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Credibility of organics - knowledge, values and trust in Danish organic food networks

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Preface

When I began this PhD dissertation I had virtually no experience with organic farming and had never, at least in my recollection, visited a working farm - in many ways a very good basis for becoming wiser. Writing this dissertation has been a very great journey filled with many interesting experiences and new friendships, but at times also frustration and despair, when things have not gone according to plan. Without the company, comments, and inspiring discussions with a lot of people I would not have come as far as I have and it would have been much less cheerful.

I therefore wish to extend a huge thank you to all these people, first of all my supervisors, Hugo, Egon and Chris who have critically engaged with my work and supported me along the way. Also all the colleagues, office mates and fellow PhD students I have met during the past three years, in particular the ever-changing members of the Agricultural Systems and Sustainability section. Also a great thanks to all the MultiTrust partners, in particular Tove and Karen that I have shared a lot of interesting discussions with, as well as the researchers and staff at University of Otago, who made my stay there very pleasant. And not to forget, all of the organic farmers and consumers who willingly opened their homes and were exposed to heaps of silly questions. Last, but not least, all my family and friends, in particular Heidi and Vilhelm, who have supported me along the way, but haven't seen much of me during the couple of months prior to submission.

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Abstract

The sale of organic food is growing in Denmark as well as globally, and consumers' expectations of organics continuously evolve. Knowledge, values and trust are often seen as important concepts to understand the development of organic food networks, since organic food production is an alternative agricultural practice founded on a different set of values. Knowing about this difference is considered important for consumers to choose organically produced food. Furthermore, trust is an important mechanism sustaining producers' quality claims and enables consumers to act in spite of the uncertainties associated with modern food production. The ambition of this dissertation is to explore how values, knowledge and trust, act and interact in organic food networks.

Empirically, I explore Danish organic food networks using qualitative interviews with consumers and producers, a nationwide consumer survey, and a focus group interview. This data serves as the input for the four articles composing this dissertation.

In line with previous studies about trust in organics, this dissertation concludes that trust is important in Danish organic food networks. Trust is an important mechanism sustaining producers' quality claims, and it reduces the need for knowledge exchange. Danish consumers have a high degree of trust in organics, but not much knowledge about what organics is and what organic food production entails. Furthermore, consumers only express little motivation towards acquiring additional knowledge. The prevailing consumer' trust is therefore to a certain extent "blind trust" and thus fragile, because it easily turns to distrust.

I argue that trust in organics can be understood as two distinct forms of trust 1) personal trust, directed at persons and 2) systemic trust, directed at abstract systems, like labelling and control schemes. Systemic trust, particularly in the Danish labelling and control scheme, is important for consumer trust in organics. Personal trust is also important for many consumers and systemic trust does not stand alone. Consumers purchase organic products based on their own expectations which cannot be completely fulfilled by the food network. The long term credibility of the food network however presumes that is able to fulfil consumers' expectations, which is currently not the case.

Sammenfatning

Salget af økologiske fødevarer vokser, i Danmark så vel som globalt, og forbrugernes forventninger til økologiske fødevarer udvikler sig løbende. Viden, værdier og tillid ses ofte som vigtige begreber i forhold til at forstå udviklingen af økologiske fødevarenetværk, da økologisk produktion er en alternativ landbrugspraksis baseret på et andet værdisæt end konventionelt landbrug. Kendskabet til forskellene betragtes som vigtigt for at gøre forbrugeren i stand til at vælge økologiske fødevarer. Derudover er tillid en vigtig mekanisme, som understøtter produkternes kvaliteter og gør det muligt for forbrugerne at handle på trods af de usikkerheder, der er forbundet med moderne fødevareproduktion. Formålet med denne afhandling er at undersøge hvordan viden, værdier og tillid agerer og interagerer i økologiske fødevarenetværk.

Det danske økologiske fødevarenetværk undersøges ved hjælp af kvalitative forbruger- og producent interviews, en landsdækkende spørgeskemaundersøgelse og en fokusgruppe. Dette analyseres gennem de fire artikler, der udgør afhandlingen.

I lighed med tidligere undersøgelser af tillid til økologi konkluderer denne afhandling at tillid er vigtig i danske økologiske fødevarenetværk. Tillid er en vigtig mekanisme, der understøtter kvalitetsforventninger og det reducerer behovet for videns udveksling. Danske forbrugere har en høj grad af tillid til økologi, men en lav grad af viden omkring hvad økologi er og hvad økologisk fødevareproduktion indebærer. Derudover tilkendegiver forbrugerne generelt ikke ønske om at tilegne sig yderligere viden. Den fremherskende forbrugertillid er derfor i en vis grad blind tillid, der er sårbar, fordi den let kan ændres til mistillid.

Jeg argumenterer for at tillid til økologi skal forstås som to særskilte former for tillid 1) personlig tillid, rettet mod personer og 2) systemisk tillid, rettet mod abstrakte systemer, som mærknings- og kontrolordninger. Systemisk tillid, særligt rettet mod det danske Ø-mærke er vigtig for forbrugernes tillid til økologi. Personlig tillid er også vigtig for mange forbrugere og systemisk tillid kan ikke stå alene. Forbrugerne interagerer med økologiske fødevarenetværk baseret på forventninger, der kun delvist kan indfris af produktionssystemet. Fødevarenetværkets langsigtede troværdighed

forudsætter imidlertid at det er i stand til at imødekomme forbrugernes forventninger, hvilket ikke på nuværende tidspunkt er tilfældet.

1. Introduction

“To me it is essential that organic farming sustains its credibility. If you start wrapping organic products into a layer of spurious stories, without a basis in reality, then I think it might eventually damage the credibility of organics.” (Organic producer quoted in trade journal)

Maintaining the credibility of organics is both important and challenging in a growing market where consumer expectations are constantly evolving. This dissertation concerns how knowledge, values and trust act and interact in Denmark’s organic food networks.

Prior to the industrialisation of food systems, most people produced their own food and the effects of food production were highly localised. Food system modernisation has changed the configuration of food networks, making it increasingly difficult for consumers to know the impacts of their food consumption because consequences are neither visible nor immanent, and numerous new actors and technologies have been introduced. Consumers have come to rely on multiple actors in a complex and opaque food system, which makes trust a necessary feature because it enables interaction with the food network despite the uncertainties of food production.

In particular, organic food networks rely on trust and credibility because there is a substantial price premium for organics while the visual and sensory differences between organic and conventional products are marginal. Furthermore, the growing importation of foreign organics to the Danish market also potentially challenges the credibility of the organic food network because it conflicts with consumer perceptions of sustainable food production. Trust in the producers of organics and the institutions safeguarding production is thus important for sustaining the market.

The Danish market for organics has grown substantially for the past 30 years and today accounts for a market share of around 7 %. Growth is based on multiple factors, like the development of new markets and consumer

relations, a supportive institutional structure, changes in the perception of organics and introduction of organics to new consumer groups. Furthermore, 90 % of Danish organics are traded through supermarkets and discount stores.

This market growth has helped establish a competitive organic food network beneficial to the many organic farmers who need a market for their products. At the same time, it poses a challenge to the producers who strive to be a genuine alternative to conventional production. They must operate within the same market-based terms and accept being a part of the same system to manage financially. Furthermore, the strong reliance on the retail sector may incite standardisation, efficiency improvements, functional specialisation and increasing import.

Growth in the sale of organics is not negative per se, but should be aligned with organic core values. Through organic principles, producers are obligated to implement a differentiated production practice and among consumers the expectations of organics are higher. If the organic food networks compromises its core values too much, this could potentially threaten the credibility of the production system. While the market expansion provides new opportunities for the organic food network, it also poses new challenges because it changes the social relations and the configuration of trust in the food system. The recent growth in the sale of organics is attributed to the emergence of new consumer groups following the introduction of organics into discount stores. There are indications that the sale of organics for these new consumer groups is linked with lower price premiums. In particular, the fraction of the trade that goes through the discount stores is sensitive to price. Consumer studies indicate several and conflicting market trends wherein some consumers focus on products with quality attributes above the organic standards, i.e. animal welfare or taste, while other more discount-oriented consumers prefer organics at a lower price premium. The organic market is therefore not only sustained by a group of engaged and convinced consumers, but also by a group of consumers who will purchase organics only if they are relatively cheap and easily accessible. The question therefore becomes how the credibility of organics can be maintained with the demands for low prices and increased efficiency coming from these new groups of consumers. Standardisation, efficiency improvements and specialisation are not necessarily bad, but

need to take place in accordance with the organic principles, otherwise the integrity of the organic movement will be compromised. This development also poses another challenge to the credibility of organics because the organic food network is suddenly confronted with multiple and conflicting expectations from different consumer groups and market sites.

Lately, emerging networks have successfully introduced new consumer/producer relations (Fødevarerfællesskaberne (The food communities), Årstiderne (internet based boxescheme), Farm Shops and local markets). These new networks fulfil a function for consumers that the market has previously not addressed. The Danish organic market is an interesting case because there is an unusually high level of consumer trust in both products and the Danish organic labelling and control scheme, despite a highly modernised food production. It is thus an important academic and societal question to clarify what underpins the market for organics in order to continuously sustain the market.

This dissertation explores the following question:

How do values, knowledge and trust act and interact in organic food networks?

The purpose is to understand how knowledge, values and trust underpin Danish organic food networks. To detail the inquiry, two sub-questions are delineated as follows:

- 1. How is trust configured in Danish organic food networks?**
- 2. What role does values and knowledge have in the development of Danish organic food networks?**

1.1 Approaching the research questions

Responding to the research questions requires an account of the organisation of the Danish organic food network, including the function and generation of knowledge, values and trust. The theoretical approach and methodological design should reflect this, by exploring situations or events where knowledge, values and trust are brought into play.

The thesis is structured as follows: **First** I will explore the development of organic production and consumption with a particular focus on the Danish

context. The section situates the dissertation and functions as a general introduction to object of inquiry. **Second** I present some overall methodological reflections on research design, case study- and article selection as well as my considerations on the implications of choosing Actor-Network Theory (ANT) as methodological approach to the study of the Danish organic food networks. Reflections on specific methods are found in the articles. **Third** I briefly introduce the three key concepts - knowledge, values and trust, and discuss their relevance for my inquiry into organic food networks. **Fourth** I briefly introduce the content of the four articles found in appendices A-D. **Fifth** I discuss and conclude on the findings and answer the research question. **Sixth** I discuss implications of the findings in the dissertation and in particular focus at the challenges of preserving the consumers' confidence in the organic food network.

2. Background – the development of organic food networks in Denmark

“Honestly I think that all farming in Denmark should be organic. The world around us becomes more and more aware about the benefits of organic farming. We ought to take the lead” (Consumer response in survey)

“Organics is hyped swindle that should be avoided as much as possible; I do that as much as I can. The only mitigating circumstance is the much lower productivity implying higher food prices and more hunger in the poor countries, which is a limiting factor for population growth”. (Consumer response in survey)

“I consistently choose organics; I don’t want any GMO or pesticides in the stuff that I live off.” (Consumer response in survey)

The quotes above illustrate the complex perceptions of organics and indicate that views are conflicting, strongly associated with values, and evoke feelings of both excitement and disdain. Whether organics are better or worse than conventional food certainly cannot be clearly answered when so many different opinions are sustained, even among scientists. Eating organics is about much more than survival, it is also a way to mark a symbolic difference from other consumers and give meaning to consumption. Behaviour towards organics is based on more than factual knowledge about the effects of organics and their production.

In this section I will introduce the development of food networks following modernisation, emphasising the development of organic production and consumption in Denmark, which is the focus of the dissertation.

Modernisation of food networks

Prior to industrialisation of food systems, most people produced their own food, making the effects of food production both local and immanent. Industrialisation and globalisation has changed the configuration of food production in several ways which influenced the relation between

production and consumption. Commodity chains have scaled up geographically, separating production from consumption. A wide variety of new actors have emerged that produce, handle, transport, retail, own and monitor food production, and power has been concentrated with the downstream actors (Burch & Lawrence 2009, Burch & Lawrence 2013, Busch & Bain 2004, Hendrickson & Heffernan 2002). Consumers therefore have come to rely on multiple actors in a complex and opaque food system, which has changed the configuration of uncertainty and risks associated with food consumption. Previously, risks were associated with food safety and security of supply, but today it is associated with a lack of transparency, control and knowledge about the effects of food consumption (Kjærnes *et al.* 2007, Meijboom 2008).

In recent years, several food scandals such as the BSE crisis, salmonella outbreaks and the horsemeat scandal have problematized the food system. Many consumers feel that the institutions and actors which ought to safeguard the food system are not acting accordingly (Kjærnes *et al.* 2007). Meijboom (2008) thus argues that this has created a vacuum of trust, trust that is increasingly necessary to engage with the food system but which is also scarce. The effects of food consumption are no longer immanent. Both physically and psychologically, production has been displaced from consumption, and consumers have come to rely on complex institutional arrangement for their food provisioning (Bildtgård 2008, Giddens 1990). This disembedding is problematic because the effects of consumption are opaque and unpredictable, leading to the loss of rural resilience and diversity, environmental degradation, identity and place (Feagan 2007).

In particular, the disembedding is an issue for organic producers because the relations are an important aspect of organic quality. From a Food Science perspective, there are only marginal sensory and visual differences between organic and conventional products. However, the differences do not only lie in the products, but also in a different agricultural practice. Particular knowledge and values are also integrated in the production system. DuPuis and Gillon (2009) thus denote organics as “epistemic objects,” a combination of materiality and worldview. An important aspect for organic food producers is thus to re-embed consumption and ensure that the particular value which is produced by the farming system can also be transferred in the market.

Organics as a particular domain of production and consumption

Organic farming is a particular farming practice based on the organic principles of health, ecology, fairness and care; it is characterised by restrictions on the use of chemical fertilisers and pesticides (IFOAM 2009). The development of organic food networks are influenced by various factors such as knowledge, values and the actors constituting the network, as well as the specific contexts where the food is produced. This is not an easy task because organic principles are often conflicting, and some initiatives will fulfil one principle while conflicting with another. For example, the abstinence from pesticide use (principle of care or health) will lead to more mechanical soil treatment, thereby increasing greenhouse gas emissions of (principle of ecology). The development of organic food networks thus requires constant negotiation with the organic principles.

Though many organic producers and consumers are unaware of the organic principles, they encompass the foundational values of the farming system and mark an important difference between organic and conventional production. According to Alrøe and Halberg (2008), the ongoing success of organic production requires continuous implementation of the organic principles in production development and that consumers learn about such efforts. Organic food networks are ideally not in a stable state, but constantly evolving in a reflective process of continuous improvement.

The principles have been diffusely implemented in different social and geographical contexts. Organic food production encompasses many different practices, and countries have adopted various ideas and traditions regarding organic production depending on institutionalisation of organic produce in terms of labelling and control, agricultural traditions, geography and different market configurations.

Organic food production is more costly than conventional food production, and consumers are faced with substantial price premiums when purchasing organics. Trust is particularly important in organic food networks because there are only marginal visual and sensorial differences between organic and conventionally produced products, requiring consumers to trust in producers' quality claims (DuPuis & Gillon 2009, Kjærnes *et al.* 2007,

Sønderskov & Daughjerg 2011). Maintaining consumer confidence is paramount for the organic production system (Alrøe & Halberg 2008).

Development organic production and consumption

The amount of land farmed organically has grown to the current figure from 11 million hectares in 1999. Although there has been a significant conversion to organic farming, its share of total agricultural land remains relatively low. Organic agriculture covered 37.5 million hectares in 2012, which corresponds to 0.9 % of the world's agricultural land (Willer & Lernoud 2014).

For the past 20 years organic production has gained a foothold in the Danish agricultural landscape, and organically farmed areas now cover more than 180,000 acres (see figure 1). The conversion rate was particularly high towards the end of the 1990s, following the conversion of a large number of land-intensive dairy farms, but the past 15 years has seen a stagnation in the conversion rate (Alrøe & Halberg 2008). Concurrent structural development within the agricultural sector has reconfigured both the conventional and the organic farming sectors, and organic production today is concentrated on fewer but larger units. With reference to Danish policy on organic farming detailed in the agreement on green growth (aftale om Grøn Vækst), government policy aims to double the organic production area of 2007 by 2020, which require an annual conversion of 11,000 acres.

Consumption of organics in Denmark has continuously increased for the past 30 years and today accounts for an 8 % share of product sales, c.f. figure 2. Furthermore, growth has been sustained even in the years following the financial crisis. In particular, the markets for dairy products, grains, flour and vegetables have high market shares, cf. figure 3. The market expansion has surpassed Danish production capacity for several food items, and has been accompanied with a growth in the import of foreign organic products, c.f. figure 4 (DST 2014). Organic products are thus increasingly transferred in a globalised market and Danish producers are increasingly facing competition from foreign producers.

Organically farmed area and farms

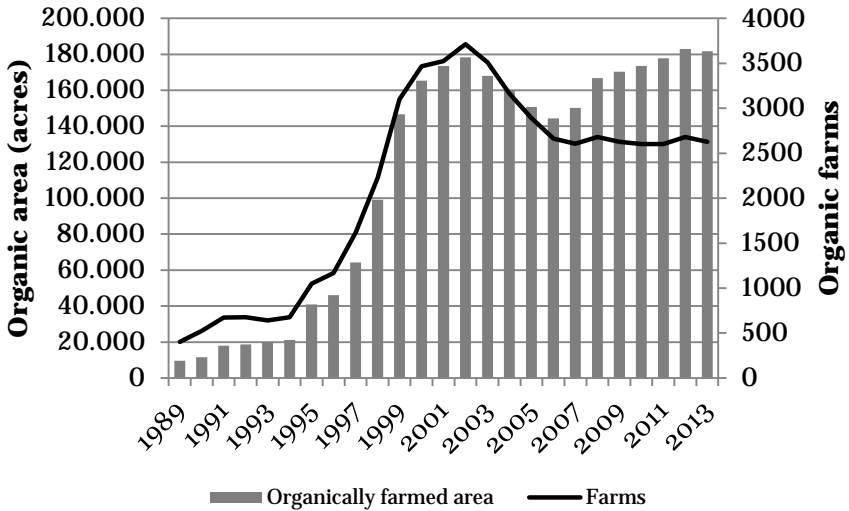


Figure 1: Area farmed organically and number of organic farms (Danish AgriFish AgriFishAgency 2014: 33)

Development in sales of organics

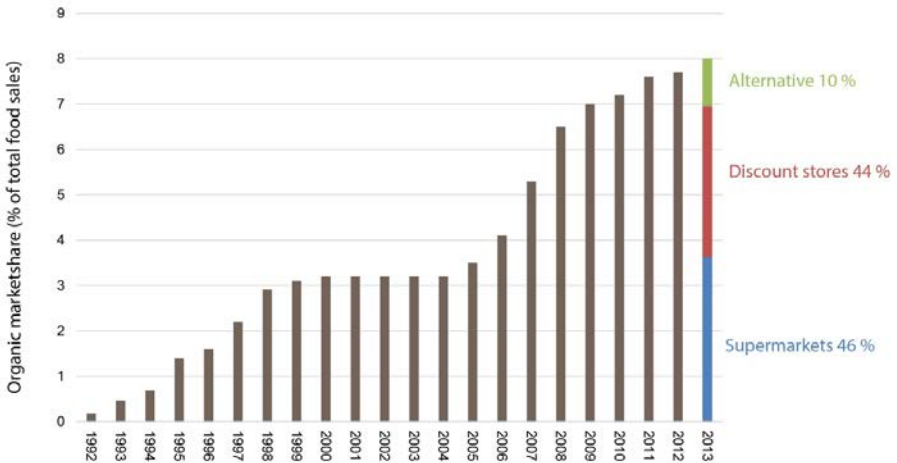


Figure 2: Share of organic product sales in Denmark (1993-2012) (Organic Denmark 2014)

Organic food consumption

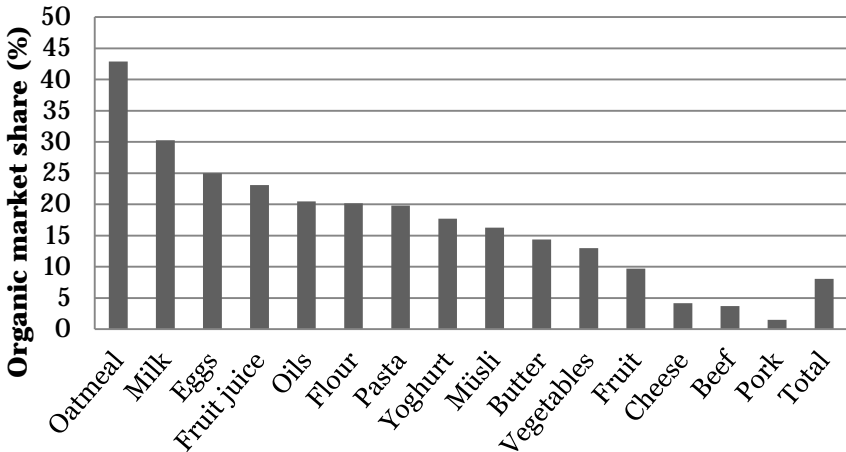


Figure 3: Market share of selected organic products, 2012 data (Organic Denmark 2014)

Foreign trade

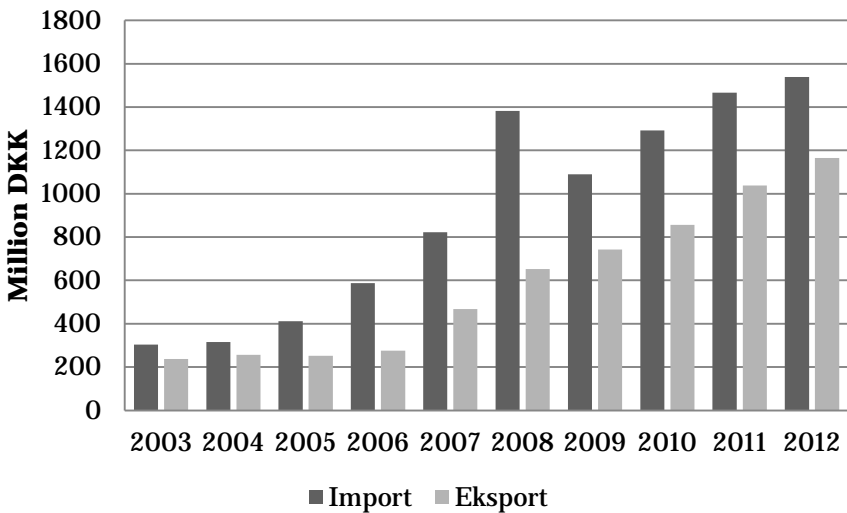


Figure 4: Trade balance of organic products (DST 2014)

2.1 Development trends

Several changes have occurred that offer potential explanations for the developments within the Danish organic food network. These factors should be considered as having jointly influenced the market rather than as discrete or isolated tendencies.

Cooperation between organic producers and the retail sector

The retail sector has always played an important part in the development of the organic production beginning in the early 1980s (Brandt 2008). In particular, the large supermarket chain FDB embraced organic products without any large-scale consumer support, offering a small assortment of organic products throughout the 1980s. In the early years, gaining market access for organic products was a huge challenge for many producers and supermarket access therefore sparked increases in production. The sale of organic products also gained momentum following several changes in the retail sector, with two events being of particular significance, cf. figure 2. In 1993, supermarket premiums were lowered by FDB, and in 2005 organic products were introduced into discount stores, leading to annual growth rates of in sales of 12-33 % (Hindborg 2008).

Throughout the 1990s, the development of organic food networks has been supported by the Organic Association¹, which worked to increase network coordination among the different market actors with partial government support. Consequently, the companies that act in the organic market today are more professionalised than just 10 years ago, and they are increasingly able to accommodate the expectations and requirements of the retail sector (Schvartzman 2012). Furthermore, market development since 2005 is a good example of cooperation and network coordination among market actors in a time when the organic market was largely stagnant.

Organic food policies

Throughout the past 30 years, there has been a political goal of supporting the development of organic farming in Denmark. Compared to other

¹ Associations of organic producers and consumers, known in Denmark as “Økologiens Hus” until 2002 later reorganized as “Økologisk Landsforening”.

countries, Danish organic farming policy is unique because organic farming has been supported and developed as an industry, whereas many other European countries have supported organic farming as an agro-ecological measure (Daugbjerg & Halpin 2010). It has always been a political ambition to develop organic farming on market terms, and several measures to enhance sales and the commercial potential of organic products have been implemented. Organic production was formally institutionalised with the organic law of 1987, enabling production audits by the state, research funding, marketing support, extension and conversion support (Daugbjerg & Halpin 2010). Since 1996 more than 50 million DKK has been spent annually on research and development of organic food production. According to a recent assessment by ICROFS, this research has contributed to the solution of some of the challenges faced by the industry because it has been jointly planned with the different market actors (Kledal & Halberg 2012).

As an outcome of the organic law, a labelling and control scheme was developed² and implemented in 1987 with cooperation between the organic farmers associations, retail representatives and government officials. The label and control scheme has, according to many, had a positive influence on market development and is one of the features in which Danish consumers display high levels of trust compared with other countries, where the labelling system is not audited by the government (Brandt 2008, Schwartzman 2012, Sønderskov & Daugbjerg 2011).

Discursive changes

Another aspect of the success of Danish organic agriculture has been the articulation of organics in accordance with societal tendencies. Consuming or producing organics is no longer a niche only for politically engaged radicals. It has become mainstream, and organics are among many consumer groups seen as healthy, high quality food with environmental and animal welfare benefits (Alrøe & Halberg 2008). The discourse on organic food and farmers has changed substantially. According to Larsen (2006), in the 1980s organic discourse was associated with “environmentally friendly” production and “alternative lifestyles,” whereas from the middle of the 1990s these discourses have gradually been supplemented or replaced by

² The red Ø-label, which is still in use today

organic as “animal welfare,” “health” and “gastronomy.” The discursive changes have also been integrated into the cultural politics of Danish commodity chains, influencing communication between actors and the daily work with skills, health, and taste (Holm & Stauning 2002).

According to Noe (2008), the perception of organic farming among organic farmers changed from a counter movement to a market niche during the 1990s. This development, along with the mobilisation of organic farming into conventional support industry, retail chains and extension service, have legitimised new motivations for organic farming, such as economic incentives, and thereby changed the composition of the organic movement. This is not only a discursive change but is also reflective of changes within the organic movement itself where some of the original agenda, such as addressing ownership structure and alternative life forms, has been marginalised (Brandt 2008).

This change in both production and consumption has mainstreamed organic farming and yielded high growth rates, but has also de-radicalised the movement to the extent that some consumers turn towards other forms of production, such as biodynamic farming. A longstanding strategy of the Danish organic farming movement is to present itself as an alternative rather than criticising conventional agriculture. This strategy has been chosen to avoid alienating potential converts and new consumers. Today, organic farming is presented in an overwhelmingly positive light in the media. For consumers, organics are associated with health, while conventional food production is associated with environmental problems and pesticide residues (Smed 2011).

Several current tendencies promote and contribute to the redefinition of expectations towards organic farming in Denmark. During the past 5-10 years, there has been a strong focus on high quality local produce in Danish media, and a phenomenon like the New Nordic Food movement has received much attention. The movement was initiated in 2004 with the intention to develop a new cuisine, based on the virtues of “good taste”, terroir, in local, seasonal and traditional products of the highest quality (The Nordic Council of Ministers 2012). Ethical and sustainable production methods, such as organic and biodynamic are important aspects of the movement, as well as an emphasis on cooperation between the actors in the

Nordic foodscape. The movement has contributed to a strong focus on local and sustainable food production in parts of the Danish food industry.

New market channels, qualities and consumer relations

Organic farmers have aspired to be an alternative to the existing food production, which has resulted in creativity and innovation to develop and implement novel sales networks and market niches (Kjeldsen & Ingemann 2009). Examples include the successful e-commerce box-scheme “Årstiderne,” delivering organic produce to 45,000 families in Denmark and Sweden (Årstiderne 2014), many small successful farm-shops, and more recently the Food Communities (fødevarefællesskaberne), a consumer initiated and organised box-scheme that has spread to more than 15 localities in Denmark (Thorsøe & Kjeldsen 2014).

The small scale companies and alternative sales channels which have begun to emerge reconnect producers and consumers in new ways. One potential explanation for their success is their ability to perform functions that the conventional sales channels are not able to perform. This illustrates the diversity among organic producers and it highlights the importance of understanding the breadth of the organic food networks and the multiple ways in which organics are practiced.

In many ways the Danish organic market is unique, in particular because there is a strong reliance on conventional sales channels for product marketing (Kjeldsen & Ingemann 2009, Sønderkov & Daugbjerg 2011). Approximately 90% of organic products are sold through supermarkets, and this market access has great influence on the organic food network. In later years sales of organic products have been sustained by their introduction into discount stores like Netto and Fakta in 2005 (Hindborg 2008). This has increased the accessibility and selection of the organic products for many consumers, and studies indicate that the market expansion since 2005 is also due to an under-saturated organic market (Lund *et al.* 2011).

There is great diversity among companies within the organic food network, with some being dedicated organic producers, some producing organics as a niche strategy, others producing specialty goods while yet others produce staple products (Kledal & Meldgaard 2008). The companies serve different

Table 1: Sales channels for organic products (Organic Denmark 2014)

Sales channels	2013
Discount stores	36,5
Supermarkets	27,2
Malls	18,6
Discount malls	4,4
Mini marts	3,4
Alternative	6,8
Others	3,6

markets and have developed various strategies to fulfil the expectations of those markets. Companies have also developed around particular quality niches, such as the production of “traditional cereal varieties,” like Aurion or Skærtoftmølle, direct sales of meat through the different Internet platforms like Jersey Græskalv and small scale dairies like Knuthenlund or Osteriet Hinge.

Consumption

Consumers choose organics for different reasons at different places and times, and the choice is commonly associated with the existing societal and food system challenges (Ingemann 2009). The latest trends on the food market point towards a higher share of value based consumption entailing a need for products that express health, decency and meaning for consumers (Alrøe & Halberg 2008). To sustain and develop organic consumption, a key challenge is for organic food producers to fulfil the expectations of consumers (Alrøe & Halberg 2008).

Several research projects have sought to clarify who purchases organic products. Generally, consumers of organic products are urban and well-educated (Lund *et al.* 2011). Lund *et al.* (2011) and Lund *et al.* (2013) distinguish between 6 consumer segments, cf. table 2, as follows:

1. The convinced, who are extremely positive about organics and purchases organics as an integral part of their everyday lives.
2. The positive and food involved, who are also positive towards organics, but in particular has a preference for decent and healthy ingredients.
3. The positive and convenient, who are also positive, but less dedicated and thus more willing to compromise for instance in relation to price.
4. The product focused, who have certain common features with the two preceding groups, but in particular assess products based on tangible sensory characteristics and are indifferent about the production process,
5. The indifferent, who focuses on cheap and convenient food,
6. The sceptics, who perceives the organic production principles as a scam.

This segmentation indicates that there are multiple reasons for choosing organics, and the groups differ in terms of perception of health, environment, shopping practice, life situations and ways of assessing food items. Furthermore, it is economically demanding to be a convinced organic consumer, and this group is not expected to grow significantly in the future (Lund *et al.* 2011). There has also been a shift in consumer behaviour towards organics. Initially, organics were perceived as a radical choice and consumption was restricted to dedicated consumer groups, but today organics have become mainstream and are purchased by more pragmatic consumer groups who do not purchase organics if the price premium is high (Andersen & Lund 2011). Much evidence thus indicates that these consumers are best reached through discount stores (Smed 2011).

Table 2: Distribution of consumer segments selection from ^a(Lund et al. 2013) and ^b(Lund et al. 2011).

	Convinced	Positive and Food Involved	Positive and Convenient	Product focused	Indifferent	Sceptics	Total
Size segments (%) (2007) (N=1361) ^a	14	24	13	26	10	14	100
Share of total organic product sale for private consumers (%) (2007) ^b	42,3	29,4	15,4	9,5	1,3	2,2	100
I readily pay extra to get an organic product instead of a similar conventional product (agree) ^a	75	45	44	9	4	4	32
Health orientation (Index ranging from 1-100) ^a	80	74	65	70	54	64	69
Modern food orientation (%) ^a	60	55	31	32	29	37	41
Ethical consumption (Index ranging from 1-100) ^a	77	63	63	56	49	51	60
Organic loyalty in shopping behaviour (Index ranging from 1-100) ^a	55	38	40	23	19	18	32

3. Methodological reflections

Writing a PhD is a learning process, and my first empirical encounter with the Danish alternative food system taught me several important lessons that have influenced my continuous reflection on the origin and constitution of alternative food networks. I had expected that consumers engaged the alternative food networks because they intended to gain a greater insight about organics, control the effects of their food consumption as political consumers or familiarise themselves with the producers. In my initial understanding, people with particular value orientations were attracted to the organic food network when they learned about organics or the effects of food production, making knowledge and values the prime motivators of behaviour.

I began my inquiry by interviewing members of the food communities. I found many engaged consumers, but not engaged in the way I expected. I was surprised to learn that engaging with the alternative food movement is about much more than food. It is also a social event with parties and gatherings while some just care about finding cheap fresh food. To my surprise, I found very little interaction or willingness to interact with the organic food producers. This finding sparked much reflection and changed the focus of the dissertation. My attention shifted towards trust because, when particular knowledge is not the main source of behaviour motivation, then trust is all the more important. Eventually all the papers in this PhD program provided aspects of these reflections.

Research design

Focus in the 4 articles was selected in an abductive process, iterating between research questions, the empirical data and theoretical perspectives.

Upon commencing the PhD study, I decided to report my PhD as a series of articles, which have required a strong focus on an overall research goal and framing the inquiry to ensure clear links between the four articles. As a project management tool I used the research questions, which have remained relatively stable throughout the project period. I used the questions as guiding principles, ensuring coherence between the articles.

The articles have been organised as case studies functioning both as standalone pieces, but also exploring elements of the research questions. Case studies are a preferred research methodology to investigate the operational links which appear when exploratory questions like “how” and “why” are asked (Yin 2003). The case studies and the learning process they sparked have created a complex understanding because conducting them requires immersion in the context studied (Flyvbjerg 2006). The articles function as dense descriptions of particular issues and some are further based on mixed-methods, methodologically triangulating the Danish organic food network (Creswell 2011).

Several factors have been important in the overall research design and case selection and the articles of this dissertation all contain elements of these considerations in varying degree.

1. **Newest tendencies.** The Danish organic food network is constantly evolving and it has been my ambition to explore some of the new and unexplored tendencies in the organic food network, particularly in relation to the interaction between producers and consumers, attempting to ensure research actuality. Focusing on the food communities and the developments in the Danish organic market (reported in article 2 and 3) in particular, reflect this criterion.
2. **MultiTrust.** This dissertation has been written as a part of the MultiTrust project, which has attempted to develop methods for multicriteria assessment of overall effects of organic food networks on society and nature. The aim is to help actors and stakeholders develop, document and communicate the effects of the food system and thereby sustain the credibility of the food system. The PhD has not been assigned a particular task in relation to the project, but my participation in project meetings, empirical acquisition and collaboration with fellow researchers has influenced the project and my thinking. It has also influenced the choice of articles and empirical acquisition. Article (1) was originally written for a workshop on multicriteria assessments of food systems sustainability and subsequently published along with other project contributions in a special feature in *Ecology and Society*. Article 4

draws on data collected as a part of the MultiTrust project and it is written in collaboration with two MultiTrust partners.

3. **Academic contribution.** When I began working with trust I was surprised to learn that despite being well established as a concept in the sociological literature, it was fairly under theorised in the food studies literature. Most empirical studies included no or only sparse conceptual reflections. In general, trust is considered *vaguely warm and positive*, as the outcome of particular forms of interactions. It has been my ambition that the articles and this dissertation should address some of these knowledge gaps. This is primarily reflected in articles (2) and (4).

Ontological considerations

Actor-Network theory (ANT) has served as a general ontological foundation for the project and I have been inspired by some of the methodological ideas found within the ANT literature. Within ANT agency is a relational effect where actors attain agency as a result of their relations with other actors, human as well as non-humans (Callon 1986, Latour 1999, Latour 2005, Whatmore 2002). The approach enables a holistic perspective on the food system as constituted by both producers and consumers, because all of these actors constitute the organic food actor-network. ANT thus provides a perspective to understand actors within the food chain and consumers in a symmetrical way and how the different elements of production, processing and consumption mutually influence and constitute each other (Lamine 2005). Within ANT the actor-network is never stable and must constantly be re-enacted and this performative aspect is an important feature of ANT inspired studies of food networks (Brunori *et al.* 2012, Goodman & Goodman 2009, Lockie 2002, Lockie & Kitto 2000, Mansfield 2003, Mansfield 2011, Roe 2006, Whatmore 2002, Whatmore *et al.* 2003). ANT operates with a generalised symmetry entailing that both social and material actors are included in the analysis (Latour 2005). This perspective has been interesting for exploring organics since the difference between organic and conventional products does not primarily lie in the immediate material difference, but in a difference in the relational configuration. Organics are not a naturally occurring phenomenon, but it is a process of transformation which, in a Callonian sense, qualifies certain products as organic. I therefore have focused on the relations and the relational

configuration which generate organic products and trust in the network. Furthermore the literature of Çalışkan and Callon (2009), Çalışkan and Callon (2010), Callon *et al.* (2002), MacKenzie *et al.* (2008), Muniesa *et al.* (2007) provided me with a performative perspective on the organic market which served as an important input to article (3), enabling me to provide a new perspective on conventionalisation and the developments in the organic food network

I have not rigidly followed an ANT theory approach in each paper, but concrete methods and theories have been adapted and modified to the case and the research question, thereby also attempting to contribute to a description of the organic food network from several perspectives. These more specific methodical reflections are found in the methods sections of the articles.

Empirical data

This dissertation is empirically based on qualitative semi-structured in-depth research interviews, conducted at various times during the life of the project (Brinkmann 2010, Brinkmann & Kvale 2008, Silverman 2011). I have collected empirical data which I have used for the articles in this dissertation in four different sequences.

1. A round of 10 interviews with members of the food communities and farmers producing products for these communities conducted in the spring of 2012, as a particular case study conducted for this dissertation. This data has been analysed and reported in article (2) and (3).
2. A round of 10 interviews with organic farmers and extensionists participating in a project regarding the implementation of farm level climate mitigation plans, conducted in the fall of 2012. This data has been analysed and reported in article (2) and (3).
3. Participation in a round of interviews with 10 organic arable farmers in the fall of 2012 as a part of the HighCrop project. This data has been analysed and reported in article (3).
4. Data from a household survey among Danish consumers and 1 follow up focus group and 4 qualitative interviews, conducted in the fall of 2013 and in the spring of 2014. This data has been analysed and reported as article (4).

4. Key concepts

The dissertation revolves around the three central concepts of knowledge, values and trust. It addresses how they emerge, are absorbed and function in Danish organic food networks. These concepts are central to understanding organic food networks for several reasons.

Organic food production is an alternative production practice, differing from conventional methods because it is founded on a different set of **values**. Values can broadly be defined as preference regarding the appropriate course of action or outcome in particular situations (Joas 2000, Rokeach 1973, Schwartz 1999). Values thus function as assumptions which serve as the basis for ethical action and reflect a sense of right and wrong or what "ought" to be. Values are not only static, but are also dynamic and the object of reflection (Rohan 2000). Furthermore, values influence the production of knowledge by conditioning the selection of phenomena to explore, how to structure observations, and which theories to apply for analysis (Putnam 2002). Values also form a normative basis, which is important for the proliferation of trust (Luhmann 1979).

Knowledge is often considered important because the practice of organic food production is different and consumers need to know about this difference to choose organics. According to the principle of responsibility, knowledge is also a precondition for accordance between actions and values (Jonas 1999). Knowledge can be seen as a way that actors ascribe meaning to the surrounding world and events therein (Leeuwis 2007). Knowledge thus refers to information, facts or experiences about the conditions, requirements, and effects of food production. Information is always interpreted, and knowledge thus also refers to the actors' abilities to process this information. In the modernised food network, production has become separated from consumption, and the effects of food production are no longer immediate (Meijboom 2008). To encourage political consumption, knowledge is thus mediated to consumers through different channels such as labelling and control schemes, which reassure consumers that production meets specific requirements and allow for identification in the marketplace (Bildtgård 2008, Wier *et al.* 2005). Acquiring knowledge

involves a choice for consumers between different sources of information, conflicting advice, and ignoring or obtaining information. Many consumers choose not to acquire knowledge in order to avoid the ethical dilemma of conflicting values and actions (Coff 2006).

Trust is an important feature sustaining the organic food network for several reasons. First, it is no longer possible for ordinary consumers to control the effects of their consumption, given the complexity of modern food production and distancing of production and consumption. Trust therefore reduces the complexity for consumers and acts as a substitution for knowledge. Second, consumers pay a substantial price premium for organics because they ascribe different expectations towards them, which they will only do if they trust the food network to fulfil these expectations.

Trust is a mental state enabling actors to disregard uncertainty and act “as if” certain rationally possible and undesirable futures will not occur. In this sense, trust is essentially a leap of faith (Giddens 1990, Knudsen 2001, Luhmann 1979, Möllering 2006). Consequently, trust concerns how actors relate to risk and uncertainty. According to Lewis and Weigert (1985), trust begins where prediction ends. Simmel (1991) has emphasised that trust is both more and less than knowledge. Furthermore, trust is based on expectations, which are in turn the outcome of an interpretation of the existing knowledge and past experience. Knowledge contributes to the formation of expectations by providing “good reasons” (Möllering 2001). Expectations, however, cannot be deduced from knowledge. There will always be uncertainty because knowledge is incomplete and actors have the freedom to not comply with expectations for their conduct (Giddens 1990, Luhmann 1979). To receive trust, social actors need to present themselves as credible (or trustworthy – literally worthy of trust). Building trust is thus an ongoing reflexive process which requires continuous communication and openness where trust is generated and extended step by step (Möllering 2006).

5. Articles

In this section I will first broadly introduce the background and aim of each article, the subsequent chapter will discuss the results in relation to the research questions.

Article 1: Thorsøe, M.; Alrøe, H & Noe, E (2014) *Observing the observers – uncovering the role of values in research assessments of organic food systems*, in Special Feature on Multicriteria assessment of food system sustainability, *Ecology and Society* 19(2) : 46

Assessing the effects of organic food networks is an important task, because producers, policymakers and consumers act on this knowledge, but it is also a challenge because organic food networks produce multiple different outcomes. Article 1 explores how values are embedded within different research assessments of organic food networks, emphasising how scientific knowledge about organic food networks is generated and the challenges that arise when combining different research assessments. Article (1) thus addresses the main research question and the first sub-question.

Article 2: Thorsøe, M. & Kjeldsen, C. (2014) *The constitution of trust: Function, configuration and generation of trust in Alternative Food Networks*, in press *Sociologia Ruralis*

Trust is an important feature of alternative food networks and it is thought that different configurations of the interactions in alternative food networks provides a basis for developing trust between producers and consumers. Article 3 develops a framework for analysing trust in alternative food networks based on two dimensions of trust identified in the sociological literature, systemic trust (towards a social system) and personal trust (towards another individual). The model is applied to a new and rather popular Danish Alternative Food Network, the food communities (Fødevarefællesskaberne), which are networks of consumers sourcing organic produce from regional producers. The article thus addresses the main research question and the second and third sub-question.

Article 3: Thorsøe, M & Noe, E. (2014) *Cultivating market relations - diversification in the Danish organic production sector following market expansion*, in press Sociologia Ruralis

The market is a necessary foundation for the development of organic food networks and has played an important role in the development of the Danish organic food market. Article 3 focuses on the recent developments in the Danish organic food market and explores how the market driven organic food network influences organic production. The article draws on the concept of market agencement derived from actor-network theory to explore the configurations of different market types and its influence on the organic producers and their engagement towards quality, trust building and production strategy. The article thus addresses the main research question and the third sub-question.

Article 4: Thorsøe, M; Christensen, T. & Povlsen, K. K. (2014) *Trust or knowledge – the relation between trust and knowledge in organic consumption*, submitted to Food, Culture and Society

Trust and knowledge are two fundamental concepts emphasised when scholars analyse consumers' engagement with organic food. Furthermore trust is an important factor for the growth in consumption of organic food in Denmark. What trust is or how it emerge is however rarely explored. Article 4 is based on data from a national survey regarding organic food choice and follow-up qualitative interviews, collected as a part of the MultiTrust project. We analyse the constitution of consumer trust in organics and in particular explore the relation between trust and knowledge. The article thus addresses the main research question and the second and third sub-question.

6. Conclusion

This section discusses the findings of the articles in relation to the research questions. Several aspects of each research question are addressed by the individual papers, but in this section I will draw on central aspects from all papers to answer each of the questions.

The configuration of trust in Danish organic food networks

Article (2) and (4) clarify that for consumers, trust is an important mechanism sustaining producers' quality claims and it reduces the need for knowledge exchange. In general, trust functions as a mechanism reducing the complexity of consumers' engagement with the food system. Article (2) describes several functions of trust for consumers in the food communities, where trust enables members to engage in the community and reduces the need for knowledge exchange and communication. Particularly in relation to the cooperation with producers, trust is important due to a substantial knowledge asymmetry.

For producers, trust also has a function which is clarified in both articles (2) and (3) arguing that the stabilising function of trust enables risk taking and cooperation. For producers trust is needed to sustain the production strategy and risk taking. For organic producers the trusting is directed in other actors and is sustained by different mechanisms than consumer trust. Producers need to trust the retail sector, wholesalers and consumers to purchase their products. This trust is backed or supported through the personal relations with actors and by systemic elements of trust such as the world market and formal contracts.

Article (2) identifies two forms of trust sustaining the organic food network: 1) personal trust, directed at persons and 2) systemic trust, directed at abstract systems, like expert statements or labelling and control schemes. We argue that trust within the Alternative Food Network (AFN) literature, is mainly conceptualised in terms of personal interaction between producers and consumers which we argue is too simplistic. We find that a food network depends on multiple functions and interactions occurring

simultaneously and it is important to include all of these in the analysis and not make a priori assumptions about the importance of particular relations. The Food Communities (Fødevarerfællesskaberne) are a network of a considerable scale with more than 5000 members and assuming this network functions well on personal trust alone would simply be impractical and limiting. Personal trust works well in small and tight knit communities, whereas systemic trust is increasingly important when communities grow in scale.

In Denmark, the labelling and control scheme is a particularly important component of consumers' trust. Article (2) indicates that the labelling scheme is a foundation for the evolution of personal trust in the food network. The labelling and control scheme reduces the complexity for the food communities by defining organics and thereby settles any potential controversy. Article (4) further elaborates that the Danish organic labelling scheme is an important foundation for consumers' trust in organics, ensuring that the food system is monitored and controlled. This indicates a complex relation between distrust, trust and control. Consumers' distrust is reduced because they know that there is a system which displays distrust in the organic producers. This is an interesting point, since consumers' ability to trust the food system depends on an institutionalisation of distrust.

Article (2) and (4) both document that personal trust is still important despite increasing scale and the growing importance of systemic trust. In particular, we found important personal relations of trust among the members of the food communities internally and between specific members and the farmers. These are all important for the function of the network. The results of article (2) originate from a particular case study setting, but the article demonstrates that trust in alternative food networks should be perceived as a configuration of different forms of trust, since both are present and important for the function of the food network.

In article (4) we find that systemic trust, and in particular the Danish labelling and control scheme, is important for general consumers' trust in organics. However, in explaining their trust or distrust in organics, consumers emphasise particular events, experiences or personal encounters with specific farmers. Trust in organics in the modernised food system is therefore not entirely based on systemic trust and for consumers

the abstract and faceless expectations of systemic trust cannot stand alone. Several other factors are also important for consumers' trust in organics, in particular, we observe a high degree of distrust in imported organics due to distrust in the institutions safeguarding organic production in foreign countries. Furthermore, consumers seem to assess the overall organic credibility of the food they consume. Organic produce transported long distances, wrapped extensively or being out of season are generally perceived as not credible. Consumers' trust in organics is the outcome of a complex process of reflection, where multiple factors are considered.

Article (4) documents that trust in organics is highly routinised and to some extent blind, as many consumers trust organics without consideration of alternatives. Furthermore, among consumers, organics is strongly associated with positive representations such as health, sustainability, environmental friendliness and animal welfare. For instance, 70% of respondents in our survey indicated that organics has better values. In addition, 70% of the respondents also indicated a high or very high degree of trust in the labelling scheme. The positive representations of organics are also prevalent among consumers who primarily choose non-organic products and only rarely question the viability of organics. When critique is raised against organic food networks it is not directed at organics as a conceptual idea, but towards its implementation, like distrust in the control system and dissatisfaction with imports and prices.

This dissertation also describes how modern communication platforms provide new opportunities for communication between producers and consumers. Article (2) and (3) explore aspects of the virtual interaction regarding organics and online media is an important new factor enabling a different form of communication by compacting space and time. Furthermore, online interaction allows for two way communication and the mediation of different forms of knowledge. However in general transparency is not widespread in the food system though enabling the development new food qualities.

Article (3) documents that the market relations of the organic food trade have implications for organic food producers. We identify four different market agencements: 1) the standardising market agencement, representing market relations shared by producers selling similar products

via, for instance, the world market or discount stores, 2) personifying market agencement, representing market relations shared by producers common to farm shops and farmers markets, 3) the specialising market agencement, represents market relations which are organised online, like the food communities or box schemes, and 4) the aesthetifying market agencement, representing market relations shared by producers of gourmet products common to specialty stores or restaurants. We argue that the Danish organic food market has become diversified in terms of the configuration of trust and qualities. The constitution of trust in organics therefore needs to be seen in relation to market relations. With sustaining market relation, producers must comply with the expectations which are specific to the particular market relation. This is challenging because the different market relations are embedded with different expectations towards the quality of the products and their behaviour as farmers.

The role of knowledge and values in the development of organic food networks

Article (1) focuses on the conceptual tensions between knowledge and values, central to the dissertation. By exploring the relation between values and knowledge, the article demonstrates the multiple ways that organic food is perceived and practiced within science, and emphasises the complexities of making claims regarding organic food networks. Further, we argue that values cannot be separated from the production of knowledge because values both guide and condition the outcome of the research assessments of organic food networks. Perspectives are thus essential when conducting research, but observations are also restricted because a perspective develops blind spots towards particular aspects which are not included. Knowledge is therefore never neutral, but reflects the foundational value of the research perspective and what is valid within one perspective is meaningless in another. Article (1) further stresses a central challenge regarding the development of organic food networks based on research assessments. The selection of research assessments for optimisation of the food network is challenging when organic food networks can be understood in multiple perspectives. Optimisation of the food network should therefore not be carried out only according to one understanding of value, but according to a negotiated set of values that have emerged from multiple perspectives.

Article (2) and (4) clarify a trade-off between knowledge and trust. Trusting reduces the need for consumers to acquire knowledge about their food network. Article (4) further documents that Danish consumers have a high degree of trust in organics, but not much knowledge about what organics is and what organic food production entails. Furthermore, consumers only show little motivation to acquire additional knowledge about organics. The trust that Danish consumers have built towards organic food is therefore to a certain extent “blind trust” and thus fragile, because it easily turns to distrust. This type of trust is also a way for consumers to relinquish responsibility and transfer the dilemmas of modern food production onto other actors in the food network. Article (2) further indicates, that trust change the character of the communication between consumers and producers, since consumers are interested in a value based dialogue. It is this value based dialogue that sustains trust, rather than specific information regarding traceability, production conditions and the like. This value based communication also sustains trust in the food communities.

Consequently in article (2) we argue that trust should not be considered as a desirable goal of the food system in its own right, but as a mechanism enabling cooperation and sustaining the food network. Despite its ability to generate trust, there is no guarantee that the food network will produce a normatively desirable outcome. In the words of Robert Putnam: “*trust in untrustworthy actors is just being dumb*”. Changing the underlying powers of the food system presupposes a certain degree of control which is only enabled by knowledge regarding the effects of food consumption and the resulting ability to distinguish desirable outcomes from undesirable outcomes. Knowledge about the effects of consumption, and not trust, is thus a precondition for consumers to engage ethically with the challenges of the food system. The sovereign political consumer presupposes knowledge rather than trust. Ideally, consumers will act ethically and avoid food coming from damaging production systems if they are informed about the effects of this production. The high degree of trust in the Danish food system therefore may also make it difficult for the food network to address underlying issues of power in the production system.

Consequently this dissertation, in line with Meijboom *et al.* (2006), argues for a need to shift the focus from trust to trustworthiness in the assessment of the food system. That is, the food network needs to be assessed on

whether or not it is able to generate expectations of consumers which can be fulfilled and on whether or not the food network is able to produce a normatively desirable outcome.

How do values, knowledge and trust act and interact in organic food networks?

In line with previous studies about trust in organics, this dissertation concludes that trust is important in Danish organic food networks. Trust is an important mechanism sustaining producers' quality claims and it reduces the need for knowledge exchange. Danish consumers have a high degree of trust in organics, but not much knowledge about what organics is and what organic food production entails, furthermore consumers only express little motivation to acquire additional knowledge. The trust is therefore to a certain extent "blind trust" and thus fragile, because it easily turns to distrust.

I argue that trust in organics can be understood as two distinct forms of trust 1) personal trust, directed at persons and 2) systemic trust, directed at abstract systems, like expert statements or labelling and control schemes. Systemic trust, in particular the Danish labelling and control scheme is important for consumer trust in organics. Personal trust is also important for many consumers and systemic trust does not stand alone. Among consumers, organics is strongly associated with positive representations like health, sustainability, environmental friendliness and animal welfare.

7. Further perspectives – maintaining consumer trust in the organic food network

In this last section I will discuss the implications of the findings in this dissertation by identifying threats to the credibility of organics and exploring how these threats can be mitigated. This discussion is based on the results of the analysis presented in the four articles, as well as the preceding sections in this dissertation.

Challenges towards consumer trust in the organic food network

Developments in consumption

To sustain the credibility of organics it is a central challenge that expectations are not in accordance with the actual conditions regarding, product qualities or production practices within the organic food network. Expectations towards organic food networks are overly positive and represent a small-scale and friendly antithesis to conventional production (Thorsøe *et al.* 2014a).

The credibility of the food network depends on its ability to fulfil consumers' expectations and demonstrates a clear division of responsibility among the food system actors (Kjærnes *et al.* 2007). Consumer trust in organics is blind trust. Consumers, for instance, only know little about the Danish organic certification scheme, which is an important component of consumers' trust in the organic food network (Thorsøe *et al.* 2014a). Furthermore consumers do not express much interest in acquiring additional knowledge and thereby change the configuration of their trust in the organic food network. This makes the network fragile, because blind trust easily turns to distrust (Berg *et al.* 2005). Consumers trust in organics therefore is not only threatened by fraud and deception, but also by consumers learning how organic production actually is.

New groups of consumers have embraced organics and this partly explains the increasing sales of organics (Jensen *et al.* 2008, Lund *et al.* 2013, Lund *et al.* 2011). These new consumer groups are less dedicated and have a different perception of organics where they are more sensitive to price and their engagement with the food system depends on a marginal price difference. In response, the production system has become attuned to the consumption of these groups and embraced the expectations of these groups. This is also important to sustain the market. This might put pressure on the retail sector however, to only deliver organic products at a low price.

Furthermore, consumers have gradually adapted their shopping behaviour and no longer purchases organic products, just because they are organic, but attempt to act as “organic consumers” (Andersen 2011). This implies that consumers assess the overall credibility of products. Extensive wrapping or products, products out of season, and foreign products are not perceived as credible although they are certified organic. To remain credible in the eyes of these consumer groups, organic food actors need to address these concerns.. If the organic label, for instance, ceases to be seen as a guarantee that the product encapsulates a holistic set of organic principles, and is reduced to a guarantee for only some principles or aspects of production, then the effectiveness of the label may be compromised. Large-scale production and an increasing supply of imported organic products is problematic because consumers view these as not sustainable. They are aware that organic labelling still applies to these perceived unsustainable products.

Market development

The Danish organic labelling and certification scheme is often used to explain market success of organics in Denmark (Daugbjerg & Halpin 2010, Smed *et al.* 2013, Sønderkov & Daugbjerg 2011). The label is an institutionalisation of distrust enabling consumer trust, and stabilising consumers' expectations of organic producers by standardising production requirements. The requirements for organic production are a standardisation that serves the purpose of marketing organics and this is beneficial to many actors. But as mentioned earlier, consumers have more expectations on the label than can be accommodated.

The organic market is characterised by many different tendencies, pointing towards various developmental pathways. Today, the organic food network has diversified into both large-scale production, local production and diversity, and another focused at dedicated gourmet production (Thorsøe & Noe 2014). The different tendencies raise different expectations and depend on different expectations resulting in different constitutions of trust and credibility. In fact, what defines one market might have a negative influence on another. Expectations towards standardisation and efficiency that are characteristic of large-scale production are directly in opposition to expectations towards uniqueness and terroir of dedicated gourmet production. Market development therefore potentially threatens the unity of the organic food network as a whole, because the tendencies express different developmental goals. Furthermore, it is uncertain to what extent consumers are able to distinguish between these different aspects of organic production.

Production development

The organic principles which form the basis of organic production practices are an ambitious set of ethical principles and have resulted in expectations that are higher than those found in conventional agricultural production. The ambitious principles make organic farming attractive for both producers and consumers. It would have been easier to adopt less ambitious principles, but this may have resulted in a less attractive farming system as well. The principles have been developed as ethical guidelines which are not meant to be fulfilled (Alrøe & Kristensen 2004, Luttikholt 2007). When fulfilling the principles is impossible it potentially exposes organic farming to criticism as it is easy to criticise the organic farmers for not doing a sufficient effort to meet the principles. This incurs a communication challenge for organic farmers to explain or articulate these principles. Furthermore the research tools to assess the effects of organic food networks are based on built-in values that are not necessarily in accordance with the organic principles (Thorsøe *et al.* 2014b).

Another challenge lies in the requirements for organic production. Although organic principles are fixed, organic production practices must continuously be adapted in accordance with meeting these principles because the knowledge base for organic production gradually builds and new societal challenges have to be incorporated into the production system.

It is therefore necessary to continuously adapt organic requirements so that organic production is not outdated or vulnerable to a loss in consumer confidence. Adapting production systems is however challenging due to the specialisation of production. Producers often become dependent on a particular policy design resulting in path dependency, and they may be constrained by their initial choice of farming system. New investments to implement change are simply not feasible.

Climate change is a good example of a strategically important new issue which has not yet been implemented into organic requirements. Consumers are concerned and expect that organic producers make more positive differences in terms of climate change, compared to conventional producers. This is not in accordance with the actual impact of organic production (Thorsøe *et al.* 2014a).

The Danish government owned labelling and control scheme causes another problem. Products can be certified organic even though they may come from countries where organic production regulation is less restrictive than Danish regulation. The Danish label guarantees that products are “audited by the government”, which of course makes sense in relation to Danish products. This is however questionable when it comes to foreign organic products because they are not monitored by the Danish government, but by either foreign governments or NGO’s. This is a powerful incentive for foreign countries to adopt policies that water down requirements. At the same time it is difficult locally to adopt new national organic requirements even though there is public support because it will expose Danish production to increasing international competition. Apart from market success, the label also makes the organic food network resistant to changes, however relevant. Currently, in the Danish organic market, more and more organic products are imported increasing this tension.

Sustaining the long-term credibility of the organic food network

Building trust and credibility is an ongoing reflexive process requiring continuous communication and openness, where trust is generated and extended step by step (Möllering 2006). Furthermore, the trustee must continuously demonstrate that trust is justified. Credibility depends on the

food networks ability to fulfil consumers' expectations and since today there is a widening gap between consumers' expectations and actual conduct, consumer' expectations need to be co-ordinated with the organic food network. Coordination of expectations should not be a one way journey, but imply that some expectations are internalised by the food network, while others are replaced.

Expectations towards the labelling and control scheme

A credible labelling system is an important factor for the generation of trust to ensure that consumers' trust is backed by institutions safeguarding production requirements. In the Danish context it is problematic that the label covers both Danish and foreign products. This can be mitigated by, for instance, changing the ownership of the label from a state owned and operated label to a private label, as proposed by actors from within the organic movement (Foldschack 2014). Changing the ownership structure implies that the owners decide on production requirements. This enables the exclusion of, for instance, foreign products or products which have not been produced under similar requirements as Danish products. Other authors however, emphasise that private labels do not have the same credibility in the eyes of consumers (Sønderskov & Daugbjerg 2011). Changing the ownership structure therefore is not a straightforward matter and setting up a credible ownership structure requires careful deliberations within the organic movement and inclusion of consumers' expectations.

Replacement or internalisation of new expectations

Changes in environmental legislation and technology improvements imply that conventional production increasingly comes to resemble organic farming. To remain an attractive consumption choice for consumers it is necessary that organic production distinguishes itself from conventional farming, and that the practice of organic farming incorporates some of the expectations that consumers already have about organic production systems.

In practice it is not possible or desirable to internalise all consumers' expectations, in particular if these expectations are built on incomplete or wrong information or assumptions. Expectations can however be fulfilled in many different ways and if the expectations are not fully reflected, consumers would most likely not want them fulfilled (Luhmann 1979).

When actions are not in accordance with expectations, it is important that this is communicated to consumers to alleviate misunderstandings. At present, another practice has been adopted where consumers' wrongful expectations are ignored and this in the long run is likely to be unsustainable.

Consumers choose organics for different reasons within different regions and at different times, depending on culture and societal challenges (Ingemann 2009, Kjærnes *et al.* 2007, Poppe & Kjærnes 2003). Furthermore, it is important to notice that expectations towards organics are not only generated in the commodity chain. Expectations are also formed in media and general societal discourses and these need to be considered as a framing of organics. To remain a relevant consumption choice for many consumers organic farming must therefore continuously evolve to meet these challenges. Many consumers wrongly expect that organic practices ensure qualities such as better taste or low impact on climate change. Climate change is therefore an example of a rising new issue where consumers, in fact, wrongfully expect benefits from organic farming. This is an area where organic farming does not mark a positive difference compared with conventional production (Trydeman Knudsen 2011). Adapting the production to minimise impact on climate change will therefore be an important challenge for organic organisations which already recognise this challenge (Tersbøl 2012). Maintaining credibility therefore, is not just about informing relevant actors about the beneficial aspect of organics, but it is also about developing the organic requirements to meet new and emerging issues. Another emerging issue is product taste. Superior taste is an important expectation of consumers and others in the organic industry. This could be encouraged by the organic movement as a whole, not by labelling but by incorporating changes to production practices that result in improved taste, such as cultivating old plant varieties and livestock breeds.

Knowledge, values and coordination of expectations

It is challenging to coordinate expectations in an organic market where information is unwanted and it is perhaps not possible to change the configuration of consumer' trust from blind trust to more reflective trust. Rather than knowing the full complexities of organic production, consumers are satisfied that there are other actors making decisions on

their behalf. Remaining credible thus implies that the organic food network is able to present itself as capable of making these decisions. Meijboom *et al.* (2006) argues that credibility in the modernised food network is not only reacting to issues when they arise, but also being able to enable preventative action. It is therefore important that the organic food network is able to demonstrate capability and motivation towards taking proactive actions. The organic food network can demonstrate this by communicating the values underlying organic food production and thereby presenting itself as capable of acting with constant care. Furthermore the organic food network can develop assessment tools corresponding to the organic principles (Thorsøe *et al.* 2014b).

An important expectation of many consumers towards the organic food network is the image of a small-scale family business, indicating care and engagement. In the marketing of organics this image connoting ethos is also frequently applied (Cook *et al.* 2009). For consumers, organics becomes a friendly antithesis to conventional production, but in many respects this is a misconception. Most of the organic food produced and sold in Denmark originates from farms that, on average, are larger than the average conventional farm. The analysis from the interviews with consumers that are presented in the articles indicates that efficiency as such is not opposed, but rather, consumers oppose the unintended side effects of industrialisation, like food scares or environmental degradation. The organic principles are not opposed by a large-scale operation as such, and if the organic food network is not able to develop itself, then it will not remain a viable alternative to conventional production. Tacitly these effects are equated with the efficiency of a large-scale operation. It is however important that this perception is replaced. Large-scale operations also enable certain other benefits in terms of, for instance, resource efficiency, which are not an option on a smaller farm. It is problematic if producers only focus on efficiency in economic terms and ignore the positive externalities that organic production also produces. Intensifying the organic production will only be viable if optimisation is in accordance with the organic principles.

The challenges of coordinating expectations

As presented above, there are several challenges towards the future credibility of the organic food network. Initially it is important to stress that

credibility is a consumer perception and actors only have limited control of how they are presented and perceived (Hoff-Clausen 2008). This is particularly true in our modern media saturated society where actors, only to a limited extent, can control their self-presentations, because intermediate actors select and frame information which is transmitted to consumers (Krotz 2007, Lundby 2009). Actors can choose how they act, but they cannot control how these actions are perceived. Managing credibility is therefore chaotic and uncontrollable. Credibility is not something producers can do, but rather, it is a way that they are perceived. Inaction or inattention towards the challenges is also risky, particularly when consumers' trust in the organic food network is fragile blind trust and when consumers expect other actors in the food network to make decisions on their behalf.

Consumers purchase organic products based on their own expectations which cannot be completely fulfilled by the food network. The long term credibility of the food network however presumes that the network is able to fulfil consumers' expectations, which is currently not the case.

Coordination of expectations implies a possible trade-off, because it is uncertain whether or not consumers will continue to purchase organics if their expectations are aligned with the performance of the food network. This is particularly relevant given the current situation where consumers have overly positive expectations towards organics. In the future, consumer support of organic products will depend on the organic industry maintaining long-term credibility. Actors in the organic food network must find a way to coordinate expectations without compromising their market. It is problematic if consumers' expectations are just blindly removed. Coordinating expectations must therefore also be seen as an iterative learning process. To coordinate expectations presupposes that consumers' expectations, if unrealistic, are replaced with new and more realistic expectations.

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