



Food-based Activities versus Material Possessions: Alternatives to Consumption

ROBIN R. WIKOFF AND MADELEINE E. PULLMAN

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Abstract. We examine how food-related experiential activities offer different types of intrinsic pleasures, create an alternative path to consumerism, and subsequently affect happiness and well-being. Participant's perspectives on these activities are compared to those of their favourite material possessions to explore the differences in meaning and motivations. Phenomenological interviews centred on food activities and material possessions revealed that experiential food-related hobbies are valued highly and a source of great life satisfaction because of meeting a variety of psychological needs. These activities offer an alternative conception of what it is to flourish and to enjoy a 'high' standard of living as they were found to be mostly intrinsically motivated. Many material possessions also suggested intrinsic aspirations while others showed a mix of both intrinsic and extrinsic aspects. The data reveal that the need for adopting extrinsic life aspirations is not strongly expressed when food-related experiential activities, such as food growing and preparation, are a part of regular life. These food-based activities and certain types of material possessions with intrinsic values encourage a more ecologically sustainable use of resources and reduce social and environmental exploitation associated with consumerism. This research contributes to new modes of thinking about happiness and well-being by supporting the 'alternative hedonism' concept as remedy to consumerism.

Introduction

Consumer culture offers the promise of happiness through acquisition of material goods, encourages the depletion of natural resources, reduction in biodiversity, excessive waste, and other negative sustainability outcomes (Burroughs and Rindfleisch, 2002; Crompton, 2008). Contemporaneously, food production and preparation activities have gained national attention with increasing focus on healthy food, food production and preparation and diet-related health issues. As experiential ac-

Robin R. Wikoff is at the Systems Science Graduate Program, P.O. Box 751, Portland State University, Portland, OR 97207, USA; email: <robinwikoff@gmail.com>. Madeleine E. Pullman is Willamette Industries Professor of Supply Chain Management at the School of Business Administration, Portland State University, Portland, USA. This article is based on one of the author's Ph.D. thesis. That author is grateful to the gardeners who shared their experiences, homes, and gardens. The author would also like to acknowledge the support of the dissertation committee, faculty, support staff, and students of the Systems Science Graduate Program in the School of the Environment at Portland State University.

tivities, food activities are a potential source of personal satisfaction and can offer an alternative to consumerism. Soper (2007) describes this alternative, called ‘alternative hedonist’, as ‘the sensual pleasure of consuming differently’. Thus, looking at the relationship between food-based activities and their motivations is an important area for research. The present study was driven by the desire to understand satisfying experiences in urban food growers through the lens of intrinsic versus extrinsic motivations. By understanding different aspects of an individual’s relationship to a favourite material item versus food-based activities, we explore the potential intrinsic and extrinsic goals that emerge, commonalities and differences between food and material objects, and their relationship to life satisfaction.

Soper (2007, 2008) posits that intrinsic pleasures can be found in simple everyday sustainable decisions such as walking or cycling instead of driving a car. Further, our conceptions of high standard of living and the ‘good life’ can be shifted to focus on the intrinsic pleasures of more intentional living, such as spending time cooking instead of eating fast food (Soper, 2008). This shift in choices leads to less environmental damage, less focus on individuals’ identities as consumers, and more life satisfaction for individuals (Soper, 2007, 2008).

Kasser and Ryan (1993, 1996) posit that the difference between materialists and non-materialists (i.e. alternative hedonists) is between extrinsic and intrinsic goals, where extrinsic goals (e.g. financial success, physical appearance, and social recognition) are materialistic and rely on external sources to fulfil psychological needs, through rewards and praises. Intrinsic goals (e.g. self-acceptance, affiliation, and community feeling) are non-materialistic and lead to greater satisfaction of psychological needs, since these goals lead to greater satisfaction regardless of external sources, i.e. other people or events (Pierce, 2000; Shaw and Newholm, 2002; Huneke, 2005; Sheldon and Lyubomirsky, 2006) (see Figure 1).

Van Boven (2005) shows that both intrinsic and extrinsic satisfaction may involve purchasing material possessions, but create different experiences; intrinsic purchases involve buying material possessions in order to have a life experience, while ex-

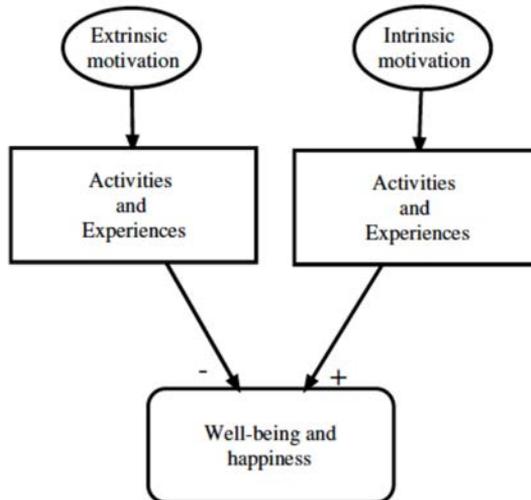


Figure 1. Model.

trinsic purchases involve buying a material possession as the terminal experience. Intrinsically motivated activities show potential to decrease overall materialist life aspirations and behaviours in favour of more intrinsically motivated and, in general, more sustainable and satisfying activities. Soper (2007) posits that consumerism creates an environment that blunts sensibility to sensual delights, and that the negative effects of consumerism will be difficult to change without an active 'disenchantment', with consumerism or without a 'seductive alternative' to consumerism.

Food-related activities such as growing or preparing food are generally regarded as experiential pursuits (Waliczek et al., 2005; Clayton, 2007). Thus, this investigation sought to explore the extent to which those who engage in those activities are solely intrinsically motivated. Conversely, experiences with material possessions are potentially more extrinsically motivated than food activities (Van Boven, 2005). Therefore, understanding the relationship between people's motivations around food activities versus their material possessions provides an opportunity to tease out commonalities and differences in their intrinsic versus extrinsic motivations and how they relate to satisfying life experiences. The research questions are posited as the following:

1. to what extent is engaging in food-related activities (i.e. gardening and preparing food) intrinsically motivated?
2. to what extent are food grower's experiences with material possessions consistent or contradictory with intrinsic and extrinsic motivations?

To begin to explore these questions, phenomenological interviews were conducted, comparing and contrasting subject's gardening experiences with their experiences of favourite material possessions. The analysis of these narratives reveals a surprising diversity of descriptions of how and why food-related activities are satisfying, as well as a spectrum of types of motivations involving material possessions.

Literature Review

In this section, two distinct areas of research will be reviewed: the impact of extrinsic or intrinsic motivation on well-being, and how extrinsic or intrinsic motivations may be expressed in experiences of food activities and material possessions.

Effects of Extrinsic vs. Intrinsic Motivation on Well-being

Individuals who are primarily extrinsically motivated seek happiness through acquisition of material goods, through tightness with money, or through external praise. Typically, researchers have found that these behaviours do not lead to long-term increased happiness (Maslow, 1954; Fromm, 1976; Kasser and Ryan, 1993, 1996; Sheldon and Houser-Marko, 2001; Sheldon et al., 2001; Tatzel, 2002; Kasser, 2003; Kasser and Kanner, 2004; Van Boven, 2005). While there have been many studies exploring aspects of extrinsic motivation (Inglehart, 1981; Belk, 1985; Richins and Dawson, 1992; Kasser and Ryan, 1993, 1996; Richins and Rudmin, 1994; Kasser, 2003; Van Boven, 2005), far fewer studies have addressed intrinsically motivated experiences (Pierce, 2000; Sheldon and Houser-Marko, 2001; Schwartz, 2004; Doppelt, 2010).

Comparing extrinsic versus intrinsic aspirations, research indicates that if an individual has extrinsic life aspirations then they will not be as happy as if they had more

intrinsic aspirations, i.e. they will be doing a poorer job of satisfying their psychological needs (Richins and Dawson, 1992; Kasser and Ryan, 1993, 1996; Kasser, 2003; Van Boven, 2005). Unmet psychological needs both motivate extrinsic aspirations and are a result of extrinsic motivations, in a reinforcing cycle of high consumption (Maslow, 1954; Fromm, 1976; Kasser, 2003). Extrinsic aspirations are chosen as a short-term, quick fix for unmet psychological needs for a number of reasons, but this strategy tends not to be helpful in meeting psychological needs in the long term, and may actually harm an individual's psychological well-being.

Whereas extrinsic aspirations require external sources (outside of the individual) to meet psychological needs through rewards, praise, or acquisitions, intrinsic aspirations such as self-acceptance, affiliation, physical fitness, and community feeling, allow the individual to meet their own psychological needs as a direct result of attaining the life aspiration (Kasser and Ryan, 1993, 1996; Sheldon and Houser-Marko, 2001; Sheldon et al., 2004). Intrinsic or extrinsic aspirations are not good or bad in and of themselves, just as material goods are not positive or negative, it is only when extrinsic aspirations are excessive and/or distracting from intrinsic aspirations that problems occur. Addressing the imbalance can help with personal integration, actualization, and satisfying basic psychological needs (Kasser and Ryan, 1993, 1996).

Barriers to and Opportunities for Alternative Hedonism

The concept of alternative hedonism was popularized by Soper (2007, 2008). Rather than working for and purchasing luxuries to achieve happiness through extrinsic motivations, alternative hedonism indicates that a life of pleasure comes from doing those 'simple things' in life that are free or at least inexpensive, such as spending time with friends and family, reading, pursuing creative activities, gardening, going for a walk or swim, or just setting and contemplating nature. Literature on actual processes or experience of adopting alternative hedonism is limited, although popular writing abounds about the virtues of abandoning extrinsic motivations (De Graaf et al., 2001; Schwartz, 2004; Carlomagno, 2005; Beavan, 2007; Robin et al., 2008; Andrews and Urbanska, 2009; Elgin, 2009; Center for the New American Dream, 2011). There are several psychological barriers to people shifting their aspirations and purchase behaviours away from extrinsic motivation including: 1. a culture of defined needs that far exceeds what is necessary; 2. materialism blindness or unawareness; and 3. hedonic adaptation (Van Boven, 2005; Sheldon and Lyubomirsky, 2006; Sundie et al., 2010). The prolific nature of advertising feeds expectations that material acquisitions will lead to psychological well-being and reinforces the luxurious definitions of what is needed to fulfil basic needs (Maniates, 2002; de Geus, 2003; Kasser, 2003; Schwartz, 2004; Huneke, 2005; Crompton, 2008; Elgin, 2009). As alternative hedonism, pursuing food activities has the potential way to shift consumptive patterns to more intrinsically satisfying behaviours.

Material Possessions

The desire to consume material goods for non-utilitarian purposes has been present for most of human civilization but, historically, this type of consumption was only accessible to the wealthy. More recently, the act of acquiring non-utilitarian material possessions has become more readily available to the masses in the developed world. While the extrinsic motivations to acquire material goods have not changed,

the expectation that these possessions will somehow lead to happiness and psychological well-being has been encouraged increasingly by consumer culture (Belk, 1985; Richins and Dawson, 1992; Kasser and Ryan, 1993, 1996; Crompton, 2008).

In an attempt to understand how these material purchases influence happiness or well-being, various researchers have compared these types of purchases to other types such as experiential purchases or creative activities. Van Boven (2005) found that experiential purchases have longer lasting positive effects on happiness. Millar and Thomas (2009) found that highly extrinsically motivated individuals experienced greater happiness from material purchases than from creative activities or experiential purchases. These motivations for and impacts of experiences with material possessions and food activities will be explored further by examining lived experiences of individuals and their favourite material possessions.

Food Gardening and Preparation

For many, food gardening and food preparation are activities done outside of a profession, but such activities differ from other more passive non-market activities such as watching television because gardening is a more participatory and intentional pastime. Food gardening may be intrinsically motivated (Kaplan, 1973; Cheng, 2010; Hale et al., 2011), and has also been shown to increase a gardener's sense of connection with the natural world due to the constant and intentional interactions with nature while gardening (Kaplan, 1973; Hale et al., 2011).

Food garden therapy is sometimes used to help children with behavioural disorders or to gain more environmental awareness (Lautenschlager and Smith, 2007). Many studies, exploring the psychological benefits of food gardening, focus on mental illness, or connections with nature, or food gardening as a catalyst for an ethical awakening (Waliczek et al., 2005; Sumner, 2008; Weinstein et al., 2009). Despite the numerous articles regarding food and gardening experiences, there is a lack of research on food gardening as a type of non-market activity that is internally motivated, and the resulting psychological benefits. The motivations of individuals will be explored further by contrasting food activities with experiences of favourite material possessions.

Research Objectives

Drawing on the literature, we fill the research gap by looking at how individuals are intrinsically versus extrinsically motivated in their perceptions of food-related activities and material possessions. There is a lack of in-depth understanding of how the same individual experiences both things and his or her associated satisfaction. The study builds on Soper's 'alternative hedonism' as a complementary paradigm to consumerism (2007, 2008) by exploring phenomenological topics such as satisfaction of psychological needs, meanings of personal possessions, and experiential activities. The goal is to gain a deeper understanding of how intrinsic and extrinsic life aspirations relate to food activities and material possession experiences.

Methods

A methodology called existential phenomenology provides a framework for exploring first-person lived experiences, such as intrinsic motivation, voluntary simplicity,

mindfulness, gratitude, and satisfaction (Maniates, 2002; Groenwald, 2004). Phenomenological research focuses on thickly described first-person lived experiences, to explicate the essence of the structure and meaning of a phenomenon (Thompson et al., 1989; Moustakas, 1994; Groenwald, 2004; Giorgi, 2006).

Phenomenology can provide some much needed insight into this process by starting with first-person lived experiences of phenomena related to extrinsic and intrinsic motivations such as happiness, experiential purchasing, and meeting needs. Examples of phenomenological studies exploring the experience of deciding to make a purchase include Thompson et al. (1989) and other research addressing home, sense of place, and relationships between the environment, people, and their behaviour (Seamon, 1982, 2000; Russell and Levy, 2012). Thus, it is apparent that there is opportunity to make a contribution using phenomenology to explore the relationship between people's lived experience with food activities and types of motivation.

To illuminate the phenomenon, the authors conducted a series of one to two hour interviews where participants were asked about their food activities, their favourite material possession, and their experiences around the material possession (Holt, 1995; Huneke, 2005).

Participants

Participants were recruited based on the intensity sampling criterion (Patton, 2002; Bailey, 2007), through community gardens in Portland, Oregon. Intensity sampling is a type of purposeful sampling (as oppose to probability, or random sampling), where cases are selected for systematic study that are information rich (Patton, 2002). In intensity sampling, participants are selected for in-depth knowledge or experience of a topic or phenomenon. Since the topic was food activities and material possession experiences, urban gardeners were selected for their in-depth knowledge and experiences of food activities, but not for unusual, extreme, or novel food activities compared to standard food production and preparation practices and activities. Also, by recruiting from community gardens, the participants were somewhat standardized; all participants had the same amount of space to grow food on, and to be a community gardener they had to live within the city limits, which limited the extremes of their living conditions (e.g. no rural participants). So the participants were 'normal' in terms of their food activities among urban gardeners, but were more intense in the level of food activities than the city population in general, since they chose to spend more of their time growing and preparing their food by being part of a community garden. An upper limit of 10 participants is recommended for phenomenological study (Groenwald, 2004; Creswell, 2007), and in this study, eight was adequate for saturation for the lengthy, semi-structured interviews and in-depth analysis necessary for phenomenology. The sample of eight included a broad cross-section across ages and genders (see Table 1).

Procedures

Semi-structured interviews were conducted during February and March 2012 and, in all cases but one, the interviews took place at the gardener's home. The interviews were both audio and video recorded, and transcribed by the author. Pseudonyms were used for all participants to protect their confidentiality. Each interview was

Table 1. Demographics of participants.

Participants	Work status	Age (years)	Gender
Mike	Retired	65	Male
Melissa	Disability	59	Female
Charles	Full-time	44	Male
Joe	Retired	70	Male
Cathy	Full-time	50	Female
Sue	Part-time	56	Female
Danielle	Disability	65	Female
Annie	Part-time	44	Female

guided by questions designed to explore participant's experiences of food and material possessions, and related materialist and experiential activities: 'tell me about your favorite material possession' and 'tell me about the last time you completed a project involving food'; each question was further probed by asking 'how' and 'why' to elicit comprehensive details.

In addition to interview recordings, observational data were collected including field note observations of the participants during and after the interview, and photographic and field note observations of the participant's home and garden spaces. At the time of the interviews, observations were made of the participant's living space, including 200 photographs of their possessions and food activities and 20 pages of field notes. The 104 single-spaced pages of transcripts served as the raw data for interpretation.

Analytic Strategy

To insure that the data were transcribed correctly and to improve validity, the transcripts and descriptions were sent to the respondents for evaluation and none had corrections. The data analysis then began by reading and rereading all the transcripts, to become more sensitized to major themes. Following Moustakas's and Groenwald's recommendations for explication of phenomenological data (Moustakas, 1994; Groenwald, 2004), each transcript was reviewed and separated into smaller units of meaning, ranging from a few words to a few paragraphs in length, each of which represented an illuminating statement about the phenomenon. Initial coding was inductive, based on particularly poignant statements within the units of meaning. After several transcripts were reviewed, the units of meaning (i.e. data) were iteratively clustered into discrete themes.

Other themes were more deductively created, based on the research scope of food activities, material objects, and motivations. A subjective heuristic was used to determine whether or not categories and topics were significant enough to become a discrete theme. Significant themes needed to be: 1. described by multiple participants; 2. described as poignant or particularly meaningful; and 3. relate to relevant aspects of the research, such as satisfaction, happiness, well-being, and meaning making of food activities or favourite material object.

As more transcripts were reviewed and separated into units of meaning, these data were clustered into existing themes, clustered into new themes, or sometimes

used to split an existing theme into two or more new themes if the new theme concepts were discrete enough from other themes. Convergence and saturation were reached when many similar units of meaning were found to reflect the same or similar experiences between gardeners.

Calculations such as reliability coefficients are not typically used in phenomenological qualitative research (Moustakas, 1994; Groenwald, 2004). Rather, two researchers separately coded the transcripts and iteratively came to consensus on the themes. During the theme exploration process, the diversity and similarity of the data were explored, in terms of representation among the participants, and in terms of the specific meaning making. Through the theme exploration process, units of meaning were occasionally reassigned to a different theme, to increase the saturation of themes, and to aid in settling on a parsimonious set of themes.

Results

Qualitative analysis of the interview data led to six distinct themes regarding participants lived experiences of food activities as satisfying activities and as favourite material objects. Photos of the favourite material possessions for each participant are provided in the Appendix. The six themes that are discussed include: 1. relatedness: allows for, builds on or enhances a relationship; 2. connection: creates a direct relationship to the source or earth; 3. sensations: stimulates sensory awareness and pleasure; 4. expectations: encourages a belief of high quality outcomes; 5. competency: engenders pride in abilities and self-sufficiency; and 6. abundance: produces feelings of plentitude, wealth, and gratitude or related to the opposite: feelings of not enough, scarcity, or too much. The themes are described next.

Relatedness

The theme relatedness addresses social connection and personal relationships that are enhanced by the participant's interaction with others during their food activities or with their material object. Growing food in a community garden, preparing and cooking food, and eating with others are all food activities that create social connection and enhance interpersonal relationships. The theme also came through in the interviews with several people when they talked about their material possessions. The items came from a beloved friend or family member or were created from interactions with another person.

Food: Many participants described how much they looked forward to and enjoyed spending time being social during food activities. Sharing food experience with others made the experiences more enjoyable, strengthened social relationships, and helped lessen the amount of work. While social food activities can be focused on sharing sensory pleasure, food can also play a major role in social capital. Danielle lived near her daughter, and they often cooked together. She felt very nurtured and was very grateful to her daughter when she broke her leg and her daughter brought her fresh produce and cooked meals for her:

'My daughter is very interested in cooking with me; we do some cooking together. When I broke my leg, she really came through and brought food to me, and as I was being able to get up and cook, we cooked together.'

For Annie, cooking and sharing food was an important part of her social experience:

'We made Indian food for a couple of friends who came over a few weeks ago. The one gal, she cooks a lot, and she's a real foodie, so I was really trying to impress her. It worked.'

Material Possessions: Many favorite material things were connected to relationships from the present or past. They are special things because they show love from the giver or receiver and continue a relationship with someone who passed away or is no longer in their lives, thus preserving the relationship. Mike talked about his favourite thing, a particular drawing of his partner, which is part of a much larger collection of sketches or paintings done of the person.

'It's a drawing I did of my partner. I like that drawing very, very much... For five to six years, I just, almost exclusively, not exclusively, but... drew my partner, because he was available. In my extensive schooling in art, I had one memorable teacher who told me, he said, "You know if you want to make it easy on yourself, and you want to make things that satisfy you, draw things that you absolutely love, or you absolutely hate. Anything you feel really strongly about, and just forget about trying to draw the rest." So I drew him for five, six years before I even decided to get back into colour... I have tons of drawings of him, and paintings.'

Danielle has a collection of kitchen tools from her grandmother. While they take up a lot of space in her kitchen and she is trying to get rid of clutter, she cannot part with these tools. In this example she talks about her grandmother's knife as well as other tools, and how these objects show love from her grandmother.

'It's very useful. We don't buy our bread pre-sliced. I have this and one other knife, and this is my go-to knife. It's something that my grandmother gave me. She was my favourite... she was the relative that could really show me that she loved me... This is my go-to knife. She died when I was in my 20s... So, I have her breadboard and her rolling pin, that my grandfather made, and this knife.'

Connection

The theme of connection covers the idea of knowing the point of origin, a sense of place or cultural identity, and exactly where the food or materials came from.

Food: The idea of knowing where their food came from and having a relationship with their food as it was growing, was very important to most participants. For some participants, this meant knowing the people who grow their food, and having an active role in harvesting the food. Mike enjoyed harvesting his own berries, and was consistent about going to the same pick-your-own place.

'I go to a blueberry place, and formed a relationship with a farmer there. I always look forward to the season; I look forward to seeing her, three or four times during the growing season.'

For Charles, having a connection with his food was more about growing his own food in his garden plot and making an effort to use everything that he grew in meals that he and his family prepared. He seemed to relish the idea that he knew where his food came from.

'I think a lot of this came from my father in a lot of ways, his family being Depression Era kids, they made their own whiskey, they distilled, they grew 99% of their food. His father was an iron miner, but he was also the town butcher. So, it's really doing for yourself, and being able to know how to do these things. I just think that's very important for all of us to know. Where does your meat come from? Where does your food come from? And if that wasn't there, can you do it yourself?'

Sue described an experience she had eating chicken soup at a restaurant where she was not sure of the quality or origins of food.

'Even though the taste was OK, there was something about it. I could feel that my digestion was not happy. I think that the connection between your stomach and your head, they are connected. So, I'm thinking "oh uh, there's gristle in here, oh the chicken, they are probably not using organic". That all starts to effect how my body reacts. I didn't get nauseous, but my stomach wasn't settled because my mind wasn't settled about it.'

Sometimes a desire for awareness and connection led participants to unpleasant food activities, when they could not enjoy a meal because they were aware of poor quality and were unsure of the practices associated with production.

Material Possessions: Similar ideas about connection arose from the discussions of favourite material objects. Here, Sue talks about wood used in her ukulele and how it connects to where it comes from and its origins as a tree.

'What's really neat is that [smelling the instrument] it still has the smell of the wood. It's Koa wood. So, I just love that, that it maintains that. Again, it's a reminder of where it comes from. This was a tree (or several kinds of trees) that someone lovingly put together.'

The most common theme in food activities and material possessions was the idea of something being made by hand. Almost every participant talked about making food by hand and many of the favourite material objects were also handmade (sketch, sculpture, cutting board, and ukulele) Mike's quote was representative of many of the respondent's feelings, thus creating a connection between the passion for food activities to the favourite material objects.

'I like doing things with my own hands, making things, taking care of things, and producing things.'

Annie's favourite material objects, her house, show a slightly different perspective on handmade as a way to express themselves as people.

'We worked on it, so it's not just my material possession; it has been my passion, and my husband's too... It's not just the building, it reflects my husband and I as people, and how we express ourselves artistically.'

Sensations

The idea of sensations covers sensory exploration, i.e. sight, touch, smell, sound, and taste. Food activities are inherently filled with all these sensations, but the favourite material objects also have plenty of sensory engagement for these participants.

Food: Food touches on almost all of the senses so it is not surprising that respondents connect sensory aspects with food. Often these experiences focused on the sensations of simply prepared foods. Almost everyone had a 'fresh produce straight from the garden' story. Sue talks about the sensory aspects from growing through processing and how the senses are engaged throughout the whole period.

'I guess it is pretty sensory, from growing to processing. You do have to use a lot of your senses. When you're fermenting, you have to check in with them [your senses] a lot. Especially because of doing it in the summer, the temperature really dictates how fast things ferment. I like that aspect.'

Melissa described how she savoured her cooking experience, and focused on flavour and quality over quantity during her gardening experiences:

'I've learned, I'm a slow cooker; I have the slow cooking mentality. I love to grow leeks, because you can put the leeks in the soup stock. I grow for flavour. I do it for fun, too. I grow for flavour, so I don't need a lot of what I grow, but it has to have really good flavour.'

Mike usually preserved half of his harvest from the blueberry fields by freezing them, and the rest he ate fresh. Mike's attention and mindfulness to his experience allowed him to experience the berries most fully. He described how he chose to eat his berries simply prepared:

'The blueberries... I'm not a big cook, I don't make muffins or pancakes, I just eat them as... I have a horrible sweet tooth, so I use them like I would cookies or candy. I eat them frozen during the winter, and I just love it. I eat cups of blueberries.'

Material Possessions: Sensory aspects come through in several of the material possessions. For example, in Sue's quote about her ukelele, she talks about smelling the wood and recognizing the tree from which it came. Mike described how his drawing showed a sense of movement and visual interest.

'It's loose, it's exaggerated, it has a lot of nervous diagonal lines, it sort of vibrates with movement. It's just very quick, very successful drawing. It takes a lot of, in my case I am someone who can draw very well, and I can draw very realistically, with a lot of shading and... a lot of light and dark... molding, shaping, a lot of perspective.'

Similarly, Charles focused on spending his money on sensory experiences.

'My wife's father has a saying, and the more I say it and hear it, the more I believe it: "You cannot spend too much money on a good time." In other words, those memories, those memories are worth a car, worth anything... You give me access to a library, and a way to grow food, and make beer, and I'm OK.'

And Joe described his experience of driving his Porche car:

'If I'm driving the Porche, I'll drive 70. If you go faster than that, you're risking a ticket. I've gotten one speeding ticket in my whole life, and it was when I was 18 years old. So I don't speed. One of my friends said, "Joe, the Porche is wasted on you" [laughing]. But I enjoy it, it handles so well, and you don't have to drive it fast.'

Expectations

The theme of expectations encompasses how participants connect with perceptions of quality through their food activities or material possessions. Typically they now desired to eat higher quality food because the food growing and preparing experiences had changed their standards. Looking at favourite material possessions, high quality expectations came from things like a Porsche or a Finnish-made food steamer.

Food: Many participants voice their expectations about the quality of food that they prepare and eat. Melissa worked to increase the quality of her soil by adding organic amendments, composting, planting cover crops, and layering mulches. She felt that the produce she grows in her garden and donates to others are the highest quality possible, and she now expects to maintain very high quality in her produce:

'I know that the quality from the soil we've made is about as good as you're going to get with your produce. And I like doing that. I just love the fact that everything I've done is completely, I guess it's organic. And so I'm giving them something that is good.'

Annie kept chickens in her back yard, and she was very fond of them. She described preparing a Greek lasagna recipe using some of her chicken's eggs:

'But it was wonderful, because I got to use our tomatoes, and the lamb, and our eggs. Our eggs are, you know, the sauce in the picture was white, like béchamel sauce, but ours isn't like that, it's yellow! They are just great little girls! "Braack!"'

She noticed that when she cooked with her chicken's eggs, the food tasted richer. Since becoming more involved in food production, participants described how their food quality has increased, and how they have become accustomed to this higher quality.

Material Possessions: Several participants discuss the aspects of quality in their favourite material possessions. Quality aspects are connected to European-made and also aspects of value. Melissa talks about one of her cooking pans, a steamer in this way.

'I have this triple steamer... well, I have the kind that's from Finland, like the super type. They only go up in value. That's how I do the raspberries; that's how I do a lot of things. It's just distills it down.'

Similarly, Joe talks about his Porsche as being the best but not too expensive. He compares it to other European sports cars and its affordability.

'But in terms of material things, this [Porsche] is the most expensive purchase. You can see how I love it, because it's covered up. I'd been interested in sports cars for a long time, and I've always thought Porsche was the best, not too expensive car. I wouldn't want a Ferrari or a Lamborghini, but Porsches are very good. I had books about Porsches. I guess I had reached a point, when I was about 65, this was five years ago, and I was thinking "gee, I can afford one, I can write a check, I don't have to finance it."'

Competency

A common feeling from most participants was a sense of competency, doing something well, successfully, or efficiently. Competency ideas came through in most of the gardening activities and several of the material possessions. In some respects, competency creates a self-identity; one can call oneself a 'gardener' or 'game player'.

Food: In almost all cases, participants who succeed in actually growing something and then creating something successfully from their food derive an enormous amount of satisfaction from the process. Sue grew cucumbers and made pickles for herself. She derived satisfaction from making a processed food item for herself, from produce she had grown:

'I just love that, I love that feeling, "Ooo, I GREW all of these!" And not just the pickles. All right, so then there was the garlic, I grew all the garlic. I like that aspect of it: "I grew all of this, I put it all up." I ferment them first, so I don't just make a brine and put the pickles in jar. I actually brine the pickles first, and that takes about two weeks, and then you can 'em. So it's a big process, and it just makes me feel good.'

For Joe and Charles, competency was focused more on caring for others. Joe had an extra plot where he grew food to donate, and enjoyed dropping off the produce at a community soup kitchen and receiving gratitude from the donation recipients:

'Usually, at least at the height of the growing season, the car is just full of produce of one kind or another. So I go into the dining hall, and meet with the co-managers if they are there, or the cook, and they usually come out and give me a dolly or a cart to bring the stuff in. There are always volunteers from the dining hall, they greet me, and it's very nice, "Thank you! Thank you for this wonderful produce." Talking to the cook, of course, they have a lot of canned goods, and packaged goods, but... I know I'm not the only donor of fresh produce, but it is very appreciated and it makes me feel very good.'

Charles was the one who prepared most of the meals for his household, and was proud of his role in providing high quality nutrition:

'[My wife] doesn't like to cook as much as me. She'll do it out of necessity, and that's about it. When I go out of town for work, Mom is making dinner, it's "where are we going, Mom?" If it wasn't for me, our family would not eat that healthy, to put that bluntly.'

He saw this responsibility as solely his, and was not confident that his family was competent without him. For some, competency was expressed as a need for food security; for others, it was being able to make processed foods for themselves (e.g. pickles), provide good nutrition for their family, or share their abundance with their community.

Material Possessions: Like the food activities, material possessions created by the participant show the same ideas around doing something successfully. When Mike discusses his sketch, he talks about his competency in drawing and how he learned and improved over time.

'I was able to be successful because he accommodated me by being a muse. It's just very quick, very successful drawing. It takes a lot of, in my case I am someone who can draw very well, and I can draw very realistically...

That drawing like that is not natural to me... you have to evolve into that. You... think that more is better, then learning that less is better is a very arduous task, it takes a lot of time and a lot of effort to learn. It seems like it's a simple lesson, but it takes – you can do all these flourishes and all these tricks, but to make it seem simple is really hard.'

Cathy's favourite object is a heliosphere that she created. She talks about the challenge of creating the shape as well as the integration of mathematics and physics ideas required to understand it.

'So this one is a heliosphere, that's what it's called. They come from the solar winds. And let me tell ya, they're hard to create. There's some crimps that I didn't get quite right, you can see those too... A lot of it is based in mathematics, and the physical sciences. So the physics of working with nature elements is very phenomenal. Eventually, it was just like, I started working with plutonic solids, I started working with Plato's mathematics, and Aristotle's, and with Pythagoras... so all this mathematics! Not just in terms of what we know, but in terms of sacred geometry, sacred mathematics, which is very different than our normal math, started coming up.'

Other material possessions, allow the user to illustrate their competency and identity related to that competency. Charles talks about his Xbox and how it reflects his game-playing ability:

'But playing Xbox video games, head to head, especially with another person, that's something I really enjoy, I really do. That's a fun thing to do, and I can get sucked in for hours. Whether, way back Dungeons and Dragons, now I play cribbage. I've always been a game player. Not really gambling, because I hate losing money, but always games, I've always been a game player.'

Abundance

The theme of abundance came from multiple perspectives: the idea of having too much, having enough to feel secure, never having enough or trying to avoid having too much. These ideas come through both food and discussions of material possessions.

Food: Gardening and other food activities often resulted in periods of heavy production and large harvests for the participants. These periods of large harvests were highly enjoyable for the participants; they reveled in the abundance. Cathy had been using soil amendments, and her production had increased beyond her expectations. She described what she did with her large squash harvest during a visit from her mother:

'I made pie filling. I didn't just make the pie level filling. I tripled it. So you don't need to eat a lot, but it was exceptional. [My mother] was here for days, and we ate on it the whole time. Then we cooked it the way she told me about, so we cooked it a... Turkish way. That is, you cut up a little of it, then you add cinnamon, and maple syrup on top. Then you bake it. So we had that for dessert. So we were eating on this squash as the starch in the meal, or as the dessert. And then I made soup with another part of it. So there were all these different ways we were eating this.'

Charles moved from Texas to the Pacific Northwest with his family a few years ago, and one of the biggest changes he had noticed was the abundance and cheapness of berries. Every year he felt fortunate to be living in a climate that offered such high production:

'Up here, compared to Texas, your plethora of fresh berries and fruit, I mean, come on! The blackberries that are such a nuisance are so darn sweet and, down there, they are as tart as all could be. My God, there's so much fruit. I'll pay these kids, go find me a gallon of berries, OK, here's \$5, awesome.'

Similarly, Melissa had raspberry plants in her garden plot, and when they were ripe, there were many more berries than she could eat at once, so she used a distiller to boil her berries down into a thick juice that she froze and ate throughout the year:

'So that's one way to work with some things that you have in overabundance. You can steam them down. Then you can work with it that way. Or you can just serve it as juice, what the heck! Oh, you can get concord grapes and do that. Oh, God, it's really, really good.'

Material Possessions: Participants like Melissa differentiate between abundance in food and hoarding other things.

'I live with a person now who does that, it's pack ratting, hoarding. Everywhere you step, you run into something. I remember when I was moving, she said, "you can't have too many books", and I said, "yeah, you can, you can have too many of everything." You just don't need it. There's ways to make do with it. It's nice to have the food. That's the one thing I really like, to have that around, but the stuff, it's just... it gets in the way, unless you're really neat and tidy.'

Here Annie talks about the decision to buy her favourite material possession, her home:

'We lived in a tiny little house. That house was really small. I wanted a bigger house. I grew up in a great big house. I like lots of rooms that I don't even go in most of the time. I love to work on houses.'

And Danielle further describes her relationship with her kitchen items, starting with her cutting board that her grandfather made:

'It's big and heavy, about this thick [shows two inches between thumb and finger]. I don't use it all that much; it's in the kitchen. Actually, I don't use the rolling pin, either. I've got about five different rolling pins [laughing], so I use the one with ball bearings that rolls. But I also don't really get rid of the stuff that was hers.'

The results are summarized in Table 2, a short description for each of the general type of activity, the specific activity, and the personal meaning.

Discussion

This inquiry was motivated by a desire to understand how urban gardeners experienced food activities versus their material possessions. Research to date on intrinsic

Table 2. Coded food and material possession themes and connections.

Respondent	Food Experience	Theme	Material Possessions	Theme
Mike	Gardening Gathering Preserving	Connection Sensation	Portrait Bike	Relatedness Connection Sensation
Melissa	Gardening Donating Preserving	Sensation Expectation Abundance	Distillation pot Inherited stuff	Abundance Expectations
Charles	Gardening Brewing Sharing	Connection Competency Abundance	Xbox video game console	Sensation Competency
Joe	Gardening Sharing	Competency	Car-Porsche	Expectations
Cathy	Gardening Cooking	Abundance	Geometric Sculptures	Competency
Sue	Gardening Processing	Connection Competency	Ukulele	Connection
Danielle	Cooking	Relatedness	Grandmother's bread knife Rolling pin Bread board	Relatedness Abundance
Annie	Gardening Sharing Cooking	Relatedness Expectations	House (s)	Connection Abundance

and extrinsic experiences has been informed by quantitative consumer psychology perspectives. Most have found that negative psychological effects of materialist lifestyles can be mitigated by adopting more intrinsic life aspirations (Belk, 1985; Richins and Dawson, 1992; Kasser and Ryan, 1993, 1996; Richins and Rudmin, 1994; Grouzet et al., 2005). Our participants' experiences contained elements of intrinsic and extrinsic motivations, both within each theme and within each participant. Thus, the results from this current study offer a different perspective of the materialism phenomenon and contribute to emerging literature on alternative hedonism.

The themes that emerged coincide with previous work around needs. There is general consensus about the types of needs that must be satisfied for individual well-being, with each of the four non-hierarchical sets of needs empirically associated with quality of life (Kasser and Ryan, 1993, 1996): 1. safety, security, and sustenance; 2. competency, efficacy, and self-esteem; 3. connectedness; and 4. autonomy and authenticity.

Using the lens of materialism literature, the experiences of the participants can be explored in terms of intrinsic and extrinsic motivations; extrinsic motivations are characterized by life aspirations of social status, financial status, and physical appearance, while intrinsic motivations are characterized by life aspirations of autonomy, relatedness, and competency (Belk, 1985; Richins and Dawson, 1992; Kasser and Ryan, 1993, 1996; Richins and Rudmin, 1994; Grouzet et al., 2005).

For example, Annie's description of owning a house that has more room than she'll ever use seems less intrinsically motivated, since her decision to own a large place is not focused on a utilitarian desire rather to own something for the sake of owning it. Similarly, Danielle's description of owning more rolling pins than she

needs is not clearly intrinsically motivated, although it is not clearly extrinsically motivated either, since Danielle expressed the connection to her grandparents. And although Joe's Porche car may seem to be extrinsically motivated, as many luxury purchases are, when reviewing his description of his car use, he seemed more focused on enjoying the driving experience even when his friends make fun of him for not driving very fast.

On the other hand, some participants described food activities in terms of wanting to impress others, or be recognized for their efforts, indicating that they may not be doing the activities solely for their own internal experience, such as Joe donating produce and appreciating the recipients' gratitude, Annie cooking to impress a friend, and Charles's claim that he is the only one who can provide nutritious meals for his family.

Many other food activities and material possession experiences did seem to be intrinsically motivated; the participants described these experiences as richly complex and deeply satisfying multiple psychological needs. Within individuals, some participants were more obviously intrinsically motivated in both their food activities and their relationship with their material possessions, such as Mike, Melissa, Cathy and Sue, while other participant's motivations were not clearly consistent between their food activities and material possessions, such as Charles, Joe, Danielle, and Annie. Within themes, intrinsic motivations were clearly expressed for the sensations experiences, both with food activities and with material possessions, but other themes were less clearly only intrinsic, indicating the complex nature of an individual's motivations in the context of everyday decisions. Table 3 shows which participants are more intrinsically motivated for their food activities and material possession experiences.

The exploration of food activities in this study revealed that food-related experiential activities such as gardening, preparing food, and eating food are effective at supporting intrinsic life aspiration and satisfying a diverse set of psychological needs. Material possessions can also be highly experiential, particularly if they extend or enable a relationship, are made by hand, or connect to nature. Thus in our study we see that material items can enable aspects of alternative hedonism, an area that has not been discussed in previous research. And, because of the ability to uniquely and intrinsically satisfy an individual's psychological needs, food activities also present a key area of alternative hedonism.

Conclusion

This study revealed that individuals who engage in non-market home production activities such as gardening and cooking can be motivated in their experiences of food and their material possessions by a combination of intrinsic and extrinsic aspirations. The current study provided groundwork for future studies to develop measures for satisfaction from food activities by characterizing and synthesizing thick descriptions of satisfaction.

The present study has several limitations that lead to opportunities for further research. First, the study was limited by the sampling strategy since participants were recruited from two community gardens, lived in the same area, were of middle age, and lacked ethnic diversity. Future research could include gardens in parts of the city or country with younger and more ethnically diverse populations. Including younger participants would present a different perspective since Bhattacharjee and

Table 3. Motivations for food activities and material possessions by participant.

Respondent	Food activity motivations	Theme	Material possessions motivations	Theme
Mike	Intrinsic	Connection Sensation	Intrinsic	Relatedness Connection Sensation
Melissa	Intrinsic	Sensation Expectation Abundance	Intrinsic	Abundance Expectations
Charles	Intrinsic/Extrinsic	Connection Competency Abundance	Intrinsic	Sensation Competency
Joe	Intrinsic/Extrinsic	Competency	Intrinsic	Expectations
Cathy	Intrinsic	Abundance	Intrinsic	Competency
Sue	Intrinsic	Connection Competency	Intrinsic	Connection
Danielle	Intrinsic	Relatedness	Intrinsic/Extrinsic	Relatedness Abundance
Annie	Intrinsic/Extrinsic	Relatedness Expectations	Intrinsic/Extrinsic	Connection Abundance

Mogilner (2014) found that when comparing extraordinary versus ordinary experiences, younger people tend to report greater happiness from extraordinary experiences. Ordinary experiences provide longer-lasting happiness, and as individuals age they increasingly report greater happiness and define themselves by ordinary, not extraordinary experiences. So one might expect to find different motivations and resulting satisfaction for younger gardeners compared to older ones.

Another limitation was the scope of the study, which focused predominately on two areas, food activities and material possessions, with respondents that grew food in community gardens. This sample group could potentially have constrained resources such as income or home gardening space, thus affecting their consumptive behaviour. The area of material possessions could be explored in more detail to include questions about the most expensive item owned by the participant, what they would purchase if they had more money, whether they bought more things before engaging in gardening, and how this behaviour may have changed through pursuing food activities (e.g. Miller and Thomas, 2009).

Both food activities and material possessions touched on many different intrinsic motivations and life aspirations, both within themes and within individual participants. These findings contribute to literature on materialism, life aspirations, and alternative paradigms to typical consumerism by helping to broaden of understanding of experiences of intrinsically motivated activities. Many participants appreciated activities that were focused on sensations and feeling a connection with the source of their food or material possessions, which is similar to Van Boven's (2005) and Soper's (2007, 2008) descriptions of experiential purchases and alternative hedonism, respectively.

As expected, the results of this study indicate that at least some of the experiences and relationships of the material possessions, such as cooking equipment and houses, were less obviously intrinsic and may be extrinsically motivated. But even in these material possession relationships, there were some intrinsic motivations

involved in the explanations of experiences. Surprisingly, some of the participants showed extrinsic life goals and motivations around food activities, such as cooking and growing food for others, so food activities are not a purely intrinsic. Further studies involving food activities could deepen the understanding of the role of extrinsic and intrinsic motivation and increased well-being as well as their relationship to alternative hedonism.

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Appendix

Table A1. Photographs of participants’ favourite material possessions.



Sue – Ukele musical instrument



Joe – Porsche car



Annie – Her house



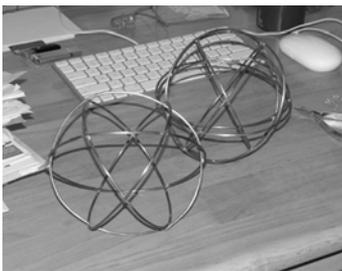
Mike – Drawing he made



Melissa – Triple steamer for food processing



Danielle – Grandmother’s bread knife



Cathy – Heliospheres garden art



Charles – Xbox video game console



Change Management in Dairy Farming

BJØRN GUNNAR HANSEN AND ANNE MOXNESS JERVELL

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Abstract. Policy changes and the introduction of AMSs (automatic milking systems) have accelerated changes in the Norwegian dairy sector. Loose housing, joint farming operations and AMSs are in some cases introduced all at once or over a short period. Thus the ability to manage technical and organizational change successfully is becoming increasingly important for dairy farmers. To explore how farmers manage change we visited and interviewed four farmers who have invested in new loose housing and AMSs since 2003. Three of them have also entered joint farming. Further, we interviewed four dairy farming consultants. In this article we explore change using a change framework. We present and analyse four farm cases in depth and develop a conceptual model for change management on dairy farms. Our cases show that new technologies and farming systems can be introduced on similar farms with very different results. Continuous gradual changes, former experience with change, inner motivation, deliberate use of consultants, and careful planning of joint farming operations have a positive impact on farming performance during and after change. A key finding is that change should be recognized as a managerial challenge and not only as a matter of implementing new technology.

Introduction

'Dairy farmers and their families, in almost every industrialized country of the world, face an extremely uncertain future. The forces of change – locally, regionally, and globally – are formidable, persistent, and extremely complex' (Schwarzweiler and Davidson, 2000, p. 1).

The dairy sector has been characterized as 'one of the most heavily capitalized and most tightly regulated of all the food producing industries' (Schwarzweiler and Davidson, 2000). At the turn of the last century Schwarzweiler and Davidson (2000) pointed to the lack of debate on the reshaping processes in dairying, their impacts and consequences. The strong political influence makes the sector vulnerable to de-regulation and political shifts. In some regions, such as New Zealand, changes in policy have caused regional transformations where farmers have converted from sheep to dairy farming on a large scale (Forney and Stock, 2014). In this article we

Bjørn Gunnar Hansen is Researcher at TINE SA, Box 58, 1431 Ås, Norway; email: <bjorn.gunnar.hansen@tine.no>. Anne Moxness Jervell is Researcher at the School of Economics and Business, Norwegian University of Life Sciences, Ås, Norway. The authors acknowledge the Norwegian Research Council for financial support.

take a closer look at how farmers manage ongoing changes in Norwegian dairy farming. These changes, affecting both scale of production, milking technology, and cooperation between farmers are stimulated and framed both by agricultural policy and technological innovations.

Norwegian dairying is among the worlds' most highly subsidized. Average number of cows per holding grew from 5.3 in 1969 to 9.6 in 1979. Norwegian dairy farms are relatively small. In 2013 the 10 700 Norwegian dairy farmers produced 1,525 million litres of milk (TINE, 2013), and Norwegian milk production is based mainly on feeding roughage *ad libitum* supplemented with concentrate. In the period after 1983, milk quotas have restricted farm growth and investments in new technology in Norwegian dairy farming (Jervell and Borgen, 2000). By as late as 2005 the average dairy farm still had fewer than 15 dairy cows. Since then a combination of changes in quota regulation, affordable AMS technology and stimulation of cooperative farming has increased the rate of change in the sector. Changes in the quota system allow trading of quotas between farms, as well as larger quota sizes. Additional drivers of change are new animal welfare regulations that do not allow building of new tie-up barns after 2004, and require that all cows should be in loose housing by 2024.

Norwegian dairy farming is undergoing a period of rapid change. At present there are more than 1,200 AMSs operating in Norway (TINE, 2013), and the proportion of cows milked by AMSs increases rapidly. Some point to relatively small herds as one reason for the rapid adoption of AMS technology in Norway; one robot is enough to milk a herd of 60–70 cows. In regions with larger herds, for example in the US where herds averaged 61 in 1992, technologies such as milking parlours and carousels have been adopted at an earlier stage (Butler and Wolf, 2000). Parallel with the availability of affordable AMS technology, there have been changes in dairy farm and quota policies. One notable change is the stimulation of joint or cooperative farming; through pooling their milk quotas, farmers could achieve economies of scale and afford investment in new barns, with only moderate loss of individual farm subsidies. The number of dairy farmers involved in joint farming increased dramatically after the mid-1990 and, according to SLF (2014), joint operations dispose of almost one-third of the total milk quota volume in Norway. A large number of Norwegian dairy farms have changed their mode of production from small tie-up family farms to large, loose housing cooperative farming with AMS (Kjesbu et al., 2006; Stræte and Almås, 2007). The aim of this article is to study more closely the change processes as they unfold on different farms. First we discuss change management in a farming context based on previous research and theory on change management. Based on interviews with farm consultants and farmers we then present and discuss four illustrative and 'typical' cases of farmers that vary in age, motivation, change experience, and how the change process is managed. The cases are discussed and we search for factors that can explain why in some cases the changes in technology and organization cause few problems, while in other cases the change period is prolonged and characterized by significant drops in performance. The four case studies indicate that larger changes, such as when technology, size and organization are changed simultaneously, is more difficult to manage, and that former change experience, motivation, family resources, use of consultants and careful planning can ease the transitional phase.

Managing Change

Dairy farms are typically managed by families. On very small farms, such as in Norway, it is not uncommon for one or more family members to combine farming with off-farm work. In traditional milking systems there are strict demands on the timing of labour input over the day and week. Changing from tie-up barns to loose housing and from manual to robotic milking alters the nature of daily work and farmer–animal interaction. The increased flexibility that AMSs introduce is cited as one important motivation for adopting the system (Jacobs and Siegford, 2012). The same can be said about cooperative or joint farming; sharing responsibilities for daily chores among several farmers makes it easier for individual farmers to take time off or pursue other careers.

A combination of farm expansion and change of farming system can be challenging. Simensen et al. (2010) explored the interaction between herd size and housing system, and found higher yields in tie-up barns when herds are small (< 27 cows). Earlier US studies (Norell and Appleman, 1981) indicate an average drop in milk yield per cow when changing from tie-up to loose housing system. In contrast, a more recent study by Bewley et al. (2001) surveyed 252 dairy farmers that had expanded and found only small drops in performance and high levels of satisfaction, with those having the largest farm sizes (> 220 cows) and only new buildings the most satisfied. Bewley et al. (2001) attribute some of the success to improved practices in herd expansion and to farmers learning from other farmers' experiences. Gloy et al. (2002, p. 246) suggest that the negative relationship between performance and debt ratio found in their sample of dairy farms may be due to: 'a learning period during which the assets acquired with debt funds are assimilated into the business'. In a similar vein Sipiläinen (2008) report that many Finnish dairy farmers had difficulties maintaining technical efficiency in the adjustment process following from the Finnish EU membership.

Introduction of an AMS represents a huge change, in terms of removing routine contact between humans and animals, and of unsettling the usual ways in which farmers know and understand their cows (Holloway et al., 2014). Robots also allow the cows to reveal themselves to the farmer in new ways through the use of information technology and behaviour monitoring (Holloway et al., 2014). Further, introduction of an AMS unsettles the identities, roles and subjectivities of humans and animals and thus shifting the ethical relations (Holloway et al., 2013). Robotic milking opens up new possibilities for managing the cows without being present in the milking parlour. Thus stockmanship changes from looking at individual cows to looking more at herd averages, and there is a concern that reliance on the robot may lead to neglect of cows (Holloway et al., 2014). The technology transforms ways of knowing and spending time with cattle, such as reducing the amount of physical contact between humans and cows in the milking parlour while potentially increasing the amount of time humans can spend observing their cows (Owen, 2003). In addition to having a good stockman's eye the farmer also has to be computer literate. Thus conversion to a milking robot radically changes the work of the stockperson (Butler et al., 2012). This change requires a transformation of the whole management process.

The management of organizational change in general tends to be reactive, discontinuous and ad hoc, with a reported failure rate of around 70% of all change programmes initiated (Balogun and Hope Hailey, 2004). Studies of change in farming typically explore farm performance after change to a new technology or housing

system has taken place (for example, see Bewley et al., 2001; Simensen et al., 2010). According to Balogun and Hope Hailey (2004), the transition phase, during change, often gets too little attention during planning and decision-making. This may result in problems of finalizing the change and of post-change performance that do not meet expectations (Balogun and Hope Hailey, 2004). The 'classic change curve' (Elrod and Tippett, 2002) describes a typical period of low performance and despair during the transition. Successful change management should not only bring performance to a higher level after change, but also minimize the drop in performance during transition. To the best of our knowledge no studies have explored management on dairy farms using a change framework.

At the operational level, a key challenge is to implement change while daily operations are maintained simultaneously (Meyer and Stensaker, 2006). Because change does not happen in isolation, and is not a limited event or activity in the organization, balancing change-related tasks with daily operations is a crucial matter. In animal husbandry it is not an option to close down operations, even for a short period, to direct all resources towards managing change.

The magnitude of the changes involved will influence the capacity to manage change (Balogun and Hope Hailey, 2004). Where firms operate without significant investments or change over a long period, the need for large changes increases. Instead of continuous change the process becomes disruptive. In contrast, gradual expansion is change that only requires adjustments of existing working processes. The farmer can apply existing knowledge. On the other hand, large changes in technology and organization require a transformation of operation and management. A transformation entails a change in the routine assumptions and 'the way things are done around here' (Balogun and Hope Hailey, 2004). It is no longer sufficient to rely solely on existing competence and skills. This is similar to the multiple changes farmers experience when entering into joint farming or investing in a new cowshed and AMS. Many changes take place at the same time or over a short period. It is no longer sufficient to do a little bit more of the same, as is the case with gradual herd expansion. One has to put aside some of the old knowledge and acquire new, which can be a very demanding process at the individual level (Balogun and Hope Hailey, 2004). Thus a review of AMS studies suggests that differences in management and farm-level variables may be more important to AMS efficiency and milk production than features of the milking system itself (Jacobs and Siegford, 2012). Transformational changes require good planning and a lot of managerial resources in the implementation process.

A consequence of a long period of a stable dairy quota system and little scope for growth or large investments is that farmers acquire little competence in managing change processes. The successful management of change is crucial for the survival and success of small and medium-sized enterprises (By and Dale, 2008). Viewing change processes as isolated events presupposes that they have a clear beginning and end. However, due to the constant state of flux of the business environment in which contemporary organizations operate, organizational change management may prove more successful if focused on facilitating continuous change readiness rather than on implementing and managing specific change efforts. If managers adopt this approach, they are more likely to increase the successful management of change (By, 2007). It is perceived as crucial that organizations are continuously prepared to absorb and implement change as and when required (By, 2007). Making change happen without destroying well-functioning aspects in an organization

and without harming subsequent changes requires both capabilities to change in the short and long term and capabilities and capacities to maintain daily operations. Former experience in managing change will increase the capability to manage additional change (Balogun and Hope Hailey, 2004). Experience from earlier changes can make farmers better at handling the ambiguities and uncertainties that are common in change processes. They get used to being in a continuous state of change and to what it takes to overcome unforeseen problems that are unavoidable. They may be more motivated and prepared to make detailed plans for transitions, but also to handle situations that deviate from the plan. Former experience with changes contributes to change capacity, which can be defined as 'the allocation and development of change and operational capabilities that sustains long term performance' (Meyer and Stensaker, 2006, p. 220). As people gain experience with change they draw on their previous experience to interpret subsequent changes (Randall and Procter, 2008). People learn from experience and can potentially develop change capabilities either by transferring specific skills or knowledge, or by process-based learning, which means absorbing and applying new knowledge more efficiently (Schilling et al., 2003). Farmers with extensive experience of change processes acquire change capacity that makes them better at managing change than farmers with little experience.

Farmers need more than experience of or knowledge about a change to be able to succeed. According to By and Dale (2008), motivation is one of eight critical success factors for managing organizational change. Motivated farmers are more proactive and experience more control over problems than less-motivated farmers (Hansen, 2013). Problem-solving in unstructured contexts such as farm expansion involves unique challenges, and farmers must be motivated to develop additional cognitive and behavioural skills in order to succeed. Problem-solving skills mean little if a person is not motivated to use them. A high degree of motivation is required to solve problems in unstructured contexts such as farming because solutions require repeated physical efforts. Zimmermann and Campillo (2003) emphasize that intrinsic interest and high levels of motivation are necessary to sustain the many hours of practice that are needed to attain the necessary levels of skill. Motivation can exist at different levels. It can be rooted in intrinsic interest, e.g. a strong wish to be a farmer. Motivation can also be due to changes in the surroundings.

People seek information as they become more motivated to solve a problem (Grunig, 1997). Thus, motivation increases information seeking and, therefore, the probability of solving problems. Inner-motivated farmers take more actions and explore more options than farmers motivated from external forces or opportunities. Thus they produce more variation, which provides better opportunities for selection, and thus better experiential learning (Campbell, 1960; Weick, 1979). Motivation rooted in inner interest is stronger and lasts longer than motivation due to external forces or opportunities. We expect farmers who are internally motivated to manage change to AMS and joint farming better than farmers who feel themselves forced by external forces or pressure from family or neighbours.

Farming is embedded in social relations, primarily the family, but also in the local and national farming community. The milk quota system has been the object of strong opinions on fairness (Jervell, 1993), and Norwegian farmer organizations negotiate directly with the government on farm policy. Social capital, such as that inherent in farm organizations, communities and agricultural policy institutions, is an important resource for individuals and organizations, as it complements other resources

that individuals and organizations control. We define social capital according to Lin (2001, p. 19): 'investment in social relations with expected returns in the market-place'. This definition reflects most writings on social capital (Lin, 1982; Bourdieu, 1983; Coleman, 1988; Burt, 1992; Portes, 1998). Using social capital in problem solving augments and complements the knowledge of an individual. Drawing on their social capital, individuals may mobilize other people to help solving problems (Rogers and Larsen, 1984; Saxenian, 1994; Greve and Salaff, 2001). Farmers may differ in the degree of social capital they have and in their abilities to mobilize resources from their network to help overcome a demanding transition process. Resources mobilized from friends or extended family can help farmers through demanding and labour-intensive periods, while more specialized network resources can play a role in planning the process. Most farmers have limited experience of comprehensive change processes. In contrast, consultants can acquire experience and specialize on managing the implementation of new technology, information systems, or types of organization. Access to and deliberate use of consultants can supplement the managers' competence (Werr, 2012). Consultants can analyse problems and suggest solutions, or they can support the farmers in shaping their own solutions. It is important to ensure that the farmer feels ownership of the plans and the process (Beer and Nohria, 2000; Balogun and Hope Hailey, 2004). Thus, deliberate use of consultants can supplement the farmers' own competence and thus improve performance during and after change.

All our case farms have entered joint farming as part of the change. Some years ago the government decided to encourage joint farming, with some success. According to the Norwegian Agriculture Agency, there were 1,510 joint operations in the dairy sector in 2011 (SLF, 2014). Joint farming operations mean that up to five dairy farmers merge their milk quotas, their land and their cowsheds and collaborate on the farm work. Creating joint operations makes it possible to increase production capacity and carry greater investment costs, thereby taking advantage of economies of scale, as well as complementary skills and resources. Although there are advantages, collaboration in joint operations does not guarantee success. The challenges of collaboration in joint farming operations may be especially prominent where farmers have traditionally worked independently, and therefore have little experience with extensive and committed relationships. In general, not all of the farmers who enter joint farming are equally motivated to continue farming (Schei et al., 2012). Some of them just want to reduce the demands of the farm work. However, there is evidence that entering joint farming requires careful planning to perform well (Schei et al., 2012). Participants must spend time and discuss all aspects of the farming operation in detail, including economics, share of workload, daily routines and each farmer's goals and expectations. The participants must establish psychological contracts to clarify their mutual expectations and obligations (Sverdrup, 2012). Joint operations that plan their farming carefully are shown to perform better than joint operations that spend little time on planning (Schei et al., 2012).

Data and Methods

The qualitative data for this article were collected as part of a larger project dealing primarily with animal welfare aspects related to changes from tie-up barns to loose housing (e.g. Ruud et al., 2010). This project, which collected detailed data on farms, revealed an increase in health problems and lower yields during and after transition

to loose housing in many herds. The project raised our awareness and interest in the problems that may occur during transition to new systems. To develop the research problem we first conducted semi-structured telephone interviews with four advisors in different parts of the country who advise farmers during change processes involving major building investments. We asked them about the change processes, what characterizes a successful transition and a process with problems, and about the duration of the transition period. Transition to joint farming was also covered. The interviews with dairy farm advisors confirmed that there is huge variation in how farmers manage the change processes, both in post-change performance and in the length of the transition period. Many farmers have problems in the transition phase, especially those who combine technological and organizational change. Based on these interviews and prior knowledge, we developed a thematic interview guide directed at farmers who had been through a large transition, including new cowshed and AMS, from 2003 to 2011.

We made a structured sample of farms with different experiences during a change that involved investments in new loose-housing buildings. These farms were visited by two researchers in 2010 and 2011. In three of the four cases we also visited the barns with the farmers and gained additional information. All farms can be characterized as family farms, and all had entered into some form of joint operation. In all cases we interviewed the primary farmer, the farmer who has the new barn on his lot (and close to the house). In one case two generations, the mother and son of the primary farmer, participated in the interview. The interviews were recorded and transcribed. We also made separate notes after the visits and compared these. All farmers have larger than average herds, and they are based in South-Eastern Norway (Akershus, Østfold, Hedmark and Oppland). The cases vary on other variables, such as farmer age, the number of people involved in daily operations, age of farmer, the use of family and hired labour. In two of the four cases the farmers have succeeded with change according to their own standards, while two have failed to achieve what they intended to accomplish.

The four cases represent variation with respect to key factors for successful change based on the interviews with farmers and advisors. How well the farmers have managed the change process and how satisfied they are with performance after change are measured primarily by their own subjective criteria, but also confirmed by herd recording data on production and health. All the advisors we interviewed mentioned that high milk yield is important for the economic result after large investments. One of the most experienced advisors put it this way:

‘Yields are much more important after herd expansion than when you have 15 cows and most of your farm income is based on subsidies.’

We therefore use milk yield per cow as an indicator of performance during and after change. The farms also differ in how many heifers and cows they needed to purchase due to problems with the transition, and how many calves they lost. Calf health and calf loss are critical factors in dairy farming. We also use these figures as indicators of performance during change. The figures on milk yield per cow, the number of lost calves and the number of purchased cows were collected from the herd recordings.

In the following we first present short narratives of the four cases. In these we include typical citations from the interviews. Then we make a comparison of the cases with respect to key variables. Some of these are derived from the literature,

some from interviews with advisors who have experience of many change processes, while others have been identified through analyses of the case material.

Case 1: Young Farmer with Former Change Experience

This case involves a farmer in his early thirties who took over the farm 10 years ago after working actively on the family farm since early youth. Before taking over and making his own investments he was actively involved in a rebuilding of the barn to loose housing. He had a strong inner motivation to develop the dairy farm:

‘I wanted to grow and I wanted to concentrate on one thing and to know I can do it well. It is more stressful to combine dairy farming with rented land for grain production.’

On taking over he was looking for a way to expand production, and bought quota where possible. When a neighbouring farmer quit dairying he saw a chance to buy quota and cows to almost double his herd and he decided to build a new addition to the barn and install an AMS. After some consideration of investments and how to use existing buildings, he decided on a solution requiring only a limited addition to existing facilities.

The building period was demanding, since rebuilding of the existing barn could not be carried out easily without significant involvement on his part, and he also had to take care of the daily work. Having his parents nearby on the farm was a good help in this phase. He emphasized the importance of not getting exhausted during the investment phase:

‘The real work starts when the building process is finished.’

In spite of some initial problems of getting used to the new systems, he was able to keep the milk yield up during the transition phase to robotic milking and new feeding regimes. Getting used to the new management systems was a challenge, even for a relatively young person used to herd management systems. But at the time of the interview he found they give very good feedback, showing immediate falls in daily milk yields if he cuts down on the number of feedings for other activities. His deliberate choice of using existing facilities and buildings did not give the most practical of solutions, but he finds the extra time used for manure cleaning pays off. It helps him to stay familiar with the animals. Before building he carefully planned for herd expansion through recruitment from his own herd. This has helped him keep the facilities well stocked from the start. Due to this and careful control of investments, the economic results are satisfactory, and his vision for the future is to be able to build a completely new barn within 10 years, and to double his production.

Case 2: Farmers in Their Fifties with Large Changes after 20 Years in Business

On this farm the decision to invest in a loose-housing barn was taken by a couple in their fifties after more than 20 years of dairy farming in a barn built by the husbands' parents. The quota system had halted earlier plans of dairy expansion, and the couple had diverted instead their resources to other activities in off-farm work (him) and on-farm tourism (her). Investment had become a necessary condition to continue dairy farming, and new regulations on housing of young stock also required

changes. In this case expansion based on the old barn was not an option, since the floor and manure storage space could not be used. This required planning a whole new facility, and large investments.

Looking for ways to expand production, the family joined forces with another dairy farmer situated 10 km from their own farm. The new partner was in his sixties and had run a tie-up barn with 15–20 cows for many years. Thus both partners had little experience with change. The plan was to join herds and quotas, and finance the new dairy facility jointly. The partner was supposed to both be in charge of the building process and take his share of the workload in the new barn. After a short planning period without use of consultants they started building, and finally moved in six weeks after the estimated date. The new partner did not manage the building process well, so they had to hire an external person for the job. The delay was a critical incident that hampered confidence between the two partners. Another critical incident was the severe problems they experienced with the calves due to badly coordinated feeding routines. The new facilities also caused problems for cows used to tie-up barns, and culling rates were high, making it difficult to fill the milk quota:

‘We moved in six weeks later than plan, right before Christmas. The cows reacted to the new surroundings and I think they sensed that we were stressed by the new technology. They were afraid to lie down, and many lost their milk.’

Thus joining the two herds reduced yields dramatically, also because the incoming partner had a low yielding herd:

‘We had 70 cows altogether, and some had to be culled, his yields were 1,000 kg lower per cow, but we can’t say we didn’t know that.’

There were also large problems with manure handling and feeding systems. Since the reason for choosing a milking parlour rather than a robot was unfamiliarity with computerized systems and a preference for milking and contact with the animals, they had problems with using and understanding the new systems:

‘None of us wanted to deal with a robot, and we almost panicked when we realized that also the milking parlour was computerized.’

The partnership did not work out well and was over by the time the barn was finished.

Case 3: Young Farmer in Joint Farming with Experienced Partners

The interviewed farmer was very motivated in farming. It had always been his wish to take over and develop the farm. He now runs the leading farm in a joint operation of three farms. In 2008 they built a new cowshed with an AMS, and the third member came into the partnership. Before this lies a long history of continuous change. The principal character’s parents, who were still the owners of the farm, and participate actively in running the farm, built a new cowshed back in 1977. In 1996 they converted it to a loose housing barn with milking parlour. In 2005 the parents started joint operation with another farmer, and took over his cows. The other partner now keeps the bull calves for fattening at his farm.

Two of the partners are carpenters, while the principal farmer is a graduate in constructional engineering. These joint skills were crucial in planning and running

the new cowshed in 2008. The principal farmer planned the building himself with assistance from one of the others, and was also responsible for negotiations with the contractors. Earlier on he had worked as an engineering consultant in a firm similar to the one who was now engaged in building the new cowshed. To reduce costs they decided to use the buildings from 1977 and 1997 for calves and young stock. During the planning process, special attention was paid to ease transition from the 'old' to the new cowshed, and to keep production running during the change. The principal managed the building process himself, but engaged a local entrepreneur with good records to do the work. Like the farmer in Case 1 he was aware of the danger of getting exhausted during the building period.

The transition to the robot was done gradually. Before the cows were introduced to the AMS, they were milked in the old milking parlour for some weeks. Thus they could adapt to the new environment gradually. Nonetheless, the transition period was not without problems. The building process was delayed by two months, and they also lost some calves. However, as they were used to handling change, they did not get overwhelmed by the problems but solved them quickly and managed to fill the milk quota already in their first commercial year. Thus they capitalized on their experience with continuous change:

'We had similar problems earlier when we changed to free stall housing.'

All three partners knew each other well in advance and during the planning process they were very open-minded, also concerning their private economy. According to the principal farmer, this is crucial:

'Both chemistry and economy is important.'

All three farmers share a common interest in budgeting and cost control. However, they realize that they have limited competence in farm economics, and therefore they hired a consultant to set up a budget every year. The consultant helps them to follow up the budget as soon as the farm accountants are available:

'Budgeting provides confidence', the principal expresses it. And he adds: 'It is motivating to set goals, and to reach them.'

The last update showed that they were considerably better off than budgeted.

Case 4: Farmer in His Fifties Enters Joint Farming as A Way to Expand

The interviewee is in his fifties, and has run the farm together with his father from the early 1980s. In addition they had a hired employee. Around the year 2000, he planned to build a new loose housing barn because the old tie-up barn needed replacement. However, the plans were put aside. In 2003 he and some other dairy farmers attended a meeting arranged by the dairy company, and a discussion on collaborative farming came up. During the summer of 2003 he had a discussion with two other dairy farmers, and with the help of a consultant they settled an agreement. The planning period was approximately half a year, a very short period of time considering they did not know each other in advance. The second partners in the collaboration were two brothers in their seventies, and the third a dairy farmer who was about half their age. In the spring of 2004 they built a new loose housing shed with robotic milking and automatic feeding. The building period was delayed due to an overestimation of their own work effort. The cost of the automatic feeding sys-

tem was well above budget, and in spite of high costs it did not work well. The firm who delivered the system had been responsible for the planning, and it turned out that they had underestimated the quantity of roughage necessary. In addition, the farmers experienced extensive problems with the manure handling system and with calf mortality. It took a long time for the cows to adapt both to the free barn and to robotic milking. The responsibility naturally fell heavier on the principal farmer who had the new building close to his house, and to him the AMS was a huge change:

‘With a robot you are never completely off duty. Your mobile can go off anytime, reporting problems.’

The three herds that were merged came from tie-up barns, and a lot of cows had to be culled because they did not adapt to their new environment. Due to these adjustment problems the milk yield was reduced significantly, and they did not manage to fill the milk quota. The manure handling system was planned by the firm who delivered it, and they ended up with a system that was new in Norway at that time. After considerable problems the farmers themselves finally managed to improve the system to make it function. When we asked the principal farmer whether he would have done anything different, he answered:

‘I would have bought or leased quota and gone alone. Instead of a robot I would have preferred a milking shed and a hired worker.’

Comparison of the Four Cases

In this section we compare the four cases, and start by presenting some farming results before, during and after change. In Figure 1 we present the milk yield per cow on the four case farms.

Our case farmers differ a lot in how well they perform during and after change. We notice that Cases 1 and 3 have a higher milk yield than the two other case farms, particularly in the year of change and the first year after the change. The farm in Case 1 actually increases the milk yield in the year of change, then drops the first year after change and recovers the second year. In Case 2 the milk yield drops sig-

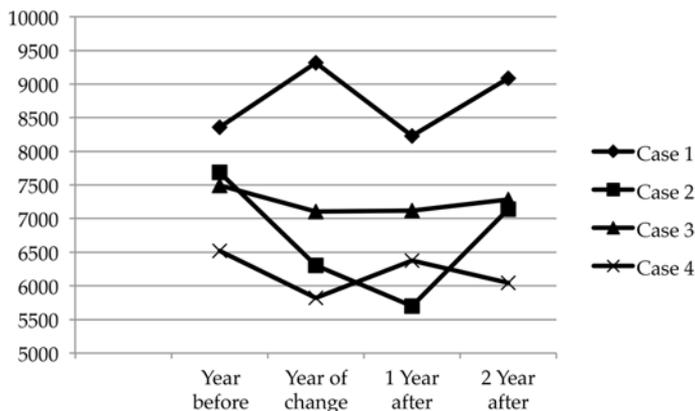


Figure 1. Milk yield per cow in kilogram energy-corrected milk in the year before, during change and the first two years after change for the four case farms.

nificantly in the year of change and the following year, approximately 2,000 kilo per cow. In Case 4 the yield also drops in the year of change and does not recover even in the second year after change. In Case 3 the yield drops, but much less than in Cases 2 and 4. The yield is also at a significantly higher level. The farmers in Case 4 also experienced huge problems with calf mortality. From the year before change to the second year after change they lost on average 18% of their calves, while the other three farms lost only 6% during the same period. Further, the farmers in Cases 1 and 3 lost fewer cows during transition. They were also much better at planning for herd expansion and rearing of heifers to increase the herd. Thus they only had to buy 23% and 16% of the cows and heifers they needed, respectively, while the similar figures for the farmers in Cases 2 and 4 were 45% and 46%, respectively. Taken together the differences reported here indicate that the farmers in Case 1 and Case 3 had a significantly better production economy during change than Cases 2 and 4.

In Table 1 we compare our cases according to a change management perspective. We notice that the two cases with the most transformational changes (Cases 2 and 4) also have less relevant change experience than the two others. They experience more capacity strain due to the large transformation. The combination of strained capacity and lack of experience makes the change process vulnerable to unforeseen events and problems. In change terms Case 4 is like a Big Bang change. A lot of changes took place simultaneously; from single to collaborative farming with new partners, from three tie-up barns to one big free shed, and new systems for milking, feeding and manure handling. In addition, the farmers in Case 4 did not know each other in advance and were at very different life stages. Their experience with change

Table 1. Change management: comparing the cases.

	Case 1	Case 2	Case 3	Case 4
Change type	Gradual herd expansion, technology modification	Transformational; herd expansion, new technology, new organization	Gradual herd expansion, technology modification	Transformational; herd expansion, new technology, new organization
Change experience	Building investments, expansion and change of system	Diversification to other fields	Building, expansion and change of system and cooperation	Limited change experience
Capacity	Strained but sufficient	Strained, prolonged transition	Strained but sufficient	Strained, prolonged transition
Change management (transition phase)	Increasing yields and production	Problems with technology Yield drop High culling rate Partnership strained	Some expected problems, recovered quickly	Problems with technology Yield drop High culling rate
Motivation	Inner	External	Inner	External
Use of consultants	Deliberate before change	Limited	Deliberate before and after	Limited
Planning of joint operation	Limited	Limited	Careful	Limited
Performance(post-change)	Better than expected	Financial strain, does not meet expectations	Exceeding goals earlier than expected	Does not meet expectations

was also limited. A dairy advisor commented on the importance of experience with change processes:

‘Those who are experienced with changes have a great advantage. They know what change is all about, and they need less help from consultants.’

Similarly, the farmers in Cases 1 and 3 had both been involved in a major building process that included change from tie-up barns to loose housing and herd expansion. Their former experience made them mentally prepared for possible transitional problems, and how these could be handled. For them, continuous strategic change had become a kind of lifestyle. They had acquired a high change capacity.

The lack of change experience in Cases 2 and 4 could perhaps have been compensated through mobilizing support from advisors. Several of the farmers we interviewed underlined how much interaction with consultants or agricultural advisors meant to them. A male farmer in his thirties who was very satisfied with the transition to an AMS put it this way:

‘The distance between me and the advisors has always been short. I’ve always known who to ask for advice... and discussing with them has been valuable to me.’

An experienced advisor also stressed the importance of using consultants during and after change:

‘With respect to guidance there are two major challenges; feeding and milk quality. Fat dry cows and thin lactating cows are common. Therefore the farmers need to get in contact with feeding specialists immediately. They also need help from consultants to sort out cows with high cell counts.’

The farmers in Case 1 and 3 also used consultants in planning and implementing the changes. The principal farmer in Case 3 explains how a dairy consultant helped them to make budgets for the transition period and suggested how profits could be shared between the three partners:

‘It is important to have a budget, at least in the beginning, with a new production system and expansion... You feel more confident about what you are doing.’

The farmer in Case 1 also used consultants in areas where he had limited competence himself, such as economic long-term planning. However, for the building process he himself had the relevant knowledge and experience. Contrary, the farmers in Cases 2 and 4 did not interact much with consultants before, during and after the change.

The farmers in Cases 1 and 3 had an inner motivation to grow and to develop the business. The changes were outcome of seeking opportunities proactively. Several of our farmers showed a strong inner motivation to develop the farm continuously. A very motivated male farmer in his forties had moved from a tie-up barn to loose housing with robotic milking and was satisfied with the change. He put it this way when we asked him what he enjoyed in dairy farming:

‘I’m not that experienced so I haven’t had time to be bored... Everything is new, you learn something every day. To maintain the interest in farming you have to develop the farm. I appreciate the freedom in my work, to be my own boss and the versatility my job offers... And it’s really rewarding to work with animals.’

Compared to Cases 1 and 3, the change in Case 2 was more motivated by outside forces. Partially as a result of quota regulations, the farm family had diverted resources to the development of new ventures on the farm, but milk production was still economically important. In Case 4 the farmer had been motivated for change over a longer period, but inhibited by regulations. His motivation in joint farming came more or less spontaneously after a meeting arranged by the dairy company, where he saw the opportunity to increase the milk quota and acreage. Thus joint farming was not his primary wish. One of the dairy advisors underlined the importance of inner motivation when we asked him about the most important success criteria:

‘They farmers need great commitment. They have to spend the time it takes to get the job done and do it 105%. It’s not enough to see what other farmers have accomplished... You can see them at meetings, the ones who do not listen... they need to accept what it is all about before they start.’

In Case 3 the farmers spent a lot of time discussing and planning their joint operation. The discussions were open and they managed to build trust, gain a common understanding of the change, and harmonize their expectations. Through thorough planning and a lot of communication and interaction during the whole transition process, the partners managed to develop a common understanding of the future aims and recreate their former ways of working, their daily routines and practices. The principal farmer was also very satisfied with how the joint operation worked. In Case 1 the farmer did not spend much time on planning the joint operation because in practice it simply involved rent of extra land and milk quota. The other farmer was passive and just received a rent. In Cases 2 and 4 the farmers spent very little time on planning and discussing, and this can explain why the results did not meet their expectations. In Case 4 the farmers did not know each other well before entering the joint operation. In Case 2 the interviewee claimed to know her partner well ahead of the partnership. However, as the transition evolved, she discovered that they had quite different practices and routines. They had not managed to develop a common understanding of the future aims and recreate their ways of working, their daily routines and practices.

In Figure 2 we sum up our main findings. Former experience with change increases the farmers’ change capacity, which in turn improves the change management. Inner motivation improves both change management and farm performance during and after change. Deliberate use of consultants and careful planning of joint operations also contributes positively to change management and thus to farming performance during and after change.

Analysis of the cases could indicate that age is a factor, and that transformational change is more easily handled by younger farmers (Cases 1 and 3). After many years of dairy farming, routines become automated, often with success (Case 2). In such cases external pressure to change may both disturb established routines and decrease motivation. This could be especially difficult when the routines of different farmers and herds are mixed as in joint farming with several active partners. In Case 2 the original plan was turned around as the joint farming was dissolved and an AMS installed in place of the new milking parlour. Cases 1 and 3 both have young farmers, but also farms where the principal farmer is in charge (Case 1), or has active support from parents and supplemental competence from partners (Case 3). The

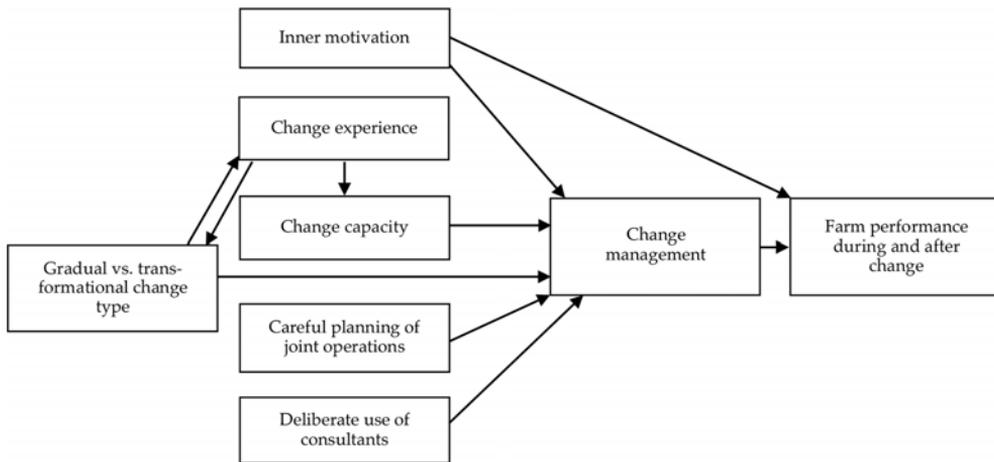


Figure 2. Conceptual change model based on our hypotheses.

Note: By change type we mean gradual change versus transformational change, and by change management we mean how well the change is managed.

relative success of the younger farmers may therefore have more to do with motivation and social capital than age in itself.

Discussion

This study is among the first to address the introduction of AMSs and cooperative farming on dairy farms from a change management perspective. Our study demonstrates that when farmers carry out large changes, such as combinations of herd expansion and change of technology and organization, the transitional period can be aggravated in some cases and last for several years. The case-study method highlights the complexity of change management and how earlier change experience influences the transition process. Earlier change experience eases transitions on three theoretically different grounds. First, earlier changes mean that new changes become more gradual. Second, earlier change gives experience that creates familiarity with change processes, more realistic expectations and greater ability to handle challenges, also by mobilizing extra resources such as family members and consultants. Third, previous change experience in a small-firm context may indicate that the farmer tolerates uncertainty and is proactively seeking opportunities for development.

The farmers in Cases 1 and 3 made what may be seen as unprofitable investments during the 1990s, building new loose housing cowsheds for a relatively small herd. However, these seemingly unprofitable investments may have paid off in terms of increasing management capabilities and capacity for change. During their history of change they have acquired valuable experience and capabilities that enable them to handle new changes and transitions. When problems arise, their previous experience gives them the self-confidence they need to solve them. Adopting an AMS, these farmers did not face all the challenges of new housing, feeding and manure handling systems at the same time. The change process was much less demanding. Our findings are in line with scholars who argue that change needs to be made

regularly and rhythmically through so-called time pacing (Brown and Eisenhardt, 1997; Eisenhardt and Brown, 1999). This creates a regular, rhythmic, and proactive approach to change that can increase the capacity for change by creating a sense of urgency; hence, it increases the intensity of the effort in terms of information search and learning and increases the absorptive capacity (Linsu, 1998). At the same time, however, it gives people a sense of control because change becomes predictable, focused, and efficient.

Changes that involve expansion, growth, technology and organization simultaneously are challenging. Entering cooperative farming is a fundamental organizational change, as it increases the complexity of the organization and the potential for conflicts in decision-making as well as in day-to-day work. However, our findings show that even such a radical change in farm management can be handled successfully, given that the participants spent enough time on planning. Our findings support the findings of Schei et al. (2012). Collaboration with a passive partner is another way to reduce the complexity of joint operations.

Our findings support the importance of inner motivation. Here our findings are in line with Zimmermann and Campillo (2003). Farmers who go through transformational changes need a strong intrinsic interest and a high level of motivation to succeed. Encouragement from e.g. the government or dairy consultants is of course helpful, but it is not enough to accomplish the large changes we describe in our study. Intrinsic interest and motivation is necessary to be persistent enough to solve all the demanding tasks involved in transformational changes. Policymakers should take this into account when they change regulations or set up investment schemes to support large investments.

What are the implications of our study for dairy farmers, or other small businesses facing large changes? Our study shows that similar technologies can be introduced on comparable farms with very different results. Farmers should be aware that managing change while maintaining day-to-day production will strain their capacity. Therefore they should be prepared for a possible drop in performance. Previous experience, the capability to manage change and sufficient capacity is important to cope with transition problems. Dairy farmers need time to adjust to growth, often several years, particularly if the relevant management capacities are not in place ahead of the investments.

Our study has some limitations. It is based on retrospective interviews and participants may have had selective memory in describing and interpreting previous behaviour, in hindsight. Future research could therefore attempt to follow change processes as they unfold over time. Future studies could also try to verify our model of change by the use of quantitative analysis. The objective performance measures based on several indicators of productivity over a four-year period do, however, serve to confirm findings from the interviews about the challenges of managing change.

Conclusion

Continuous gradual changes, former change experience, inner motivation, deliberate use of consultants and careful planning of joint farming operations have a positive impact on performance during and after change. Farmers with experience from continuous change processes develop managerial capabilities and a change capacity that may be important to meet future changes successfully. Transformational chang-

es, such as those facing dairy farmers introducing AMSs, or large changes in the regulatory environment, should be recognized as a managerial challenge, and not only as a question of production scale or implementation of new technology.

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Why Do Farmers Collaborate with a Food Cooperative? Reasons for Participation in a Civic Food Network in Vienna, Austria

ULRIKE JAKLIN, SUSANNE KUMMER AND REBECKA MILESTAD

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Abstract. Food cooperatives can be qualified as a civic food network as they can create more embedded market relations between consumers and farmers and increase knowledge about food consumption. In this study, we explore why farmers collaborated with the consumer-initiated food co-op D'Speis in Vienna, and assess the food co-op's potential to support a peasant mode of farming. Farmers and working members of the food co-op were interviewed. As the food co-op selected their suppliers depending on their production methods, i.e. small-scale and organic farming, all farmers showed some elements of peasant farming. The interaction between farmers and co-op members, especially regarding price negotiations and quality standards, provided farmers with more room to manoeuvre. As the food co-op's contribution to farmers' incomes was negligible, the food co-op mainly supported peasant farming in the sphere of social and cultural capital. However, the degree of collaboration differed substantially as more peasant farmers interacted more closely with the food co-op. The farmers and co-op members shared their criticism of the hegemonic food system, but on the other hand missed clear common goals. Both farmers and food co-op members regarded their practices as political acts for a different food system. Values deduced from these practices point towards food sovereignty, which could serve as a compass for common political actions.

Introduction

Concepts such as alternative food networks (AFNs), short food supply chains and local food systems have been increasingly criticized in the last years. First, they are charged with focusing solely on the supply chain, leaving out the consumers (Trege-

Ulrike Jaklin graduated at the Department of Development Studies, University of Vienna, Vienna, Austria; email: <u.jaklin@gmail.com>. Susanne Kummer is Researcher at the Department of Sustainable Agricultural Systems, University of Natural Resources and Life Sciences, Vienna, Austria. Rebecka Milestad is Researcher at the Division of Environmental Strategies Research, Royal Institute of Technology, Stockholm, Sweden. The article is based on the first author's master's thesis in Development Studies at the University of Vienna. An earlier version of this article was presented at the conference 'Foodscapes: Access to Food, Excess of Food', at Schloss Seggau, 23–25 September, 2013. We want to thank all our interview partners for their valuable contribution to this study, and Christian Vogl and our reviewers for their helpful comments on previous versions of this article.

ar, 2011; Renting et al., 2012). Second, 'local' is often intrinsically linked to 'good' characteristics such as sustainability, social justice, higher quality or fairness; a link that is problematic (e.g. Born and Purcell, 2006). The main criticism, however, is the inherent binary opposition to the so-called conventional food system (Hinrichs, 2000; DuPuis and Goodman, 2005; Holloway et al., 2007; Tregear, 2011; Mount, 2012; Renting et al., 2012; Wilson, 2013). On a methodological level this has often led to bi-ased studies that ignore power relations within AFNs (DuPuis and Goodman, 2005; Holloway et al., 2007; Wilson, 2013). On an empirical level this becomes increasingly problematic as: 1. retail chains respond to consumer demands for more local and organic food (Allen and Kovach, 2000; Konefal et al., 2005; Lockie, 2009; Darnhofer et al., 2010), qualities that were formerly linked to AFN; and 2. farmers often cater to both retail and 'alternative' market channels (Maye and Ilbery, 2006; Milestad et al., 2010a; Mount, 2012).

Civic food networks (CFNs) are a more recent concept that provides a promising solution to the above-mentioned critiques. CFNs are framed as an expression of civil society influencing market and state governance mechanisms (Renting et al., 2012), linking CFNs to political concepts such as food democracy (Hassanein, 2003), food citizenship (Wilkins, 2005; Seyfang, 2006; Lockie, 2009) and food sovereignty (Nyéleini, 2007; Hospes, 2013). In doing so they meet the demand that AFNs should distinguish themselves by the quality of interaction between the actors, and not the quality of the products circulating in the networks (DuPuis and Goodman, 2005; Mount, 2012). Thus the dichotomy of conventional/alternative and global/local can be transcended. The concept of CFN encourages the critical assessment of the interactions between network actors as well as between the food network and the political-economic context (Renting et al., 2012).

The view that CFNs influence power relations in the governance triangle of civil society, market and state resonates well with Van der Ploeg's (2008) conceptualization of the peasant mode of farming. In this mode, farmers aim for flexibility in market relations and engage themselves in society as active citizens, all in order to achieve more autonomy. Peasants reduce external inputs and dependencies in their agricultural production, which goes along with the consumers' wish to support local, organic and small-scale agriculture (Van der Ploeg, 2008). Thus, it would be possible to hypothesize that farmers with a high degree of peasantness are more likely to engage in a CFN.

Along the increased interest in CFNs, consumer-initiated forms of CFNs, such as food cooperatives (co-ops), have received more attention from researchers (Little et al., 2010; Murtagh, 2010; Bingen et al., 2011; Brunori et al., 2011, 2012; Martino and Pampanini, 2012; Lutz and Schachinger, 2012, 2013; Fonte, 2013; Grasseni, 2014). Food co-ops are groups of individuals or households who organize at least part of their food purchases jointly in order to avoid intermediary traders. Food co-op members become active citizens sculpting a different food distribution system because of their dissatisfaction with the hegemonic food system¹ (Little et al., 2010; Grasseni, 2014). In this endeavour, market relations with farmers are reconfigured along trust, solidarity and transparency (Murtagh, 2010; Brunori et al., 2011, 2012; Lutz and Schachinger, 2013; Grasseni, 2014). In the sphere of cultural capital, new knowledge and discourses supporting sustainable eating practices are promoted (Bingen et al., 2011; Lutz and Schachinger, 2013). Most co-op members see the actions of the food co-op itself as political, while only some participants are engaged in other political movements (Little et al., 2010; Murtagh, 2010; Brunori et al., 2012; Grasseni, 2014).

Up to now, most literature on food co-ops has focused on the participating consumers (e.g. McGrath, 2004; Murtagh, 2010; Little et al., 2010; Bingen et al., 2011; Pearson et al., 2011; Brunori et al., 2012; Martino and Pampanini, 2012; Fonte, 2013), while the farmers have been less researched (Brunori et al., 2011; Lutz and Schachinger, 2013). By looking into the farmers' motives for collaboration and by exploring the links between the peasant mode of farming and collaboration with a food co-op, we wish to contribute to the wider debate revolving around CFNs in general, and food co-ops in particular. For this reason we tried to work out the specificities of food co-ops, both in relation to mainstream food actors such as retailers and wholesalers as well as in relation to other direct marketing initiatives such as farmers' markets, farm shops and home delivery. The theoretical point of departure for our study is the relation between peasant agriculture (Van der Ploeg, 2008) and CFNs (Renting et al., 2012). Empirical data were collected from a food co-op in Vienna, Austria, whom we hope to provide with empirical data for self-reflection.

Peasant Agriculture, Civic Food Networks and Food Cooperatives

Van der Ploeg (2008, p. 262) describes peasant farming as 'an emancipatory notion. It outlines the potentials entailed within the peasantry.' These potentials consist of ways of redefining ecological, social and cultural capital in order to increase autonomy from the state and financial capital. Ecological capital is strengthened through the use of ecologically sustainable farming methods. Peasants aim at increasing the efficiency of the production system while preserving or even strengthening their resource base. Social capital is fostered in forms of local self-organization among farmers and between farmers and consumers. Cultural capital is redefined by more direct links between producers and consumers, where the specificity of agricultural production is communicated. Depending on the intensity and composition of these principles, varying degrees of 'peasantness' are possible. Van der Ploeg (2008) contrasts the peasant mode of farming with entrepreneurial and corporate farming. The variability in farming modes corresponds to the concept of hybridity: the fact that producers and consumers can be integrated into and influenced by both CFNs and the hegemonic food system (Maye and Ilbery, 2006; Milestad et al., 2010a; Mount, 2012).

Another essential element of the peasant mode of farming is the nature of the interaction with markets. For peasants, the market is where consumers and producers meet. Price is not the major guiding principle in decision-making. In the entrepreneurial mode of farming, by contrast, production is more dependent on external inputs (e.g. credit, pesticides, fertilizers) and is therefore more dependent on price signals (Van der Ploeg, 2008). Drawing on Hinrichs's (2000) usage of the concept of social embeddedness, the peasant mode of farming can be characterized by a lower degree of marketness. On a broader level, peasants aim for a power shift away from the market and the state towards a civil society that includes peasants as active citizens (Van der Ploeg, 2008).

Engaging in CFNs constitutes one way of influencing market and state governance mechanisms (Renting et al., 2012). The concept of CFN focuses on the interaction between the food network's actors and their influence in the governance triangle of market, state and civil society. A CFN influences the relationship between civil society and the market by constructing alternative ways of food provisioning. The relationship between civil society and the state is influenced by taking politi-

cal action and by changing institutions, culture and public opinion (Renting et al., 2012). Thereby, all activities throughout the food supply chain, including political activities by the networks' actors are included in the concept of CFN. Consumers become co-producers, pro-sumers (Brunori et al., 2012; Renting et al., 2012; Veen et al., 2012) or citizen-consumers (Johnston, 2008), terms that reflect their active role in co-producing new forms of food provisioning. In order to be truly civic, CFNs need to transcend market logic (such as private ownership, growth and focus on individual needs) and to build communities that work together (DeLind, 2002). In this way, CFNs become more than niche marketing strategies and have a potential to expand the autonomy of peasant farmers.

Food co-ops can be qualified as CFNs as they reach beyond other forms of direct marketing in several ways. They constitute an institutionalized form of interaction between consumers and farmers, which is 'co-produced' by both of them. Food co-op members are no longer mere consumers as they are at the farmers' market or the farm shop (Haedicke, 2012). This allows collaboration with farmers that goes beyond traditional forms of direct marketing (Brunori et al., 2011; Renting et al., 2012; Grasseni, 2014). The fact that consumers organize themselves as a group for collective purchasing is a major social innovation (Little et al., 2010; Haedicke, 2012). Accordingly, previous studies on food co-ops have focused predominately on the consumers as food co-op members, their motives for participating in the co-op (Hibbert et al., 2003; Freathy and Hare, 2004; Little et al., 2010; Murtagh, 2010), their consumption patterns (Bingen et al., 2011; Pearson et al., 2011) and their interactions in the co-op (Freathy and Hare, 2004; McGrath, 2004; Little et al., 2010; Haedicke, 2012; Martino and Pampanini, 2012). The following literature review deals mostly with farmers' reasons to participate in CFNs or direct marketing schemes in general because there is limited specific literature on food co-ops.

Autonomy can be strengthened in CFNs through an extension of the farmers' room to manoeuvre, i.e. a change of the market's governance mechanisms. As members of CFNs, farmers may have more possibilities of choosing, influencing or trying out new production and processing methods or new ways of marketing. They thereby gain control over the supply chain (Maye and Ilbery, 2006; Mayr, 2011). Furthermore, quality requirements are generally more in line with extensive production methods, as consumers accept natural variations in size and form or are mostly willing to bear the increased production costs (Lamine, 2005; Grasseni, 2014). By selling via CFNs, farmers' income and autonomy can be expected to increase as a result of higher prices paid to farmers, exclusion of intermediaries, on-farm processing and added value, diversification of products offered and/or the development of local brands (Karner, 2010). In contributing to the farmers' income, the survival of farms can thus be secured (Van der Ploeg, 2008). However, it is still ambiguous whether the above-mentioned strategies actually lead to higher income (Marsden et al., 2000; Schönhart et al., 2009; Goldberger, 2011; Flora et al., 2012). Furthermore, this increase in income and autonomy can be gained at the cost of extra working hours, which could impede on the personal well-being of farmers (DeLind, 2003; Zeitlhofer, 2008; Milestad et al., 2010a; Brunori et al., 2011).

Regarding cultural capital, CFN actors establish a link as direct as possible between producers and consumers. As in the case of community supported agriculture (CSA), the French Associations pour le maintien d'une agriculture paysanne (AMAP) and the Italian Gruppi di Acquisto Solidale (GAS), the boundaries between consumers and producers become less distinct so that researchers refer to consumers

as co-producers (Brunori et al., 2012; Renting et al., 2012). The direct contact between farmers and consumers provides potential for mutual learning (Van der Ploeg, 2008; Milestad et al., 2010b). Farmers often experience higher satisfaction from their work, since they enjoy the contact with customers themselves and the feedback they receive (Zeitlhofer, 2008; Mayr, 2011; Flora et al., 2012). If consumers understand the conditions under which farmers produce (weather, markets, policies), they are more likely to pay the real price for products and appreciate quality. This in turn enables farmers to use sustainable farming methods, which are more in line with the peasant farming principle (Kerton and Sinclair, 2009). By engaging in food co-ops, consumers learn how to integrate seasonal products into their diet and new knowledge and discourses are created (Bingen et al., 2011; Brunori et al., 2012; Lutz and Schachinger, 2013). In the Italian GAS, knowledge is passed on from consumers to farmers as GAS members approach farmers proactively asking them to convert to sustainable farming practices and to supply the food co-ops. Farming and distribution practices are co-produced in this case (Brunori et al., 2011; Grasseni, 2014). Direct contact therefore facilitates a different solution to the natural contingencies in food production than the uniformity and standardization of industrial techniques in the hegemonic food system does (Lamine, 2005).

On the other hand, only communication with actively engaged consumers leads to these positive results (Tregear, 2011). Detailed information about products and production will not reach passive consumers (DuPuis and Gillon, 2009). Moreover, direct marketing systems are not immune to deliberate deception or misinformation (Tregear, 2011). Romanticized images of farming are often used for marketing purposes (Hinrichs, 2000). Also, trust, which is supposedly cultivated in the direct exchange, is not only a result but also a premise for the direct exchange. Direct exchange between consumers and producers provides CFNs with legitimacy because it represents the difference to the hegemonic food system (Mount, 2012).

Lastly, CFNs can be starting points for common political actions launched by consumers and producers. For this endeavour, shared values and goals as normative compass are greatly beneficial. A broad dissatisfaction with the hegemonic food system is a common motive for participation of food co-op members. Food co-ops are in this sense an expression of food citizenship as consumers take control over the distribution in the food system. However, research has shown that the motives of CFN participants are often more individualistic and instrumentalist than this (DeLind, 2003; Cox et al., 2008; Pole and Gray, 2013). For the consumers, food co-ops facilitate the purchase of affordable and local organic food (Freathy and Hare, 2004; Little et al., 2010; Grasseni, 2014). In some cases the emphasis lies more on accessibility, as Lutz and Schachinger (2013) show in the case of a rural food co-op in Austria. In other cases, the prices of organic produce are too high (Fonte, 2013; Grasseni, 2014). Additionally, co-op members gather experience in management and group organization, and consequently gain self-esteem and feel empowered (Hibbert et al., 2003). Food co-op members feel part of a community, which supports their well-being (Hibbert et al., 2003; Little et al., 2010; Bingen et al., 2011; Brunori et al., 2012; Fonte, 2013; Grasseni, 2014). This reveals that rather individualistic and instrumentalist reasons for participation are often more relevant (DeLind, 2003; Pole and Gray, 2013).

Altogether, there can be a wide range of different motives between CFNs (Allen et al., 2003; Little et al., 2010), among participants of the same CFN, and over time (Cox et al., 2008). A major distinction is whether the CFN's activities are aimed at building

alternatives to the current food system without changing the framework conditions, or at changing the food and/or social system as a whole (Allen et al., 2003; Sonnino and Marsden, 2006; Follett, 2009). Holt Giménez and Shattuck (2011) call these two groups:

1. progressive: encompassing the many grass-roots initiatives of CFNs, which act predominantly on a local level and build alternatives into the system;
2. radical: encompassing e.g. the movement for food sovereignty, which calls for structural changes in the food system as a precondition for the success of alternatives such as CFNs.

Other research suggests that there is a core of activists with stronger common identities, goals and values that mobilize less-engaged network members or new participants (Murtagh, 2010). Such is the case in food co-ops, where only some members are affiliated to political movements such as the food sovereignty movement (Drazic et al., 2012; Grasseni, 2014). This points to the fact that there will always be a diversity in participants' motives, which needs to be handled in a democratic and reflexive approach if CFNs are to retain their transformative potential while scaling up (DuPuis and Goodman 2005; Mount, 2012). Depending on the political orientation of CFN actors (progressive or radical) and on the way of handling the heterogeneity in goals (prescriptive or reflexive), CFN actors might or might not engage in further political action.

In conclusion, engaging in CFNs is one way for farmers to implement a peasant mode of farming as CFNs reconfigure the relationship between civil society, the market and the state. CFNs can enlarge the peasants' room to manoeuvre in regard to their economy, in the sphere of cultural capital and by common political actions. Food co-ops constitute an interesting case as consumers themselves initiate them. In some cases, such as in the Austrian example we use here, food co-op members see their practices as a way to enact solidarity for the peasant mode of farming (Little et al., 2010; Fonte, 2013; Grasseni, 2014). In the following we assess this claim. Exploring the question how peasant farming is supported by food co-ops allows us at the same time to shed light on farmers' motives to collaborate with food co-ops.

The D'Speis Food Co-op in Austria

Austria's first food co-op, BERSTA,² was established in 1980 as a response to negative consequences of the productivist agriculture development model and thereby had a clear political aspiration. Contrary to other parts of Europe and North America where food co-ops experienced a growth phase fuelled by the rise of concerned consumerism in the 1990s (Little et al., 2010), the Austrian movement could not maintain its momentum. Firstly, producer-led forms of direct marketing were increasingly promoted by government policies for regional development during this time. Secondly, the two major retail chains in Austria launched their own organic brands in the early 1990s. Since then retail chains have constituted a powerful competitor to direct marketing initiatives. In the past decade, the proportion of traditional forms of direct marketing, such as farmers' markets and farm shops, has diminished, while sales of organic produce through retail chains have continued to increase (Karner, 2010). At present, 69% of organic products are sold via retail chains, while direct marketing covers only 6% (Bio Austria and ORA, 2011). Most of the demand for local and/or organic food was, and still is, met by retail chains. Only recently, alternative

organic marketing strategies such as box schemes, CSAs and food cooperatives have emerged as a reaction to the conventionalization of organic products in supermarkets (Karner, 2010; Schermer, 2012).

At present, Austrian consumer-initiated food co-ops can be divided into three categories (foodcoops.at, 2013).

1. Informally organized purchasing groups consisting of a few households. These groups depend on voluntary work. Decision-making is cooperative, i.e. managed by the group.
2. Food co-ops in the legal form of associations. As a consequence the food co-op's activity becomes less dependent on individuals. Leases, bank accounts, invoices and other contracts are handled within the association. The responsibilities and risks are shared among the members. Most of these groups restrict the number of members in order to retain the values of mutual trust, grass-roots democracy and active involvement of all members.
3. Provisioner–customer networks (Vorsorger-Verbraucher-Netzwerke). These food co-ops are shops/outlets open to any customer. Membership is voluntary and perceived as ideological support for the idea (NETs.werk Verein, 2012). The management of the food co-op is coordinated, i.e. a central governing body takes decisions for the group (Lutz and Schachinger, 2013).

In this article we focus on a food co-op in the second category. There are three reasons for this. First, such a co-op emphasizes active involvement of all members. This means that everybody should participate by taking over certain tasks and by attending regular meetings. Only members of the food co-op can purchase food from the co-op. Important decisions are taken together at monthly meetings. Usually, separate working groups are responsible for the different tasks that are necessary for the food co-op's functioning. Second, food co-ops in this category have a certain size and are able to scale up, thus being able to make a difference to the farmers that engage with the food co-op. And third, these food co-ops were known to the first author to aim particularly for direct contact with the farmers and supporting peasant farming – issues that lie at the core of this article.

During the time of the field work (spring 2013) there were only six food co-ops of this kind in Austria that had been operating for more than one year. From these six, we chose the D'Speis in Vienna (founded 2010) as our case study. Firstly, with 150 members D'Speis was the largest of its kind in Austria at that time. Secondly, the first author, having been a member of the D'Speis for three years, had significant knowledge about the food co-op's functioning. Despite intensive reflection of her own role during the research, a bias in the study cannot be ruled out (Jaklin, 2013). In order to explore the consumer side of the interaction between the food co-op and farmers, her personal experiences were complemented by a group interview with four members of the 'Products' working group. This working group is responsible for collecting the orders of the members, contacting the farmers to organize delivery and gathering and communicating information about the producers. As the main focus of this study is on the farmers, interviews were held with all 12 farmers supplying D'Speis. Semi-structured interviews, complemented by structured questionnaires, were used to gather information on farmers' marketing profiles, their experiences in the interaction with D'Speis, their reasons for collaboration and their values and goals regarding the (change in the) food system. In addition, two vegetable farms with which the collaboration had ended (N1, N2) were included in the survey (Table

Table 1. Information on the 14 farms represented in interviews and the products they supply to the D'Speis food co-op and others.

ID	Province	(Certified) organic since	Off-farm employment	Cultivated area (ha)	Products	Products delivered to food co-ops	No. of food co-ops supplied	Supplying D'Speis since	Order interval
1	Lower Austria	1990	No	No data	Lamb, beef, honey, eggs, jams	Lamb	1 (D'Speis)	Oct. 2012	Monthly
2	Vienna	2002	Yes	0	Honey	Honey	2	Oct. 2011	As required
3	Lower Austria	1988	No	56	Arable crops	Cereals, oil, pasta, spices, sugar	7	May 2010	Monthly
4	Lower Austria	2005	No	9,2	Apples	Apples, cider, apple juice	4	Nov 2012	Monthly
5	Lower Austria	1989	No	19	Lamb, vegetables, wine, arable crops	Wine, grape juice	1 (D'Speis)	May 2010	As required
6	Lower Austria	1983	No	48	Arable crops, dairy products, herbs, forest	Herbs, herbal products	4	May 2010	As required
7	Lower Austria	1979	No	32	Beef, meadow orchards, forest	Apple juice, pear juice, chestnuts	1 (D'Speis)	Feb 2012	As required
8	Lower Austria	2000	No	10	Vegetables, plant nursery	Vegetables	4	Feb 2012	Weekly
9	Lower Austria	1995	No	252	Arable crops, beef, forest, hydroelectricity, farm holidays	Potatoes, onions	3	Jan. 2012	As required
10	Carinthia	1977	No	36	Lamb, honey, herbal products, seminars, farm holidays	Honey, lamb, pork	2	May 2010	Occasionally
11	Styria	2006	Yes	12	Lamb, vegetables, meadow orchard, forest	Pickles, liqueur, syrups	5	May 2010	Occasionally
12	Lower Austria	2012	No	0,75	Vegetables	Vegetables	4	July 2012	Weekly
N1	Vienna	1989	No	45	Arable crops, vegetables	Vegetables	0		
N2	Burgenland	2006	No	60	Vegetables, fruits, wine, arable crops	Vegetables	0		

1). One of these farms did not want to deliver the vegetables to the storeroom and did not produce enough to supply the food co-op. The food co-op ended its collaboration with the other farm because its produce was considered too specialized and too expensive.

All interviews were transcribed and analysed according to their content using inductive and deductive codes (Mayring, 2000) with the help of the qualitative research data analysis software Dedoose (SCRC, 2010).

Differing Degrees of Peasantness

In order to answer the question whether, and how, food co-ops support peasant farming we began by looking at the mode of farming used by the interviewed farmers, focusing on the main principle of the peasant mode of farming, i.e. striving for autonomy. All farms investigated except two (Farms 2 and 11) were run full-time. The farmers did not have to supplement their income with off-farm activities, which we see as proof of their autonomy. Financial survival of the farms was largely due to two factors: their 'co-production with nature' and their 'interaction with the market' (Van der Ploeg, 2008).

All farms were either certified organic farms, or claimed to work according to organic principles without organic certification (Farms 10, 11). Furthermore, half of them had adopted organic production methods in the 1980s and can therefore be qualified as pioneers of organic farming. The second major group comprised new rurals who took over farms around the turn of the millennium. Financial reasons for converting to organic production proved to be dominant on only one farm (Farm 4). Instead, farmers wanted to provide consumers with quality products. For example:

'Why focus on rare vegetables? Because this was one of my motives to begin vegetable production in the first place. Because in the shops you always get the same varieties and they are mostly tasteless' (Farmer 12).

Most farms had a rather diversified production, either combining different production enterprises or producing a wide variety of species. In vegetable production, the farmers placed particular emphasis on rare cultivars (Farms 12, N2) and/or manual work (Farms 8, 12). Farm 4, which only produced apples, was an exception concerning diversification. Most farmers chose diversification in order to close nutrient cycles on the farm, spread the risk over several production enterprises and at the same time offer a wide range of products to customers.

Production methods and modes of marketing were highly interlinked on the farms. Direct marketing schemes were chosen because they were well adapted to a desired way of producing, or certain production fields were started because they appropriately complemented marketing. All in all, autonomy was a major motive for designing farm production and marketing. As expressed by one of the farmers:

'We didn't want to surrender to the price dictates of an intermediary. And in order to deliver to such an intermediary, I believe, you have to produce really large amounts, which we surely haven't got yet, and perhaps will never have. We don't want to become a big farm. We basically want to manage everything the two of us, with some help' (Farmer 12).

Concerning their marketing, the farms could be divided into groups along two lines of differentiation: the degree of direct marketing and the number of marketing chan-

nels used (Table 2). First, we identified three groups according to the share of direct marketing in their marketing strategy.

- Farms with a low share of direct marketing. These farms mainly marketed their products via mainstream intermediaries and retailers (more than 85% of products) and specialized in one product, such as potatoes, herbs or apples, which were produced in larger quantities.
- Farms with both direct marketing and other forms of marketing (40–95% direct marketing). Three farms used wholesalers (Farms 5, 8, N2) in the case of overproduction, amounting to about 5% of their production volume. Farm 3 produced more than 30 different arable crops and used eight different distribution channels, some of which were wholesalers or producer cooperatives, some CFNs.
- Farms with 100% direct marketing (such as farmers' markets, on-farm sales, home delivery or food co-ops).

Second, the farms were grouped in two groups depending on the number of market channels they used. The first group used several distribution channels while the second group used one channel for 70–90% of their production. The farms that had no clear focus on one distribution channel did so as a deliberate strategy to avoid dependence and guarantee their survival.

The degree of peasantness these farmers exhibited depended on their level of co-production with nature and on their interaction with the market. The more environmentally benign production methods used and the more diversified the production, the higher the degree of peasantness. The more direct marketing and the higher the number of market channels, the higher the degree of peasantness. While the feature 'co-production with nature' of the peasant mode of farming was fulfilled by all of them to a certain degree (farming organically), the market and the diversification of production appeared to be the main differences between the farmers. The degree of direct marketing differed substantially (Table 2), with Farms 4, 6, 9 and N1 showing inextricable links to, and dependence on, intermediaries and retailers. Likewise the degree of diversification of production ranged from Farm 4, which focused solely on apple plantations, to farms that relied on several production sectors, such as animal husbandry, wine production, arable crops and vegetable production (Farms N2, 5,

Table 2. Marketing profile of the study farms in terms of distribution channel type and relative proportion of produce handled (n=14).

	Marketing via intermediaries and retailers (> 85%)	Hybrid marketing (40–95% direct marketing)	100% direct marketing
Combination of several distribution channels	Farms 6, N1	Farms 3, 8	Farm 2
Focus on one distribution channel (70–90% of production)	Farms 4, 9	Farm 5 (off-farm sales) Farm N2 (farmers' markets)	Farms 1, 7, 10 (off-farm sales) Farm 12 (farmers' markets) Farm 11 (food co-ops)

10, 11). In conclusion, the analysis shows that the farmers covered a broad range in the continuum between peasant and entrepreneurial farming modes (Van der Ploeg, 2008), but as a group they tended towards the peasant mode more than the entrepreneurial mode (Figure 1).

Turning now to the reasons why farmers engaged with the food co-op D'Speis, the issues of autonomy, the level of face-to-face interaction and shared values are highlighted.

Potential Increase of Autonomy: Negotiating Quality, Logistics and Price

Local provenance and organic production methods were the main criteria of the food co-op members in their choice of suppliers. Process qualities (artisanal, organic) prevailed over product qualities such as homogeneity, size or shape. Natural variations in size and shape of the vegetables were accepted since the natural contingencies of food production were understood. The vegetables, but also packing and labelling, did not have to comply with norms for size or appearance. This is fundamentally different from private product quality standards such as GLOBALG.A.P. (Global standards for Good Agricultural Practice) governing the hegemonic food system (Konefal et al., 2005; Vorley, 2007). Vegetable producers (Farms 8, 12) in particular benefited from this difference, as it allowed them to use peasant farming methods such as reduced use of machinery and external inputs, growing rare cultivars and propagating their own seeds.

‘We are to some degree quite unprofessional in the production. I mean, we don’t have incredibly nice labels, and all the jars are different from each other. That works with food co-ops. That is convenient’ (Farmer 11).

Furthermore, while organic production was a selection criterion for the food co-op, organic certification was not a requirement. Instead, the co-op members relied on trust in the relationship with producers and on the direct contact, which allowed potential checks on the production methods. This was beneficial for two farms, which had rejected organic certification for ideological reasons (Farms 10, 11). Both argued that the European regulations on organic production omitted important issues such as social standards. They also disapproved of the conventionalization of organic agriculture, in which they believed certification and regulation played a critical role.

In the course of the interviews, logistics emerged as an essential factor. Retail chains exclude small-scale producers through their supply chain management (Vorley, 2007). Their logistic systems are highly efficient, benefiting from economies of

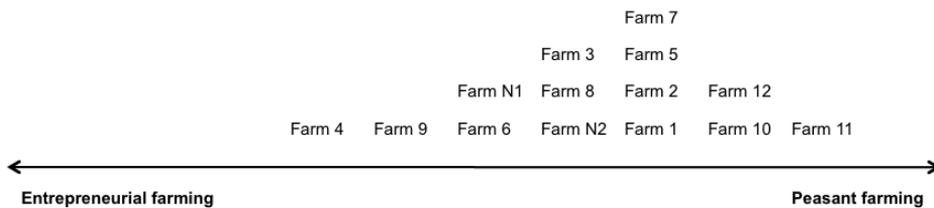


Figure 1. Positioning of farms studied on the continuum of peasant and entrepreneurial farming.

scale (Schönhart et al., 2009). Accordingly, only large-scale farmers in this study mentioned the efficient logistic system of wholesalers and producer cooperatives as an advantage, although these intermediaries were not always as flexible as the food co-op in arranging their logistics according to the farmers' needs.

Still, the interviewed farmers expressed that the logistic system of the food co-op needed to be arranged more efficiently and more according to the needs of the farmers. Most problems mentioned by the farmers related to logistics and delivery. This was due to the organization of the food co-op's storeroom, which was only open for a few hours a week to allow members to collect their food or producers to deliver their produce. As one of the D'Speis members explained:

'Well, we communicate that on Tuesday or Friday our store is open. And depending on whether that is alright for them, then it is alright for us as well... But I'd say that the producers still have to adjust to us, because it is just Tuesday or Friday' (D'Speis member, 'Products' working group).

If farmers could not deliver during these times, they could either fix an appointment for delivery or they had their own key to the storeroom. However, keys were only given to suppliers who delivered regularly (vegetables or dairy products). Some farmers (Farms 2, 4, 7, 9, 11) considered fixing an appointment an inconvenience, while others did not perceive this as a problem (Farms 1, 5, 10). Food co-op members tried to arrange the delivery in a manner that suited the farmers and themselves. However, due to the non-hierarchical organization, such arrangements were seen as 'chaotic' and challenging by one farmer (Farm N2).

Solving logistical questions was especially important in the beginning of the collaboration between a farmer and the food co-op. D'Speis preferred to get its produce delivered to its store by the farmers, as it had only limited transportation means. The farmers, on the other hand, saw the delivery as a cost. If they could not integrate deliveries to the food co-op into another marketing scheme (box schemes, home delivery, catering restaurants) or combine it with private duties, collaboration did not come about (Farm N1).

In order to help farmers deliver to food co-ops, inspiration could be drawn from the GAS in Italy, where networks of several GAS allow for efficiency gains in logistics (Brunori et al., 2012). Another example of well-developed logistic solutions in CFNs is the Austrian provisioner-customer networks, where farmers organize themselves within communities to carry out deliveries (Lutz and Schachinger, 2012). Finding solutions to these questions are primordial as food co-ops scale up and need to convince more farmers to start direct marketing.

On the other hand, collaboration with D'Speis offered farmers more room to manoeuvre compared with retail chains regarding price setting. Food co-ops in Austria are not (yet) in a position where they can influence prices in the way powerful retail chains can and, according to their values, food co-ops do not aim to do so. In 12 out of 14 cases, the farmers reported that the food co-op simply accepted the prices farmers proposed. Sometimes the food co-op members asked for a discount as they ordered in bulk (Farms 8, 10, 12). In other cases, the food co-op was not aware of discounts that farmers granted them without explicitly communicating these (Farms 2, 4, 5). As noted by a farmer delivering honey to the co-op:

'In the beginning they said that they didn't want to beat down the price or the like, but that the producer should also have his share of it. Well, all the haggling was actually left out. So, when I give them the honey a bit

cheaper, then I am doing it simply because I like it. Because I see: 'Okay, ten, fifteen per cent – I don't care.' They should also get something out of it' (Farmer 2).

Problems occurred in connection with two vegetable producers specializing in rare cultivars. Some of their products were too expensive for the food co-op members, which led to termination of collaboration with one farm (Farm N2). Being predominantly students, co-op members preferred a regular assortment of vegetables at lower prices. The problem was solved with the other vegetable producer (Farm 12), who agreed to lower prices and adjusted vegetable production in the next season.

Food co-op members were ready to make compromises in favour of the farmers when it was relatively easy and did not involve any major investments. Mostly this concerned quality standards and the settling of the prices. When it came to accommodating farmers' financial needs, such as paying higher prices for rare vegetable cultivars or helping to install an efficient delivery system, the food co-op's capacity was limited. Mostly, the farmers tried to make the step towards the food co-ops by granting them discounts and including them into their delivery schedules if possible. This mirrors similar findings for CSAs, where, in the end, farmers carry the extra workload of sustaining the community interaction (DeLind, 2003).

In addition, food co-ops were only of marginal financial importance for most farms included in the survey. The amount of a specific product marketed via food co-ops (not only D'Speis) did not exceed 15% of the total production volume of any farm except one, a collective farm, which only marketed the surplus from its subsistence production. The small quantities supplied to food co-ops were due to the fact that most farms started to supply food co-ops in addition to a well-established marketing strategy and that food co-ops did not purchase enough to allow all produce to be marketed via that route. Still, farmers appreciated the bulk orders of the food co-op as they could supply a larger group of consumers in one place, saving time and material for cleaning, packaging and selling. Thus, in regards to costs for the farmers, catering food co-ops costs less than common forms of direct marketing (farm shops, farmers' markets, box schemes), but more than selling to wholesalers or retailers (since they will take larger orders and thus transport costs are decreased).

Considering the material aspects of the interaction between farmers and food co-ops, it can be said that it is mostly peasants supporting consumers and not the other way round (DeLind, 2003). Some farmers perceived their collaboration with D'Speis as support for an initiative coming from consumers (Farms 3, 5, 10, N2). In this sense, the collaboration with the food co-op served as a reassertion of their own practice and/or was chosen as a distribution channel because it fitted the personal beliefs of the farmers as embodied in their practice. For example:

'The second major reason is our ideological preference. I mean, we don't want to produce for the anonymous market... And for this reason we decided on the food co-ops. That feels great and we get a little bit of money. It fits into our concept' (Farmer 11).

This points to the sphere of immaterial benefits, such as common values, increased well-being and direct contact, which will be discussed in the following sections.

More Collaboration But Less Direct Interaction

In the interviews it became obvious that the peasant identity and personal well-being of the farmers was enhanced through the collaboration with the food co-op.

This stems in large part from the appreciation of the farmers' work and the reduction in anonymity in the food supply chain. Food co-op members and farmers alike valued the direct contact between each other. Four farmers expressed that they felt appreciated for their work from the part of the food co-op (Farms 3, 6, 9, 11). This appreciation led to a higher degree of well-being and satisfaction with their own work. Generally, the removal of anonymity in the food system was a major motivation for nearly all farmers to start direct marketing. The farmer at Farm 9 expressed it thus:

'For me, it is much more fun to deliver small amounts to the food co-ops and to see how the people are excited when I come along than to let big amounts simply be taken along by a truck and I think: 'Okay, fifty per cent of it will probably end up in the garbage anyway' (Farmer 9).

On the whole, farmers and food co-op members rated their interaction as 'uncomplicated' (Farm 3), 'cooperative' (D'Speis member) or 'amicable' (D'Speis member). Farmers appreciated the interaction, the swift payment of bills and the clear formulation of orders. Other examples of special arrangements point into this direction too. For example, after a period of floods the food co-op accepted dirty and therefore non-marketable lettuce at a reduced price (Farm 12). One vegetable farm, which converted to community supported agriculture (CSA) was allowed to use the food co-op's storeroom as a pick-up point for its CSA customers (Farm 8). The food co-op sometimes arranged working trips to one of the vegetable farms (Farm 12). Two farms that were part of the movement for food sovereignty and other political movements used the food co-op to circulate political information (Farms 10, 11). These cases of more intense collaboration were mostly with farmers who had a higher degree of peasantness (Figure 1). More entrepreneurial farmers had less interaction with the food co-op, in one case not even knowing what a food co-op was.

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 (Farms 1, 2, 5, 10, 11, 12). In the food co-op the intensity of the contact varied according to the delivery interval, length of collaboration, distance from the food co-op and personal factors. One farmer described this disadvantage thus:

'It is a pity, because this basic idea of the direct contact is just missing, because the people of the food co-op don't come to us and have a look... That is, I believe, the most serious disadvantage. The rest works totally well' (Farmer 11).

This was due to the organization of the food co-op. Most farmers had contact with only one person at the food co-op (the person responsible for purchasing). As a consequence they did not know all the consumers as they would on a farmers' market. This can be partly relativized, as several previous studies have pointed out the limitations of direct contact, for example at farmers' markets (DuPuis and Gillon, 2009; Tregear, 2011; Mount, 2012).

The food co-op members were aware of the lack of contact with their suppliers. If time and workload allowed it, group excursions to farms were organized so that food co-op members could meet the supplying farmers, experience their working life and collect information for other food co-op members. The food co-op thereby followed Mount's (2012) suggestion of maintaining elements of direct contact while up-scaling in order to legitimize its alterity. However, these excursions depended on voluntary work and were only organized twice a year. Apparently, this contact was not enough for some farmers.

Despite the limited direct contact, none of the farmers interviewed complained about a lack of understanding on the part of the co-op members. The disproportionately large share of students of agriculture or environmental studies in the food co-op (23% in Viennese food co-ops, according to Benovic et al., 2012) could explain this. In addition, food co-op members had empathy for farmers because of their own work experience on farms (e.g. WWOOFing) or because of their rural background (Benovic et al., 2012). A second major factor might be the shared criticism of the hegemonic food system, which lays the basis for trust between producers and consumers with limited or no direct exchange of information (Mount, 2012).

Shared Criticisms = Common Values?

Farmers and D'Speis shared a critique of the hegemonic food system. The major problems farmers perceived were the lack of transparency and the growing anonymity in this system. Because of this anonymity, farmers reasoned that consumers lacked an understanding of agricultural production with its dependence on natural factors. This resulted in consumers being ignorant of the seasonal or regional availability of products. Consequently, the farmers attributed the responsibility for the assortment of retailers and for high rates of food wastes to the consumers. The retail chains were in turn denounced for dictating prices and production conditions. Two of the farmers described their interaction with retailers thus:

'The prices are set externally. You cannot decide on them. They are simply in the contract. So you either say: 'Okay, I produce to these conditions' or you look for someone else' (Farmer 9).

'They ask for large amounts, which you have to adjust to of course. It's not easy to produce large quantities just like that. And then you're dependent, because you invested in a storehouse or a processing machine. We have already heard that they (the retailers) send the produce back if it is too much. Or other things like that happen every so often' (Farmer N1).

Comparing these statements from the farmers with texts published on the D'Speis website, it is evident that the food co-op and farmers define the problems with the current food system in a similar way:

'A food co-op is an alternative to conventional food provisioning via retailers. It is mainly about being in direct contact with the producers, paying fair prices and knowing about the products and their origin... D'Speis fosters social cohesion and cooperation. It enables us to reflect on food, its production, distribution and consumption and aims at sustainable production and consumption' (D'Speis, 2013; our translation).

When asked for their vision of a different (better) food system, farmers gave differing answers. The most common answers included values such as organic and regional production. Half the farmers interviewed who supplied the food co-op (Farms 1, 2, 5, 10, 11, 12) also wanted more direct contact with the consumers and an increased appreciation of their work and the food they produced.

Furthermore, most interviewees pointed out the necessity of having a diversity of food distribution systems. Mirroring the analysis of Holt Giménez and Shattuck (2011) two groups could be identified.

1. A progressive group, which could not envision a future food system without retail chains. However, they still appreciated the direct contact and the fair relationships with CFNs (Farms 2, 4, 6, 8). Their emphasis laid in constructing alternatives to complement the existing system. As one farmer stated:

‘The food co-ops have been emerging a lot lately. But whether it is really possible or feasible for the majority of the population to feed themselves through it – I figure it’s rather difficult’ (Farmer 4).

2. A radical group dedicated to a collectively organized food system based on small-scale agriculture. Many of its members were part of the movement for food sovereignty and some were openly anti-capitalist (Farms 1, 3, 5, 7, 9, 10, 11, 12). For example:

‘I would immediately abolish money. But that doesn’t mean that shops have to be abolished. If I need something, I could simply go to a shop and say: ‘I need washing powder’ or ‘I need bread’. And in the same way someone could come to me and say: ‘I need a lamb next week’. And I deliver a lamb. I offer a lamb and get other things in return (Farmer 1).

The group interview and informal discussions with food co-op members showed that a similar grouping occurred among the co-op members. D’Speis members’ values ranged from openly anarchistic and/or anti-capitalist to ‘only’ wishing for better food directly from the producers.

The lowest common denominator of values named by the interviewees – regional and organic production and decentralized distribution – mainly included product characteristics, which are progressively being integrated into the marketing of retail chains (Konefal *et al.*, 2005; Kratochvil *et al.*, 2005; Seyfang, 2008). Only a few interviewees mentioned democratic organization or other values connected to the quality of interaction between food actors. In general, the interviewed farmers lacked awareness that food co-ops differentiate themselves by their democratic and cooperative governance structure (Mount, 2012). Being aware of these unique features of food co-ops in particular, and CFNs in general, enables participants to emphasize these qualities in communication and political activities. At the same time, we suggest that the actual practice of democratic interaction could be increased. Austrian food co-ops have experience in grass-roots democracy among consumers. More interaction between farmers and consumers could offer new insights and potential for learning processes, increase the participants’ identification (Cox *et al.*, 2008) and thereby offer a solution to the perceived heterogeneity in goals.

A starting point to devise common goals of farmers and co-op members could be the shared view on their practices as their contribution to political change. The farmers emphasized their production and distribution methods as concrete actions for improvements in the food system. Despite the fact that nine of the 14 farmers interviewed were politically active (Farms 1, 3, 4, 5, 6, 7, 9, 10, 11), ranging from engagement in political parties or the local agricultural chamber to social movements, only four of these farmers (Farms 6, 9, 10, 11) mentioned this political engagement as their contribution to change. According to Van der Ploeg (2008), it is symptomatic of peasants that their resistance and struggle for autonomy are integrated into their food production process, and does not use predominantly classical political tools such as demonstrations, lobbying campaigns or land occupations. Values and goals that are embodied in the interaction between producers and consumers through the

food co-op are the promotion of peasant agriculture, flexibility to adapt to the demands of the natural contingencies of food production, and cooperation.

Conclusion

An important question is whether the food co-op actually encourages the adoption of peasant modes of farming, or whether farmers engaging with food co-ops already practise a peasant mode of farming. In the case of D'Speis, farmers were approached because of their already existing farming practices. Consequently, all interviewed farmers, also those who we positioned more towards the entrepreneurial farming mode, had elements of a peasant identity such as direct contact and cooperation with consumers reaffirmed. While economical and practical considerations were of major importance for some farmers, most farmers chose to collaborate because they sympathized with the food co-op members and their values. Thus, marketing via the food co-op – together with other marketing channels used by the farmers – enabled these farmers to find an income in line with their values. The interaction between farmers and co-op members, especially regarding price negotiations and quality standards, were adapted to farmers' needs as far as the food co-op could afford or manage. As the food co-op's contribution to farmers' incomes was negligible, the food co-op mainly supported peasant farming in the sphere of social and cultural capital.

On the whole, D'Speis can be qualified as a civic food network since the interaction with the farmers goes into the direction of co-producing. Farmers and food co-op members interacted in order to agree on prices, production standards and delivery conditions. Like other food co-ops, D'Speis is not an alternative to the market. Rather, it embeds the market interaction with the farmers in other values such as direct contact, solidarity and transparency (Murtagh, 2010; Brunori et al., 2011, 2012; Lutz and Schachinger, 2013; Grasseni, 2014). However, the degree of interaction, collaboration and consideration differs substantially, mirroring Murtagh's (2010) finding that a core of network actors have stronger identification with the food network, therefore contributing more effort in its functioning. Accordingly, a high degree of peasantness meant close interaction with the food co-op, while entrepreneurial farmers stuck more to their functioning mode and catered food co-ops along the way. In order to support and encourage peasant farming, D'Speis could consider proactively approaching farmers and helping them in the conversion to more 'peasantness', as is already the case in Italy (Brunori et al., 2011).

Regarding the political dimension of the food co-op it became clear that most actors saw their activities in the food network itself as sufficient. Other common political actions are not taken in the name of D'Speis. Van der Ploeg (2008) sees it as typical for peasants not to engage in traditional political activities. Holt Giménez and Shattuck (2011), on the contrary, claim that only a coalition of progressive and radical food movements, meaning an integration of traditional political means with concrete alternatives, can lead to a lasting change in the food system. Before this can happen, the apparent heterogeneity of values needs to be addressed in a democratic approach involving both consumers and farmers. Food sovereignty could serve as a compass in this process, as all actors seemed to aim for qualities in line with the concept of food sovereignty, such as environmental sustainability and autonomy of choice in their practices.

Notes

1. When not referring to the work of other authors, we deliberately avoid the term 'conventional food system', which has its origin in the binary opposition to alternatives. Building on a neo-Gramscian understanding, 'hegemonic food system', on the contrary, points to the fact that hegemony cannot be sustained without the active or passive consent of the dominated. The ruling class consciously employs a mixture of integrating some demands of other interest groups while forcibly pursuing their interests. Hegemony is, by consequence, in constant movement and interaction with counter-hegemonic forces. Based on this, the integration of material and cultural aspects inspired us to use this concept, which was originally applied to analyses of the international state system (Ludwig, 2007).
2. The name BERSTA is a combination of Berg (mountain) and Stadt (city), signifying cooperation between producers and consumers.

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Book Review

In the Shadow of Slavery: Africa's Botanical Legacy in the Atlantic World

Judith Carney and Richard Nicholas Rosomoff, 2011

Berkeley, CA: University of California Press

xvi + 280 pp., ISBN: 978-0-52-026996-5 [pbk]

I simply could not put this book down and wished it never to end! This review explains why it was the case for me and might be for many others who will read this academic work. Judith Carney and Richard Nicholas Rosomoff have done an extraordinary job in achieving exactly what they set out to do: to inform the reader on Africa's botanical legacy; to re-evaluate the perception of the African continent's past and its people, based on the information provided; and to contribute to classical literature on Colombian Exchange by addressing the active role of enslaved people and plants within it. In 10 chapters the authors take the reader on a journey through time and space in order to show how Africa's botanical world, with its displaced people, animals, plants, knowledge and skills, transformed and contributed significantly to the world in which we live. Thanks to their attention to historical records, oral accounts, linguistics, archaeology, biology and ecology these authors not only provide evidence to support the claim on Africa's botanical legacy, they also re-evaluate academic contributions on the topic. Having said that, this book has the potential to impact on the ways we relate – culturally, politically, economically, and intellectually – to all of the so far uncredited, unwillingly dislocated human and non-human actors who have shaped the world we share.

Judith Carney, author of *Black Rice: The African Origins of Rice Cultivation in the Americas* (2002), was well prepared to take her account on the origins of rice to the next level. Together with an independent writer, Richard N. Rosomoff, they advocate for a change in the perceptions of what African nations might have looked like before the arrival of Europeans. By focusing mainly on plants but also considering animals, they delve deep into the history of the African, European and American continents. Chapter 1 covers African flora and fauna, while Chapter 2 the ancient history of the region, thus providing a solid background for the reader. For example, here one can find numerous references on African origins of plants now widely used on other continents, such as coffee, rice, millet, banana and plantain, groundnut, okra, tamarind. It is a misconception, as Carney and Rosomoff write, that these plants originated in Asia and the Americas, or that they were introduced by European merchants to the New World. The most striking example is that of bananas, which were traded already in 3000 BCE between East Africa and Middle East. Historical and archaeological evidence recounted in the book points out that mercantile exchange of African rice between Medieval Portugal and Africa took place centuries before the Columbian Exchange.

As the book progresses, the reader is taken further through time and space with the wealth of botanical evidence supporting the authors viewpoints. For example,

in Chapter 3, which is centred on early slave trade, one realizes not only the scale of the slave trade but also the role of African food systems and knowledges of people that were enrolled in it. In this chapter, one can read about markets supplying Portuguese caravels with African crops and cereals that flourished near slave ports, thus forever changing the African landscape. The authors strongly argue that, by 1590, a mass removal of youth from rural areas and an increased demand for food impacted severely on the sustainability of the African food system. They go on to say that in the context of high food demand instigated by rapid trade of human beings who needed to be fed (although not sufficiently) during the voyage to Americas, Portuguese merchants introduced Amerindian manioc (maize) into African food systems. The authors' attention to this very context allows them to run against the prevailing view that manioc (maize) was brought to Africa benevolently as if there was nothing to be consumed there. Therefore they argue that maize, in academic discussions on Colombian Exchange, 'should not be divorced from its role in enabling the commerce in human beings' (p. 57).

Chapters 4, 5 and 6 focus in even greater detail on the significance of African crops to the enslaved people, and the lack of significance of plants to the enslavers. The authors emphasize the importance of attending to both official and unofficial records (oral accounts) from the slave trade period. However, the oral histories 'offer a counter-narrative' in the Colombian Exchange literature and 'substitute the usual agents of global seed dispersal – European navigators, colonists, and mend of science – with enslaved women whose deliberate efforts to sequester rice grains helped establish an African food staple in plantation societies' (p. 77). However, as time progressed and global colonial trade began to be affected by outside forces, African food staples such as yams, rice, groundnuts, sesame and greens, which were grown in food plots managed by enslaved people, gained a new role: as commodities, not as just a cost of keeping up plantations. In this new African context, not only crops but also farm animals, thus far cherished and taken care of only by plantation societies (which were replaced continuously by newcomers whose agricultural skills originated on the African continent), began to be applied (without much credit to or consent of enslaved people) on a much larger scale by plantation owners. The authors narrate that the Carolina colony in North America flourished due to their knowledge of rice and livestock production gained from African societies. The authors coin this phenomenon the 'Africanisation of plantation food systems', legacy of which is seen to this day (see Chapter 9) in the mass commodity food we eat: rice, sesame, groundnut (peanut).

The strength of this book is not only based on the wealth of information contained in it, or that it is well written and illustrated with maps, oral histories, plates, and data, but also in how it is accessible to a wider audience. Indeed, one can argue with their findings or not find them surprising. For instance, one might not find startling (as I did) the fact that the cola nut (used to produce Coca Cola drink) originates in Africa and has been used for millennia to flavour water (a knowledge that was picked up by slave traders during sea voyages). However, one cannot ignore the attention the authors give to the significance of all human and non-human actors who, through immense and unimaginable sacrifice, have shaped the material as well as the semiotic worlds we live in today. They focus on the intricacies of each plant or animal, i.e. where and how they grow or live; how they are processed and attended to; how they are eaten and sustained for the generations to come. Thus the connection between plants, animals and humans they focus on offers a unique historical

account of the period, and offers a counterargument to the European claims to the development of agriculture in the Americas.

In reading this book, the reader is not only reminded of the significance of the botanical–animal–human relationship in each chapter, but is equally informed to make that decision for her/himself. I find the authors' ability to guide the reader to arrive at similar conclusions and viewpoints to be one of the strongest points in the book. As a result of their skills and academic expertise in fields of food culture, history of slave trade and colonization, African culture, past and current food systems, to name but a few, this book or even selected chapters can be read by various audiences. For instance, Chapters 1, 2, 3 and 9 can be recommended to anyone interested in food governance studies, development and agri-food studies, as they offer a counterargument to 'Africa needs Western aid'. Chapters 4 and 5 can be read by those with an interest in slave trade history, history of Americas and European colonial powers. In those chapters, one can also find strong references to the role of women in sustaining the African food ways. And lastly, this book is for those who want to see a human beyond being a slave and his and her unimaginable misery. This book, through 'the marginal spaces of food plots' therefore 'offers more insight into the history than the estate fields where they toiled' (p. 186). This book offers a history of resilient people who were passionate about and caring for all that was human and non-human in their brutal worlds.

Although the authors have not signalled a theoretical stance in their work, which one can treat as their weak point, a watchful reader might get a feel of a more-than-human approach, found in for example Sarah Whatmore's *Hybrid Geographies* (2002). A more-than-human approach, as Greenhough summarizes (2014), involves drawing on biophilosophy, science studies and phenomenology to develop an understanding of human and non-human bodies, and an effect of their relationship and composition in the world (p. 95). The ways in which human and non-humans actors and the relationship between them are deemed equally important in *The Shadow of Slavery* is profound and can work as an excellent example of this approach. Their take on the African Diaspora as a 'one of plants as well as peoples' (p. 3) is one of the examples in which this book takes non-humans actor seriously. Nevertheless, I would like to read more about the authors' theoretical inspirations simply because it would be an equally wonderful lecture, one which I would not put down easily either.

Karolina Rucinska
School of Planning and Geography
Cardiff University

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