing, processing and eating C	Storing, processing and eating C	Storing, processing and eating C	Storing, processing and eating C

Fig. 2 Value-chains for the direct sales of meat, sales in Farmers' Market and direct sales from the farm.

[17] For milk, it is Tine that collects and process the milk and transport the milk to retailers