SOCIAL DYNAMICS FOR SUSTAINABLE FOOD SYSTEMS

ACTORS’ ORIENTATIONS TOWARDS SUSTAINABILITY IN PRIMARY PRODUCTION AND PUBLIC CONSUMPTION

DOCTORAL DISSERTATION

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Academic Dissertation to be presented, with the permission of the Faculty of Agriculture and Forestry of the University of Helsinki, for public examination in Auditorium XII of the Main Building of the University of Helsinki, on 8th April 2011, at 12 o’clock noon.
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ABSTRACT

The modern food system and sustainable development form a conceptual combination that suggests sustainability deficits in the ways we deal with food consumption and production - in terms of economic relations, environmental impacts and nutritional status of western population. This study explores actors’ orientations towards sustainability by taking into account actors’ embedded positions within structures of the food system, actors’ economic relations and views about sustainability as well as their possibilities for progressive activities. The study looks particularly at social dynamics for sustainability within primary production and public consumption. If actors within these two worlds were to express converging orientations for sustainability, the system dynamics of the market would enable more sustainable growth in terms of production dictated by consumption.

The study is based on a constructivist research approach with qualitative text analyses. The data consisted of three text corpora, the ‘local food corpus’, the ‘catering corpus’ and the ‘mixed corpus’. The local food actors were interviewed about their economic exchange relations. The caterers’ interviews dealt with their professional identity for sustainability. Finally, the mixed corpus assembled a dialogue as a participatory research approach, which was applied in order to enable researcher and caterer learning about the use of organic milk in public catering. The data were analysed for theoretically conceptualised relations, expressing behavioural patterns in actors’ everyday work as interpreted by the researcher. The findings were corroborated by the internal and external communities of food system actors. The interpretations have some validity, although they only present abstractions of everyday life and its rich, even opaque, fabric of meanings and aims.

The key findings included primary producers’ social skilfulness, which enabled networking with other actors in very different paths of life, learning in order to promote one’s trade, and trusting reflectively in partners in order to extend business. These activities expanded the supply chain in a spiral fashion by horizontal and vertical forward integration, until large retailers were met for negotiations on a more equal or ‘other regarding’ basis. This kind of chain level coordination, typically building around the core of social and partnership relations, was coined as a socially overlaid network. It supported market access of local farmers, rooted in their farms, who were able to draw on local capital and labour in promotion of competitive business; the growth was endogenous. These kinds of chains – one conventional and one organic – were different from the strategic chain, which was more profit based and while highly competitive, presented exogenous growth as it depended on imported capital and local employees. However, the strategic chain offered learning opportunities and support for the local economy.

The caterers exhibited more or less committed professional identity for sustainability within their reach. The facilitating and balanced approaches for professional identities dealt successfully with local and organic food in addition to domestic food, and also imported food. The co-operation with supply chains created innovative solutions and savings for the business parties to be shared. The rule-abiding approach for sustainability only made choices among organic supply chains without
extending into co-operation with actors. There were also more complicated and troubled identities as juggling, critical and delimited approaches for sustainability, with less productive efforts due to restrictions such as absence of organisational sustainability strategy, weak presence of local and organic suppliers, limited understanding about sustainability and no organisational resources to develop changes towards a sustainable food system. Learning in the workplace about food system reality in terms of supply chain co-operation may prove to be a change engine that leads to advanced network operations and a more sustainable food system.

The convergence between primary producers and caterers existed to an extent allowing suggestion that increased clarity about sustainable consumption and production by actors could be approached using advanced tools. The study looks for introduction of more profound environmental and socio-economic knowledge through participatory research with supply chain actors in order to promote more sustainable food systems.

**SUMMARY OF ORIGINAL PUBLICATIONS AND THE AUTHORS’ CONTRIBUTION**


Minna Mikkola has been responsible for developing the generic research frame, particular research questions, the planning and collection of the data, their qualitative analysis and writing the articles I, II, III and IV. Dr Laura Seppänen has contributed to the development of the generic research frame and article I by introducing the author to the basic concepts of economic sociology and by supporting the writing of article II with her critical comments. Articles are printed with permission from the publishers.
1. INTRODUCTION

1.1 SUSTAINABLE DEVELOPMENT AS A CHALLENGE TO MODERN FOOD SYSTEMS

SUSTAINABLE DEVELOPMENT AS A SPRINGBOARD FOR FOOD SYSTEM STUDIES

The scene for the discourse about the quest for sustainable development was set more than 20 years ago by the Brundtland report (WCED, 1987), which addressed globally all human beings in the most generic terms, aiming at “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. While widespread criticism has been targeted at the concept of sustainable development, its exceptionally constructive features deserve to be considered more closely. First, the concept addresses the global audience rather than only the western one, including actors such as citizens, professionals, businesses, governmental organisations and non-governmental ones across all societal levels (Morgan & Sonnino, 2008; WCED, 1987). Second, the concept launches the famous tripod of interlinked and mutually supportive economic, ecological and socio-cultural developments, taking a broad view of generic living conditions, both current and future. Into this nexus, the concept offers a fresh and extended alternative to the modernisation approach, which focuses mainly on quantitative (economic) development without due attention being paid to other qualitative conditions of progress (Daly, 1996, in Morgan & Sonnino, 2008, p 1). Specifically, the concept is expected to boost economic life with innovative technological and socio-organisational solutions for more sustainable growth. Third, the concept addresses contextual sustainability deficits of particular issues or dimensions to be tackled (Morgan & Sonnino, 2008, p 1–19). Fourth, the concept advocates normative rather than technically specific developments; the extreme variability of economic, technical, environmental and social processes in different parts of the world does not allow uniform prescriptions to be presented as guidelines for sustainability (Morgan & Sonnino, 2008, p 1–19). The variability in global as well as local conditions seems to lead to different developmental approaches towards sustainability; while “weak” sustainable development focuses on economic development and considers other dimensions of sustainability as depending insertions, “strong” sustainable development regards the ecological dimension as compelling and the other dimensions therefore as adaptable resources within the process of working towards sustainability (Jacobs, 1999).

Implementation of sustainable development becomes thus a matter of insertion of its normative concepts into contextual practices and projections (Morgan & Sonnino, 2008, p 1–19); therefore, sustainable development ‘hardly happens just by itself’, but rather, becomes constructed and negotiated by its ‘actor-promoters’. In short, Morgan and Sonnino (2008, p 1–19), as their point of departure, take sustainable development as a normative standard, whereby first, economic development becomes promoted through more equitable forms of exchange across space and time. Second, sustainable development inherently includes a “vision of interconnected and highly participatory communities”, stressing simultaneously “individual autonomy and involvement”, while resulting in “more environmentally responsible governments” (Morgan & Sonnino, 2008, p 4). Third, sustainable development is about “integrating environmental considerations into our economic development strategies” (Morgan & Sonnino, 2008, p 4).
The original ecological issue, at the core of the quest towards sustainable development, translates into the environmental one in terms of societal relations of consumption and production (Castells, 1997, p 110–113; Morgan & Sonnino, 2008, p 1–19). Therefore, the terms ecological and environmental are typically used interchangeably in texts dealing with sustainable development, and furthermore, other ‘positive’ terms such as ‘responsible’ or ‘green’ are often used as well for similar connotations (Morgan & Sonnino, 2008, p 92; CEC, 2004; ICLEI - Local Governments for Sustainability & EcoInstitut Barcelona, 2008a,b). The ‘cornucopian’ character of the content of the concept of sustainable development also brings about documents of drastically variable extent and profoundness, in addition to particular disciplinary orientations or broader intertwined ones, making mastery of the concept empirically and theoretically challenging.

Research about how to promote and implement sustainable development needs to be approached analytically through an empirical and societally central phenomenon. Food, as a ubiquitous and essential commodity, presents itself as a “prism” for explorations of sustainable development (Morgan & Sonnino, 2008, p 5). All humans depend on food for life, and they can only eat so much, which sets the volume of production in relation to the consumption of the population, which is mainly mediated by the market in western countries (Atkins & Bowler, 2001; Morgan & Sonnino, 2008). These authors assert that food as a commodity presents characteristics different from other industrial products, the demand for which seems insatiable, and the need for which may not be equally essential. Food fills a decisive role for the continuity of life of an individual as well as of a population; food bears on systemic influence within communities and societies, from local to global levels. Food as a societal phenomenon makes all the difference; it deserves a systemic treatment as a study of the sustainable food system, “squeezed into the fault line between environment and society” (Atkins & Bowler, 2001, p 13).

DEVELOPING MODERN FOOD SYSTEM

Within the modern western food system, this ‘squeeze’ seems to have slackened off long ago. Consumers have gained access to cheap food and enhanced nutrition whereas in previous, more traditional food systems, malnutrition (Atkins & Bowler, 2001; Morgan & Sonnino, 2008) and even hunger (Atkins & Bowler, 2001) were part of the “ancient agrarian cycle”, fluctuating as the unstable “feast or famine” pattern of agricultural output (Goodman & Redclift, 1991, p 96). Industrial agriculture has created food surpluses through economies of scale by increasing crop yields with fertilisers and pesticides, intensifying management through mechanisation, concentrating fewer but larger farms and specialising on a narrow range of crops (Atkins & Bowler, 2001). The modern food system took about 200 years to develop, through compatible and sequential interplay of science, technology, capital investment and industrial structures, developing both in rural and urban areas (Goodman & Redclift, 1991). These authors also stressed the crucial role of women as employees in the developing labour market, connected with corresponding changes in everyday cooking and eating behaviour. Particularly after World War II, the use of convenience foods in households and eating in out-of-home settings, such as fast-food restaurants, workplace canteens, public catering and restaurants became commonplace (Goodman & Redclift, 1991). The current ‘free choice’ of food, to suit any (negotiated) consumer preferences and convictions (Basset et al., 2008; Carrigan et al., 2006; Niva, 2007), enabled by most extensive retail selections, is the result of long and highly competitive development of the western food system (Atkins & Bowler, 2001; Goodman & Redclift, 1991; Lang, 2009; Tansey & Worsley, 1995).

However, in the middle of this amazing achievement, the simple (or unreflective) modernity almost unnoticed turned into reflexive modernity (Beck, 1994a), revealing the “risk conflict” of modern society and the western way of living (Beck, 1994b, p 179); the trajectory of ‘Promethean growth’ became
contested through the growing issues of environmental impacts and social problems characteristic of a modern food system (Beck, 2000; Dryzek, 1997; Goodman & Redclift, 1991; Ritzer, 1993; Tukker et al., 2006). Under reflexive modernity, the critiques of the unsustainable features of the modern food system have been condensed in three main aspects (Lang, 2009). First, environmental impacts, featuring climate change and several additional environmental issues, including energy availability in the future, make it absolutely necessary to address the energy supply and the environmental impacts of food production (Stern Review, 2006; Tukker et al., 2006, 2009; Weidema et al., 2008). Second, identified connections between eating habits, poor quality nutrition and diet-related diseases suggest that the health of the western population is seriously threatened (Atkins & Bowler, 2001; Tansey & Worsley, 1995; Weidema et al., 2008; WHO/FAO, 2003), calling for immediate corrective actions. Third, remedy is required for the new problems of malnutrition, even hunger, which relate to access to and affordability of fresh and high quality food among part of the western population (Atkins & Bowler, 2001; Lang, 2009; Morgan & Sonnino, 2008).

Alternative modes of food production, offering foods categorised as organic, local and fairly traded, have been considered as an expression of and an option for change, as they imply positive connections with the production environment, nature and communities. To date, these product categories remain rather marginal when compared with the mainstream conventional and ‘modern’ ones (Atkins & Bowler, 2001; Beus & Dunlap, 1990; Tansey & Worsley, 1995; Wier & Calverley, 2002). Furthermore, ever stronger “refashioning” of nature by technologies used in the agricultural input and food industry at large has changed consumers’ understanding of nature (Goodman & Redclift, 1991). It seems possible that consumers may simultaneously orientate towards organic and genetically modified (GM) food, which are not seen as mutually exclusive (Verdurme et al., 2002). However, organic food is often equated with improved human health and environmentally friendly behaviour (Magnusson et al., 2003).

The modern food system operates through food chains (or networks, terms used in this work interchangeably), whereby businesses, limited as they are in their numbers as compared to consumers, build up the operative backbone of the food supply chain (Isosaari, 1999; Jongen & Meuleenberg, 1998). Furthermore, food supply chains are crucial as they represent the pole of production as the counterpart to the one of consumption, or of industry satisfying the needs of consumers on the market, which operates as the interface between the two poles. The previous domination of food supply chains by primary producers has changed into consumer dictation of production, mainly through demand (Atkins & Bowler, 2001; Jongen & Meuleenberg, 1998). In this development, retail has strengthened its position as the gatekeeper of market access for the food industry (Atkins & Bowler, 2001), which develops products according to the needs and wants of the consumers in the struggle for a competitive position in the saturated market (Jongen & Meuleenberg, 1998). The consumers are ever better educated, more demanding, less predictable, more health conscious and more environmentally aware, pushing for more differentiated product selection of a shorter life cycle (Basset et al., 2008; Carrigan et al., 2006; Jongen & Meuleenberg, 1998; Niva, 2007). These system dynamics, operating through actors in their respective positions within food chains, become an essential functional aspect of the food system (Malassis, 1973, 1975, 1986 in Atkins & Bowler, 2001, p 9) in terms of sustainability. Therefore, the system actors – businesses and consumers – become the crucial social arbiters of food system transformation by their behaviour, which signals their emerging orientations towards more or less sustainable food systems.

If the change towards sustainable food systems is to take place, it will have to grow within the modern food system, at first as an orientation and possibly as a major transformation in the future. This study is disposed to analyse the social dynamics for sustainable food systems. The study explores ac-
tors’ orientations in their words and deeds towards sustainability in production and consumption as ‘tuning’ with or ‘breaking’ into the current modern food system. In the next subsection, perspectives on sustainable food systems are presented. They are portrayed in more detail as policies for sustainable food systems with the ensuing issues of production mode and product provenance on the one hand, and environmental science based developments, on the other. Furthermore, supply chain actors’ reciprocal operational positions within the system are reviewed. In this study, two of these actors, the primary producers and the institutional consumers, are explored in depth in terms of their sustainability orientations. They are seen to represent the fundamental positions within the food system, and are therefore probed for their transformative potential for facilitating emerging patterns towards sustainable food systems.

1.2 PERSPECTIVES ON SUSTAINABLE FOOD SYSTEMS

POLICY PERSPECTIVES ON SUSTAINABLE FOOD SYSTEMS

Sustainable development has been recognised as an overarching goal of the European Union (CEC, 1997, 2004; COM, 2001; Decision No. 1600/2002/EC of the European Parliament and of the Council of 22 July laying down the Sixth Community Environment Action Programme). The Programme establishes environmental priorities for a Community response, focusing in particular on climate change, nature and biodiversity, environment and health and quality of life, and natural resources and wastes. Hereby a strategic integrated approach, incorporating new ways of working with the market, involving citizens, enterprises and other stakeholders, is needed in order to induce necessary changes in both production and public and private consumption patterns. Furthermore, policy perspectives align with these aims by crystallising the term sustainable agriculture as the desired relationship between agriculture and environment (CEC, 1999; EC, 2005). Eventually, organic farming has also been recognised to deliver a combination of environmental, social and economic benefits, along with integrated production and traditional low-input farming (Atkins & Bowler, 2001; ICLEI - Local Governments for Sustainability & Ecoinstitut Barcelona, 2008a,b). The legal framework for organic production methods, including strict controls (Council Regulation (EEC) No. 2092/91 of June 1991; Council Regulation (EC) No. 834/2007 of 28 June 2007), is thus seen to represent public interest. The recent food strategy issued by HM Government (2010) emphasises a resilient, profitable and competitive regional food system active on the global market. Growing food sustainably means production of more food through better education, support for informed consumer choices for healthy and sustainable food and reduction of greenhouse gas emissions. Moreover, measures such as cutting food waste and digesting agricultural waste are to be developed. Furthermore, HM Government (2010) aims at definition of a sustainable diet to inform consumers for increased alignment.

Within these pro-sustainability developments, public procurement has been given a lead role due to its suggested purchasing power for sustainability (CEC, 2004), which should be deployed to make sustainable choices a norm (Defra, 2010). The public sector is seen to lead by example, report on-line its energy use and publish a carbon footprint of its supply chain, in order to reduce greenhouse gas emissions through partnerships with key suppliers (Defra, 2010). The Directive 2004/18/EC (European Commission, 2004) for public procurement allows the application of environmental award criteria as “economically most advantageous tender” rather than straightforward “lowest price”. This legislation builds on Court of Justice case law, whereby the basic rule on environmental award criteria was laid down in Case C-513/99 (CEC, 2004). This “Helsinki Bus Case” is seen as an important
milestone for green and sustainable procurement by Morgan and Morley (2002, in Morgan & Soninno, 2008, p 34–35). The Court of Justice ruled that environmental award criteria need to be linked to the subject matter of the contract, to be specific and objectively quantified, advertised previously and to be applied without discrimination (CEC, 2004). Thus the Commission has encouraged green public procurement whereby technical specifications as award criteria may be used for environmental and sustainability aims (CEC, 2004). Particularly scientifically sound approaches such as life cycle costing regarding environmental impacts and innovative activities are encouraged by public procurement (CEC, 2004). However, in terms of food, it is suggested that the green potential is tapped by serving organic food (CEC, 2004), recurrently prescribed by Green Public Procurement (GPP) criteria (ICLEI – Local Governments for Sustainability & Ecoinstitut Barcelona, 2008a,b) for the catering industry. The Core criteria for food in the GPP Training Toolkit include the organic foods and the comprehensive criteria additionally extend to foods from integrated production and consider animal welfare. In a similar vein, Nordic Ecolabelling offers a multi-criteria labelling scheme for meal production for caterers and restaurateurs (Nordic Ecolabelling of Restaurants, 2006). The scheme addresses the use of organic and local food, fairly traded products as well as daily vegetable meals, while it leans on life cycle assessment based criteria in the choice of products and services such as cleaning chemicals and transport.

The Finnish proposal for sustainable consumption and production is in favour of local and organic food (Getting more from less, 2005). Organic farming was proposed to occupy 10% of agricultural area in 2010 and 25% in 2025, while catering was expected to increase its use of organic and local food by 10–15% annually, with emphasis on vegetables (Getting more from less, 2005). Rather similar objectives were presented by the Ministry of the Environment (2009); public catering in Government kitchens should offer organic, vegetable-based or seasonal food at least once a week by 2010 and twice a week by 2015. A previous proposal (Ympäristöministeriö, 2008) considered that the use of organic food would bear on savings in energy consumption and increase in biodiversity, as well as possibly have positive health impacts. Furthermore, increase of social cohesion was suggested to be increased by purchases of local food. This proposal (Ympäristöministeriö, 2008) referred to some European countries obliging public catering to use local and organic food. However, the proposal held that studies across the world offered ambiguous evidence in terms of the health and biodiversity impacts of conventional vis-à-vis organic food. Eventually, the Ministry of Agriculture and Forestry has been funding the promotion of local and organic food to catering organisations through a semi-official labelling scheme. However, national guidelines for statutory free school meals regarding a large part of public catering refer only briefly to local food rather than organic food as a path to sustainable development, while denoting that local food is no criterion for public procurement (Lintukangas et al., 2007). From the perspective of a Finnish national strategy group, the policies for sustainable choices include consumer information such as environmental labelling of ecological footprints and life cycle assessment data, in addition to consumption of foods such as local, organic or fairly traded (Suomen kestävän kehityksen asettama strategiaryhmä, 2006). The recent Finnish food strategy (Huomisen ruoka – Esiyys kansalliseksi ruokastrategiaksi, 2010) emphasises the food sector’s competitiveness and innovativeness, including biotechnology, which benefit food security, safety and quality in terms of domestic consumer demand and trade. This strategy stresses in broad terms the prevention of climate change and promotion of nutrient recycling in addition to developing business and consumer competences in producing and consuming more sustainable food.

These policy perspectives, from EU to national level, approach food system transformation towards sustainability by stressing the system actors’ increased competence to bring about the change.
The main policies for change are broadly seen to be implemented through focus on provenance and production mode of food, on the one hand, and on variously constructed environmental information, on the other.

**PERSPECTIVES OF PROVENANCE AND PRODUCTION MODE ON SUSTAINABLE FOOD SYSTEMS**

Citizen-consumers’ (Spaargaren, 1997) perspectives on local and organic food (and should the two go together, on local organic food), as interpreted and advocated academically, often emphasise their quality as epitomes of sustainable food systems. Local food, although more or less opaque as a concept, is thus seen to represent environmental concerns, local livelihoods and economies embedded in place (Seyfang, 2006; Weatherell et al., 2003), as well as citizens’ local involvement and good social relations (Feenstra, 1997, p 28, in Morgan & Sonnino, 2008, p 1–19). Within the globalised food system, re-localisation efforts “celebrate” ‘the local’ vis-à-vis ‘the global’ (Morgan & Sonnino, 2008, p 1–19), whereby the local is understood as “radical and subversive” in contrast to the global, which is “hegemonic and oppressive” (Born & Purcell, 2006, p 200, in Morgan & Sonnino, 2008). The re-localisation movement has advocated a “proximate system” of “locally grown food, regional trading associations, locally owned processing, local currency, and local control over politics and regulation” (Kloppenburg et al., 1996). Learning to re-localise has been identified as a challenge among food system actors such as farmers and consumers (Morgan & Murdoch, 2000; Seppänen, 2004; Seppänen et al., 2006). The concept of “foodshed” by Kloppenburg et al. (1996), as well as the “terroir” of Barham (2003, in Morgan & Sonnino, 2008, p 1–19) refer to bio-regionalist connotations of satisfaction at ‘belongingness’, conveying the identification with and livelihoods due to the regional natural environment and its resources (McGinnis, 1999). Furthermore, food transport with its negative implications for energy consumption, pollution and additional cost, is suggested to be cut by more re-localised food systems (Morgan & Sonnino, 2008, p 1–19; Poikolainen, 2004). In short, as a concept, local food advocates decentralisation, understood as a pillar of sustainable development; food in sustainable societies is to a significant extent local rather than global (Morgan & Sonnino, 2008).

From the beginning, organic farming basically represented an alternative agricultural paradigm by its principles and practices, such as decentralised, community-based and holistic production methods (Atkins & Bowler, 2001; Beus & Dunlap, 1990; Mononen, 2008; Seppänen, 2004; Seppänen et al., 2006). Organic farming seemed to cause fewer environmental impacts in terms of nutrient runoff than the conventional one, and as more labour intensive business it maintained agricultural employment while providing organic farms in general with economic returns comparable with those of conventional farms, including during the state-assisted conversion period with certification schemes (Atkins & Bowler, 2001). Obviously, organic food has been considered as an alternative to industrialised food (Magnusson et al., 2003; Lorek, 2009; Morgan & Sonnino, 2008, p 1–19; Post et al., 2008) and interpreted by consumers as being authentic, healthy and environmentally friendly, without pesticides and fertilisers (Hill & Lynchehaun, 2002; Magnusson et al., 2003; Seyfang, 2006). The market potential for organic food has been suggested to be marked, even huge, when the supply chains mature and supply and demand match up to one another (Wier & Calverley, 2002).

There are also critical perspectives to local and organic food, which are claimed to dilute the ‘original ideals’, as the conventional sector ‘subsumes the alternative’ (Morgan & Sonnino, 2008, p 1–19). Through the large-scale farming industry, conventionalisation has, at least locally and regionally, entered into organic industry (Guthman, 2004). Organic consumption has created an upmarket image, which, however, may not serve to satisfy European consumption generally due to the price premium of organic food (Goodman, 2004). Additionally, it has not been in all cases feasible for consumers to understand the relations between organic quality, quantity and price (Barnes et al., 2009; Klöckner ...
Eventually, it has been claimed that the labelling schemes initially supporting local food rely on marketing of international supply chains (Watts et al., 2005, p 30, in Morgan & Sonnino, 2008, p 1–19). Furthermore, the local food movement has been evaluated negatively to pursue “defensive localisation” strategies with less regard for wider societal interests (Campbell, 2004, p 34, in Morgan & Sonnino, 2008, p 1–19), and to represent patriotism and “elitist and reactionary” modes of thinking and acting (Hinrichs, 2003). It has also been claimed that economic gains of local production due to local consumption may exacerbate local social injustices (Born & Purcell, 2006, p 202, in Morgan & Sonnino, 2008, p 11) by excluding some local producers and consumers (Hinrichs, 2000). Furthermore, parochialism, lack of diversity and action for change have been identified in decentralised societies, counteracting inherently national and international intervention in environmental problems such as climate change (Carter, 2007, p 58–60, in Morgan & Sonnino, 2008, p 1–19). Organic farming has so far remained a rather limited form of food production and consumption in Europe (Atkins & Bowler, 2001), where its share of the total agricultural land area tends to be 1–2% at the low end to 15–16% at the high end among European countries (Rohner-Thielen, 2010).

ENVIRONMENTAL-TECHNICAL PERSPECTIVES ON SUSTAINABLE FOOD SYSTEMS

A strictly environmental perspective on sustainable food systems has been made by conceptualising food (supply) chain processes through various modifications of the methodology of life cycle assessment. Typically, these assessments focus on subsequent stages of production and consumption and record the material and energy flows attached to respective stages of supply chains. The flows are then characterised, normalised, weighed and interpreted according to their perceived environmental damage using standardised procedures of the International Organization for Standardization (ISO, 2010; Kurppa et al., 2010; Usva et al., 2009). Tukker et al. (2006) list environmental impact categories such as abiotic depletion, acidification, ecotoxicity, global warming, eutrophication, human toxicity, ozone layer depletion and photochemical oxidation. The European food system has been shown to contribute from one fifth to a half of various environmental impacts due to European consumption, from farm to fork (Tukker et al., 2006). This very generic, top-down information, based on (American) common industrial process standards, provides the ‘big picture’ for the environmental impacts of food in Europe (Tukker et al., 2006), and furthermore, confirms that meat and dairy products are the most environmentally damaging food items (Weidema et al., 2008). However, the ‘big picture’ does not specify where the betterment should be targeted at the supply chain level, since there are several alternative combinations of materials, technologies and energy sources, including various wastes and recycling, which introduce idiosyncrasy to each (developing) supply chain (Usva et al., 2009). Life cycle assessment may be chain or company specific, often confidential bottom-up information, used to upgrade company environmental performance (Carlsson-Kanyama, 1998; Katajajuuri et al., 2003; Nissinen et al., 2007; Virtanen et al., 2009). Furthermore, savings are understood to depend heavily on environmental behaviour of individual businesses and households (Tukker et al., 2009).

Global warming has recently gained extremely wide attention due to its causes and consequences, particularly in terms of current economic activities and long-term developments (Stern Review, 2006). Thus systems for producing comparable and reliable real-time carbon footprint data for products become increasingly important in the design of food systems (Usva et al., 2009). Certified Carbon Footprint assessments enable producers to analyse their own processes or those at the chain level in order to identify rewarding stages for greenhouse gas emission reduction (Usva et al., 2009). In order to support consumers in steering their consumption into a ‘lower-carbon’ food system, consumer information about the environment and carbon footprints of products is suggested as a means to
this end (Defra, 2010; HM Government, 2010; Huomisen ruoka – Esitys kansalliseksi ruokstrategiaksi, 2010; Usva et al., 2009). Regarding consumer education, school meals offer a showcase for learning about sustainable choices as the greenhouse gas emission data for food may also be applied to meals and their components (Kurppa et al., 2009, 2010).

Currently, consumer choice of individual food items is tentatively supported by various carbon calculators such as “personal” or “bonus” versions or by environmental labels such as Type I labels or “exact” carbon footprint labels (Usva et al., 2009). However, the 25 carbon calculators analysed by Amani et al. (2010), available to consumers on the Internet, covered supply chains to various extents and furthermore, exhibited very different methodologies for carbon calculations. This kind of vagueness seems to render these carbon calculators inappropriate as a basis for making consumption decisions. Rather, reliability, transparency and accuracy of calculations on a uniform basis are necessary when using greenhouse gas emission data for public information (Usva et al., 2009). In order to develop certified carbon footprints of products, the system should be based on shared general principles, agreed rules for calculation, a database for the modular information regarding individual process activities, as well as transparent validation and verification; the system could be initiated through demonstration projects by voluntary partners (Usva et al., 2009). This kind of information may induce changes in consumption patterns on a more reliable and commensurable basis. The modular information in particular would enable the users to evaluate their situation in relation to the chain level and consider redesign of the supply chains towards reduced carbon footprints, and perhaps module by module towards increased sustainability.

1.3 ACTORS AND THEIR POSITIONS WITHIN FOOD SUPPLY CHAINS

PRIMARY PRODUCERS

Farming sector industrialisation has proceeded along three broad “paths of farm business development”: large scale, specialised industrial farm units, small-scale pluriactive family farms and medium sized, traditional farms under pressure to align with farms of one of the two previous categories (Bowler et al., 1996, in Atkins & Bowler, 2001, p 56–73). The post-productivist and ecological farming systems have grown slowly, and evidence of this further transformation of the farm sector is widely documented within European agriculture (Atkins & Bowler, 2001, p 56–73). The area currently under organic farming accounted for 4.1% of the Total Utilised Agricultural Area in the EU-27 in 2007 (Rohner-Thielen, 2010). In Finland, the development follows broadly similar patterns in that the number of farms decreases but their area grows (Information Centre of the Ministry of Agriculture and Forestry, 2009) while only about 7% of total Finnish agricultural area is under organic farming (Information Centre of the Ministry of Agriculture and Forestry, 2009; Rahtola, 2010; Rohner-Thielen, 2010). As in the UK in 2005 (Padel & Foster, 2005), the organic market share in Finland operated at a rather low level of about 1% of total food market in 2009 (Rahtola, 2010).

From the farmers’ point of view, sustainable food systems seem to start with market access rather than policy goals or environmental-technical discussions of sustainability features regarding various categories of food. The concentrating retail industry operates under heavy competition for customers whereby the farmers depend on successive supply chain actors and finally on the market access offered by retailers (Atkins & Bowler, 2001). Their strengthened position in Northern Europe (Duffy et al., 2003; Hollingsworth, 2004) allows them to control supply chains, which have no other comparable access to markets (Henchion &
McIntyre, 2005; Jones et al., 2004). Furthermore, overproduction on the vegetable market, due to imports from southern producers, supports the competitive position of retailers (Wilson, 1996), who also make use of global buyer alliances to increase their supply at competitive prices (Hollingsworth, 2004). In order to develop their business-to-business trade within this competition, the primary producers seem to turn to voluntary on-farm industrial standards such as the Global Good Agricultural Practices (GlobalG.A.P.) (Garbutt, 2005; GlobalG.A.P., 2010). These developments concern Finnish farmers as well, as they start to join the users of the standard (Sorsa, 2010).

Consequently, the farmers’ relationship to retailers has been understood to be “critical” (Hollingsworth, 2004), a “fight” over control on the vegetable supply chain (Wilson, 1996) and furthermore, the farmers’ position has been considered to be “weak” (Henchion & McIntyre, 2005) and “adversarial” (Stevenson, 2005). The ‘proof’ of the difficulty of this position is reflected in farmers’ interest in forward integration, while the processors exhibit less interest in backward integration (Henchion & McIntyre, 2005). Furthermore, the farmers’ position intertwines with that of their supply chain, which competes against other chains for access to retail markets (Wilson, 1996). According to Henchion and McIntyre (2005), the primary producers tend to make pre-agreed contracts with processors and network with other primary producers to co-operate in order to strengthen their position. In similar ways, Oregon beef supply chains are claimed to stay economically viable and deliver social and environmental benefits to farmers as well as consumers integrated with a growing local retail chain (Stevenson, 2005).

**PROCESSORS AND MANUFACTURERS**

Producers of agricultural raw materials were early industrial actors that created the market for mass products such as flour, sugar, milk and cooking oil; they enabled the food manufacturers to combine these and other industrial products such as chemical additives to provide fabricated foods by product fractionating (Goodman, 1991, in Atkins & Bowler, 2001, p 74–88). The processors and manufacturers have been able to increase their share of value addition in comparison with farmers, as their activities have shaped the convenience, range, shelf-life and in general the ease of handling food (Atkins & Bowler, 2001, p 74–88), to the satisfaction of consumers (Carrigan et al., 2006).

The range of food may also be examined from the perspective of its “natural” vis-à-vis “industrial” character (Atkins & Bowler, 2001, p 74–88). At the natural end there are the fresh and often perishable foods such as potatoes, cabbages, carrots, onions and lettuces (Wilson, 1996), and butchered meats (McEachern & Seaman, 2005). These products in general also appear in processed forms such as milk (Fearne & Bates, 2003), organic milk (Franks, 2003), frozen vegetables, packaged animal meats or pre-packed beverages (Atkins & Bowler, 2001, p 74–88). At the industrial end there are foods such as reformed meats, meat substitutes based on soya and “fruit” drinks with artificially introduced chemicals (Atkins & Bowler, 2001, p 74–88). In the middle of this continuum there are the majority of processed and manufactured food products, such as dairy products, including yoghurts and ice-creams, which are often a result of product differentiation attempting to align with consumers’ changing needs and wants (Fearne & Bates, 2003). While processors and manufacturers aim to develop economically viable brands, they tend to increase their scientific and biotechnological efforts to produce foods with features blurring the boundary between nutritional and medical content of food, such as in the case of hyper-immune milk (Atkins & Bowler, 2001, p 74–88).

The increasingly heavy technological development of processors and manufacturers has concentrated the operations and reduced the number of actors within the food industry at the national and international level (Atkins & Bowler, 2001, p 74–88). This development has resulted in exclusion of many smallish agricultural producers in favour of larger ones, and furthermore, the primary producers have become imposed upon by “tight price
margins” as well as production methods defined for them (Atkins & Bowler, 2001, p 74–88). Thus the relative power of the position held by processors and manufacturers has increased vis-à-vis that of agricultural producers. Furthermore, downstream in the supply chain, the relative power of processors and manufacturers becomes limited by retail chains, which exploit the R&D activities of the food industry by introducing their “own brand” label products (Atkins & Bowler, 2001, p 74–88; Vihma, 2005). The relative power held by processors and manufacturers in the market seems to depend on the strength of their “producer brand” label products (Atkins & Bowler, 2001, p 74–88). However, in Finland there seems to be growing understanding by the players in the food supply chain of the need to co-operate with one another in order to increase the efficiency of the sector as a whole. This endeavour may obviously not proceed in a straightforward smooth manner due to the frictions within the relationships, as industry and retail have “long struggled against one another” (Vihma, 2005).

RETAILERS

Starting from ubiquitous market places and their face-to-face trading between producers and consumers - still existing today as a minor trading form in developed countries - urban wholesalers started to accumulate the agricultural produce and sell it to small urban retailers (Atkins & Bowler, 2001, p 89–102). This trading also adopted the form of auction markets, particularly for perishable foods (Wilson, 1996) which currently are also run as virtual markets through the web (Atkins & Bowler, 2001, p 89–102; Vihma, 2005). However, as the condensing of the retail trade took place by increased mutual competition and reorganisation of the industry, the small retailers - “grocers” - largely disappeared and the large retail capital of the supermarket chains dominates the retail market (Atkins & Bowler, 2001, p 89–102). In many European countries, a handful of top retailers operate large market shares from nearly 60 to 90% (Atkins & Bowler, 2001, p 89–102). In Finland, two large retailers commanded a market share of 72% in 1997 (Atkins & Bowler, 2001, p 89–102), and their share grew to 76% by 2005, indicating the ‘cemented’ structures of Finnish retailing (Mikkonen, 2005).

The large food retailers also compete on an international scale, as they make acquisitions, and merge and establish their retail outlets abroad, reflecting the financial power of their capital investment (Atkins & Bowler, 2001, p 89–102). Furthermore, they enter into buying alliances to form groups, thereby reinforcing their global reach for the quality and quantity demanded by their consumers (Atkins & Bowler, 2001, p 89–102; Hollingsworth, 2004). Simultaneously product ranges are balanced to ensure maximal consumer choice against highest sales potential (Atkins & Bowler, 2001, p 89–102). This development generally aligns, however, with local market conditions, which have recently exhibited growing interest in local or domestically sourced food (Atkins & Bowler, 2001, p 89–102; Jones et al., 2004), a clearly visible tendency in Finnish retailing as well (Vihma, 2005).

During the last two decades, the retail sector has been making use of its position as the interface between the food industry and consumers, whereby its position vis-à-vis the food industry has strengthened (Atkins & Bowler, 2001, p 89–102; Vihma, 2005). The power of the retail industry is also perceived in the rapid growth of private label products, which emphasises the designer role of food by the retail sector while that of the processors tends to weaken (Atkins & Bowler, 2001, p 89–102). The phenomenon takes place also in Finland, as processors have to align with retail power by accepting private label production (Vihma, 2005), even through on-line auctions lasting for a few hours only (Laitila, 2005, in Vihma, 2005). On the other hand, the retail sector makes efforts to sell organic food according to customer demand (Hill & Lynchehaun, 2002; S-ryhmän vastuullisuuskatsaus, 2009) and other products labelled as environmentally benign (S-ryhmän vastuullisuuskatsaus, 2009). However, the organic market share - 1% of the total food market - is still very low in Finland in spite of various promotional measures (Rahtola,
and it has not grown according to the high expectations afforded it within the European food market (Wier & Calverley, 2002). Furthermore, the large retailers have financial and human resources enabling their access to new market interfaces such as internet shopping (Atkins & Bowler, 2001, p 89–102; S-ryhmän vastuullisuuskatsaus, 2009). Finally, large retail chains in Finland seem to move on towards increasingly sustainable practices such as the use of renewable energy, anaerobic digestion of their biowaste and recycling of agricultural nutrients. These ‘industrial’ interests are in line with proactive environmental measures and economic viability (Mikkola, 2010c), evidencing a deeper and more embracing approach to material and socioeconomic circulation within the food system.

PUBLIC CATERERS

Public catering has long traditions in several European countries as a social approach to increasing the welfare of young people and henceforth the nation, particularly as collateral service by compulsory education, which started to develop at the end of the 19th century (Bocchi et al., 2008, p 14; Lintukangas et al., 2007; Mikkola, 2010b; Morgan & Sonnino, 2008, p 91). Finnish public catering was initiated at the end of the 19th century to address the nutritional needs of labourers working on industrial sites, and continued to expand into hospitals and public offices, developing further into a generic welfare service used by a large part of the population in the 21st century (ACNielsen, 2007, 2008). In general, public catering has adopted a low-cost strategy whereby ingredients are procured as cheaply as possible and an ‘industrial approach’ is applied to meal provision (Mikkola, 2010b; Morgan & Sonnino, 2005, 2008), with some important exceptions, such as Italian school catering using organic and local food (Bocchi et al., 2008; Morgan & Sonnino, 2008).

Catering for sustainability, a notion coined by Morgan and Sonnino (2005), condensed the empirical quest for more sustainable operations by public (and commercial) caterers (Morgan & Sonnino, 2008). With this aim, the use of local food, organic food and local organic food, as well as healthy and affordable nutrition, has been promoted in large cities such as Rome, New York and London, as well as in other capitals, small towns and rural areas in Europe, Canada and the US (Block et al., 2008; Friedmann, 2007; Kloppenburg et al., 2007; Mikkelsen et al., 2007; Mikkola, 2010b; Morgan & Sonnino, 2008; Taskinen & Tuikkanen, 2004). The common denominator for these activities has been the professional caterer, who has identified ‘sustainability deficits’ such as nutritional, socioeconomic and environmental problems connected with catering services. In their various positions, caterers have engaged in consequent efforts for improvement within their reach (Morgan & Sonnino, 2008). Empirically, in these reported cases, the caterers seemed to act as ‘engines’ of change towards sustainability, and were often supported by local policies and respective financial powers.

The Finnish catering sector can be seen as a valid entry point to food system ‘sustainabilisation’ as it is relatively large and prominent, implying a strong connection with public wellbeing and environmental impacts (Mikkola, 2006b). In 2006 and 2007, the Finnish catering industry produced annually more than 800 million portions, with a rather even growth rate of 1–2% per year (ACNielsen 2007, 2008). On average, one third of the population makes use of meal services on a daily basis, and there were nearly 22,000 professional kitchens - among them circa 9,200 public ones - (ACNielsen 2007, 2008) to serve a population of more than five million. Furthermore, at primary and secondary education level, young people (between 7–18 years of age) are served statutory free warm meals, complying with national nutritional recommendations for schools (Lintukangas et al., 2007; Mikkola, 2010b; Opetushallitus, 2004; Valtion ravitsemusneuvottelukunta, 2008). In particular, public catering may be expected to represent good dietary practices and moreover, environmental measures, and may therefore be anticipated to act for sustainable demand within the food system (CEC, 2004; HM Government, 2010; Lintukangas et al., 2007; Mikkola, 2006b). However, it is possible that while
caterers would be willing to act for sustainability they encounter both enabling as well as limiting factors vis-à-vis their quest (Morgan & Sonnino, 2008; Rimmington et al., 2006; Taskinen, 2007). Apparently, Finnish catering professionals engage more with local than organic food, particularly in rural areas (Isoniemi et al., 2006; Risku-Norja et al., 2010), in addition to other aspects of sustainability such as concerns for consumption of energy and water as well as waste management (Taskinen & Tuikkanen, 2004). The Finnish caterers feel that economic aspects may increase in importance in the future, paying the sustainability orientation somewhat less attention (Taskinen, 2007).

1.4 SOCIAL CONSTRUCTIVISM AS RESEARCH FRAMING

SOCIAL EXPLANATIONS FOR ORIENTATIONS TOWARDS SUSTAINABILITY

This study inquires into food system dynamics, where social forces for sustainability are generated by actors working within the system structures, and where the actors’ views, efforts and performance introduce marked changes into the system (Giddens, 1991). The study looks first and foremost for social explanations for food system dynamics and possible orientations towards sustainability. Granovetter (1992) claims that “economic institutions are socially constructed, they result from actions taken by socially situated individuals embedded in networks of personal relationships with non-economic as well as economic aims”. The valid social explanations need to avoid both over- and under-socialised conceptions in order to evidence the weight of the social in economic developments (Granovetter, 1985; 1992). The author (1992) adopts the “weak embeddedness” view that social relations and institutions always remain relevant for economies. Polanyi (2001, [1957]) presents an extended view of substantive economy when stating that man is dependent for his living upon nature and his fellows in interchange with his natural and social environment for the means of material want satisfaction.

This study follows the actors’ interaction with their social and material environment, as both economic and non-economic motives, social relations and recent historical processes influence actors’ various efforts regarding sustainable food systems. These interactions are interesting as they often interfere with ‘pure’ economic activities and yield orientations towards supply and demand for sustainability. Here the food system is understood to operate on the imperfect market, where the players lean on their more or less valid understanding of the other players, the system and its environmental impacts, often operating without administrative fiat but with possible alignment with socio-economic and policy orientations towards sustainability. In general, this kind of understanding of markets comes close to the one of institutional economics whereby social relations between other actors and the environment increase in importance and impact (Berger, 1994; Dryzek, 1997; Granovetter, 1985; 1992; Ostrom et al., 2007; Williamson, 2000; Worster, 1994).

TURN TO THE TEXT

This study’s epistemic stance represents the “interpretive turn” (Schwandt, 2003) or “turn to the text” (Burman & Parker, 1993), whereby food system developments are analysed as they are perceived by system actors, with the focus on “fidelity to phenomena, respect for the life world, and attention to the fine-grained details of daily life” (Schwandt, 2003). The aim is to generate and interpret data in order to ‘dive’ into the meaning of what food system actors are saying and doing, and to transform this understanding into public knowledge (Schwandt, 2003). Therefore, this study endeavours to disclose actors’ reasons for their views and activities rather than their arbitrary relationships (Foster, 1998) or causes (Schwandt, 2003) regarding them. The epistemological position adopted in this study aligns with constructivism, whereby foundational,
mind-independent and permanently fixed reality becomes rejected, as the reality is understood to be socially (re)constructed, mediated by human (re)structuring, and presented in texts (Berger & Luckmann, 1966; Lincoln & Guba, 2003; Parker, 1992; Schwandt, 2003). Texts, according to du Gay (1996, p 54, 70–73) include both action and use of language as these together represent interpretations and deal with socially negotiated “reality”, not the “Real” itself. Language is thus seen as the ‘carrier’ and ‘operator’ of social reality. According to Berger and Luckmann (1966), language is learnt by use and in connection with social and bio-physical reality. As actors always perceive the world from a particular point of view, and with a particular aim, their reality is experienced and expressed as discursive perspectives (Burman & Parker, 1993; Parker, 1992), relevant for human behaviour in general. The socially active ‘work for change’ takes place and is particularly traceable in discourses, which are understood to be expressed by broad patterns of actors’ speech and deeds regarding particular topics (Parker, 1992).

Furthermore, perception of social reality includes a normative dimension pertaining to oneself and others, as “the normative structure of consciousness reflects both one’s patterns of semantic usage but also, and inseparably, the evaluative features of the discursive contexts in which one finds oneself” (Harré & Gillet, 1994, p 162–180). This kind of social development of consciousness introduces the moral dimension into human thinking and activities. Intriguingly, Harré and Gillet (1994, p 179) themselves, in their otherwise rather theoretical work, join the ‘ecological era’ by criticising the discourse of ruthless exploitation of the environment by business parties for the purpose of sheer commercial success.

More specifically, the epistemic stance of this study operates along the Saussurean signifier–signified (S-S) divide (Foster, 1998). According to Eagleton (1991, p 208, in Foster, 1998) the “realists”, aligning with the empiricist model, see the signifier (word) as following spontaneously from the signified (observable ‘reality’), whereas the “relativists” invert the model and see the signified (observable ‘reality’) “following obediently from the signifier” (word). In this study, the tensioned and inclusive view is accepted, that both material and social reality (the signified) and their representations (the signifier) need to be examined critically and reciprocally (Foster, 1998). This kind of ‘reality check’ examines iteratively for connections between what is perceived, and how it is understood and responded to. Soros (2010) discusses his notions of negative and positive feedback loops as the relationship between actors’ expressed views and the situation they perceive. Within the negative feedback loop inconsistencies are looked for between participants’ expressed views (signifier) and the actual situation (signified), resulting in bringing the two closer together through corrective actions (Soros, 2010, p 14–16). If external reality does not change significantly, negative feedback processes “may eventually lead to an equilibrium in which participants’ views come to correspond to the actual state of affairs” (Soros, 2010, p 14–16). In the case of positive feedback loops, consistencies are searched for with the result that actors’ views and perceived reality are driven further apart without corrective action (Soros, 2010, 14–16). However, ‘reality checks’ are made increasingly difficult due to ideologies, whereby observable ‘reality’ becomes bound with “economic and social relations, social interests and positionings, spatial structurings and bodily orderings” (Eagleton, 1991, p 206, in Foster, 1998).

The epistemic position of this study corresponds with “weak holism” (Schwandt, 2003), seeking to explicate a rational basis for evaluating the validity or justification of an interpretation, thus enabling the researcher to decide normatively (more or less ‘true’ or probable) between interpretations and to revise them critically on the basis of evidence. In this way, the data are not understood in a naive way but discursively, being expressed by an individual with a particular background, within a particular position, situation and purpose. Research of the tripod of sustainable development and food system needs the ability to move in and across the S-S divide and to view critically interpretative constructions pertaining to nature,
economy and human behaviour. The corrective action of ‘reality checks’ implied in the aim of this study consists first, of reconstructed (researched) views regarding reality, and second, of measures proposed for alignment, adaptation and change. This study suggests that the roots of discursive change grow within these kinds of iterative loops, which currently also concern the scientific and professional debates about sustainable food systems. This study deploys theoretically based conceptual notions, both established and those constructed ad hoc, as particular views that are examined according to the actual situations of primary producers and institutional consumers in their structural positions within the food system.

1.5 CONCEPTUAL NOTIONS OF THE STUDY

THE ECONOMIC EXCHANGE RELATIONS AND COORDINATIVE STRUCTURES OF SUPPLY CHAINS

Theoretically, grounded on extensive substantive evidence, forms of exchange relations between economic actors have been categorised in terms of their duration, mutual independence or interdependence and various modes of power (Table 1). Market relations have been understood as the basic economic phenomenon, whereby the Weberian exchange expresses “conflict” of interests, “battle” for gains, and “abomination of fraternal ethics”, disregarding the other’s situation (Weber, 1978 [1922], p 93, 108, 635, 637, in Swedberg, 1994). According to Swedberg (1994), Weber emphasised that “monetary prices are always the result of a power struggle between the parties on the market”. In order to avoid contractual hazards such as dishonesty and fraud, inherent in market relations, and to increase market safeguards, transactions were brought into governance structures of the expanding firm. This explanation by Transaction Cost Economics (TCE) (Williamson, 2000) moves exchange relations from market to hierarchy. Economic relations become transferred from intra-firm to inter-firm organisation, and transactions are removed from the market and put under unified ownership, the firm, in order to organise “cost-effective hazard mitigation through added governance” (Williamson, 2000). Simultaneously, free market relationships between exchange parties as self-interested buyers and sellers, looking for the hardest possible bargain for immediate exchange (Powell, 1990) changes into hierarchic power relationships within a single governance structure (Williamson, 2000). However, on the market there can be firms some of which may dominate supply in various ways and build up a power game with other firms. These may have to adapt to the market dominance through positive or negative sanctions (Powell & Smith-Doerr, 1994); instead of atomistic market relations or inter-firm hierarchies there is a power game and tensions between firms on the market.

However, an inherently different view on exchange relations, organised on the basis of network and social ties, is presented (Table 1) by Powell (1990) and Granovetter (1985). Exchange relations are seen as always embedded in the social ones, which are influential as historic, on-going and future phenomena (Granovetter, 1985). These relational modes are very consequential for organisation and efficiency of economic exchange. Accordingly, firms building up supply chains on the market are able to enhance their adaptive capacity and competitive advantage by learning and reorganising their activities across their governance structures (Porter, 1985, Powell, 1990; Wilson, 1996). These exchange relations come closer to network relations, whereby resources are allocated efficiently and flexibly, and benefits and burdens are shared among the partners (Perrow, 1992; Powell, 1990; Powell & Smith-Doerr, 1994). There are several different modes for chains to build on a ‘networking’ or ‘partnering’ core, such as inter-firm agreements, strategic alliances, “quasi-integration”, stable relationships and partnerships (Powell, 1990). Particularly strategic networks (Jarillo, 1988) allow competitive organisation of the partnering firms at the chain level according to their results in the mutual endeavour. Finally, not only
firms, but even whole economies may be organised in alignment with cultural idiosyncracies (DiMaggio, 1994; Dore, 1983; Granovetter, 1985; Polanyi, 2001; Williamson, 2000).

These relational forms of economic exchange mediate coordination by their respective mechanisms: price for market, authority for hierarchy or domination for market power and trust for network (Adler, 2001). Furthermore, as economic actors are humans, they act as though “embedded” in ongoing network relations (Granovetter, 1985) and their cognitive, cultural, structural and political dimensions become ‘ingrained’ in the economic relations (DiMaggio, 1994), adding to variation in exchange relations. Moreover, economic relations may be less seldom found in their ‘pure’ forms, but can be observed as mixtures of forms, substituting or complementing each other and thereby resulting in plural forms or hybrid modes (Adler, 2001; Bradach & Eccles, 1989; Jarillo, 1988). Furthermore, as firms become nodes within chain or network structures, the environment exerts impact on their ‘relational realities’, which are described as bound together by “goal congruence” (Ouchi, 1980, in Jarillo, 1988). Jarillo (1988) asserts how the superiority of the strategic network builds up by conceptually connecting transaction economics, effectiveness, efficiency and mutual trust in a model of determined economic behaviour, increasing competitive advantage on the market (Porter, 1985; Wilson, 1996).

Table 1. Forms of coordinative exchange relations among economic actors.

<table>
<thead>
<tr>
<th>Market relation</th>
<th>Economic actors are inclined towards atomistic behaviour, without personal relations, and are independent in buying and selling; there are no future commitments, and inherent antagonistic relations prevail between actors, who look for the hardest possible bargain; price signals are decisive, and the market offers access and choice to all actors.</th>
</tr>
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<tbody>
<tr>
<td>Hierarchy or power relation</td>
<td>Economic actors are given orders by management in a position of authority in vertical organisation; compliance is expected without contestation, irrespective of the content of the order; between businesses, overt domination from a power position like buyer power of large businesses implies ability to sanction other businesses’ behaviour negatively or positively.</td>
</tr>
<tr>
<td>Network relation</td>
<td>Economic actors commit mutually to allocate resources flexibly within the network in an effective and efficient way; ‘inside’ information is shared and learning and innovation have a role to play; network actors gain access to resources beyond their own; long-term relations with network actors are trustworthy; sharing of benefits and burdens is fair.</td>
</tr>
<tr>
<td>Social relation</td>
<td>Economic actors, not necessarily within the same supply chain, engage in mutual personal relations; there are long-term relations like acquaintances or friendships; everyday, business and also confidential information is shared; pleasure is experienced from each other’s company and there may be common activities outside the work environment. Although social relations are often conceived as agreeable, they may also exhibit negative perceptions and have unpleasant consequences.</td>
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PROFESSIONAL IDENTITY FOR SUSTAINABILITY AS A SOCIAL FORCE

Professionalism is often connected with medical, educational or social fields, but in principle it may be understood to represent any specific domain or area of scientific knowledge exerting influence within and on modern society (Derkzen & Bock, 2007). Professionalism implies legitimacy through features such as its specialised technical knowledge, capacity for self-organisation and getting one’s voice heard, as well as the closure mechanisms controlling access to the profession (González & Benito, 2001, p 346-347, in Derkzen & Bock, 2007). Furthermore, professionals are anticipated to display publicly (and privately) behaviour acceptable to the community they serve (Kompf, 1996, p 5, in Derkzen & Bock, 2007) and to associate themselves smoothly with dominant discourses (Dent & Whitehead, 2002, p II, in Derkzen & Bock, 2007).

This apparently rather stagnant depiction of professionalism becomes exposed to ambiguous and challenging developments as novel discourses, such as those about ecology and sustainability gain ground within society (Dryzek, 1997; Worster, 1994). The challenge lies first within the various, more or less professional views of the community the professionals serve (Derkzen & Bock, 2007). Second, the challenge concerns the views of the professional community; Beck (1994a, p 47-52) asserts that the ecological issue has penetrated into occupational fields, and that professionals know how to control production processes towards the ends to which they are committed. As they master the productive intelligence, it brings them power to introduce changes into society on all levels of action. However, Beck (1994a, p 47-52) sees that this penetration of ecological issues into occupational fields may not take place in uniform or mutually agreed ways, but causes “ecological splits” in the “methods, procedures, norms, plans and routines” the professionals engage with. It may be expected that the position of the individual employee is negotiated towards various roles (Forward & Scheerhorn, 1996), such as promoting sustainable development within the organisation, while this role more or less lives up to the employees’ ecological identity (Thomashow, 1995) as a social identity for ecological orientation (Castells, 1997). Hereby professionals’ own views and aims, as active social forces (Burr, 1995) within their organisations (Forward & Scheerhorn, 1996), become important carriers of measures for sustainable development.

As an interesting parallel to caterers, Connelly and Clandinin (1999) illustrate empirically the shaping identities of teachers within their organisations. Teachers are depicted as working with young people within the ‘relative privacy’ of their classrooms while they also are obliged to align with ‘external pressures’ such as administrative rules and regulations, educational ideas and parental expectations and wishes. Furthermore, struggling with the sense of ‘goodness’ of what one delivers to those one serves within the organisational limitations seems to be pertinent to teachers (Connelly & Clandinin, 1999). The position of public caterers seems to resemble in many respects that of teachers, as vividly and accurately described by Connelly and Clandinin (1999). Managing one’s work according to internal and external pressures and regarding what one ‘feels’ is ‘right’, paints a picture of the ‘ingredients’ of professional identity applicable to various areas of expertise. Professionals’ positions become thus intertwined with their knowledge as ‘knowledge landscape’, their judgement (Connelly & Clandinin, 1999) and the appreciation and ‘voice’ warranted for them due to their (technical) knowledge (Derkzen & Bock, 2007). The issue of existing knowledge and its usefulness to the community thus introduces an internal tension to professional work. In general, identities may be seen as multi-layered constructs (Derkzen & Bock, 2007), reflecting by their colourings the circumstances and individual choices within their formative contexts (Connelly & Clandinin, 1999).

Following particularly Beck (1994a, p 47-52) and Connelly and Clandinin (1999), the notion of shaping professional identity for sustainability has been coined for this study as a crystal reflecting the relational entity comprised of organisational strategies and practices for sustainability, professionals’
views about sustainability and their own activities concerning it within their ‘room for manoeuvre’. Furthermore, this notion of professional identity for sustainability as a conscious, morally toned and ingrained orientation draws on Ricoeur’s (1991) assertion that persons ‘carry their own life history’ and when asked “who did this?”, they are able to answer the question. Giddens (1991) and Hall (2004) understand modern persons as being discursively aware about what they are doing and why. These ‘deep layers’ of awareness about one’s share in the quest for sustainability correspond to some extent to the “responsibility”, the directing of which was found to be ‘dilemmatic’ in public care of the elderly (Mattson Sydner & Fjelström, 2007). The professional identity for sustainability may be expected to gain various colourings according to the successes and failures in its implementation within organisations.

PARTICIPATORY RESEARCH FOR SUSTAINABILITY

Theoretical insights into “participatory learning” and “participative decision making” have translated into developmental working ways towards sustainability in the agro-food sector; both researchers and other stakeholders interact for progress (Pretty, 1995). The new philosophical and methodological underpinnings of participatory research suggest, that research participants must “play a major role in shaping the research agenda”, whereby the “collaborative” approach refers to a pre-determined outcome achieved through local negotiations and the “participatory” approach allows the participants to work out both outcomes and methods (Bruges & Smith, 2008). Correspondingly, the participatory research approach also implies that the practitioners have valuable knowledge about the system (Beck, 1994a), the application of which is necessary in implementing possible changes based on collaborative research findings. Participatory research thus embraces participants’ own activities and meaning-making in collaboration with researchers; the practitioners are the actors who are responsible not only for implementing the changes but also for running the system after them. While researchers are often perceived as facilitators by practitioners (Park, 1993, in Bruges & Smith, 2008), both parties expect, in general, to benefit from co-operation (Bruges & Smith, 2008).

One of the ‘members’ of the participatory research ‘family’ is the dialogue approach, the characteristic features of which are understood to consist of reciprocity, listening to the other, increased understanding, experiences and realisation as well as finding solutions for various situations, as exercised by the parties of the dialogue (Bohm, 1996; Pretty, 1995). Cronin and Jackson (2004) found dialogue with the ‘general public’ useful when researching relationships with genetically modified (GM) food. In their dialogue process, the sharing of issues and the search for common ground for solutions in the agro-food sector were important outcomes. Wals (2010) particularly emphasises new forms of learning for sustainability, requiring “hybridity” and “synergy” between multiple actors in society, whereby the boundaries of formal, non-formal and informal education become blurred.

This kind of an approach was considered a relevant option in terms of probing into learning at workplaces (Tynjälä, 2008) in the catering industry.
2. AIMS OF THE STUDY

This study examines the actors’ orientations towards sustainable food systems, and focuses on the two poles of food supply chains: one of primary production and the other of public consumption. Farmers experience inclusion in or exclusion from the supply chain as a condition of their livelihood; the public catering organisations have a statutory position and therefore the caterers may possibly have more room for manoeuvre in their relationships within food supply chains. Broadly speaking, the activities of primary producers may be assumed to mirror the notion of ‘weak’ sustainability, whereby their prime interest concerns continuity of their businesses from the economic standpoint, possibly influenced by environmental concerns. As public servants the caterers may be anticipated to have an established position as institutional consumers, enabling them to, on occasions, engage in ‘strong’ sustainability. They may not be expected to take the ecological dimension as their sole starting point, but could opt for the more inclusive approach of the tripod formulation of ecological, economic and socio-cultural concerns, which could be worked into their operations. Furthermore, the caterers adopt a central position as ‘first order consumers’ who edit the choice of meals for their customers, the ‘second order consumers’. The caterers also represent the local political capacity to negotiate the purchases of food with local vis-à-vis external actors. Finally, the efforts for sustainable food systems made by public catering emphasise needs for learning; the policy perspectives on sustainable food systems do not translate spontaneously into compatible activities for sustainable consumption and hence production.

The research questions of the study at the level of primary production are as follows:

1. What are the forms of economic relations within the food supply chains from the farmers’ point of view and how can the farmers ensure their connection to the supply chains?

2. Could there be particular modes of coordination of economic activity within food supply chains that represent more sustainable ways to run a business than others from the farmers’ point of view?

3. Are there differences in coordinative modes among local, organic and conventional food supply chains?

The research questions of the study at the level of public consumption are as follows:

4. Do public caterers express professional identity for sustainability within their reach?

5. How do the caterers implement sustainable food systems within their organisations in terms of conventional, local and organic food or environmental-technical features of food?
6. How can caterers and researchers learn more about increasing the sustainability of food served for public consumption?

The summarising research question regarding the overarching pattern of sustainability orientations is as follows:

7. Do the efforts of the primary producers and the public caterers eventually converge as viable orientations towards sustainability in the future?

This study examines the forms of economic relations of individual farmers (I) and the modes of coordination of economic activities within conventional, industrial (conventional) and organic vegetable supply chains (II). The study explores public consumption as a social force for sustainability through the notion of professional identity for sustainability, whereby local, organic and conventional (the domestic and imported) food and environmental-technical quality of food is the focus (III). Furthermore, the study deals with developing sustainable food systems through participatory research, whereby researchers and caterers learn about the use of sustainable food in public catering (IV). Finally, the study looks for possible converging orientations between primary production and public consumption based on its findings (I, II, III, IV).
3. MATERIALS AND METHODS

3.1 EMPIRICAL DATA

The data of this study consist of three text corpora, the ‘local food corpus’ and the ‘catering corpus’, based on interviews, and the ‘mixed corpus’, including interviews, e-mails and informal discussions. The ‘local food corpus’ was collected during 2003–2004 and it comprises 17 interviews (I, II). The interviewees were well-known in the small rural municipality by local public caterers, retailers, the municipal manager and university researchers; most of them also knew each other through their positions within the local food system. Moreover, this south-eastern Finnish locality was known for its agro-industrial progressiveness, including pioneering organic farming (Mononen, 2008). It may be claimed that the interviewees represented inherently broad understanding pertaining to the local food system and its connections with the broader Finnish food system.

The study (I, II) made use of 10 interviews of the 17 collected: two vegetable farmers (one organic and one conventional), one industrial (conventional) processor, three catering managers (one provincial executive and two rural managers), two local co-operative retailers (one retail manager and one retail management assistant) and two municipal officers, one of whom was the municipal manager and the other a food sector developer. Not all the interview data of the local food corpus were thus used for final analyses of economic relations; only those cases were chosen for analysis which seemed to illustrate rather coherent and mutually different coordinative structures regarding vegetables. This choice was made during the primary analysis as the aim of the analysis was to find qualitative evidence for the existence of optional and successful coordinative modes of vegetable supply chains. In this sense, the choice reflects theoretical interest in the quality of socio-economic relations for sustainability.

The catering corpus consists of 28 accumulated interviews of caterers in varying positions and in different parts of Finland during 2000–2008 (III). This corpus was initiated as an independent study in 2000–2001 and continued during two separate projects during 2003-2004 and 2007-2008. The time period was rather long and the interviews represented Finnish public catering organisations from rather small through medium to large. Furthermore, the geographic extent was considerable, and the catering organisations were categorised as rural, provincial, sub-urban and urban, to give a broad view of the situation of the public catering industry during the first decade of the 21st century. During this research period, there were no particular factors shaking the solid structure of public catering, except that economic prospects became somewhat tighter than before, leading to slow and steady concentration in the sector.

The third mixed corpus includes interviews and discussions with 15 caterers during 2008–2009 in five different catering organisations (IV). The caterers participated in the test use of organic milk, which was implemented during 2008-2009 in their premises in co-operation with the dairy company and its marketing experts. Furthermore, the two dairy marketing experts were interviewed in 2008-2009. The interview situations also allowed for informal negotiations about the implementation of the test use of organic milk, entailing later e-mails about agreements and practical organisation of the test; these served as additional data (Alvesson, 2003). In addition to this mixed corpus, the views about organic milk presented by experts in two previous text corpora, the ‘vitamin D fortification’ corpus (Mikkola, 2007) and the ‘greenhouse gas emission’ corpus (Mikkola & Risku-Norja, 2008), supported the dialogic understanding of the
researcher and served as a community of corroboration in terms of results.

The interview guide for this study was designed originally during 2000–2001 very generically, and was meant to cover broadly the interviewee’s professional life while it was particularly intended first, to suit supply chain studies and second, to support actors’ characterisations of categories of food and the environment. These consisted of broad topics such as local, organic, conventional and GM food. This interview guide was in use during 2003–2004 (Appendix 1; Seppänen et al., 2006) and was perceived as a productive outline for the interview situation. The same interview guide was deployed in later studies during 2007–2009 with slight modifications, including the concept of sustainable food as an explicated topic previously approached by topics such as local and organic food and the environment (Appendix 1). The interview questions were in principal the same for farmers, caterers and other food system actors, with some appropriate modifications according to the context. The interviews were of a semi-structured, open ended, in-depth type as the interviewees were given freedom to express themselves in the words and tropes they chose, following their own lines of thought, and efforts were made to ‘support’ the interaction while avoiding verbal clues or normative messages by the interviewer (Kvale, 1996). All these interviews were tape-recorded and transcribed verbatim.

The long time span of the study, from 2000 to 2009, could imply various episodes and respective discursive turns within the food system. However, the situation seems to have been rather stable in that from 2000 to 2009 the interviewees discussed categories of food and sporadically touched upon concepts such as sustainable development and as a far-reaching measure, the life-cycle analysis methodology. The climate change discourse has gained increased visibility during the past decade, but did not occur very often in the interviews.

3.2 METHODS OF SOCIAL INQUIRY

INTERVIEW

Interviews are a “paramount part of sociology” for Fontana and Frey (1998), and for them, the answers researchers get are “commensurable with the questions we ask and with the way we ask them”. These authors claim that in order to learn from people they must be treated as people; this was attempted in this study by open-ended semi-structured in-depth interviews (Fontana & Frey, 1998) with farmers, caterers and other food system actors including experts from various fields. Furthermore, qualitative interviews stand as one option for gaining more profound data for grounded interpretations of actors’ social reality (Kvale, 1996). The “getting in” (Fontana & Frey, 1998) into the interviewees’ ‘life-worlds’ took place via informants in the agricultural locality and some caterers who had had previous professional connections with the researcher. Interviews were mainly conducted on the interviewees’ premises, such as in homey farmhouse kitchens, in the clatter of professional kitchens or in the relative silence of administrative offices. The language and culture of the interviewees were familiar to the researcher, herself having some background in agriculture and the catering industry. The researcher presented herself as someone who was to some extent knowledgeable about the food sector and who wanted to promote sustainable food systems by learning about the actors’ views as a researcher.

Interviews with the farmers and caterers were understood to be discursive on two levels; first, every interview situation was a context for interaction, whereby the interviewee considered more or less the ‘correctness’ of her/his talk. Second, what was to be explicated by interviewees – as well as interviewers – was again, more or less, in connection and interaction with external discourses of all kinds. As Bakhtin (1981, p 338) asserts, “...in real life people talk most of all about what others talk about - they transmit, recall, weigh and pass judge-
ment on other people’s words, opinions, assertions, information; people are upset by others’ words, or agree with them, contest them, refer to them...”.
This discursive understanding of reality (Giddens, 1991; du Gay, 1996; Parker, 1992; Potter and Whetherell, 1987) is socially constructed (Berger & Luckmann, 1966) and implies that in this world no empirical method exists for gaining ‘pure’ and ‘independent’ knowledge from particular social actors - because they are social actors.

The study aimed at constructing inter-subjective meaning with the interviewees, coming close to empathic identification and phenomenological sociology (Schwandt, 2003). The study exercised simultaneously “Verstehen” from ‘outside’ in the researcher’s capacity and from ‘inside’ in the capacity of an ‘agro-food acculturated’ actor when participating in conversations and dialogues in actors’ situations (Schwandt, 2003). Hereby the researcher’s interpretation may not be final and correct, in line with the view that the interpreter does not share the world of the subjects in their everyday life nor trade. For Gadamer (Bernstein, 1983, p 139, in Schwandt, 2003), “to understand is always to understand differently”. However, both kinds of interpretative resources - from outside and inside - are needed in order to transform the meaning of what food system actors are doing and saying into public knowledge (Schwandt, 2003). As the interpretations of this study have been socially constructed within communicative relations between the actors and researchers, as well as external actors in similar fields and trades, they may be evaluated as being rather trustworthy, “justified” or “valid” (Schwandt, 2003).

**MEDIATED DIALOGUE**

This study was basically interested in the actors’ point of view and the considerations of their professional fields and organisations as ‘inside’ information (Alvesson, 2003), possibly part of developments towards sustainability at large, taking a ‘participatory-collaborative’ research approach to induce deliberation in the use of organic milk by caterers. The researcher identified organic milk as a sustainable product with a low market share in spite of the considerable potential for increased production by dairies. As some public caterers involved in this study explicitly disapproved of marketing while aiming at efficient meal preparation processes, a ‘neutral’ approach of ‘mediated dialogue’ was applied. The neutrality of the approach consisted of independence of the researcher in terms of organisational, economic and operational developments from the food system actors of the study. Therefore, the position of the researcher resembled that of the “free actor in the network” (Wielinga et al., 2008), with the exception that here the researcher had explicitly informed participants about her pro-environmental and pro-sustainability orientations as the motivation for the study. The catering organisations could be seen as if not exactly ‘dedicated’ to the idea of sustainability, at least as showing some collateral interest in it. There were also organisations not willing to participate in the test use of organic milk; this indicates the ‘independence’ of caterers as they did ‘have a choice’ whether to participate or not.

The aim of the dialogue was particularly to map issues of and create grounds for making decisions (Bohm, 1996; Cronin & Jackson, 2004; Pretty, 1995; Wals, 2010) about the use of organic milk by caterers. The mediated dialogue, whereby the researcher acted as a messenger taking turns between researchers, dairy experts and caterers, avoided excessive resemblance with ‘marketing’ efforts while retaining the aura of free choice for sustainability for the caterers.
3.3 METHODS OF TEXT ANALYSIS

QUALITATIVE TEXT ANALYSES

The texts were analysed on the basis of the research questions in association with the theoretical background, which consisted of conceptual notions such as economic exchange relations (I, II), professional identity for sustainability (III) and the mediated dialogue about organic milk (IV). The analysis of the text corpora condensed the meanings of interview data as answers into research questions and presented these in a categorised format according to conceptual notions of the study (Kvale, 1996). In this way, the analysis made patterns of social dynamics for sustainability visible within the actors’ situations. In each text analysis, the generic conceptual notions were translated by the researcher into actors’ contextual activities, which became operationally interpreted as particular economic forms, professional identities or views about concrete and material phenomena presented in dialogue. The ‘translations’ between conceptual notions and their concrete, everyday equivalents had their basis in the critical and reciprocal interaction between the researcher and the interviewees (Foster, 1998) (I, II, III, IV).

ECONOMIC RELATIONS

The analysis of economic relations included layered analysis of relational form(s), in its/their concrete and contextual details, and the businesses with whom this type of relation was actual, and additionally, who made the claim of the type of relation (I, II). The coding of texts - marking of specific text segments as conforming with particular forms of economic relation - started by making the ‘translation’ between conceptual notions and concrete activities actor by actor, and denoting with whom the particular relations were actual. After compiling relations in terms of actors, the ‘aerial views’ of “ego-networks” (Powell & Smith-Doerr, 1994) were graphically visualised (I, II). The visualisation made it evident that occasionally actors may have different views on the same relation; this was made visible by setting the starting point of the arrows very close to the actor who made the claim (I, II). However, in order to increase readability, Figs. 1., 2. and 3. of this study present stylised network patterns in which this particular detail is not visible as it was rather rare and did not change the interpretations of the actors’ orientations. The visualisations of different food supply chains allowed the examination of the coordinative structures at the chain level, enabling further categorising of modes of chain level coordination. The visualisations offered a unique opportunity for the networks to be outlined against the ‘grand’ concept of a sustainable food system whereby the different coordinative modes of supply chains could be discovered (I, II).

PROFESSIONAL IDENTITY

The analyses of professional identity (III) first divided the caterers into two groups based on their positions, implying their different decision-making options (Bergström et al., 2005). The categorisations for professional identity were done in the same way for both groups, by coding from the transcripts the existence of and possible compliance with the organisational strategies of caterers, and the caterers’ views and activities in terms of local, organic, conventional and imported food as well as their environmental concerns. The coding was fixed to a particular caterer, and when compiling all the caterers with their respective strategies, views and activities in a list, qualitative similarities and differences became visible. The caterers’ situations were not totally identical, but some of them were similar enough to allow them to be put into the same category, and to be named according to qualitatively sensitive understanding of their approaches towards sustainability. In this study, there remained categories with only a single representative. This fact obviously suggests that there would be more qualitative categories in the ‘real world’. However, the data were sufficiently extensive and their analysis ‘simple’ enough to yield
constructions of professional identities on the continuum from more to less facilitating in terms of sustainability (III).

**MEDITATED DIALOGUE**

The mediated dialogue (IV) was the theoretical frame within which the qualitative analysis of the caterers’ relation to the use of organic milk was constructed. The text analysis of sequential dialogue was explorative in that the aim of the participatory study was learning for both caterers and researcher(s) about issues and grounding of the decisions (Pretty, 1995; Wals, 2010) about the use of organic milk in catering. The analysis constructed the central experiences and arguments made by the researcher(s) and caterers, and reported these in time sequence, after the experimental process of test use of organic milk. The identification of central arguments was carried out by discerning corresponding topical entities from the transcripts of caterers’ and dairy experts’ speech. Part of the participatory research process was the explication of the researcher’s stance towards organic milk, as depicted by the poster - as a textual mediator - which was allowed to be presented on the walls of the premises for caterers and their customers during the period of test use of organic milk.

**3.4 GENERALISABILITY AND LIMITATIONS OF THE QUALITATIVE FINDINGS**

**GENERALISABILITY IN THE WORLD OF MULTIPLE AND INCONSISTENT TRUTHS**

Generalisability of research results is closely related with the epistemic stance of the study. Recently, due to the demise of the “ultimate generalisation” as the “grand” formula, perfect determinism has slowly turned to indeterminism (Lincoln & Guba, 2000). Disciplines do not seem to account for all of reality; instead, the “perspectives aggregated do not necessarily sum to the whole of the phenomenon”, while multiple sets of internally consistent statements seem to exist without mutual conformity or consistency (Lincoln & Guba, 2000). Furthermore, axiomatic knowledge systems seem to reach towards “unknown truths” (Hofstadter, 1979, in Lincoln & Guba, 2000). The pervasiveness of generalisations becomes limited as they are seen to be ‘constructed’ and probabilistic according to their contextual and temporal dependencies, and even physical, chemical and biological generalisations are seen to change (Lincoln & Guba, 2000). Thus the notion of universal truth is rejected while specific personal, local and community forms of truth prevail, particularly in everyday life (Kvale, 1996, p 231).

The ontological and epistemic acceptance of indeterminism and multiple axiomatic perspectives as (positivism and) post-positivism on the one hand, and constructivism and participatory approaches on the other (Lincoln & Guba, 2003), accords in this study with the challenge to sustainability set for the modern food system. In this conceptual framework, the indeterminate character of knowledge regarding the world supports motivation for research and policies for sustainability (Wals, 2010). Furthermore, it is essential that the axiomatic natures of environmental sciences and social and human sciences are contradictory and mutually exclusive by their paradigms (Lincoln & Guba, 2003) because in their respective capacities they enable the ‘reality checks’ (Foster, 1998; Soros, 2010) to be made in terms of the tripod of sustainable development. However, as sustainable food systems are ‘run’ by actors, constructivist and participatory paradigms, particularly regarding learning, are at the core of development of sustainable food systems through local and community ‘truths’ across the globe (Pretty, 1995; Wals, 2010). This approach does not evade positivist and post-positivist understanding about the environmental dimension of sustainable food systems, but rather insists on it as the most reasonable basis for actors’
construction and implementation of a sustainable food system.

The aim of qualitative work in this study was “to produce a coherent and illuminating description of and perspective on a situation that is based on and consistent with detailed study of that situation” rather than to “discover general laws of human behaviour” (Schofield, 2000). Since qualitative inquiry is considered to produce useful understanding for policy-oriented research (Altheide & Johnson, 1998; Schofield, 2000), in this case about actors’ orientations towards sustainable food systems, the generalisability of the qualitative research results needs to be considered in particular (Schofield, 2000).

GENERALISABILITY OF QUALITATIVE RESEARCH

Generalisations are mainly understood as “nomothetic”, law-like natural scientific assertions, while “cultural” or human sciences bring forth “idiographic” knowledge based on the particular individual (Windelband 1998, in Lincoln & Guba, 2000). The problems of idiographic character, in particular, “continue to haunt” social and behavioural sciences in their efforts to make generalisations (Lincoln & Guba, 2000). Unlike statistical generalisations, not within the research interests of this study, the concept of analytic generalisation offers a productive approach to qualitative generalisation (Kvale, 1996). Actors’ discourses – speech and deed – represent both their own voices and those of others (polyvocality) and thereby form an empirical and thus natural basis for generalisation (Lincoln & Guba, 2000). Inquirers are approved of being in a position to take unique factors and series of events into account; when moving from situation to situation, their search for similarities and differences between the cases then allows for reasoned judgement about the extent to which the findings may be used as a “working hypothesis, not a conclusion” (Cronbach, 1975, in Lincoln & Guba, 2000; 1982, in Schofield, 2000; Kvale, 1996). An “appropriate base for information” (Lincoln & Guba, 2000), such as “thick descriptions” (Lincoln & Guba, 2000; Ryle, cited by Geertz, 1973, in Schofield, 2000), renders “comparability” (Goetz & LeCompte, 1984, in Schofield, 2000) from one case to another for consideration (Schofield, 2000). Furthermore, “translatability” becomes an option if the theoretical stance and research techniques are explicated (Goetz & LeCompte, 1984, in Schofield, 2000). While constant “flux” of social life necessarily interferes with generalisations of this kind, they can be claimed to convey truth “under such and such conditions and circumstances” (Lincoln & Guba, 2000). Lincoln and Guba (2000) regard working hypotheses as being transferable if two contexts are empirically similar enough due to “fittingness” between the contexts. This issue has found one solution in case law, whereby precedent cases are “powerful” in their inclusion of particulars (Lincoln & Guba, 2000) through “assertational logic”, guiding examination of patterns of later cases (Kvale, 1996). Schofield (2000) argues that electing to study the “typical”, albeit in its limited dimensions, increases the potential for good “fit” with many other situations. Multi-site studies, between three and sixty case studies, help to escape “radical particularism” and improve the basis for generalisations (Firestone & Herriott, 1984, in Schofield, 2000). Furthermore, qualitative studies may reveal future trends as “what may be” and ideal or exceptional situations as “what could be” (Schofield, 2000). Here it is also possible to group cases qualitatively ex post facto, thereby using the results to inform about various developmental trajectories (Schofield, 2000). Additionally, Virtanen (2001) identifies “politically elected key figures” to be qualitatively representative of their advocates.

Analytical generalisations are crafted by researchers or legal professionals, but the users of generalisations draw on them as well (Kvale, 1996). Practitioners’ work deploys nomothetic generalisations while their empirical worlds are full of “personal direct and vicarious experience”, often used in an intuitive way (Lincoln & Guba, 2000). In this world, actors make “naturalistic generalisations”, particularly if the information is presented
in the form in which the users experience it (Kvale, 1996; Lincoln & Guba, 2000; Stake, 2000 [1976]). The experiences are seen to be shareable and may obviously consist of both propositions and tacit elements (Lincoln & Guba, 2000). For readers in general and the academic community (Altheide & Johnson, 1998), there remains the evaluation of justification of the researcher’s interpretation by its “epistemic norms of internal coherence as well as correctness based on empirical constraints” (Schwant, 2003).

Finally, a generic support for qualitative generalisations is proposed through the idea of “holo- graphic generalisation” (Schwartz & Ogilvy, 1979, in Lincoln & Guba, 2000, 2003). Another physical metaphor grounding generalisations is the “crystalline”, meaning partial understanding of the topic depending on the “angle of repose” (Richardson, 1994, 1997, in Kvale, 1996; in Lincoln & Guba, 2003). These authors are understood to vision “optically based generalisations”, whereby details include all the information of the whole image. Intriguingly, these metaphors correspond to the perspectivality of generalisations (Lincoln & Guba, 2000, 2003; Schwandt, 2003).

This study may proclaim to exhibit several different bases for qualitative generalisations. Albeit the studies of supply chains include few farmers only as informants (I, II), these interpretations have been confirmed with some focal farmers, other local stakeholders, independent articles in professional journals of Finnish economic life (Hatakka, 2010) and in later studies in the same region, although not pertaining to the same actors (Mikkola, 2010c). ‘Lead figures’ or successful actors within food supply chains may be regarded as legitimate due to the typicality of organisations, strengthened by multi-site studies, particularly among caterers (III, IV).

However, these qualities may not pertain to other national contexts but to a limited extent, in that the circumstances may be quite different and the authored descriptions may not be ‘thick’ enough. These studies also present some farmers and caterers as ‘representative’ of more ideal food system actors in terms of what may and could be (I, II, III, IV). Overall, the findings may be regarded as representing ‘crystalline’ quality of the food system, and be in themselves both truthful and incomplete (I, II, III, IV). Finally, the usefulness of the findings depends on their ability to render analytical and naturalistic generalisations as well as to spark further (collaborative) research and new forms of learning about ways to orientate towards sustainable food systems (I, II, III, IV).

### 3.5 THE ETHICAL STANCE OF THE STUDY

The researcher is a member of her/his society and needs to explicate the professional responsibilities pertaining to her/his work (Schwandt, 2003). The author condenses these into epistemological, social and moral stances. The epistemological stance, part of the researcher’s explicated position (Schwandt, 2003), has been dealt with as alignment with social constructivism and multiple axiomatic perspectives. The social and moral stances become intertwined in research but are discussed separately in this section.

The researcher’s social stance refers here to the perceived societal importance (Schofield, 2000) of changing food systems towards sustainability. This research orientation is warranted by interweaving policy goals, business interests and discourses about sustainability and the age of ecology (Castells, 1997; CEC, 1997, 1999, 2004; Dryzek, 1997; Founding Treaties of European Union, 1957; Getting more from less, 2005, Worster, 1994), as well as professional quests for more sustainable food
The food system is approved of as an inherently anthropocentric concept, putting the ‘eater’ and the respective community at the centre of the system operating between society and nature. However, as the sustainability quest is inherently a relational matter, it self-evidently concerns the continuity and state of production animals, plants and the biota in their natural habitats as well. Basically, as the ‘other’ of the system, nature wields relentless power over the food system and its actors. Here the actors are obliged to comprehend their dependent position (Ayres, 2007), pressing for actors’ orientations towards sustainability.

The ethical stance of this research aligns with two orientations; the ones of formal ethical criteria and procedures and the other of relatedness with actors, on an experiential basis (Schwandt, 2003), whereby the researcher worked as someone who was “moved by the plight of others”, and was willing “to be touched by another’s life” (Nussbaum, 1990, p 162, in Schwandt, 2003). The formal criteria pertain to research ethics as the researcher’s personal professional conduct, her conduct with her fellow researchers and her conduct with food system actors as objects of research (Market Research Society, 2005, 2010; National Committees for Research Ethics in Norway, 2006; Resnik, 1998; Sandoe, 2001). The ethical grounding of this work may be identified in Aristotelian virtue ethics and Kantian duty ethics on the one hand, as well as consequential ethics on the other (Kuula, 2006); the researcher sees her task as progressive, in the best interest of the society. However, not only the possibility of beneficial consequences, but one of negative results must be considered as well. Here the study aimed to protect those in possibly less fortunate positions in society; the interviewees and organisations were therefore kept anonymous. Moreover, this does not mean that the interviewees would not have to have dealt with their critical reflections on the food system; they might have been exposed to issues with negative (personal) connotations or other kinds of sensitive considerations, due to their interest in sustainable food systems or expectations of possible benefits for their organisations due to the research.

From the start of this research in 2000, the aim of the work was explained to the participants as an inquiry into the conditions of more environmentally friendly and sustainable food systems; at the same time, the participants were warranted anonymity. The heads of the respective organisations approved the study and informed the (potential) interviewees about the research. These interviewees had the choice as to whether to participate or not; they gave their personal informed consent for the research. Later, in 2008, due to the request of a journal practising a binding ethics policy, the researcher applied for an ethical approval from a university ethical body (The Ethics Committee of the Life Science Campus of the University of Helsinki). The research ethics approval was awarded retroactively for the research made during 2000–2008, and for the future research to be done within the project, as it was considered to align with the guidelines of Good Research Practice as prescribed by the Ethics Committee.
4. RESULTS AND DISCUSSION

4.1 PRODUCERS’ EXCHANGE RELATIONS AS A SOCIAL FORCE FOR ECONOMIC SUSTAINABILITY

The key findings regarding the farmer’s position as a focal actor within the supply chain are based on the visualisation of the economic exchange relations within the conventional vegetable chain (Figure 1) as they are analysed by theoretical categorisation, applied operationally in concrete behaviour and made visible by a ‘bird’s-eye’ or ‘aerial’ view (I). The economic relations tied with the farmer represent both the current situation and end result of his activities, and thus they simultaneously reflect the historical development of his business.

The visualisation (Figure 1) seems to present a complex relational pattern between a host of actors managing and controlling the flow of food from production to consumption. The complexity becomes evident in that there are few ‘simple’ exchange relations, be they of the form market or other social relations. The exchange relations seem to consist of combinations of several different strands, becoming double, triple or even quadruple. Furthermore, the relations are active with very different kinds of actors, such as the ones from municipal trade advisors and agricultural administration, research and educational institutes, input companies selling seeds and agrochemicals, field renting farms, industrial vegetable company, growers’ company and foreign labourers at the locality and the farmers abroad as well as local retail outlets, wholesalers and multiple retailers. It may be suggested on solid grounds that mastering these complex relations with very different kinds of actors to promote one’s business across time and space represents considerable social skilfulness and ability to tie ever...
new actors into the network (Adler, 2001; Argyle, 1991; Burt, 2000). Simultaneously, these relations evidence on their part the structural ‘splits’ within communities and in general the ‘construct quality’ of local community relations.

Interestingly, while the ‘productive core’ of the chain seems to rest heavily on the exchange relations supported by strands of both ‘oiling’ and ‘stabilising’ social and network relationships, the input industries, as sellers, and retailers, as buyers, exhibit market relations with the productive core. Additionally, a retailer seems to use its power by dictating some conditions for sales. In this way, the supply chain appears to consist of a socially governed, partnership based ‘productive core’, which connects through market relations with the upstream end and market and power relations with the downstream end. This result corresponds to the views about farmers’ ‘pressurised’ position, as reported by Duffy et al. (2003), Hollingsworth (2004), Jones et al. (2004), Stevenson (2005) and Wilson (1996). The local production uses inputs from transnational companies governing the seed and chemical market, whereby network and social relations may hardly be expected to exist or effect to same extent as in relations with local farmers or other actors, increasing the dependency of agricultural producers on market forces of input industry. However, the relations at the downstream end with retailers are ‘domestic’ and thereby in principle they could allow better adjustment of network relations between the farmers and the retailers; these developments seemed to be initiated already with a retailer but had not yet become ‘conventionalised’. If these exchange relations were to gain more social ‘air’ around them, it would probably make it easier for the farmers to sell their crop according to a more flexible schedule, as necessary for climatic reasons, and according to more precisely agreed produce quality developed by the farmers in agreement with the retailers. Recently, this process of voluntary business-to-business certification has reached wider awareness and interest in Finland (Sorsa, 2010) and the first certificates were awarded in late 2010 to the local farmers (Ruralia-instituutti, 2010). This development complies with Henchion and McIntyre (2005) about the farmer’s need to forward integration and networking. However, the interesting feature would be the possibly for more equal negotiations with retailers about the conditions of market access, as the retailers could engage in practising procedural justice in more profound and sensitive ways (Duffy et al., 2003; Hingley & Lindgreen, 2002). Furthermore, this more equal stance would become visible when making agreements about produce quality in ways not reflecting solely the powerful position of retailers (Konefal et al., 2005), but in addition evidencing considerations for the farmers’ position (Duffy et al., 2003; Hingley & Lindgreen, 2002).

In terms of chain development, the social skills became crucial in the growth and organisation of the food supply chain. This concerns local social relations with ‘life-history’ background, ‘high-level’ relations and emerging new relations with local and foreign actors. These skills were active in the promotion of the trade, resulting in interest in and advancing learning about vegetable farming. The social skills, deployed by reflective trust in evaluation of the other partners’ aims and competence (Adler, 2001), were evident in gathering the group of local farmers, who joined in the effort of running the Growers’ company to market their products. The renting of fields – with highly variable contracts – increased the field area and enabled the joining in of foreign labourers’ groups, within which their own ‘chief’ became elected to negotiate labour organisation in the fields of the local farmers. These skills allowed the farmer also to learn more about industrial activities as a previous subcontractor for the industrial company, to be applied in the development of their own company. The social skills enabled investments of labour and capital, together with other farmers, and thus led to enlarging operations. Later, the common travelling with the brokering company head boosted the enlargement of the vegetable farming to abroad in order to deliver round the year to retailers. Instead of expressing naïve trust and waiting for expectations to be ‘observed’ by others, the farmer evaluated reflectively the aims and commitment of partners and constructed optional future processes with
different actors (Adler, 2001). In short, the social core was able to build up the food supply chain, enlarging in a spiral fashion by sequential horizontal and vertical moves across the years and tying more remote actors into the socially 'open access' flow of quality vegetables. The case seems to catch some ideal features of the supply chain of Porter (1985) and align with the theories of economic exchange relations about networks and power relations (Powell, 1990; Powell & Smith-Doerr, 1994), hierarchies (Williamson, 2000) and embeddedness (Granovetter, 1985) as substantive formulations of concrete material practices in economic exchange relations (Wilson, 1996), realised by a socially skilful and initially small-scale farmer in a rather remote northern agricultural region.

Economic sustainability may be claimed to be crucially important if it is considered as a ‘passage’ towards overall sustainability. Additional sustainability developments may also be intertwined with economic developments. There were indications of the farmers’ interest in more environmentally friendly farming, and they were able to share common ground with environmental researchers (Mikkola, 2006a).

4.2 COORDINATIVE DEVELOPMENTS WITHIN SUPPLY CHAINS TOWARDS SUSTAINABILITY

The issue of coordinative relations within supply chains seems to impact on chain development and the effectiveness and efficiency of the chain operations (II). By applying the same theoretical economic exchange relations, two additional vegetable supply chains, one industrial (Figure 2) and one small organic (Figure 3), were studied for their coordinative structures. The ‘bird’s-eye’ perspective

Figure 2. Industrial vegetable chain
made these structures visible at the chain level, and their theoretically grounded forms of economic exchange disclosed the differentiation at the chain level as they were compared with each other.

One key finding about the coordinative relations was their invisibility or lowered visibility for the actors beyond their own node at the chain level. Furthermore, external actors to this trade such as customers have scarcely any knowledge about any of these relations; the exchange relations within supply chains are unknown to the ‘outsiders’. Another key finding turned out to be that the “socially overlaid” chain level coordination (Figures 1 and 3) seems to make a difference, as compared to strategic coordination (Figure 2) (Jarillo, 1988). The socially overlaid coordination, rich of social and network relations, appeared to allow more social learning, price and investment flexibility and possibilities for more democratic discussions and bottom-up decision-making, including adaptation to partners’ life situations, than was discernible in the operations within the strategic chain. Furthermore, the conventional chain offered ‘open access’ for farmers joining the supply chain, as it was growing steadily. At its core, the strategic chain represented more conditional network relations and therefore, although effective by its top-down management and efficient in its operations, offered less authentic participation and commitment options for its local actors. Furthermore, the employees started their work in the industrial company and left it as they chose, whereas the participants in the socially overlaid chains lived and worked in the locality on a more continuous basis on their farms. Within the strategic chain, the local farmers and other actors became employees and subcontractors, but in the socially overlaid supply chains the farmers were participants and “knowing agents” or ‘professionals of their own farming’ (Morgan & Murdoch, 2000). They represented to some extent the bioregional entrepreneurship (McGinnis, 1999). However, the industrial chain offered
learning benefits for the local actors; interaction between differently coordinated supply chains was thus an important feature in developing vegetable farming within the locality.

Finally, the socially overlaid chains represented mainly endogenous economic development whereas the industrial chain illustrated a primarily exogenous one. This development may be seen as a “victory” of the local over the global (Morgan & Sonnino, 2008, p 1–19) and success in the learning challenge (Seppänen, 2004; Seppänen et al., 2006). This result concerns both the source of financial resources and receiver of financial benefits, whereas all chains increased employment and tax revenues for the locality.

An interesting point in the socially overlaid supply chains, the conventional (Figure 1) and the organic one (Figure 3), was their difference in terms of growth. The conventional chain was an ‘open-access’ chain, with mutually agreed quality standards for participating farmers, and exhibited good continuous growth, whereas the organic chain remained ‘truly’ local, without new members taken aboard on the local market. Actually, the market competition between organic producers displaced other local organic farmers from the local retailer and moved the competition to other local and national arenas, where the conventional chain was also active. In this case, the local market presented itself as being as competitive as any market, and excluded farmers willing to participate, thus failing to support the proximate systems of locally grown food (Hinrichs, 2000; Kloppenburg et al., 2000; Seyfang, 2006). Basically, these developments meant on the one hand that farmers were excluded from local markets because local consumers did not favour their products, and an indication on the other hand that local consumers were excluded from their local market (Hinrichs, 2000). Eventually, this buying behaviour may be seen as an expression of ‘modernisation discourse’ and furthermore, as an ingrained market relation, in spite of visible initiatives to promote local food, as confirmed by the retailer (Mikkola & Risku-Norja, 2008). These developments hardly intensify local cohesion of organic farmers in ways assumed in literature (Beus & Dunlap, 1990; Mononen, 2008). However, there was quite a lot of co-operation between conventional and organic farmers, whereby farming as a shared activity seemed to increase the density of community relations.

The organic chain (Figure 3), on the other hand, illustrates well the stable and sustainable operation of a ‘truly local’ vegetable chain. In this most ‘local case’, the re-localisation effort could not be extended to agricultural input materials, revealing the dependence on external inputs. The local status of the chain was also confirmed by other local actors and hence may be regarded as justified understanding. However, according to a local retailer, the share of local food in local annual retail turnover was about 5–6% only, which could be much larger (Mikkola & Risku-Norja, 2008). Therefore, growth options may be seen to exist in this rather stable situation as well, reflecting the need to increase weak demand and ‘limited’ appreciation by local customers of their own, local produce as embodiment of ‘bioregional discourse’ and ‘sustainability discourse’ (Mikkola & Risku-Norja, 2008). The local retailer participated in the visible initiative of local food marketing by designing a logo to be used as a shelfmark, but no particular educational material was used as was in the local organic food networks project reported by Seyfang (2006).

The study reveals an intriguing question about the ‘fairness of trade’ between actors within the North (Jaffee et al., 2004) and about the focused use of power to effect economic sustainability of the primary production of vegetables. The producers possibly indicated exceptional social skills, enabling learning, networking within the region and beyond with heterogeneous actors, and increased their volume and quality to match the demand by retail. If the primary producers are able to ‘rise’, how do the ‘powerful ones’ and the ‘ordinary customers’ respond to this achievement? Not only large processors and retailers, referred to in the literature (Atkins & Bowler, 2001; Hollingsworth, 2004; Mikkonen, 2005; Vihma, 2005), but also the local customers seem to act as a threshold factor for increasing the local demand. Are they willing to consider their share of ‘fairly traded’ food within
the North and the locality? Eventually, the very generic discourse of unequal exchange relations between North and South seems to leave the local exchange relations relatively ‘untouched’ and ‘forgotten’. Basically, Jaffee et al. (2004) and Morgan and Sonnino (2008) present the question of ubiquitous fair trade that would regard exchange relations not only between but also within the North and the South. This generic view tends to inquire into the ‘fairness’ issue regarding all market behaviour and all system actors as balancing their trading between quality, volume, economic value and geographic distance, which highlights the systemic character of change towards sustainable food systems and which works through nodes across the ties between them.

However, in terms of scalar adjustment, the industrial chain (Figure 2) and the conventional chain (Figure 1) were able to match the volume of retail demand, enabling the trade. This suggests that the small and medium sized enterprises (SMEs) also need to adjust to the retail way of doing business and pursue more standardised quality and compatible volumes (Ruralia-instituutti, 2010; Sorsa, 2010). This ability for scalar adjustment may mean that SMEs are in need of upgrading their supply chains, possibly in ways including socially overlaid or strategic elements. Negotiating about the scale and quality issue with the retailers may ease the competitive access to the market. This kind of development could possibly come closer to the situation of heavy competition between vegetable supply chains in Europe (Wilson, 1996). However, it also could entail the introduction of more localised production on to the retail market through socially overlaid networks. While increasing the volume and quality by chain level coordination, it could render relatively small competitors’ mutual relations more ‘social’ within their networks, extending the relational impact to local (farming) communities – perhaps strengthening the local farming industry.

The economic exchange relations made visible in this study are abstractions, but the working hypothesis of economic sustainability of the socially overlaid network is rather strong because it has a solid basis in developed substantive economic theory, rigidly connected with local empirical reality, allowing for analytical generalisations (Kvale, 1996) and confirmed by a number of actors. These include the interviewed focal actor of the large conventional chain in a later post-interview discussion and other local actors such as municipal administrators (Schwandt, 2003). Eventually, more than five years after the initial interview with the focal actor of the large conventional chain, the leading Finnish national journal of economic life published a very similar case of a successful greenhouse entrepreneur verifying the same mechanism of enlargement (Hatakka, 2010). Obviously, some members of the community of practitioners seem to share and agree about these developments, which increase the strength of naturalistic generalisation (Kvale, 1996; Lincoln & Guba, 2000; Stake, 2000). Furthermore, in recent studies one socially overlaid network of organic dairy farmers and another one of pig farmers have been identified in different parts of Finland. Particularly intriguing is the fact that these groups have invested rather heavily in their biogas facilities, evidencing the social dynamics present in socially overlaid networks, particularly in a risky agricultural market with low state subsidies for bio-energy (Mikkola, 2010c). Therefore, the results may be regarded as rather well substantiated by academic and practitioner communities (Schwandt, 2003) and qualitatively generalised as to what may be and could be (Schofield, 2000). The findings indicate that socially overlaid supply chain coordination may present successful developments for economic (and tentatively environmental) sustainability as well as suggest how the industry could be organised on wider scale, consisting of a number of supply chains matching local, domestic and more extended demand and competing in the market.
4.3 PUBLIC CATERERS’ PROFESSIONAL IDENTITY AS A SOCIAL FORCE FOR SUSTAINABILITY

The notion addressing public caterers as a social force for sustainability was coined on substantive and extensive theoretical grounds as being professional identity for sustainability (III). The notion aimed at grasping the professional orientation towards sustainability in contexts where organisational sustainability strategies could be relevant, available possibilities to pursue these goals variable and the caterers’ own views and efforts made more or less coherent and intensive. The notion also highlights the appropriation of caterers’ anticipated role in developments towards sustainable food systems. In this study the caterers were divided into executives and managers (Bergström et al., 2005), the former mainly responsible for procurement and the latter responsible for organisation of catering and support for procurement’s choice of food items.

Key findings suggest that professional identity for sustainability existed among caterers, however, to very varying extents. There were caterers who were committed to catering for sustainability, albeit in different ways in different situations (Morgan & Sonnino, 2005, 2008). Eventually, there were also those who experienced difficulties in finding the way forward within their organisations and those who perceived limited options in food procurement for sustainability and rather stressed other internal issues such as waste, water and electricity. The professional identity for sustainability could have very variable outcomes in terms of operational achievements within organisations, network building, professional satisfaction and external (favourable) visibility, implying emotional shades from contentment, even celebration, to resignation and alienation. These professional identities were, however, understood to probe specific embodiments of generic ecological identity (Castells, 1997, p 112–113; Thomashow, 1995) in the particular professional sphere (Beck, 1994a, p 47-52; Derkzen & Bock, 2007).

There were ‘balanced’ executives who actively managed the procurement relations with the local and organic suppliers, and made efforts to decrease environmental impacts of operations through cooperation with suppliers and their own personnel. While these executives also could use domestic and imported food, they were particularly keen to use local and organic food and to provoke both favourable publicity for their sustainable procurement and to share it as a concept in tender calls. This ‘balanced approach’ was financially well supported by municipal sustainability strategies and an informed municipal board. This kind of active approach was also discernible to a ‘cooperative’ procurer, who had no municipal sustainability strategies behind him, but only wanted to lower the costs of the public meal service through mutually planned activities with long-term suppliers, and used the shared savings to motivate the joint endeavour. The third solution, by an executive, was to lean on a strategic guideline of an organisation to buy organic food; however, no efforts to negotiate with suppliers were undertaken. Finally, this ‘rule-abiding approach’ met with resistance by the wholesaler, which only contingently observed the contract with this rather ‘insignificant’ customer.

All these organisations shared the interest to procure more sustainable food, which was interpreted by them as local, organic or conventional domestic. All these organisations also had to solve economic problems due to actual or foreseeable budget cuts. A less productive shade of professional identity was exhibited by caterers ‘juggling’ for sustainability. These executives were expected to implement regional sustainability strategies without extra funding or follow-up by their board. Additionally, the executive perceived unwillingness or uneconomic efforts by local suppliers, and felt uncertain about public procurement rules. This made the executive’s position difficult when trying to design possibilities for support mechanisms to increase local exchange. Furthermore, there were ‘critical’ voices among executives about the scarce knowledge on
the overall sustainability of the food system, particularly along the food chain in terms of chemicals, energy and water consumption and eco-social issues. In spite of consecutive waves of environmental and sustainability strategies, they found hardly any support by internal or external environmental consultants and could not figure out differences between businesses based on their internal quality management documents. Moreover, these executives had experienced weak response by some local and organic suppliers and less than fair competition among 'big players'; they wondered how to ‘fit in’ with their sustainability agenda. Finally, there were executives, who under heavy cost discipline ‘delimited’ their approach to organisational sustainability strategies by applying it to procurement of conventional food only. However, these sustainability approaches stressed serving vegetable meals and efforts to limit expense on energy, water and waste management. This approach resembled faintly Wal-Mart approaches of ever cheaper costs (Fishman, 2007) for public services.

Among managers with more ‘operative’ professional identity for sustainability, there was an ‘action approach’ identified as efforts to introduce organic food into catering in spite of organisational non-organic practises. The manager aligned with organisational focus on waste as a main environmental issue, but made additional efforts to introduce organic consumption in more informal educational settings. There were also ‘supportive’ managers, who sought to purchase local and organic food, equally appreciated, and to co-operate with local suppliers. ‘Concerned’ managers applied for procurement of local and even organic food, in the hope of good quality, improved food safety and enhanced rural development, and expected more advanced and explicit quality criteria for public food. The ‘contented’ approach to sustainability was expressed by a manager who had had the opportunity to enjoy the use of organic food and simultaneously develop creatively the organisational routines for sustainable catering. Finally, a rather relaxed professional identity for sustainability was cast by the ‘contingent approach’, in the way that loose sustainability strategies and positive awareness of ‘good things’ endowed the use of parlance for sustainability without compatible measures in professional activities. A more discouraged professional identity for sustainability was moulded through personal eco-social awareness, hardly compatible with the constant heavy cost discipline and streamlined organisational operations. This situation resulted in a ‘selective approach’ to sustainability, whereby considerations of organic or local food were distanced and an option for vegetarian meals was deployed as an ecological approach. Again, the situation portrayed a straightforward approach for decreasing costs under economic pressure on public spending.

Caterers were in general very aware of sustainability issues, and in cases of successful and ‘empowering’ professional identities for sustainability, they received consistent support from their organisations and/or by their co-operative personnel and supplier networks. Interestingly, a sympathetic professional identity for sustainability, conceiving of oneself as an active supporter of sustainable development, may flourish without clear connection with ‘real life’ activities. However, more often than not, the caterers developed ‘troubled’ professional identities for sustainability, largely due to lack of organisational and/or supplier support, or even due to the caterers’ limited devices for more thorough and planned strategies for procurement. Rather, they seemed to be overwhelmed by organisational saving efforts, leading to ‘wal-martisation’ of their activities, and to internal re-organisation of services rather than external orientations towards sustainability at large.

Importantly, some caterers did try to work with suppliers for increased sustainability, through domestic, local and organic food (Kovács, 2008; Seuring & Müller, 2008). Cheap imported food was a reality, and used by caterers, although not as a most favoured option. The spheres for activities concerned first and foremost the caterers’ premises and the working ways of personnel, but extended to supplier networks as well in co-operation with supply chain actors. Here, one of the main strategies applied the redesign of the supply chain, typically in terms of packaging or transport. The other
central strategy deployed disconnection to one (conventional) chain and reconnection to another (organic one); that is, sustainability was sought after by choice of supply chains (Kovács, 2008; Seuring & Müller, 2008). Occasionally, there were also public meetings with local suppliers in order to develop tendering practices among the active and successful caterers (Walker & Preuss, 2008).

In some progressive catering organisations, a few research-based supply chain developmental projects were identified, albeit with meager outcomes. These projects aimed at designing local tendering practices on the one hand, and deploying the life cycle approach for tendering on the other (CEC, 2004).

Across the organisational levels, the professional identities for sustainability were rather less than more in alignment with one another. Surprisingly, along the command chain, successive levels could exhibit very different sustainability orientations. The organisational orchestration of sustainability orientation, as well as informed discussions about developing consistent organisational strategies and operations for sustainability, would also call for support by research due to the perceived ambiguity of ‘reality’ behind supply chains, indicated by trial projects. Future developments along these lines would possibly increase work satisfaction, which seemed to be positively affected by successful sustainability approaches (Mikkola, 2010a).

The results are based on multi-site case studies, including large internal variation, and may be regarded as a rather valid interpretation conveying analytic and naturalistic generalisability (Kvale, 1996; Lincoln & Guba, 2000; Schofield, 2000; Stake, 2000). Furthermore, the results may be seen to refer to current trends and future ideal developments Schofield, 2000), albeit with limited transnational fittingness (Lincoln & Guba, 2000). Finally, according to Luhmannian lines of thought (Luhmann, 1989), the societal role of public catering could grow if it were able to mediate sustainable food systems more effectively between the two environments of society; that of the Environment and the other of Individuals.

4.4 PARTICIPATORY RESEARCH AS AN ACCELERATOR FOR CHANGE TOWARDS SUSTAINABILITY

As a form of participatory research, this study made use of a researcher’s dialogue with caterers, supported by other researchers and dairy company marketing experts in promotion of the use of organic milk in catering as part of sustainable food systems (IV). The dialogue was constructed as a post hoc description of a test use period of organic milk and organised in turns, whereby the issues relevant to researcher, marketing experts and caterers about the use of organic milk were condensed into concrete aspects regarding the milk system. The first turn, which grounded the dialogue about organic milk with the caterers, was the researcher’s perspective made about the ‘sustainability status’ of organic milk, based on a collegial study (Risku-Norja & Mikkola, 2009) and the researcher’s expert interviews (Mikkola, 2007; Mikkola & Risku-Norja, 2008). The organic milk was considered sustainable as it was produced locally without using pesticides and synthetic fertilisers, in excess of demand, and entailing higher income for farmers and increased welfare for cows. Furthermore, there was no limiting relation perceived between the population’s nutritional demands and available food supply, and the price of organic milk did not exceed that of upmarket functional milk products.

The second turn consisted of caterers’ questioning about organic milk. They perceived problems such as the lack of vitamin D fortification, low selenium content, lack of large packaging sizes and wholesalers’ contingent alignment with contracts when delivering organic milk, its high price and principled rules for ‘all organic’ policies. In short, these matters went against the nutritional and price principles, agreed deliveries and current serving mode, as well as ‘streamlined’ efficiency of catering operations, whereby additional separation of food items and bookkeeping increased the
practical effort. Furthermore, the caterers did not perceive a strong contrast between the sustainability quality of organic and conventional milk, which ‘damped’ their efforts for conversion.

The third turn consisted of comments of the dairy marketing experts to the caterers, mediated by the researcher both orally and supported by a poster, which was designed for the purpose of informing about the sustainability quality and strategies ‘behind’ organic milk in co-operation with the dairy experts. The chemical composition of organic milk was clarified in terms of legislation about vitamin D fortification, and methods for increasing selenium content of organic milk (Kuusela & Okker, 2007). Additionally, fatty acid composition of organic milk has been perceived as favourable, but it would need more corroboration by research. The problem of packaging sizes was explained as being historical-economic, to be developed according to anticipated demand. The periodical use of organic milk was suggested as a solution for lack of vitamin D fortification, ‘all-organic’ policies and price problems, and aiming at consumption of larger volumes of organic milk gradually. Possibly there would be room for price negotiations in the future. The researcher suggested that the caterers’ position in the market could be aligned with an “intermediate mediating strategy” (Deane-Drummond, 2006) towards sustainability, as caterers primarily focused on operational aspects of catering.

The fourth turn was the caterers’ agreement to test the use of organic milk, whereby they accepted the poster about sustainability quality and strategies for organic milk to be presented in the catering premises for customers to see and examine. For the test situation, organic milk was only available in one litre cartons, and the caterers accepted the explanation of the dairy company about legislative and logistic problems of organic labelling and large size packaging for the test situation. The caterers were interested in possible positive developments in chemical composition in terms of vitamin D, selenium, and fatty acids. The public funding, however, seemed to develop in a negative direction due to the economic recession of 2008 and 2009, and the price would still be an issue for the caterers. Some caterers paid positive attention to the idea of “intermediate mediating strategies” (Deane-Drummond, 2006), although they saw that the reality of milk production could not be thoroughly understood by them. The decisions were made based on available knowledge and the prevailing situation. The caterers saw that to reorganise the organic milk supply chain in terms of increasing demand by catering would take time and no ‘quick fixes’ were in sight.

The caterers received the suggestion about their positional options on the market as consumers of organic milk vis-à-vis its producers. The dialogue was welcomed by the caterers since it took place with an independent and ‘knowing’ actor, allowing expression of interests and (annoying) experiences more freely, even in ways typical for ‘counselling’ situations. There was no pressure for immediate organisational developments by the caterers, and the test use was a start – due to various reasons – for the use of organic milk for some, while for others it remained just a single test use to support future decisions about the use or non-use of organic milk.

This dialogue made it clear that understanding other food system actors’ situations can be increased by learning in the workplace. This means learning within a context about other contexts in association with one’s own; the inter-contextual learning (Tynjälä, 2008) was the aim of the test use of organic milk. The contextual options and future changes become more clarified and barriers are lowered for comprehension of the wider field of industrial developments (Cronin & Jackson, 2004), in this case the role of organic milk in catering as part of the larger milk system. The informal and trusted ‘round of talks’ has chances, although limited, to change cemented patterns, and suggests that developmental talks of some kind could be organised on a more regular basis between caterers and their suppliers. In particular, the caterers who wish to ‘reach’ into the supply chains would need to learn about the context of the products they use and how their use impacts on supply chains. The organisation of this kind of learning by participatory approach may, however, be quite demanding.
The frame for participatory learning needs first to be construed as meaningful by the participants, networking efforts are essential for inviting the actors to reflect about the chain environment they work in and finally, more extensive understanding about the chain phenomena is needed as supported by external experts such as industry experts and researchers (Pretty, 1995; Wals, 2010).

### 4.5 CONVERGENCE FOR SUSTAINABILITY BETWEEN PRIMARY PRODUCTION AND PUBLIC CONSUMPTION

As a policy goal, it has been widely accepted that food systems are to develop towards sustainability on the global market place; here the market is seen as the level of the playing field for sustainability (Defra, 2010; HM Government, 2010; Huomisen ruoka – Esitys kansalliseksi ruokastrategiaksi, 2010). These basic conditions translate into operative goals such as low-carbon activities, resilience, profitability as well as competitive and innovative local and domestic firms developing in partnerships with particular institutional consumers, directing the development of the food system through informed and sustainable choices (CEC, 2004; Defra, 2010; HM Government, 2010; Huomisen ruoka – Esitys kansalliseksi ruokastrategiaksi, 2010). The preliminary conditions of the market place for sustainability may be explored by examining convergence between efforts of primary producers and public caterers to promote sustainability of their trade in viable ways. This analysis draws on research results regarding the primary production (I, II) and public consumption (III, IV).

The “knowing agents” (Morgan & Murdoch, 2000), identified as socially skilful actors within the open socially overlaid network as a particular, more equitable, economic coordination mode, were found to exert exceptional qualities in meeting the market demand for growth, learning and competitiveness through particular locally induced long-term partnerships (I, II). While the organic supply chain adopting this mode of coordination did not exhibit growth as it operated ‘solo’, it was highly resilient due to its relations within the locality (II). As the organic supply chain was inherently based on ecological principles, other local conventional and organic farmers in their networks also exhibited ecological considerations more generally (Mikkola, 2006a). Furthermore, within the conventional chain local farmers recently joined voluntary quality schemes addressing industrial standards (Garbutt, 2005; GlobalG.A.P., 2010; Ruralia-instituutti, 2010; Sorsa, 2010). As these local farmers evidence the ability to intertwine economic viability and ecological considerations, they may be seen to represent producers fit for supplying sustainable markets (Defra, 2010; HM Government, 2010).

At this stage, they need demand for their produce as sustainable food to support their developments (HM Government, 2010; Huomisen ruoka – Esitys kansalliseksi ruokastrategiaksi, 2010; Mikkola, 2006b).

Indeed, among the public caterers, both procurers and managers, there is professional dedication to take sustainability issues into account, albeit collaterally and to varying extents, within the entity of their professional work (III). A rather common attribute of sustainability seems to be the use of domestic, local and organic food, exhibiting accountability for issues of rural development, food quality and environment at large. A case was also made about offering vegetable meals as a sustainability approach; moreover, some of these economical meals were recommended by the Ministry of Environment (2009) aiming at systematic launch of this practice in 2010 in Government kitchens. Caterers also asked serious questions about sustainability features of food, as these were perplexing and made caterers feel indecisive. In the early interviews with caterers, climate change was not an issue in the way it is today. However, as caterers like any other actors are often limited to “talk most of all about what others talk about” (Bakhtin, 1981, p 338), their environmentally coloured accounts may be understood as responsiveness to and valid
in the frame of discourses on climate change and sustainable development. Furthermore, there are initiatives to co-operate with supply chain actors, either as ‘inner circle’ negotiations and measures (Seuring & Müller, 2008), or through open industry meetings (Walker & Preuss, 2008). Eventually some caterers consulted experts to support their more profound understanding of tendering, eco-social quality of food and life cycle assessment methodologies, albeit with limited success (III). Table 2 presents the caterers’ orientations towards sustainability as their orientation to purchase particular food categories, to co-operate with supply chain actors and their epistemic interest in more detailed and scientifically grounded features of sustainable food choices (III). The table is a very ‘graphic’ representation of these simplified and dominant approaches, hiding rather nuanced professional experiences.

This case-based picture of the professional field of public catering rather plausibly presents very different and sporadic orientations in terms of categorised food choices, co-operative activities and epistemic interests. These orientations do not appear to form a ‘pattern’ in terms of the size or location of the organisation, nor in terms of time of the interview. More importantly, some of the actors, such as ‘critical’ executives and ‘concerned’ managers, simultaneously exhibited co-operation bound orientations and worried and puzzled epistemic questioning about sustainable quality of food, particularly at the level of the supply chain. There were also caterers who were ‘co-operation-bound’ without noteworthy epistemic interests, such as ‘balanced’, ‘co-operative’ and ‘juggling’ executives and ‘supportive’ managers. Furthermore, caterers such as ‘rule-abiding’ executives and ‘action’ oriented and ‘selective’ managers asked foundational

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**Table 2.** Caterers’ orientations toward sustainability by their categorised food choices, co-operation with supply chains and epistemic questioning of sustainability features of food (x = interest, o = no particular interest, y = not particularly mentioned) (III).

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Local food</th>
<th>Domestic food</th>
<th>Imported food</th>
<th>Organic food</th>
<th>Co-operation with supply chains</th>
<th>Epistemic questioning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balanced</strong></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>o</td>
</tr>
<tr>
<td><strong>Rule-abiding</strong></td>
<td>o</td>
<td>x</td>
<td>y</td>
<td>x</td>
<td>o</td>
<td>x</td>
</tr>
<tr>
<td><strong>Co-operative</strong></td>
<td>x</td>
<td>x</td>
<td>y</td>
<td>o</td>
<td>x</td>
<td>o</td>
</tr>
<tr>
<td><strong>Juggling</strong></td>
<td>x</td>
<td>x</td>
<td>y</td>
<td>o</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><strong>Critical</strong></td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>o</td>
<td>x</td>
<td>o</td>
</tr>
<tr>
<td><strong>Delimited</strong></td>
<td>o</td>
<td>x</td>
<td>y</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td>o</td>
<td>y</td>
<td>y</td>
<td>x</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td><strong>Supportive</strong></td>
<td>x</td>
<td>x</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>o</td>
</tr>
<tr>
<td><strong>Concerned</strong></td>
<td>x</td>
<td>x</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><strong>Contented</strong></td>
<td>x</td>
<td>y</td>
<td>y</td>
<td>x</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td><strong>Contingent</strong></td>
<td>x</td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td><strong>Selective</strong></td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
</tr>
</tbody>
</table>
questions about quality of sustainable food at the supply chain level, without special interests or possibilities for co-operation (III). Furthermore, the caterers participating in the test use of organic milk had several questions about its quality. They learned about organic milk quality being impacted by particular historically developed industrial operations and legal considerations, which were basically 'beyond' their level of experience and communication within the supply chain. Therefore, understanding the connection between product quality and its product history as subsequent production processes or modules at supply chain level (Usva et al., 2009) was outside their reach. The participatory research aimed at sharing the process stages of organic milk and their impacts on the economic, social, nutritional and environmental status of the milk (IV).

If sustainable food systems represent a challenge for learning by collective endeavours, such as participatory learning within the context of work (Bruges & Smith, 2008; Pretty, 1995; Tynjälä, 2008; Wals, 2010), the primary producers exhibited a record for initiating development of their own brand according to what they had learned in the trade and through certification procedures (I, II). Caterers identified for their co-operation-bound and epistemic interests in supply chain development would represent socially 'self-selected' actors for participatory research efforts towards sustainable food systems (III, IV). However, if something as 'hidden and confidential' as socio-economic relations between actors (I, II), or as environmentally-technically advanced as Environmental or Carbon Footprints (Usva et al., 2009), are to be deployed as both epistemic and co-operation approaches, levelling the food supply chain operations to radically new orientations towards sustainability, more profound and longer-term participatory research, would seem to serve the purpose poignantly.

If caterers were to take the lead as 'exemplary consumers', their views in constructing sustainable diets with other food supply chain actors would need to embrace economic, environmental, nutritional and social aspects at the supply chain level, in an effort to orientate both consumption and production towards sustainability (Defra, 2010; HM Government, 2010; Huomisen ruoka – Esitys kansalliseksi ruokastrategiaksi, 2010). This exertion implies letting all the tensions within particular food supply chains be reflected in the negotiated constructions, which, however, could offer simultaneously a platform for both eco-social reconciliation and environmental 'reorganisation' of productive activities. To simplify this demanding task, the learning by and negotiations between the 'ends' of the supply chain, such as caterers and primary producers, could serve as a pilot case.

A rather remote model example to this end is the "Wheat Calculator", a participatory decision-support system based on a complex scientific model. The Wheat Calculator tool was designed by Australian researchers for wheat farmers’ use, in order to prevent nitrate leaching to groundwater (Bruges & Smith, 2008). According to these authors, the project furthered both farmers’ and scientists’ interests while it was also aligned with environmental policy goals. However, in spite of mutual trust between farmers and researchers, earned by honesty on the part of researchers, tensions appeared due to participants’ differing interests in terms of economics, environmental impacts and learning (Bruges & Smith, 2008).

The viable co-operation within supply chains would thus need not only trust embedded in long-term co-operation, but also a suitable tool designed for use by supply chain participants. One such technical option could lie in making use of module-based supply chain LCA data drawn from extensive data sets and designed as infographics for rather easy use by food systems actors (Mikkola et al., 2010; The Economist, 2010a,b; Usva et al., 2009). These tools could be further combined with socio-economic developmental information regarding actual economic exchange relations and the ‘life-world’ situation of particular supply chain actors. Eventually, emphasis should be laid on the contextual applications of these methodologies in ways which enable and empower caterers and producers themselves to co-operate within food supply chains towards sustainability in creative ways (Pretty, 1995; Wals, 2010). Furthermore,
the combination of environmental-technical and socio-economic perspectives would enable the examination and development of particular categorised foods such as domestic, local and organic, as well as imported, in a more grounded way. As there are requirements for environmental-technical approaches and competitiveness and innovativeness of regional businesses (CEC, 2004; Defra, 2010; HM Government, 2010; Huomisen ruoka – Esitys kansalliseksi ruokastrategiaksi, 2010; Suomen kestävän kehityksen toimikunnan asettama strategiaryhmä, 2006), these novel solutions are seen to support policies for sustainable markets.

These extensive social dynamics for sustainable food systems through participatory research, to be realised through communication between knowledge perspectives, are put forward in Figure 4 in a tentative form. The particular feature suggested by Figure 4 is the incomplete, unfinished and iterative character of the more or less concerted (locally induced) efforts towards sustainability (Pretty, 1995). These activities also call for social and epistemic skills as well as economic resources from supply chain actors as well as researchers (IV). “These multiple realities and complexities will have to be understood through multiple linkages and alliances, with regular participation...” (Pretty, 1995) when aiming at changes as extensive and profound as the ones animating the concept of a sustainable food system as part of sustainable development.

Figure 4. Social dynamics for sustainable food systems through participatory research by communication between knowledge perspectives.
5. CONCLUSIONS AND FUTURE WORK

5.1 FACILITATING SUSTAINABILITY ORIENTATIONS WITHIN PRIMARY PRODUCTION

FORMS OF FARMERS’ ECONOMIC RELATIONS ENSURING CONNECTIONS TO SUPPLY CHAINS

As farms are essentially businesses, farmers’ exchange relations are seen as key features in their economic development and their success is understood as an indication of their access to and competitiveness on the market. This study is based on ‘root’ economic relations such as market, hierarchy – either at the organisational level or based on market power – and network relations. Furthermore, the study included social relations, which were operationally defined as one form of the relational mix which exchange relations are seen to be composed of.

The focal actors of vegetable supply chains were found to operate complex and variously composed exchange relations consisting of different combinations of the four basic exchange forms. Farmers developing strong social and network relations, at times supported by market relations and agreeing to hierarchic and power relations, were able to connect themselves to supply chains. These farmers also managed with foreign labourers through a middle-man who again mediated the four relational strands to the labourers. Furthermore, the focal actors connected themselves with southern farmers to secure vegetable deliveries to their buyers during wintertime. Finally, the focal farmer had social connections with research and educational institutes, agricultural administrators, local environmental officers, as well as a broad range of buyers such as local retailers, small wholesalers and large multiple retailers. Farmers differentiated among themselves in terms of network and social relations with the buyers within the supply chains, while the inputs, such as seeds, fertilisers and pesticides, were similarly bought by them through market relations.

The study tentatively identified a particular feature in successful farmers which was interpreted to imply their ability to co-operate, learn ‘on the run’ to develop their trade, take tolerable risks, communicate with very diverse professionals as well as plan and carry out joint activities such as investments, labour sharing and study tours. This feature was termed ‘social skilfulness’, which has been interpreted as tuning activities based in the membership of the local farming community. Therefore, mutual social relations may carry significant social dynamics within locally and regionally based farming and other communities in terms of development of agricultural trade. This notion gives weight to nuanced everyday encounters and life histories that form in a particular agricultural area. This identification, albeit tentative, of the importance of social skilfulness and social relations as a basis for development of agricultural trade emphasises social activities that enable the further growth of social skills. The suggested finding is to some extent corroborated by external evidence and recent research, but clearly broader and more convincing data than are currently available are needed to establish the relevance of social skilfulness in the field of agriculture.

COORDINATIVE MODES OF ECONOMIC ACTIVITY WITHIN SUPPLY CHAINS FOR SUSTAINABILITY

As supply chains grow from the relation between the seller and the buyer, to network formations with ever more branching, their coordination becomes an issue as the need to balance production
with consumption increases. The coordinative modes, as based on combinations of economic exchange relations, were analysed as aerial patterns of the three vegetable supply chains studied. The rather common coordinative mode, presented in the literature, known as the strategic network, was identified among the studied cases. This network is typically built upon market and network relations, entailing support for learning, task sharing, developmental activities and increased benefits from profitable business, as well as losses from less profitable ones. However, the market strand within the relational mix of the strategically coordinated supply chain introduced both more flexibility and insecurity for individual businesses, which could be replaced by new ones on occasion.

A new kind of coordinative mode at the supply chain level was discovered and termed the ‘socially overlaid network’, which consisted at its core of social and network relations. They introduced particular strength into the supply chain, as trust enhanced developmental work inherent in learning efforts, led to shared financial and labour investments and allowed members to spend time together also in an informal atmosphere. Furthermore, as the supply chain built around local farmers’ mutual coordination, its members were rather stable actors ensuring growth and stability for the local economy. As the conventional supply chain was open, it allowed growth while the organic one did not, being ‘truly local’ and limited to the local market niche for organic vegetables.

The socially overlaid network represents an important coordinative mode, which is suggested to introduce increased sustainability to the agro-food industries. This claim is based on the enhancement for learning, capacity to make use of capital and labour investments, endurance of economic stress and more equal economic relations made possible by the adjustable but cohesive character of these supply chains. This finding may represent an important formulation for the agro-food sector as the construction unit for a sustainable food system, particularly under current market conditions, implying a farmer’s often adversarial position within the food system. The notion of a socially overlaid network and economic (and environmental) success has been empirically and independently corroborated by the reported existence of several similar networks in Finland. However, beyond these cases there is no knowledge concerning their prevalence.

Obviously, supply chain coordination may take place in extremely variable contexts and follow very different relational patterns. Furthermore, the chain coordination may not represent any consistent or well-thought-out patterns, but rather consist of ‘traditional’ or ad hoc solutions reflecting a more or less stable power balance between the nodes and at the level of the whole supply chain. Finally, the chain level coordination mode is often unknown to actors beyond their own nodal sphere; comprehension of supply chain level operations or their active development is challenging in this situation. Realisations such as these call for integrative work along supply chains in order to increase their developmental potential. These kinds of activities are suggested here to conceal considerable capacity for sustainability.

DIFFERENCES AMONG COORDINATIVE MODES OF LOCAL, ORGANIC AND CONVENTIONAL FOOD SUPPLY CHAINS

The coordinative modes of three vegetable chains included in this study are extremely limited examples, but they suggest questioning the nature of local and organic vis-à-vis conventional food supply chains as they are often understood to reflect mutually different economic and community relations. The industrial vegetable supply chain of this study represented a conventional entity on the food market, ranging from local to domestic markets, and connecting suppliers, from local to international. These activities were highly strategically managed in terms of economic viability rather than stable exchange relations with the local farmers across the years. The conventional vegetable chain, even though not as large as the industrial one in terms of volumes, had a similar pattern of both local and foreign suppliers and markets ranging from local to domestic. However, the supply chain was managed
in a very different way as a socially overlaid network, resulting in more equitable and stable economic developments for the farmers. Furthermore, the chain was open to new actors, enabling its enlargement. The organic supply chain was truly local due to its ‘restricted’ nature, connecting with the local retailer’s outlets. However, the supply chain did not enlarge, but resulted in other organic farmers searching for new and extended markets.

Based on this very incomplete evidence, it may be suggested that the provenance and mode of production in themselves do not necessarily entail particular economic forms within supply chains, nor the modes of their coordinative relations, but rather allow extensive and arbitrary selection of forms of economic exchange as part of the coordinative mode. Furthermore, these relations within supply chains make up part of the relations within the local (farming) community, which acquires relational contents and qualities through them. These extremely limited cases of different and contradictory forms of economic exchange relations and modes of coordinative relations promote the idea of their significance for the lived-by experience of farmers and (farming) community development.

5.2 FACILITATING SUSTAINABILITY ORIENTATIONS WITHIN PUBLIC CATERING

PROFESSIONAL IDENTITY FOR SUSTAINABILITY AMONG CATERERS

As professional caterers are offered the role of exemplary actors working for sustainable food systems, in terms of ecological, economic and socio-cultural developments, this study looked into the possibilities invested in their professional positions and interests. The study confirms that professional identity for sustainability, a notion drawing on and compressing the conditions of the caterers’ context and their views about sustainability at large, is shaping among caterers.

The caterers were noted to have a hierarchic differential, whereby executives were legally and economically responsible for procurement and managers participated as experts in the selection of food items, in accordance with menus, nutritional recommendations and suitability to particular catering processes. A professional identity for sustainability was exhibited at the executive level as a ‘balanced approach’, whereby efforts were made to purchase local and organic foods in addition to preferred conventional domestic food and less so to imported food. A ‘co-operative approach’ sought to establish co-operation with supply chains in order to develop financial and subsequent ecological benefits. There was a ‘rule-abiding approach’ whereby procurement rules were followed without ability to control the ‘tough game’; there was a ‘juggling approach’, which looked for co-operation with local supply chains but gained scant response from them; there was a ‘critical approach’, which complained about the lack of knowledge on sustainable food choices in terms of environmental and economic knowledge regarding the whole supply chain; there was a ‘delimited approach’, regarding other aspects of caterers’ work as being more important than ‘sustainable choices’. Among catering managers, there was an ‘action approach’, motivated by the urgent need to promote sustainability through organic food; there were ‘supportive’ and ‘concerned approaches’, promoting local and organic food; there was a ‘contented approach’, happy about use organic food and experienced creativity for sustainability; there was a ‘contingent approach’, relaxed about purchases of organic food and finally, a ‘selective approach’ for sustainability, within strict economic terms of conventional food choices. These descriptive characterisations illustrate the nuanced interplay of the professional context and the caterers’ more or less coherent, informed and long-term efforts directed towards sustainability rather than their anticipated straightforward promotion of a sustainable food system.
The professional identities for sustainability painted by this study are certainly not exhaustive. However, they display a wide range of different orientations towards sustainability, making visible the successes, struggles and indifferences experienced by caterers, as well as the consequences of these orientations in terms of social dynamics for sustainability.

**IMPLEMENTATION OF A SUSTAINABLE FOOD SYSTEM THROUGH CONVENTIONAL, LOCAL AND ORGANIC FOOD AND ENVIRONMENTAL-TECHNICAL FEATURES OF FOOD**

Caterers, as ‘first order consumers’, work as choice editors of food for the eaters, ‘second order consumers’. They deal with food on a mass scale with the positional option to implement sustainable food systems through their activities such as procurement of specified food categories. Broadly, conventional domestic food was agreed to be a basically good option, preferable when compared with imported food by the caterers included in this study. This relation to staples is rather common, while also imported food was used as it was bought through competitive bidding. Some large organisations in particular wanted to buy large lots and had no opportunity to deal with small entrepreneurs. This reduced their actual interest in local and organic food. This state of affairs emphasises the value of integrative work that needs to be done by farmers for their own and the caterers’ interests. Caterers with ‘rural’ interests referred to rural livelihoods and development, which kindled their interest in local and particularly in organic food, while some caterers recognised no particular difference between these two and regarded them as more or less the ‘same thing’. Moreover, some caterers viewed organic food as a desirable option for sustainability worth promoting, for various motives, such as explicated organisational strategies or experienced ambiguity about the quality of food in terms of environmental and individual health. Furthermore, caterers felt professional responsibility for feeding young people healthy food. Eventually, caterers expressed ambiguous views about sustainability of foods from different provenances and production modes. There were caterers who were aware of various quality management systems, life cycle thinking and knowledge about the chemical composition of food, particularly regarding substances desirable and not desirable in food. However, caterers had no resources to accomplish their constructive activities pertaining to food they bought and prepared meals from.

Clearly, what caterers purchase is not always what they would like to buy, nor do they always have specific grounds for options they wish to take. Caterers dealing with staples for mass production of meals do have a special relationship to food quality, often without having the broader or more profound knowledge base on the matters of interest and concern for them. This kind of epistemic and relational gap calls for a remedy by supply chain actors, the food industry, education and research.

**LEARNING ABOUT INCREASING SUSTAINABILITY OF FOOD FOR PUBLIC CONSUMPTION BY RESEARCHERS AND CATERERS**

The study turned to a participatory research approach in order to introduce organic milk into public catering as a means of fostering sustainability. This mode of research was chosen to enrich researchers’ and caterers’ mutual understanding about the pragmatic problems regarding the use of organic milk in catering. The dialogue between the caterers and dairy company mediated by the researcher made clear that large-scale industrial changes are needed in addition to legal procedures required by the European Union, if organic milk is to be processed, labelled, packed and served in the way caterers prefer. The modern food system is heavily structured by industrial investments and European Union level regulations, which do not necessarily respond to customer induced manoeuvres in terms of new practices and innovations. Furthermore, the results suggest that the caterers’ anticipated role as exemplary actors for a sustainable food system would justify more connections
and communication with industries, as well as primary production to increase understanding of developmental pathways within food supply chains. This view heralds a socially based quest for communicative integration of primary producers, food industries, wholesalers and retailers with the catering industry. The study envisages sustainable choices, which turn out to be not only choices over demand, but also choices over supply.

5.3 CONVERGING PATTERN OF SOCIAL DYNAMICS FOR SUSTAINABILITY BETWEEN PRIMARY PRODUCTION AND PUBLIC CONSUMPTION

This study examines the mutual orientations towards sustainability within primary production and public consumption to establish whether a viable pattern of social dynamics for sustainability emerges. Here, primary producers, once having managed to coordinate their supply chain in economically viable ways, enter the phase of recorded good agricultural practices, entailing environmental measures to be instituted. The caterers represent the quest for sustainability, coined as professional identity for sustainability, whereby it matters to them what kind of food they procure within the frame of European Union procurement directives. Furthermore, there were caterers who exhibited both co-operation-bound orientations with supply chain actors and epistemic questioning about the sustainable quality of food. Within the supply chains, multiple pressures and more or less coherent efforts, often invisible to the public, but to some extent recorded during this study, exist among primary producers and catering professionals for learning about ways to increase contextually the ecological, economic and socio-cultural tripod of sustainability of the food system they are embedded in.

In this study, food is looked at from multiple perspectives, including its provenance and production mode, and is understood to be further embedded in invisible economic relations and fuzzy environmental aspects. However, these features are seen as both relevant and dilemmatic qualities by demand and supply, suggesting shared requirements for developments at the food system level. As phenomena within the same social reality at large, these systemic knowledge perspectives - the socio-economic and the environmental-technical ones - could be allowed to juxtapose, whereby both a more analytical and holistic pattern could be constructed by parties of food supply chains. A particular supply chain could act as a platform for shared social reality, whereby its actors’ constructive work would be supported by a scientifically grounded modular tool for industrial application. The results of this ‘reality check’ could lead to consequent implementations, though partial and gradual, pierced by multiple interests by the parties, at the level of individual food supply chains. Furthermore, this basic pattern of social dynamics towards sustainability could ideally be used in iterative circuits, and studied in terms of developmental potential within the supply chains. The elements of this pattern of social dynamics for sustainable food systems, to be worked out in participatory research by practitioners and researchers, are currently only barely visible, and do not correspond to mainstream activity within the food system in a straightforward way. The pattern celebrates endeavours towards sustainable food systems “squeezed between the fault line of environment and society” (Atkins & Bowler, 2001, p 13), suggesting what may be and could be an ordinary ‘between-industries’ practice for designing staple production and consumption for sustainable diets at an advanced level.

If sustainable development is in ‘tune with’ and can ‘break into’ modernity, it would need to change the systemic socio-economic and environmental structures of consumption and production. This kind of change means that networks of actors, in terms of organisations, businesses and consumers along the food chain, invest time and effort to construct a new discourse, possibly grounded in new
research based tools and descriptions of the supply chains. Thus a new way of speaking and acting in terms of sustainable consumption and production may grow within particular food chains and gradually, as a long-term ‘project’, extend to wider food systems.

5.4 FUTURE RESEARCH FOR SUSTAINABLE FOOD SYSTEMS

If social skilfulness, a rather vague concept in this study, is important in the agro-food sector, requires more evidence through networking studies. Its role in sustainable development, embedded in actors’ mutual relations entailing trust and ‘fairness’, learning, innovation and competitiveness, is particularly intriguing, and not only in terms of economic and ecological perspectives but also in extended terms of wellbeing and occupational satisfaction.

As the analyses of forms of economic exchange within networks were rather rudimentary in this study, more sophisticated analysis of economic relations, disclosing more nuanced content of the qualitative ties composing and changing the network structure, would be fruitful. The analysis could also focus on empirical findings along more extended spatial and temporal networks. The carry-over effect of different exchange relations within networks would be very important in terms of various power, network and social relations. Research could also focus on ‘critical’ nodes upon which a number of network actors depend. Furthermore, the social embodiments of various relations, particularly in terms of power and social issues, would be culturally interesting in terms of sustainability.

The socially overlaid network as a novel economic coordination mode, based on only a few findings, would need more research about its prevalence and contextual effects, particularly in comparison with other coordinative modes. Economic and environmental quantifications would be very interesting. Research could also identify more novel network coordination modes that affect food system operations.

To date, domestic, local and organic foods, as well as imported foods, have been the alternative categories characteristic of the quest for sustainable food systems. In order to promote sustainable food systems, more clarity would be needed on environmental and socio-economic impacts of different categories of foods on a commensurable basis, at the supply chain level. To this end, caterers and other food systems actors would need a basis for contextual, professional and creative choices for new menu construction and novel sustainable food cultures. These reconstructive activities need advanced tools, relating one’s activities to the environment, economy and socio-cultural aspects of the food chains.

Infographics is one such tool that has been suggested, which describes the modular socio-economic situation and environmental impacts of food transformation along the chain. This kind of tool could be developed in close collaboration with researchers in life cycle studies and social sciences, as the negotiation about implementation of changes would evidently be a socially shared process. Participatory learning and ‘brokering for sustainability’ would be applied in dedicated projects with committed actors. Networking efforts, when using the infographic tool, need research on its transformative effects in meal services and within supply chains for various staples.
Development of this study has been enabled through vital support by research and academic organizations as well as active and dedicated professionals. From the beginning of this study Professor in agroecology, Juha Helenius understood the need for multiple disciplinary perspectives and their integration for food system research; he was the intellectual and mental carrier of this socially oriented study. Dr Laura Seppänen initiated the study of economic exchange relations by her knowledgeable introduction and critical comments. Professor in environmental protection science Pekka Kauppipi had an essential impact on the study through his advice regarding the crucial importance of academic writing. The wider academic community played a decisive role in the study through the anonymous reviewers of the articles; their intellectual pull and connoisseur support have critically upgraded the papers. Finally, the pre-examiners of the study, Professor Sirpa Kurppa of MTT Agrifood Research Finland and Professor Clare Hinrichs of The Pennsylvania State University helped to hammer home the conclusions on the system level; they dragged the load uphill.

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Furthermore, research colleagues and friends in Finnish, Nordic and other European universities and research institutes have been fellow travellers, sharing the burdens and the delights of micro-sociological food system research. The food system actors, such as farmers, caterers, processors and administrators, accepted the additional work in being interviewed and participating in ‘real-life’ tests; their openness and interest in research was the very basic condition for this work.

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APPENDIX 1. INTERVIEW GUIDE FOR FOOD SYSTEM ACTORS

Interview guide 2000–2003

Part One.

1. Could you please tell about your activities?
2. From where do you get your input and raw material for these activities?
3. Where do your products go to or where are they marketed?
4. With whom do you work and who are your partners?
5. What do you aim at in your work and what seems to be difficult?

Part Two

1. What do you think about conventional food?
2. What do you think about organic food?
3. What do you think about GM food?
4. What do you think about local food?
5. What do you think about food and environment?


The question regarding GM food was taken off and replaced with question about sustainability.
Changing European farming systems for a better future

New visions for rural areas

edited by:
Hans Langeveld
Niels Röling

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Farmers’ new participation in food supply chains: Making horizontal and vertical progress by networking

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Abstract

Market access is crucial for the food supply chain. The continuing concentration of the retail industry in northern Europe has strengthened the retailer’s position. The relation between supplier and retailer has been described as “fight” over the control of the vegetable supply chain, and farmer’s position in the chain has been seen as “weak”. Farmers have made efforts to strengthen their position by networking, in a way comparable with supply chain management (SCM) paradigm. In this study, the position of a farmer vis-à-vis chain development is examined, basing on actors’ relations within an enlarging supply chain. The relations analysed in this study are market, hierarchic, partnership and other social relations. This case study illustrates the pattern of relations active in the enlargement of a conventional vegetable chain. A socially skilful farmer strengthened his position by networking step by step both horizontally and vertically. This case study suggests that strengthening the partnership relations may induce chain development for the benefit of farmers, while also market and hierarchic relations contain supportive elements. The role of social and partnership relations in the development of vegetable supply chains needs further examination for validation of the relational effects.

Keywords: supply chain, horizontal, vertical, network

Farmers’ relational position in concentrating vegetable supply chains

Market access is crucial for the food supply chain. The continuing concentration of the retail industry in northern Europe has strengthened the retailer’s position (Hollingsworth, 2004; Duffy et al., 2003; Atkins and Bowler, 2001). The supermarkets are seen to exercise control over the supply chains (Hollingsworth, 2004) by mastering the distribution for time constrained consumers, who do one-stop-shopping while the volume of direct distribution remains limited in practice (Henchion and McIntyre, 2005; Jones and Comfort, 2004). The state of overproduction in northern European vegetable market, due to increasing supply from southern producers, is further strengthening the retail industry (Wilson, 1996). The price-sensitive major retail chains also turn to global buyer alliances (Hollingsworth, 2004).

The relation between supplier and retailer has been described as “critical” (Hollingsworth, 2004) and as “fight” over the control of the vegetable supply chain (Wilson, 1996). Farmer’s position in the chain has been considered as “weak” (Henchion and McIntyre 2005) and as “adversarial” for the farmer-of-the-Middle in the US (Stevenson, 2005). The difficult position of European farmers is implicated by the unwillingness of processors to integrate backwards in the chain, while the primary producers are interested in forward integration (Henchion and McIntyre, 2005). According to these authors, a majority of primary producers are willing to use pre-agreed contracts with processors and tend to cooperate with other primary producers to form producer groups. This signals efforts to strengthen the position of farmers by networking, in accordance with supply chain management (SCM) paradigm (Porter, 1985). The integration of the supply chain by cooperation comes close to network forms of organization (Powell, 1990). Other integrative relations are internal hierarchy or external power; also market relations can
be useful in sourcing supply chains (Powell, 1990; Powell and Smith-Doerr, 1994). There is also social character in economic exchange (Granovetter, 1985).

How can farmers ‘stick’ to the supply chain, if their position in the chain is difficult? In this study, the position of a farmer vis-a-vis chain development is examined by analysing the actors’ relations within an enlarging supply chain. What are the relations like within the supply chain and how do they support farmer’s activities? This study presents a Finnish exemplar of a supply chain, illustrating the pattern of relations active in the enlargement of a conventional vegetable chain. Here a socially skilful farmer strengthened his position within the chain by networking step by step both horizontally and vertically.

Theoretical framework for economic exchange relations

Actor’s position in the supply chains can be analytically approached by market, hierarchic and network relations (Powell, 1990). The Weberian market relation has been historically described as a “peaceful conflict”, as a “battle of man against man”, including an “abomination to every system of fraternal ethics”. The market relation is characterised by independent choices of self-interested actors, entailing limited personal involvement and freedom of future commitments (Powell, 1990). Instead of the invisible hand of market, coordination can also proceed by the visible hand of management. This coordination takes place within hierarchical relations of a vertically integrated organisation. Hierarchies have clean lines of authority and decision making procedures (Powell, 1990). The authoritative power translates into orders and instructions; but between organisations, there exists also power based on overt domination, entailing possible sanctions (Powell and Smith-Doerr, 1994). Networks have been identified as e.g. inter-firm agreements, strategic alliances, “quasi-integration”, stable relationships and partnerships (Powell, 1990). Common for these forms are long-term relations, shared information, reciprocal adjustment and mutual benefits and burdens. In this paper the concept of ‘partnership’ is used for long term economic collaboration relation. The ‘social’ was taken up as other social relations if these were involved in the chain development without direct economic exchange.

Empirical material and methods

Among judgementally chosen chains of different scales, this large scale conventional vegetable chain represented an interesting case of chain enlargement. The chain was analysed in terms of chain structure, actors’ relations and chain development. The four chain actors participated in an open-ended focussed interview about their activities. One interview took about 1.5 hours and was recorded and transcribed verbatim.

First, the relations of the actors were identified as market, hierarchic, partnership and other social relations by comparing the relevant segments of speech with relational descriptions of the literature. The dyadic relations formed ‘ego networks’ (Powell and Smith-Doerr, 1994), which were combined on the chain level and visualised as a network view (Figure 1). The visualisation is based on actors’ interviews (marked by a letter and a number) making the actors’ social reality visible, which is not, however, presented as an ‘objective, true’ pattern of chain relations.

Second, to grasp the dynamics of chain relations vis-a-vis development of economic exchange, the formation of relations and vegetable production were analysed as a narrative. The narrative is here understood as produced by the actors in order to create coherence and causality into the developmental history of their trade (Linde, 1993). For the interviewees, it presents a crystallization of meaningful developments and events in their professional lives.
The future of farming

Figure 1. View of chain relations within a large scale conventional vegetable chain.

Chain relations within a large scale conventional vegetable supply chain

The visualisation of the chain relations discloses the complex relational pattern on the chain level, and the farmer’s (A1) relational position within the chain can be studied. Only a minority of the chain relations exhibited ‘simple’ market, hierarchic, power, partnership or other social modes. Many of the relations consisted of strands of two, three or even four different relational modes. In primary production there were mainly social, partnership or hierarchic relations, except for market relation in input buying. There were strong social and partnership relations with other farmers, growers’ company (B1) and the vegetable broker company. The connections with industrial vegetable processing company (B2), foreign workers, contract farms and local supermarket (Cs1) were labelled by an extensive relational mix. The relations at the commercial customer end of the chain were typically market and hierarchic relations; however, there were indications of emerging partnership with one of the major national retail chains.

Development of a large scale conventional vegetable supply chain

In the large scale conventional vegetable supply chain, the farmer (A1) has had considerably strong social relations with other farmers, university researchers and a trade advisor, a ‘vegetable prophet’. These relations supported the enlargement of the farmer’s (A1) production by swapping fields with his neighbours; fields were additionally rented at high market prices. The relations with the authorities were necessarily hierarchic, but this was mitigated by the subsidies, which were understood to refer to partnership relations.
Out of the social circuit of local vegetable farmers the group of eleven farmers was crystallised; they started a common growers’ company (B1) to produce, package and initially also market their produce to wholesalers and major retail chains. The farmers’ partnership relations were ‘deep’, based on trust, and including big investments. The farmers also shared on their fields the same group of foreign workers. The relations with the foreign worker group were simultaneously based on social bonds, market prices, hierarchic orders and partnership, offering benefits for both groups.

A small flow of produce was transported by the farmer himself to the local supermarket (C51), on the basis of social, market and partnership relations. The farmer (A1) also initially delivered to industrial vegetable processing company (B2), in a simultaneously hierarchic, partnership and market mode of exchange. The deliveries included clear specifications, and some foreseeable income, based on market price; the farmer (A1) saw the price competition as a ‘fight’ for markets. The farmer (A1) learned a lot in the hierarchic relation, transferring what he learned into his own activities. The industrial actor (B2) described they developed the local farming.

New developments started when the growers’ company (B1) found a connection to a broker and partly financed the vegetable broker company. The farmer (A1) and the broker had a strong social relation, travelling together, and by ownership they had a partnership relation. The growers’ company (B1) wanted to sell vegetables during the wintertime, too, through the broker company. Connections were made with Spanish farmers, who became contract farmers for the growers’ company (B1). The relation operated in social, hierarchic and partnership modes, including market orientation as well. This connection strengthened the broker company which was able to meet volumes and quality needed by the major retail chains. The relation between suppliers and retail industry has been earlier labelled by strong market and power relations: “the chains have always determined the price”. However, emerging partnership relations may be underway, allowing more room to negotiate about quantities, timing and price of deliveries. The farmer (A1) was cautious with future turns. If realised, a more negotiable access to the markets could open for the farmer (A1), the growers’ company (B1) and other farms connected to the broker company.

**Horizontal and vertical progress by networking**

The social core can be identified as the root of the development of the supply chain. Social skills supported the growth of the trust and partnership, developed during years of mutual cooperation and evaluation. This trust comes close to the process-based trust, identified by Lindgreen (2003) in food chains, and the reflective trust described by Adler (2001). The ability to master a great number of relations, even consisting of different, dynamic strands, calls for social skilfulness (Argyle, 1991: 115-131). The farmer of the case study appeared as a skilful actor, mastering relations up- and downstream within the chain, gaining new opportunities for learning and enlargement of his activities. The crucial social and partnership relations acted in interplay with market and hierarchic elements, supporting the chain. The progress has been stepwise and alternately horizontal (the local farmers), vertical (the growers’ company), horizontal (foreign workers), vertical (broker company), horizontal (foreign contract farms) and finally possibly vertical (a major retail chain). Through his activities he also had simultaneously a different position on several levels; he was a farmer, a ‘leading’ farmer, a broker, and even reaching the level of major retail chain buyers. The relational development seems to imitate the ideal supply chain management (SCM) of Porter (1985).
Concluding remarks

The chain relations are suggested to be essential in the enlargement of the studied chain. The social and partnership relations seemed to be the core of the enlargement with at least partly supportive market and hierarchic relations within the supply chain. This case study shows that it is possible for farmers to strengthen their position and increase control within supply chains. However, the role of social and partnership relations in the development of vegetable supply chains needs further examination for validation of the relational effects.

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Coordinative structures and development of food supply chains

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Abstract

Purpose – This case study aims to analyse dyadic empirical relations within food supply chains. The categories of market, hierarchy or power, network and social relations were used to disclose the coordinative structures on the chain level and connect these with the chain development.

Design/methodology/approach – The actors of three vegetable supply chains were interviewed. The coordinative relations of actors were identified and the coordinative structures on the chain level were made visible by combining the ego networks of chain actors. The “story of supply chain development” was intertwined with the analysis.

Findings – The studied food supply chains were coordinated mostly by duplex or multiplex relations, combining market, hierarchy or power, network and social relations. In addition to the strategic network, presented in literature, the study identified a coordinative structural mode of socially overlaid network. In general, the network relation was found to be used as an effective “glue” within all coordinative structures. Both coordinative structural modes exhibited substantial growth, on the condition that agricultural base and buyers enabled enlargement.

Originality/value – Economic sociological perspective has been used in explaining food supply chain development by making visible the coordinative relations and structures on the chain level. The chain level phenomena appear as a promising field of study.

Keywords Food industry, Supply chain management, Finland, Vegetables

Paper type Research paper

Introduction

A local retailer comments his dealings with a local supplier stating that “our goal has been to support one another, so that we can make progress with this local food...I’ve been using the notion of trade partnership”. The local supplier contends that “concerning retail sector...of course during the years it has been growing towards a partnership, that well, we can discuss rather openly about future views and also about technical or price questions and the like”. These accounts stem from economic actors within a short local food supply chain, implying the actors’ positions within the chain and the form of coordinative relations between them.

Firms establish themselves in the market by dyadic, coordinative relations, which basically build up industry structures and offer the foundation for order in economic life (Adler, 2001). Market and hierarchy have been the two basic forms of organizing economic activity, assumed to prevail according to the most efficient mode for a
particular kind of transaction (Williamson, 1975). In idealised market relation, self-interested buyers and sellers look for the hardest possible bargain in the immediate exchange (Powell, 1990). Hierarchies, as presented by Williamson (1975), integrate economic activities into the firm, thereby avoiding uncertainties and opportunism related to the market. As a third form, networks include committed actors who allocate resources efficiently and flexibly, sharing benefits and burdens (Jarillo, 1988; Perrow, 1992; Powell, 1990; Powell and Smith-Doerr, 1994). These forms correspond to mechanisms by which the productive activity is directed; for market relation the mechanism is price, for hierarchy authority and for network trust (Adler, 2001). Additionally, these forms of organization do not take place in social vacuum, but are inherently embedded in social relations (Granovetter, 1985).

In economic life, market, hierarchy or network are seldom exhibited in pure ideal-typical forms. In practice they are observed as mixtures of forms, and may be used to substitute or complement each other, resulting in plural forms or hybrid modes (Adler, 2001; Bradach and Eccles, 1989; Jarillo, 1988). There are also efforts to analyse economic organization in more realistic and subtle ways. For instance Jarillo (1988) uses the concept of “goal congruence” (Ouchi, 1980; in Jarillo, 1988), and explains networks as constellations of market actors, bound together by goal congruence and trust. Jarillo (1988) provides an excellent explanation of the superiority of the strategic network by connecting conceptually transaction economics, effectiveness, efficiency and mutual trust into a model of economic behaviour. Although Adler (2001) suggests that networks are efficient especially in knowledge economy, and may even induce changes into capitalistic economies, he reminds that dominance of the market form and persistence of large firms are still realities in economic life.

Within the food supply chain literature, Wilson (1996) has suggested that the competitive advantage (Porter, 1985) of northern European vegetable supply chains lies in networking by chain actors according to supply chain management (SCM) paradigm. The network actors’ ability to learn from each other and adapt to market changes increases coordination, leading to structural changes whereby the most efficient supply chains survive in a fiercely competitive market (Hingley and Lindgreen, 2002; Hollingsworth, 2004; Wilson, 1996). In similar vein, a collaborative effort is claimed to keep the Oregon beef supply chains economically viable and to bear on social and environmental benefits as well (Stevenson, 2005). Alternative agriculture, especially organic farming, has been suggested to function within collaborative communities. This network like manner is seen to differ from the conventional agriculture, which relies on vertically integrated organizations and competitiveness in the market (Beus and Dunlap, 1990). This basic pattern is presented in later literature as well, although capitalistic developments – markets and hierarchies – seem to concern organic agriculture in increasing extent (Allen and Kovach, 2000; Atkins and Bowler, 2001; DuPuis, 2000).

The issue of coordination within food supply chains concerns essentially the effectiveness and efficiency of the chains in the competitive environment. However, the coordinative relations and structures within supply chains are basically invisible. The relational mix, including social relations, needs to be studied empirically and contextually, from the actors’ point-of-view. Additionally, it is important to understand how chain level coordinative structures build up and bear on supply chain
development. The aim of this case study is first, to examine the coordinative relations between actors within three Finnish vegetable supply chains. The market, hierarchy, network and social relations are approached in terms of actors' practices. Second, this case study makes visible coordinative structures on the supply chain level and identifies two different coordinative modes, influencing on establishment and enlargement of the chains. One of these coordinative modes on the chain level comes close to strategic networks of Jarillo (1988), the other is socially overlaid in local context and developed through partnerships. When understanding the character of coordinative relations and structures, they can also become targets for improvement by chain actors in order to develop more efficient food supply chains.

Theoretical concepts
The rich literature of economic sociology deals extensively with the basic forms of market, hierarchy and network in organizing economic activity. In this paper, social relation is included as an additional operational form within the relational mix. The coordinative relations are characterised in the following and "condensed":

- **Market relation.** Economic actors are inclined towards atomistic behaviour, without personal relations, and are independent in buying and selling; there are no future commitments, and inherent antagonistic relations prevail between actors, looking for the hardest possible bargain; price signals are decisive, and the market offers access and choice for all actors.

- **Hierarchy or power relation.** Economic actors are given orders by management in authority position in vertical organisation; compliance is expected without contestation disregarding the content of the order; between businesses, overt domination from power position like buyer power of large businesses implies ability to sanction behaviour negatively or positively.

- **Network relation.** Economic actors commit mutually to allocate resources flexibly with the network in effective and efficient way, "inside" information is shared and learning and innovation has a role to play; network actors gain access to resources beyond their own; long-term relations with network actors are trustworthy; sharing of benefits and burdens is fair.

- **Social relation.** Economic actors, not necessarily within the same supply chain, exhibit concrete personal relations; there are long-term personal relations like acquaintances or friendships; every-day, business and also confidential information is shared; pleasure is experienced from each other's company and there maybe common activities outside work environment.

Market relation in economic theory has been based on the assumption of atomistic and self-interested actors, making independent choices entailing limited personal involvement and freedom of any future commitments (Powell, 1990). According to Granovetter (1985), "... social atomisation is prerequisite to perfect competition". The market competition also includes fight, presented historically by Weber (1922, in Swedberg, 1994) as "a peaceful conflict", as "the battle of man against man in the market", implying "an abomination to every system of fraternal ethics". Polanyi (1957, in Powell, 1990) argued that market relations involve antagonistic relationship
between the partners, and are basically contradictory for cooperation (Powell, 1990). However, markets offer choice, flexibility and opportunities, based on fast and simple communication about prices; “markets are a form of non-coercive organization, they have coordinating but not integrative effects” (Powell, 1990).

Hierarchies avoid transaction costs by including economic activities within a firm. Transaction costs are due to bounded rationality, which limits economic actors’ ability to take into consideration future contingencies and opportunistic behaviour of self-interested actors (Williamson, 1975). In hierarchies, coordination of economic activities proceeds by the visible hand of management instead of the invisible hand of market (Powell, 1990). In vertically integrated organisation, authoritative management gives orders and instructions, expected to be obeyed without contestation. Hierarchies have clear departmental boundaries, clean lines of authority and decision making procedures (Powell, 1990). Hierarchies are reliable in their capacity to produce items of given quality in large quantities in accountable ways; these features have rendered them efficient in concentration developments (Perrow, 1992; Powell, 1990). In addition to formal authority, there is also power in overt domination between independent firms. Domination entails possible offering or restricting benefits or inflicting negative sanctions (Powell and Smith-Doerr, 1994). Power relations become visible for instance in buyer power of large multiple retailers (Atkins and Bowler, 2001; Duffy et al., 2003; Hollingsworth, 2004).

Network has been identified by Adler (2001), Perrow (1992), Powell (1990), and Uzzi (2001) as a particular form of coordination, separate from market and hierarchy forms. Jarillo (1988) identifies strategic networks with elements of market and hierarchy, fortified with goal congruence, trust and long-term co-operation. Scott and Westbrook (1991) use notions like closeness of relationship and dependence between supplier and customer, and Adler (2001) presents the notion of community form that relies on trust. Perrow (1992) refers to “other regarding behaviour” in business relations within network form. Dore (1983) uses the concept of relational contracting and Hingley and Lindgren (2002) relationship marketing. However, all these authors understand network more or less as a form of coordination characterised by long-term business relations, trust, information sharing, learning from and adapting to network partners according to market needs, mutual commitments in investments and labour, as well as fairness in sharing benefits and burdens. Networks offer flexibility, creativity, security against the future and access to resources of the network partners (Jarillo, 1988; Perrow, 1992; Powell, 1990; Uzzi, 2001). On the other hand, networks may be limiting opportunities, implying disagreement about strategies, adaptive behaviour and sharing of costs (Wilson, 1996). Networks may also deteriorate into “closed circles” (Powell and Smith-Doerr, 1994) and create “relief organizations” (Uzzi, 2001).

Social relations are claimed to be “ever-present” in economic exchange by Granovetter (1985), who criticizes the under-socialised conception of the market relation and the over-socialised one of the hierarchic relation, both being expressions of atomised actors behaving isolated from their immediate social context. Granovetter (1985) maintains, that “the social” has an identifiable but very varying effect on economic activities. The social is visible in adding the component of trust (or malleasance), familiarity and pleasure (or disagreement) of social interaction into economic life through concrete personal relations. Granovetter’s basic notion of the
social embeddedness of economic relations is translated in this paper rather operationally into the category of social relations. They refer here to practices like informal communication, spending informally time together (Hingley and Lindgreen, 2002), participating in social gatherings and local initiatives whereby visions, opportunities and chain operations are shared without direct economic exchange. Some social relations of this study took place between supply chain actors, and some connected outside actors with the supply chain actors, opening the supply chain into wider social environment.

The concepts of market, hierarchic or power, network and social relations are clearly abstractions, used here as analytical tools. They label economic relations with identifiable characteristics, even if they are exhibited empirically in different mixes. These characteristics enable the examination of coordinative relations between actors, and on this basis, the visualisation of coordinative structures on the chain level. These relations, as they are dealt with here, are considered to be relevant for the chain actors within the frames of their professional lives (Linde, 1993).

Empirical material and methods
The empirical material was collected during 2003 and 2004 in a south-eastern Finnish agro-food locality, having long history in both conventional and organic agro-food industry. The supply chains to be studied were chosen judgementally on the basis of information received from local public caterers and local retailers, municipal managers and local university researchers. The three vegetable chains presented here were discovered to exhibit rather different and often opposite coordinative relations throughout the chains. The chains were also partly intertwined, in that actors had had mutual economic exchange. Although the “pipelines” within food supply chains render the chains difficult to delineate, the chains are identified here according to regular main flows of vegetables through a central grower/packer or processor. The three vegetable chains are described in the following:

1. Industrial chain (Figure 1) transforms in large scale about 40 different varieties of conventional vegetables from the locality and southern Europe to fresh salads round the year. The volume of vegetables is about 3 million kg per year. The chain grows rapidly by 30 per cent yearly due to the constantly growing demand of large restaurant chains.

2. Large conventional chain (Figure 2) manages about ten varieties of local and southern European vegetables round the year. The volume is about 2 million kg, and the chain grows continuously 10-15 per cent a year when connections are made to increasing number of farmers and large multiple retailers.

3. Small organic chain (Figure 3) is based on a multifunctional organic farm, which produces a large selection of different vegetables during the Finnish growing season. Supply of the farm satisfies the demand of local supermarkets and public caterers. The farm plans to stay in the local business.

The interview guide dealt with the flow of products in the actor’s chain context. The ten local interviewees were asked to tell about their activities, buying of inputs and marketing of products, their business partners and perceived problems. Their expectations and plans for the future were also touched upon. The semi-structured
Figure 1. Industrial chain

Figure 2. Large conventional chain
The chain relations, categorised as market, hierarchy or power, network and social relations, were identified in terms of practices in the accounts, using the quoted literature as reference. The Finnish contextual practices followed rather closely the practices of ideal-typical forms. After analysing dyadic relations of interviewed actors, their “ego networks” (Powell and Smith-Doerr, 1994) were combined on the chain level to visualise the coordinative structure. It is clear, however, that the same relation can also be seen differently by the two actors of that relation (Bradley and Roberts, 1989). In this paper, the analysis intended to interpret the views of the chain actors’ themselves, and not to present the “objective nature of coordinative relations”. The possibly conflicting views between actors about their relation were considered to be important results of the analysis. The differing views produced actually different network patterns, in that one organic farmer reported growers’ company as a network partner, whereas for growers’ company this farmer was marginal (Figures 2 and 3).
The chain actors present the local rural view about the coordinative relations and structures by referring to upstream and downstream actors.

**Results**

The industrial chain shows a clear pattern of chain relations, mainly characterised by one or two mode relations. The industrial vegetable company was itself governed hierarchically by the trans-national parent company, which invested in the locality from the outset by establishing the industrial company. Very strong hierarchy element was present in the growth and productivity targets set by the parent company, which also introduced the long-term business plan and the use of certified quality and environmental management systems for the industrial company. The hierarchy mode was repeated in relations with local and Spanish contract farms and local subcontractors, which were controlled by audits, patch records and process specifications by the industrial company. According to interviewed actors, the industrial company struggled for low prices of agricultural products. Occasionally, some vegetable lots from local independent farms or from vegetable broker companies could be bought. The local contract farms, as informed by a conventional farmer, were thus contingently passed over, indicating the undercurrent market and power relation towards the farmers from the part of the industrial company. The relations with contract farms and subcontractors, as informed by a conventional farmer, acting as a subcontractor as well, were also considered to exhibit partnership mode to some extent, because contracts offered secured income for some time ahead and possibilities for learning. The local farmers were interested to participate in the development of product quality of the industrial company by strengthening network relations. The subcontractors and transportation company were also chosen by tender competitions by the industrial company, emphasising market relations. The buyer end – large fast food chains, multiple retailers and wholesalers – was approached in the market mode, offering low prices, attractive for the big companies. The market relation with fast food chains and retailers was, however, supported by important partnerships with the product developers of the buyers, with whom the trends of the next season were set and cultivation and processing organised correspondingly. The local public caterers appreciated industrial company’s sale prices, but the industrial company only mentioned the big local retail outlet, part of a large chain, as a local buyer. Social relations were hardly perceived from the perspective of the industrial company. The group of public actors like administrative and research units were not mentioned either in the account given by this industrial company actor.

The overall coordinative structure on the chain level made a very functional and industrial impression. The governance structure was geared towards hierarchy and market relations, and network relations, very important in themselves, had a rather instrumental character within this chain. There was also less room for local social dimension. The chain, established by the parent company from outside the locality, had very good growth potential by this coordinative structure.

The large conventional chain shows a rich pattern of chain relations between heterogeneous actors. There were both single and multiplex relations, which exhibited two, three or even four relational strands prevailing simultaneously. In the upstream end of the chain clear market relations prevailed with input sellers and field renting
farms, some of them, however, in network relations with the conventional vegetable farm for interchange of fields. In the cultivation phase, there were plenty of social and network relations between ten local farmers forming the growers’ company. Social and network relations reached the vegetable broker company, which was partly owned by growers’ company. Social relations between farmers, research and educational institutes and trade advisers played a considerable role in supporting the continuous development of professional skills of the farmers; these developments took place outside economic exchange of the chain. There was even a network relation with a research institute in that the farmer organised cultivation experiments for research aims in his fields. The relations with agricultural administration were necessarily hierarchic, but there was also a strand of network relations perceived due to subsidy payments and common goal in promoting agriculture. Additionally, the farmer and administrators communicated informally about agricultural developments. Rather complex and problematic relations were perceived with two actors: the group of foreign labourers and the industrial vegetable company. The farmers had necessarily a kind of social and network relation with the group of foreign labourers, due to their central role in harvesting, rather long stay and familiarity in the locality. The labourers also had in their group a trusted worker, who served as an interpreter and a mediator. However, the group worked on the fields under hierarchic orders given by the farmers, but compliance was sometimes problematic. The labourers needed to have working licences and they were paid minimum wages on the market basis. The other problematic relation prevailed with the industrial company, which required in hierarchic manner patch records and processing procedures from the farmers. A subcontract with the industrial company produced a kind of a network relation, which secured income for some time ahead for the farmer as well as offered a learning environment. However, the farmer was expected to invest in new equipment, without long-term reciprocal commitment by the industrial company. The periodic tender competitions for the subcontractors emphasised the market relation, deemed not paying enough by the farmer. These multiplex relations, with contingently changing modes, were perceived as unpleasant by local farmers. When the demand of vegetables grew and operations enlarged, the growers’ company developed mixed market, hierarchy, social and network relations with southern European farms to secure company’s supply for the wintertime. The growers’ group visited the southern farmers and learned about their circumstances, cultivation methods and costs. The downstream end of this chain was characterised by market and power relations with large multiple retailers and market relations with wholesalers. Multiple retailers conventionally fixed the price, quality, volume and timing without negotiations, even before the growing season. Interestingly, a new possible development may be on the way, if network relations between the vegetable broker company and large multiple retailers develop, allowing closer negotiations and more reciprocal adaptation. There was additionally a social, network and market relation with the local retailer in that the farmer delivered vegetables on order when needed by the retailer as a side-flow on a market price.

In this chain, network relations based on social relations were the “core” of the chain, which was not managed from outside but developed within the local and regional context. Socially and professionally skilful actors were also enlarging the
chain by enrolling continuously new actors. This prevented the chain from “locking in” with “old comrades”. Market relations were yet crucial in the way that they offered several channels around the country for the chain’s products; possibly developing network relations with large buyers would further strengthen the chain. The overall coordinative structure offered socially satisfying relations building up “creative playground” and basis for “heavy” partnerships.

This small and short organic chain shows a few single and mainly duplex relations with heterogeneous chain actors. The security of the flow of produce was dependent on yearly variation and skilful crop management. The chain is strongly built on social and network relations, prevailing upstream as well as downstream around the multifunctional farm. The chain started rather “socially” along “the organic revival” in 1991, when the farm converted from conventional animal production to multifunctional organic agriculture. There were also several social and network relations with researchers, educators and organic association as well as local and organic food initiative, supporting the organic thinking and practices in the locality. Market relations upstream to seed retail and label shop were overlaid with network relations. Social and network relations prevailed with some familiar local farms, which had collaborative agricultural input arrangements with the organic farm. Growers’ company, with storage facilities, and even the local bank were perceived to have network relations with the organic farm. Hierarchy relations with the administrators were similarly perceived to include network relations, for the “common good” and conservation of traditional agricultural biotopes. Some of the market relations with, e.g. local and regional public caterers and a city retail outlet tended to gain social tone. The most important network relation downstream for the farm was with the local retailer managing two local outlets, one of them rather large with even 16,000 customers per day. The mix of network and social relations was practiced by negotiating about new developments and prices and by participating in local food initiative. When the limit for demand was met, no cooperation with other organic farms was developed in order to enlarge the business. The retailer also stuck to this network relation, having to deny the access onto his shelves from other organic farmers due to the restrictive demand.

The chain was heavily based on “social and network tone” with local actors both upstream and downstream but tended to stabilise with the local demand. The market relations were supported by and tinged with social and network relations. The enlargement was not an issue for the multi-functional farm, and the chain appeared truly local.

Discussion

The market, hierarchy or power, network and social relations made visible in this paper within three food supply chains have some points in common with recent food supply chain literature. The discussion is organised according to these relations, after which the coordinative structures on the chain level are identified and discussed in terms of chain development.

Coordinative relations

Dyadic relations between actors revealed the everyday work as surprisingly complex; the coordinative relations between actors were seldom single, but mainly duplex and
even multiplex. The relations presented empirically the plural form (Bradach and Eccles, 1989) or hybrid mode (Jarillo, 1988) in cases where market, hierarchy, network and social relations were perceived simultaneously. However, mastering simultaneously a large number of different and contingently changing relations can be very challenging; it can be considered an expression of social skilfulness (Argyle, 1991). Some tensions can also be experienced when “fitting” together “opposite” relations like social and network on the one hand and market and hierarchy on the other within one relationship (Adler, 2001).

The market relations supported chain operations both upstream and downstream in all chains (Figures 1, 2 and 3). Wholesalers, multiple retailers and local outlets offered market access for both large and small food supply chains, sustaining diversity. When offering market access, buyers also secured developmental potential for supply chains, supporting competition between and value creation by supply chains (Porter, 1985; Powell, 1990; Wilson, 1996). However, heavy competition between large multiple retailers increases their price sensitivity and turns them into global buyer alliances (Hollingsworth, 2004). The large supply chains studied in this paper felt the fight for lower prices and better quality in their buyer relations, and the appropriate price signals were given upstream. So far, small local suppliers have access to large retailers and single supermarkets; otherwise local food will be sold through less accessible channels, limiting its growth (Jones et al., 2004). This practice may depend on the chain policy and the value given to selection and authenticity (Jones et al., 2004). In these Finnish chains (Figures 1, 2 and 3), the local retailer implemented the regional policy of the chain by using local suppliers, aiming at invigorating regional economy. However, the local farmers knew this practice was not regarded effective at the buyer end of the multiple retailer, which would rather see centrally bought large lots to be distributed around the country. In this Finnish local supermarket the share of local products was about 5 per cent of volume, as compared to rather similar value well below 5 per cent in UK (Jones et al., 2004). The market access for chains of different sizes and origins seems to be an important developmental issue. Basically, the “easy in, easy out” practice of market relation was disappointing in the case of “easy out” or supplier switches, and offers less possibilities for learning than for instance network relations (Powell, 1990).

Power relations became visible when exchange parties were unequal by their resources. Duffy et al. (2003) found that multiple retailers may use their buyer power in several ways towards suppliers. Some of this was evident within the studied large conventional chain (Figure 2), where the conditions for the vegetable broker company were set by the multiple retailer in a very straightforward way. The buyer power was also present within the industrial chain (Figure 3), whereby contracts were sometimes shirked from the point of view of the local contract farmers. The imbalance in power may mean squeezing some suppliers, but on the other hand, this was accepted by UK fresh produce sector, due to possibility for exclusivity of products or increase in sales volume (Hingley and Lindgreen, 2002). On the other hand, the more powerful party is also “more equal” (Dore, 1983), and for many domestic suppliers alternative buyers may be difficult to find. The asymmetric power relations within the supply chains need to be monitored in order to sustain the economic viability of the sector (Hingley and Lindgreen, 2002).
Hierarchy relations were used to manage quality and quantity of the produce, needed by large suppliers and especially looked after by large retail chains (Duffy et al., 2003; Konefal et al., 2005). This hierarchy relation was evident within the industrial chain (Figure 1) towards the local and foreign contract farmers and local subcontractors, but in large conventional chain (Figure 2) towards the foreign contract farmers. Konefal et al. (2005) criticize the development of private standards, claiming that the small growers are poorly represented and their quality views are not taken into consideration. In a similar vein in “microscale”, the local growers in the conventional chain felt that they could not use their tacit competences in developing product quality within the chain. There are also more or less strict hierarchies in place within large multiple retailers towards their individual outlets. Self-evidently, hierarchy presented by agricultural administration regulates primary production.

Network relations could offer better basis for distributive and procedural justice as discussed by Duffy et al. (2003). As “less equal” parties, SMEs are often experiencing difficulties; forward integration within the supply chain seems an option for them (Henchion and McIntyre, 2005). Large suppliers are integrating forward as well, leading to restructuring of the industry (Hingley and Lindgreen, 2002; Wilson, 1996). For the industrial vegetable chain (Figure 1), the network relations strengthened the chain strategically and secured the meeting of future supply and demand. Within the conventional chain (Figure 2), partnerships were developed sequentially both horizontally and vertically in small steps during the years, and simultaneously the chain operations enlarged both in Finland and abroad (Mikkola and Seppänen, 2006). Network relations can be perceived in practices like better price paid by large multiple retailer for better quality for the growers’ company, as participation in the investment costs. New systematic payment practices at the retail end also corrected earlier invoicing problems. The growers’ company and vegetable broker company (Figure 2) looked into the network relation with retail sector as a possibility into decisively better coordination. For the small organic vegetable chain (Figure 3), the network relation was crucial in securing the flow of vegetables from the organic farm to the local retail outlets. On the one hand, when this network relation was in place, it prohibited the access of another organic chain. This “locking in” seems to be a negative side of networking (Powell, 1990; Uzzi, 2001). The large conventional chain avoided “locking in” by enrolling new actors continuously. Network relations also seemed to be able to substitute hierarchy relations in supporting the development of produce quality, by sharing and learning professional skills instead of ordering certain practices or demanding for information. Network relations exhibited creative, adjustable development and offered empowerment for small actors.

Social relations, made operationally visible, seemed very important for the large conventional (Figure 2) and small organic (Figure 3) chains. The conventional chain’s enlargement has been analysed to be based on local social relations, permeated initially by historical (Granovetter, 1985), later process based (Lindgreen, 2003) and reflective (Adler, 2001) trust, and by consecutive “heavy” partnerships including large financial and labour investments (Mikkola and Seppänen, 2006). For the organic chain, social relations acted also as a “lubricant”, lowering the threshold for new marketing contacts.
and establishment of network relations. However, the organic chain did not involve other organic farms in social and network relations, but remained independent and local. Social relations offered pleasure of social bonding, interaction and more expert performance (Argyle, 1991; Granovetter, 1985; Hingley and Lindgreen, 2002). Social skillfulness was more evident in the chains where the relations were mainly based on social and network mode, and concerned more heterogeneous actors and were present as strands with other coordinative relations (Figures 2 and 3). The market and hierarchy oriented industrial chain was not perceived to invest similarly in social relations, suggesting less social bonding and satisfaction (Argyle, 1991; Hingley and Lindgreen, 2002). The positive local social relations seemed to bear on economic activities, benefiting local employment. Perrow (1992) claims that social and network relations have the potential to enhance both member’s and regional welfare.

**Coordinative structures**

The structural particularity of the studied supply chains was based on different coordinative relations, their sequentially varying combinations and contextual functions. In spite of this particularity, it was possible to discern different modes of overall coordinative structures on the chain level. The industrial chain (Figure 1) was governed basically by strong market and hierarchy relations and the large conventional (Figure 2) as well as the small organic (Figure 3) chain by strong social and network relations. Both main coordinative modes were also functionally supplemented with other complementary and “opposite” coordinative relations, which, however, were tinged with the main coordinative mode. This finding suggests that two “kinds of networks” on the chain level can be identified and that strategic networks (Jarillo, 1988) are to some extent different from “socially overlaid networks”, characterised in this paper. For Jarillo, networking is a conscious effort, instrumental in its character, aimed at decreasing transaction costs between trusted partners by specialising on particular competencies on the chain level. This, indeed, is strategic behaviour, whereby trust is generated purposefully by showing that in case of malfeasance the actor himself would be worse off. In “socially overlaid networks” of this paper, the actors knew each other from local context and had a common history; instead of being purposefully created, the trust was there (Granovetter, 1985) to be used for network relations coordinating business activities. However, the farmers as well used strategic networking in Jarillo’s sense to enlarge their businesses, but later overlaid these relations socially as well, developing socially more satisfying working environment.

Strategic and “socially overlaid” networks are analytically different in their relational composition and compatibility. Jarillo (1988) uses the transaction economic concepts of market and hierarchy, complemented with goal congruence and trust, to explain the competitive advantage and sustainability of strategic networks. According to Granovetter (1985), atomization of economic actors is exhibited both in market relations (under-socialised conception of human action) and in hierarchies (over-socialised conception of human action), as both share the common feature that they disregard the immediate or historical social context. This atomisation may be seen as “a shadow” in strategic networks, whereas social relations in socially overlaid networks make them inherently “connected”. Therefore it is suggested, that these
conceptual pairs – market/hierarchy and social/network – form the plausible backbone of coordinative modes on the chain level in these particular chains. The inherent “match” between market/hierarchy/power relations on the one hand and social/network relations on the other also explains, why combination of these two sets may be difficult in equal extent (Adler, 2001); therefore, the coordinative structure tends to bend towards either one of these relational pairs. This empirically identified bending reflects structural embeddedness of Granovetter (1992), whereby relations with certain actors bear on relations with other actors.

Chain development can also be made understandable in terms of functional use of coordinative relations in chain operations. The rapid growth of industrial chain (Figure 1) – 30 per cent yearly – was suggested to follow from effective pro-active market and hierarchic relations, supported by strategic network relations. However, the industrial chain seemed to be active on a new market with few actors. The large conventional chain (Figure 2) exhibited substantial growth of about 10-15 per cent yearly, and continuous enrolment of new producers was based on social and network relations, supported by market and hierarchic relations. Additionally, developing network relations with buyers promised more coordination on the chain level. Similar kind of rapid growth is reported by Hingley and Lindgreen (2002) for preferred suppliers. The small organic chain (Figure 3), exemplifying local food, was heavily dependent on social and network relations in production and supply and only slightly supported by market relations. The local food strategy of this farm, including lack of network relations with other organic farmers, limited growth. In general, the network relations seemed to act both as stabilising and developmental factors for all these chains. The chain relations and structures may be seen as bearing on the dynamics of establishing, enlarging, shrinking or stabilising the chains.

Concluding remarks
The theoretical concepts of market, hierarchy or power, network and social relations have been useful analytical tools in this case study, disclosing coordinative relations and modes of coordinative structures on the food supply chain level. In this study, economic activities seemed to be strengthened by duplex or even multiplex relations, instead of being coordinated by a single coordinative form. However, the importance of especially social and network relations were shown in the establishment of locally originated vegetable chains, including heterogeneous actors. Market and hierarchy oriented industrial vegetable supply chain was more “strictly functional” by included actors, and “the social” was less pronounced. Market relations, supported by strategic network relations, were present especially downstream the chains, whereas the “body” of the chains had more degrees of freedom in organizing economic activities. The different combinations of coordinative relations suggest, that there are plenty of possibilities in organising coordinative structures within food supply chains, rendering them more or less dynamic and coherent.

Two modes of coordinative structures on the chain level have been extracted from this case study. The first coordinative mode was based mainly on market and hierarchy/power relations between the economic actors, supported additionally by strategic network relations. This mode comes close to strategic networks of Jarillo (1988), whereby trust is generated and used instrumentally in order to set up and
run the network. The second coordinative mode was based on social and network relations, but supported by market and hierarchy relations. This “socially overlaid” network originated in local context from professional and social skillfulness as well as trust inherent in the community of farmers. The supporting contextual relations seemed to acquire “tone” from the basic coordinative structure of the chain. Interestingly, these two modes of coordinative structures seemed to be functional alternatives in that both were able to secure the flow, quality and price of vegetables and both exhibited substantial growth.

One difficulty in studying economic relations within supply chains is that they are dynamic, invisible and possibly confidential; they need to be identified and approached rather than sampled. However, the results of this case study seem transferable to other contexts, since extensive literature about strategic networks – or networks to be interpreted as strategic (Atkins and Bowler, 2001; Duffy et al., 2003; Hingley and Lindgreen, 2002; Jarillo, 1988; Powell, 1990; Wilson, 1996) – suggests that this form of organizing supply chain activities is common. The socially overlaid network, a structural finding of this study, may be seen as a modification of strategic network (Jarillo, 1988). This mode of coordinative structure finds resonance in theoretical literature (Granovetter, 1985, 1992; Uzzi, 2001). Although there is so far scarce evidence about it, it can be seen in principle as an interesting developmental option for rural businesses and communities, alongside strategic network. In this sense, the existence and quality of local social relations are not indifferent. Although cooperative behaviour is common, it is not self-evident and not evenly exhibited across different communities and cultures (Argyle, 1991).

Agro-food business managers and supply chain coordinators could benefit from understanding what kind of relations they have with other chain actors and how the structure of the chain is built up. Learning to know one’s own position could offer developmental opportunities. Socially overlaid networks seem to able to “invite” initiatives and the use of tacit competences, leading to improvement of product quality and sustainable chain growth. Developing the “backbone” of the chain towards this coordinative mode may, due to the “regard for the other”, require social skills and human resources, not necessarily in the best interests of large companies experiencing the trend for increasing concentration. Some large companies’ business practices follow, however, social and networking practices (Atkins and Bowler, 2001; Dore, 1983; Scott and Westbrook, 1991). This should, at least theoretically, have an impact on social satisfaction in work and empowerment of small actors. The orientation towards coordinative relations seems to be a matter of choice; what kind of supply chains are wanted and promoted? This choice is presented by Hingley and Lindgreen (2002), who compare relationship marketing in fresh produce and wine sector. However, to avoid ossification, market relations are needed as a societal interface for newcomers, inspiration and opportunities. In a positive sense, socially overlaid and also strategic networks have the relational tools to benefit from this dynamics. Future research could focus on finding more evidence about existence, prevalence and impact of socially overlaid networks in agro-food sector. If they could offer more sustainable growth, quality products and socially satisfying work environment, they would be worth promoting.
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Introduction

Catering for sustainability (Morgan & Sonnio, 2005) has been identified as a trend in the North of the world that embodies the characteristics of sustainable development through school meal provision (Morgan & Sonnio, 2008). The school food revolution, according to the authors, "holds enormous potential to deliver multiple health, ecological, social and economic dividends" (Morgan & Sonnio, 2006, 19) while addressing contextual pressing sustainability issues in feasible ways within particular catering organisations, both locally and across distances. This trend has stood out in world cities such as Rome, London and New York as well as in rural areas in Italy, England, Scotland and Wales (Morgan & Sonnio, 2008). Other authors report similar efforts in public catering for sustainability in Canada (Friedmann, 2007) and the US (Block et al., 2008; Kloppenburg, Wuhen, & Grunes) as well as in Denmark, Norway, Sweden (Mikkelsen, Vittersø, Roos, Vramo, & Bergstrøm) and Finland (Mikkola, 2008a; Taskinen & Tuokkonen, 2004). This paper explores the societal role for change that caterers play in these developments. Caterers seem to use their professional position and the possession of productive intelligence within society (Beck, 1994) to express their awareness of the age of ecology (Worster, 1994) and to implement the notion of sustainable development (Dryzek, 1997; WCED, 1987) in their practical work. The core of this perceived agency for sustainability by caterers is conceptualised here as professional identity for sustainability, the shaping of which is studied on empirical grounds in the context of Finnish public catering.

The caterers, working at local authorities in different positions such as Head of Procurement, Procurement Officer, Executive Director of School Food and Nutrition Services, Head of Catering, Catering Manager, Chief and 'Dinner Lady', have demonstrated their commitment to upgrading catering services incrementally, but with the 'big picture' and long-term developments in mind (Morgan & Sonnio, 2008; Rimington, Smith, & Hawkins, 2006). Local political and financial support has often promoted caterers' orientation towards sustainability. The basic principle of caterers 'embedded' work for community empowerment and healthy nutrition for young people often goes unnoticed, but in some cases has been visibly framed by
social and marketing campaigns and given face value by celebrities voicing the message of the school food revolution. Caterers have also been able to reach "beyond kitchen and dining areas" and to impact on the choice and readjustment of food supply, through calls for tenders for food qualities such as local, organic, POC, PCI and Fair Trade products. Thus, caterers have enhanced livelihoods both locally and across distances, and have sought to improve environmental health and reduce transports (Morgan & Sonnino, 2008). A number of reported cases suggest that it is the caterers within their networks who have given the impetus to these multipurpose developments, which particularly highlights their professional role as a driving force towards sustainable food systems.

The way terms (and their derivatives) such as ecology, environment, green, sustainable development and sustainability are used in academic and professional literature implicate a range of contextual interpretations. Furthermore, the terms chosen may reflect contextual tuning (Morgan & Sonnino, 2008, 96). Castells (1997, 110-113) suggests that, regarding modes of production and consumption and social organisation, from local to global levels, the overall issue concerns sustainable development, whereas the ecological issue in practice translates to an environmental one. This paper uses Morgan and Sonnino's (2008, 3-5) concept of sustainable development as a normative standard which is contextually implemented through negotiations and adjustments aiming at more equitable forms of economic development across space and time, democracy through interconnected and participatory communities, and environmental protection integrated into economic development. This paper critically examines caterers' operational relationship to these sustainability aims within their organisations.

**Professional identity for sustainability**

This paper suggests that caterers' activities towards sustainability originate from their willingness to apply and their making use of their professional position and competence to readjust ecological and socio-economic issues within reach of the food system. This shaping of professional identity (Connelly & Clandinin, 1999) for sustainability is suggested to be based on two key social dimensions of professional work.

First, professionals are responsible for their work. They know what they are doing and why: they have a reflexive awareness of their self-identity in terms of their personal history (Giddens, 1991, 35, 52-55), as evidenced in their answers to the question "Who did this or that?" (Ricour, 1991). Their "personal-social identity" implicates "the right and duty to arrange the substance of work" in society. This responsibility extends increasingly to the ecological sphere, where the ecological issue as an alternative orientation affects their "expert rationality" (Beck, 1994, 47-52). Thomashow (1995) also asserts that "ecological identity" may emerge in professional work towards ecological ends.

Second, professionals know how to use production processes towards the ends to which they are committed. They "possess the productive intelligence and the power to arrange things in society", which offers them the means for ecological ends on all levels of action (Beck, 1994, 47-52). The penetration of the ecological issue into occupational fields may also cause "controversies over methods, procedures, norms, plans and routines"; whereby professional groups may experience "ecological split" (Beck, 1994, 47-52). Furthermore, Castells (1997, 6-12) agrees that a "collective social actor", building upon a dynamic, historically contextualised "project identity", may have the potential for transformation of social structures by redefining its position in society. In the case of the "greening selves", this change orientates towards goals of sustainable development (Castells, 1997, 110). Beck (1994, 47-52) describes the ecological interests of vocational and professional groups as a form of sub-politics, and suggests that they may contribute to public welfare in a policy of small steps.

Hall (2004) and Burr (1995) see identity as intricately linked with the responsibility and ethical choices of actors. Kritik (2006) found some consumers to self-identify as environmentally concerned and proactive, whereas others expressed a secondary interest in the environment and sustainable food choices. Professional responsibilities may not always be clear and "convenient" within respective organisations, however. Mattson Sydner and Fjellström (2007), who analysed concerns about feeding elderly people in need of support, offer a case of dilemmatic responsibilities regarding social sustainability. In a similar vein, catering for sustainability may be understood as a dilemmatic and evolving responsibility. Thomashow (1995), with his notion of "ecological identity", indicates the sensitised and caring relationship to environment of professionals and academics engaged with environmental work. A professional community such as the AOA (2007) takes the position that nutritionists should include the quest for ecological sustainability in their professional work.

More specifically, professional identity, at its core, is dynamically constructed not only by its objective, but also by what it has achieved and how (Connelly & Clandinin, 1999; Ricour, 1991). However, institutional consumers such as public and commercial caterers are in a different position from that of individual consumers. Such professionals are not fully free agents, but must negotiate their activities within their organisation and the wider institutional structure, with more or less initiative from either party (Forward & Scheerhorn, 1996). Here their professional identity is shaped by their own views and aims on the one hand, and by the response of and options allowed by other actors on the other (Connelly & Clandinin, 1999; Forward & Scheerhorn, 1996).

Professional identities may express a wide range of shades from rewarding commitment to rebellion to disappointment (Connelly & Clandinin, 1999); 'identity benefits' may vary greatly (Castells, 1997, 8). Therefore, professional identity for sustainability, as a social notion, may be expected to be contextually dependent, a function of its extent and intensity, and to convey shades from positive to negative. This paper explores professional identity for sustainability as it forms in the push-and-pull between individual caterers and their contextual networks in Finland. As the shaping of professional identity for sustainability reflects contextual developments, it is illustrative to overview the conditions of Finnish public catering.

**Finnish public catering culture as a regular practice**

In Finland public catering had its first expressions at the end of the 19th and in the beginning of 20th century, and during the slow institutionalisation process, free school meals became statutory in 1948 (Manninen, 2009; Tarasti, 1988). According to Morgan and Sonnino (2008, 90-91), school food in Britain could be interpreted both as a "warfare" and a "welfare" service. In Finland, public catering began as a "workforce" service, and school meals were to support pupils' learning for the interests of society at large (Manninen, 2009; Tarasti, 1988). Today, Finnish public catering is an extensive, but heavily regulated industry, with 9215 kitchens serving, for instance, hospitals, nursing homes, day-care centres and primary and secondary schools (ACNielsen, 2007).
The institutional outlines of Finnish public school catering convey nutritional, procurement, hygiene and waste management as well as occupational regulations, which combine with the current national standard for Finnish school meals. This meal system is firmly established in accumulated educational laws and the National Core Curriculum (Lintukangas et al., 2007; Manninen, 2009; Osipova, 2004). The extensive and detailed national guidelines for the school meal system currently exhibit additional hints of the environment and sustainability as generic concepts, which recommend the use of local food (Lintukangas et al., 2007). The liability for financing, organising and monitoring school meals falls on municipalities, free school meals, under heavy cost control, comprise about 8% of the total educational costs in compulsory education (Manninen, 2009). The 'whole school' approach and the uniformly established school meal practice create an 'institutionally protected' site for both caterers and young people, thus increasing the uptake of school meals and defining direct market competition of this welfare service with other players (Morgan & Sommi, 2008, 169–171).

School meals are usually prepared from conventional food, which has secured the economical price of the meal; in 2007, the total meal cost was on average €2.45 in compulsory education. Consumers generally consider conventional food purchased in Finland to be safe and healthy, since food scandals, such as those described by Morgan and Sommi (2005), are practically non-existent in Finland and because institutional trust in food is generally higher than in some other European countries (Kärnä, Harvey, & Warde, 2007; Manninen, 2009; Piironen et al., 2004).

Nevertheless, Finnish caterers are concerned about environmental and sustainability issues, which translates mainly to interest in the provenance and production methods of procured food, waste management and energy and water consumption (Lintukangas et al., 2007; Lääräntyöryhmä, 2000; Swan labelling of restaurants, 2006; Taskinen & Tuokko, 2004; Taskinen, 2007). In addition to conventional domestic food, local food is used rather widely (Isoherranen et al., 2006) and organic food is typically procured for periodic use in limited quantities or in dedicated schools or day-care centres (Mikkola, 2006a,b). Furthermore, political recommendations encourage catering organisations to increase the use of local and organic food 10–15% annually (Getting more from less, 2005). Caterers often perceive the procurement of local and organic food as a problem due to limitations of budgets, tenders and production efficiency (Taskinen, 2007; Taskinen & Tuokko, 2004), which may be fairly common in the UK as well (Walker & Preus, 2008).

Given this contextual background of Finnish public catering, equal and healthy school meals may not be an issue for caterers, even though they would like to increase spending on food. Rather, their concerns typically regard sustainability issues such as the procurement of domestic, local and organic food, Fair Trade products and waste management as well as the conservation of energy and water.

Methods

Urban, suburban, provincial and rural public catering organisations in different parts of Finland were studied in research projects dealing with the re-localisation of food systems and the use of local and organic food. The Ethics Committee of the Life Science Campus of the University of Helsinki has approved the studies. The interviewees provided their informed consent to the use of their interviews for the development of more environmentally friendly and sustainable public catering. The studies covered a wide range of public catering organisations in terms of the volumes of procured food and the numbers of daily served meals (Table 1).

The catering professionals were grouped according to their professional positions (Bergström, Soler, & Shanahan, 2005). In the executive group, professionals such as public procurers and educational administrators decided on food quality and engaged in contracts of substantial volumes of food. In the manager group, the catering and kitchen managers supervised operations in several or just one professional kitchen, respectively. In addition, they usually had direct contact with deliveries and customers, and supported the procurement process with practical product recommendations. They also made purchases from contracted suppliers or from non-contact sources. Between 2000 and 2008, 26 professionals in executive and management positions were interviewed in 11 different public catering organisations (Table 1).

The semi-structured in-depth interviews followed an interview guide regarding organisational activities, interviewee’s work, the flow of food, the current problems and plans for the future as well as views about the environment, sustainability, and conventional, local and organic food. The interviews took place in the interviewees’ offices, lasted on the average 80 min, and were transcribed verbatim.

The shaping of professional identity was studied as both textual (Burr, 1995; Hall, 2004) and storied (Corndely & Cladinin, 1999; Linde, 1993; Tracy, 2002) narratives. The interviews initiated the caterers’ narratives whereby they explained their relationship to structural conditions on the one hand, and to sustainability issues such as environmental and socio-economic aspects of conventional, local and organic food as well as waste, water and energy management on the other. The shaping of professional identities was analysed specifically to characterise in more detail caterers’ views and goals in terms of sustainability and their accomplishments, as well as how easy, restrained or difficult they found their advocacy for sustainability.

Results

The narratives highlighted how the caterers perceived their professional responsibility for sustainability in their network context. The shaping of professional identities for sustainability are characterised separately for professionals working in executive and management positions. The interviewees are marked in chronological order with a running number indicating organisation/interviewee (Table 1).

Shaping professional identity for sustainability in executive positions

A balanced approach for sustainability was taken by a provincial procurement officer who combined the municipal strategy for sustainable development with active networking and local
industry to procure local and organic food. Initially, the strategy was adopted by the town management partly to benefit the local economy in the midst of severe economic gloom after a decade of conspicuous consumption. Procurement was simultaneously aggregated with several rural municipalities to decrease the price by increasing the volume of food. The town management supported the procurement officer in implementing this strategy, and the town council followed annually the realisation of qualitative and quantitative targets. Organic food was procured for the annual organic meal week, but the officer emphasised the co-development of local food supply chains and their one-point outlet in order to ease logistics. Procurement directives clearly prevented the preference for local food; to promote it, however, the officer sought to construct sustainability statements into calls for tenders. Through high-level administrative contacts, the officer also attempted to place changes into EU public procurement directives and their interpretations. The officer considered conventional domestic food as good as imported organic food, although intensive agriculture was clearly active in Finland as well. This fact supported the procurement of organic food as a separate category in spite of premium prices. On the other hand, imported food – particularly meat – was also considered acceptable according to standards of food safety due to the legitimate certificates. Transport, packaging and waste were considered highly relevant fields for more efficient environmental management, and were dealt with in co-development between both personnel and the food industry. The procurement officer perceived the local and organic food choices as “easy and inspiring, although some shrouding of activities” admittedly took place. Finally, efforts for environmental and sustainable procurement gained positive national and international publicity, were awarded and given centre stage before global audiences; “sustainable development has benefited us tremendously” (2/4).

A rule-existing approach for sustainability resulted when the executive administrator and procurement officer followed the organisational environmental programme and the public procurement regulations. The suburban organisation recognised the need to express visibly its responsibility for global and local environments, and committed itself to the environmental programme, promoted locally by “informed members with green connections.” One environmental criterion of the programme included the use of organic and local food and Fair Trade products. Their premium prices were accepted despite a very slowly eroding membership basis leading to darkening economic prospects. The first call for tenders, which included organic food, resulted in only one bid with unacceptably high prices for all products. However, making the most economically advantageous purchases, dictated by the procurement directive, were considered the duty of the organisation. Therefore, a new call for tenders was organised to include somewhat fewer organic food items and Fair Trade products; local food received no special emphasis. Organic quality was not particularly valued, since conventional Finnish food was highly appreciated and considered not very different from organic food. However, locally and globally responsible production was assumed to be more advantageous in the long run than the use of less responsible production methods. The personnel met Al Gore and his message of global warming; they saw “selfishness and greed as the biggest problems in sustainable development”, which increased their determination for sustainability” (9/13, 9/17).

A co-operative approach for sustainability was expressed by executive directors of large suburban and urban–rural catering organisations without any particular sustainability strategies. The directors focused on their main task, which was to cater tasty, healthy and above all economical meals for customers: “in this business, it is all about the cent.” They saw increased efficiency of transport and waste management as both cost-effective and environmentally friendly. The directors emphasised the importance of social justice and environment through long-term contract relations that aimed to share the savings generated by the co-development of activities, thereby developing the productivity of businesses. They perceived the conventional Finnish food industry as a reliable and development-oriented partner, and interpreted conventional

<table>
<thead>
<tr>
<th>No. of organisation/interviewee</th>
<th>Year of interview</th>
<th>Location</th>
<th>Position</th>
<th>Value in M€ or number of meals/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1</td>
<td>2000</td>
<td>Suburban</td>
<td>Executive</td>
<td>5-25 M€ 1000-5000 meals/day</td>
</tr>
<tr>
<td>1/2</td>
<td>2000</td>
<td>Suburban</td>
<td>Manager</td>
<td>200-1000 meals/day</td>
</tr>
<tr>
<td>1/3</td>
<td>2000</td>
<td>Suburban</td>
<td>Manager</td>
<td>500-2000 meals/day</td>
</tr>
<tr>
<td>2/1</td>
<td>2000</td>
<td>Provincial, aggregated</td>
<td>Executive</td>
<td>5-25 M€ 200-1000 meals/day</td>
</tr>
<tr>
<td>2/2</td>
<td>2000</td>
<td>Provincial, aggregated</td>
<td>Manager</td>
<td>5000-20000 meals/day</td>
</tr>
<tr>
<td>2/6</td>
<td>2000</td>
<td>Provincial, aggregated</td>
<td>Manager</td>
<td>1000-5000 meals/day</td>
</tr>
<tr>
<td>2/18</td>
<td>2000</td>
<td>Provincial, aggregated</td>
<td>Manager</td>
<td>5000-20000 meals/day</td>
</tr>
<tr>
<td>3/1</td>
<td>2000</td>
<td>Provincial, aggregated</td>
<td>Manager</td>
<td>200-1000 meals/day</td>
</tr>
<tr>
<td>5/10</td>
<td>2000</td>
<td>Suburban</td>
<td>Executive</td>
<td>5-25 M€ 1000-5000 meals/day</td>
</tr>
<tr>
<td>5/11</td>
<td>2001</td>
<td>Suburban</td>
<td>Executive</td>
<td>1-5 M€ 200-1000 meals/day</td>
</tr>
<tr>
<td>6/12</td>
<td>2003</td>
<td>Provincial, aggregated</td>
<td>Executive</td>
<td>5000-20000 meals/day</td>
</tr>
<tr>
<td>7/13</td>
<td>2003</td>
<td>Provincial, aggregated</td>
<td>Manager</td>
<td>200-1000 meals/day</td>
</tr>
<tr>
<td>8/14</td>
<td>2003</td>
<td>Rural, aggregated</td>
<td>Manager</td>
<td>&lt;1 M€ 200-1000 meals/day</td>
</tr>
<tr>
<td>8/15</td>
<td>2003</td>
<td>Rural, aggregated</td>
<td>Manager</td>
<td>&lt;1 M€ 200-1000 meals/day</td>
</tr>
<tr>
<td>9/16</td>
<td>2008</td>
<td>Suburban</td>
<td>Executive</td>
<td>25 000-125 000 meals/day</td>
</tr>
<tr>
<td>9/17</td>
<td>2007</td>
<td>Suburban</td>
<td>Executive</td>
<td>25 000-125 000 meals/day</td>
</tr>
<tr>
<td>9/18</td>
<td>2008</td>
<td>Suburban</td>
<td>Manager</td>
<td>25000-125000 meals/day</td>
</tr>
<tr>
<td>9/19</td>
<td>2008</td>
<td>Suburban</td>
<td>Manager</td>
<td>25000-125000 meals/day</td>
</tr>
<tr>
<td>9/20</td>
<td>2008</td>
<td>Urban</td>
<td>Executive</td>
<td>25000-125000 meals/day</td>
</tr>
<tr>
<td>10/21</td>
<td>2008</td>
<td>Urban</td>
<td>Manager</td>
<td>25000-125000 meals/day</td>
</tr>
<tr>
<td>10/22</td>
<td>2008</td>
<td>Urban</td>
<td>Manager</td>
<td>25000-125000 meals/day</td>
</tr>
<tr>
<td>10/23</td>
<td>2008</td>
<td>Urban</td>
<td>Manager</td>
<td>25000-125000 meals/day</td>
</tr>
<tr>
<td>10/24</td>
<td>2008</td>
<td>Urban</td>
<td>Manager</td>
<td>25000-125000 meals/day</td>
</tr>
<tr>
<td>10/25</td>
<td>2008</td>
<td>Urban</td>
<td>Manager</td>
<td>25000-125000 meals/day</td>
</tr>
<tr>
<td>10/26</td>
<td>2008</td>
<td>Urban</td>
<td>Manager</td>
<td>25000-125000 meals/day</td>
</tr>
<tr>
<td>11/27</td>
<td>2008</td>
<td>Urban-rural</td>
<td>Executive</td>
<td>5-25 M€ 1000-5000 meals/day</td>
</tr>
<tr>
<td>11/28</td>
<td>2008</td>
<td>Urban-rural</td>
<td>Manager</td>
<td>200-1000 meals/day</td>
</tr>
</tbody>
</table>
Finnish food as local food at large based on their scale of operations. The directors also perceived negative connotations of organic food: weak quality and, possibly even worse, a systemic inadequacy and "a hellish invalidation" of the whole scientifically built agri-food complex. Therefore, they did not even consider buying organic food. Against this background, environmental and sustainability issues in primary production - that is, the choice of particular type of food - currently seemed distant. Furthermore, environmental acts were to be implemented without "fluff"; efforts to minimise transport and packaging waste through developmental co-operation with industry were successful. However, the directors admitted that future challenges may involve measures to save more energy and water in catering processes in co-operation with industry than is presently the case (4/10, 11/27).

A juggled approach to sustainability developed in provincial procurement where directors sought to interpret the procurement procedure so as to co-operate with local suppliers. The town council dictated to them the strategic aim of using local and organic food through the aggregated procurement of several municipalities. However, no extra funding was allocated, nor were particular developments followed up. The change towards sustainability was expected to take place with basic funding, just enough for normal procurement. Additionally, the organic quality seemed ambiguous and, even worse, repulsive due to both premium prices tested by calls for tenders and the additional bureaucracy involved for licensing organic caterers. Rather, conventional Finnish food was considered equally good and healthy, and local food to present roughly the same quality, but with additional benefits in employment and organisational visibility. Local food supply chains were developed by offering support for product development and a one-point outlet, thus restricting the number of food items in calls for tenders for wholesalers. Additionally, vegetables were purchased on weekly basis from local farmers. The executives participated in a national project that supported the development of calls for tenders for local food, but constructing criteria for local food to which large wholesalers would be unable to respond seemed very difficult. Furthermore, local networking was considered troublesome, always juggling with the local producers and procurement directives in order to "help the province" without really being able to promise exchanges for local farmers due to conditions of the procurement rules. The executives identified wider environmental issues in transport and waste, both of which were currently addressed. Eventually, they felt that "our proper job is to cede and not to develop the local food market; we get what we need with just one telephone call to the wholesaler" (6/12, 7/13).

A critical approach for sustainability was adopted by procurement officers working in suburban and urban organisations under centralised management and strict cost discipline. The municipalities disseminated successive general environmental and sustainability strategies aiming for the translation of environmentally friendly and sustainable activities into action on the grassroots level. These strategies received no particular funding, funds or follow-up. Centralisation was proceeded on the market, weeding out minor trading partners and leaving a few large sellers to trade with food. The side effects were perceived as unhealthy competition and a "tough game". The basic idea of the procurement directive was taken seriously, not to "favour or to discriminate against any supplier," but unreasonably sensitive complaint processes available for hidden made the position of procurement officers difficult. To make moves towards sustainability, the procurement officers had previously contracted with local processors and marketing companies that supply local and organic food. This sometimes proved unsatisfactory due to untimely deliveries, inadequate processing and too high prices.

The officers then attempted to use calls for tenders to express and to measure the environmental performance of food against given criteria, but here the benefit of the environment was perceived as arbitrary. How did it actually relate to the 'environmental reality'? The officers also found it difficult to assess quality and environmental certification documents, and occasionally the environmental performance of certified companies proved less than satisfactory. The officers then attempted to understand the environmental qualities of foods in co-operation with various projects as well as with internal and external experts. The officers characterised organic food with rather limited or highly ambiguous views about its allegedly better quality in terms of health, environment and production methods. They also called into question the security and safety of organic food, contrasting it with conventional Finnish food, the quality of which was generally appreciated. However, the products of some small- and medium-size enterprises (SMEs) were appreciated due to their sensory appeal, but premium prices and small volumes made the products uninteresting. Against this background, conventional domestic food, appraised in itself, or imported food in large quantities seemed a valid and economical option. Even though environmental issues were criticised as coming up in waves, the gap between sustainability strategies and their implementation was deemed unsatisfactory. The procurement officers were critical and cynical about the 'value for money' of organic food and the relationship between labels and 'real' environmental performance; they sought more advanced ways to understand the environmental impacts of food supply chains, including transport, waste, energy and water consumption and social sustainability throughout the supply chains. Catering for sustainability was seen to need a wider and more profound knowledge base for focused action (1/1, 5/11, 30/2).

A delimited approach for sustainability was deemed appropriate by an executive administrator, who attempted to manage highly centralised services under heavy cost discipline. The general municipal sustainability strategy was translated into a particular catering strategy which supported the procurement of conventional food and sought to minimise transport and energy consumption and to develop sophisticated waste management. The organic quality was understood to be possibly inherently positive in terms of health, but conventional food was actually considered good enough and superior in price and availability for large-scale operations. Thus strictly local - and organic food in particular - were referred to as "a single flower, an insignificant and unrealistic option attracting daydreamers", impossible in streamlined operations and heavy administrative procedures. Additionally, other concerns emerged, such as the badly needed reconstruction of some existing kitchen premises, and finally, heavy competition for resources with other municipal administrative sectors (10/20).

Shaping professional identity for sustainability in management positions

An action approach for sustainability was adopted by one kitchen manager who remained committed to business even within limitations of hierarchical management structures. The manager was drawn into a voluntary environmental strategy introduced for the school by an external foundation for environmental education. The teachers, pupils and the manager emphasised waste, energy and water management, with a particular focus on waste; organic food was perceived as a minor issue. However, the manager saw organic production as a cleaner, more future-oriented and healthier option than "normal" food. Inspired by an external organic project, the manager sought to include organic food in school meals. However, the organisation deemed this practice
unequal across the schools. The manager felt controversial about management's strict approach because, on the one hand, she agreed with efficient, modern and 'business-like' public catering activities. Excessive cost discipline was criticised in general: "If you talk about school food, you talk about money." The manager then took the initiative, with the parents' financial support, to serve organic food at a school sports event. The manager wanted to represent sustainable practices professionally to both pupils and teachers through organic food. She felt "proud" to serve organic food, which was "extremely motivating and inspiring." To act as a "de-gooer" was rewarding, but she also reflected on her commitments: "Could I fail for [the promotion of] just anything?" (10/25).

A supportive approach for sustainability was practised by managers, who, within the limits set by the procurement contracts, sought to purchase local and domestic food and co-operated with local producers for product development. These managers perceived the environmental and sustainability strategies as non-existent or loosely controlled, without particular funding offered for purchases of local and organic food. However, they organised the operations of their kitchens rather independently, and supported local food due to its perceived superior quality in terms of taste and environmental health; "gently grown" local food was "without poisons" and contained no harmful viruses. Additionally, local food offered employment benefits important for rural areas and familiar local suppliers. The managers combined the categories of local and organic food: "I don't care whether it's local or organic." Some managers more or less occasionally used local organic food and in most cases strongly preferred domestic food as well, the quality of which was contrasted with imported food from densely populated areas. These managers were interested in positive customer feedback on tasty local food and sought positive visibility for their use of local ingredients. They also focused on the development of service quality as well as the reduction of transport and waste (1/3, 2/5, 8/14, 8/15, 9/18).

A concerned approach for sustainability was experienced by managers, who perceived the threat against human and environmental health of the long-term effects of pesticides and fertilisers. In the managers' perception, the organisations had no particular environmental or sustainability strategies, but aimed to develop quality economical services. The managers preferred domestic, local and organic food, and their communications about their needs for producers did occasionally cause changes in procurement practices. Some local processors operated extensively in developing product quality, whereby managers learned about farming practices. The managers found the health impacts of food particularly dubious, because they saw public catering as responsible for treating children during their long school years with food possibly containing foreign substances such as pesticide residues and hormones. Additional considerations of transport and the environment supported the use of local, organic and Finnish food, which was considered particularly significant for employment in rural areas. The managers' views varied from demands to "know more" to setting "strict environmental quality criteria for publicly procured food" to anxiety about complex questions which caused both "pain and pleasure" to learn about. The careful selection of information was also considered necessary in order to avoid information pouring onto the performing level where "more distant matters could be passed." The complexity of food quality, including water and energy consumption, and farmers' capabilities to produce affordable food locally and organically were understood to present major challenges to farmers and public catering (1/2, 2/6, 2/7, 3/8, 3/9, 11/28).

A contented approach for sustainability was perceived by one manager in a case where the school administration had organised the waste management and the serving of organic food in school meals. The school had succeeded in certifying its environmental activities in terms of waste management and saving energy and water. However, the rector saw organic food as a part of the "sustainability complex," and negotiated with several municipal bodies about its use in school meals. The relevant authorities accepted the allocation of particular public EU funding, within the rector's power, on organic food. The manager saw organic food as clean, with possible health benefits, and local food to represent a connection with ordinary people and food. The rector invited the manager to participate in the school's environmental activities, and the associated learning-practical problem solving and teaching of pupils about food manners accomplished "everyday ecocacts", which added meaning and satisfaction to the manager's work (10/26).

A contingent approach for sustainability seemed to result when running catering practices according to rather loose sustainability strategies with a focus on service quality. The kitchen manager approved domestic conventional foods in general, as well as organic and local foods, which were seen as a particularly ideal solution for human and environmental health without intensive agriculture and its pesticides, fertilisers and global transports. The manager recognised "the importance of the environment as forests, birds, animals, water, air," but this overall relationship was rather disconnected from food choices. Previously, the manager occasionally used organic food, but when the familiar wholesaler gave it up, no attempt was made to look for it elsewhere. Additionally, organic food was thought to be pricey. However, the manager reorganised the recycling on the premises, and continued 'business as usual' within the limits set by the organisational and business environment (5/19).

A selective approach for sustainability was explained by managers who sought to improve the efficiency and quality of service of a highly centralised catering organisation operating under severe cost discipline. The organisation employed a sustainability strategy which according to an external environmental education initiative, was strongly focused on waste management. Although managers' concerns for the environment and sustainability - including climate change, the depletion of global fish stocks, the excessive use of additives and agricultural chemicals as well as threats to animal welfare and business opportunities for SMEs - were extensive, it was currently impossible to use local and organic food due to its limited availability and high costs. However, the organisation was still included in the official register for organic catering operators and had previously served organic food on occasion. The understanding of organic product quality varied from general statements about less environmental stress to comments about lacking chemicals and the "natural" consistency of organic food. Local food represented food security within global trade networks, and the promise of less polluting transports and local livelihoods. However, a vegetarian meal, served successfully as a daily option, was organised as an ecological choice feasible within the organisational context. Tough competition between catering companies, unquestionable demand for equal food quality for all customers within the set budget, a constant lag behind price development, and the centralised procurement of large lots set the stage for managers' relationship to sustainability efforts. Responses varied from "forgetting" about organic food to "feeling wretched" when parents and managers asked for it, to being compelled to refer to political funding decisions. Traces of cynicism regarding the current constellation of catering were also evident in the discourse. The overall understanding referred to being "realist" while "in business" and to choosing "the middle course" (10/22, 10/23, 10/24).
Discussion

Evidence of shaping professional identity for sustainability in Finnish public catering

In this study, the public caterers within the power field of their contextual networks were capable of presenting views, aims and activities which were related to catering for sustainability as a broadly defined orientation. The caterers seemed to accept to varying extent their personal responsibility for socio-economic and environmental issues within reach of the food system. A more or less committed professional identity for sustainability was evidenced in cases where the quest for sustainability was institutionalised as organisational strategies or municipal management schemes as well as in cases where no such support was available. In both types of cases caterers could seek and take measures for sustainability rather independently and pursue costsaving strategies in both Europe and the US (Friedman, 2007; Mikkola, 2008b). Labelling schemes (Swan labelling of restaurants, 2006) and extensive political programmes (Getting more from less, 2005) were worked out over several years through the comprehensive selection of representative experts and actors following dissemination to municipalities, educational institutes and the media.

Obviously, however, the characterisation of shaping professional identity for sustainability described in this article does not cover the whole spectrum of professional identities for sustainability; to suggest otherwise would be contradictory to the concept of identity as a historically, dynamically and contextually constructed 'driving force'. However, this analysis results in an extensive range of professional identities for sustainability, from more to less positive and successful in the caterers' own words. This analysis also explains how professional identities for sustainability are shaping and influencing practical measures within organisations and in supply chains in an effort to benefit developments towards more sustainable food systems.

In the Finnish context, caterers were not particularly concerned about healthy meals, social support for meal uptake or the occupational conditions of caterers, since these aspects of sustainability are regulated practices of institutionalised Finnish public catering. Rather, the quality of procured food as conventional, domestic, local, organic, or even local organic, with the implicated social and environmental aspects, was an issue for caterers, as was transport, waste management, and the conservation of energy and water both in catering operations and along the food chain. These concerns about food provenance, social justice and environmental issues have been shared by caterers in both Europe and the US (Friedman, 2007; Hinrichs, 2003; Kloppeblum, Kupper, & Grunes, 2007; Mikkola et al., 2007; Morgan & Sonnino, 2008; Rimmington, Smith, & Hawkins, 2006; Walker & Preuss, 2008). Waste management seems to gain broad acknowledgement as part of the sustainability issue of food systems (Kovacs, 2008; Lea & Worsley, 2008; Magnusson et al., 2008). Interestingly, the process of shaping professional identity for sustainability seemed to exhibit relative stagnation during the period of investigation in Finland, since rather similar approaches to sustainability issues were undertaken both in the beginning and at the end of the period.

Construction of professional identity for sustainability within the contextual power field

Professional identities, as related to caterers' sustainability views and efforts, varied widely on the executive level. The balanced, rule-abiding and co-operative approaches for sustainability seemed to be relatively 'easy' and positive professional identities covering aspects within catering organisations and extending to supply chains. In the balanced and rule-abiding approach, the caterers positions were secured and supported by environmental and sustainability strategies of the respective organisations, as well as by allocated resources and follow-up, and the caterers themselves found it easy to align with these strategies. In addition to local and organic food, they also appreciated conventional domestic and even imported food, and experienced no 'painful' tension between these different qualities of food. In the balanced approach, the officer was an active co-developer with local industries, working towards more advanced professional identity for sustainability as a social force, seemingly more evident when caterers' activities were victorious or defeated, and more indistinct when activities were rather delineated. This expressed identity for sustainability is assumed to reflect the national discourse on sustainable development as evident in numerous 2000; Marchand, 2000; Grunes, 2000) labelling schemes (Swan labelling of restaurants, 2006) and extensive political programmes (Getting more from less, 2005). These were worked out over several years through the comprehensive selection of representative experts and actors following dissemination to municipalities, educational institutes and the media.

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The juggling and critical approaches for sustainability were certainly more troubled professional identities for sustainability, both trying to reach the food supply chains. The implementation of organisational sustainability strategies was submitted to the executives; without allocated funding or follow-up, even with expert support they found it difficult to express the practice of criteria which would, by alignment with procurement regulations, favour locally grown food or contribute to sustainable developments in measurable ways to 'real life'. Furthermore, the local suppliers expressed less interest in co-operation, both mutually and with the executives' organisation; the settling of contracts was ambiguous for both suppliers and procurers (Mikkola, 2008b; Morgan & Sonnino, 2008, 126, 125; Walker & Preuss, 2008). Additionally, while approving conventional and local domestic food, they were ambiguously disposed toward imported food which does not provide the same quality. The executives felt they were 'left alone to struggle' within their contextual networks. While the juggling approach focused on local network connections somehow in alignment with procurement regulations, the critical approach implied a future orientation for more informed evidence-based policies regarding promotion of environmental and socio-economic sustainability aspects along the food supply chain.

The delimited approach for sustainability was a rather easy and clear-cut professional identity for sustainability in that it cut itself off from participation in dynamic developments within food supply chains and leaned on the legal market competition
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MINNA MIKKOLA

Bergström, Soler, & Shanahan, 2005; Wier & Calverley, 2002). The approach focused rather on 'in-house' sustainability aspects such as the renovation of premises (Morgan & Sonnino, 2008, 107) and waste management. There was rather little 'quality tension' between conventional and organic food, both of which were expected to be in ample supply on the competitive market (Wier & Calverley, 2002). This approach reflects, on the part of food procurement, an 'independent' market actor 'driven to save' (Bergström, Soler, & Shanahan, 2005; Granqvist & Biel, 2007; Morgan & Sonnino, 2008, 105, 115), and suggests in principle the possibility of looking for ever-cheaper prices (Fishman, 2007). Cost saving and vegetarian options may, however, in this approach combine to form more sustainable meal options.

On the management level, the supportive and contented approaches for sustainability represented eased and positive professional identities for sustainability. In the supportive approach, managers enjoyed various degrees of freedom to prefer food from local sources. The difference between conventional and organic food was not commercialised, and local exchange relations were well approved (Mikkola, 2008b; Morgan & Sonnino, 2008). The caterers were aware, however, that more rigid controls could be carried out to the peril of their 'freedom'. In the contented approach, one could enjoy the status quo of catering for sustainability and contribute to it through learning and creative everyday practices for sustainability.

The concerned and action approaches for sustainability were more trying professional identities for sustainability in that they went against the grain of competitive procurement and preferred domestic, local and organic food. In the concerned approach, the managers to some extent lacked institutional trust in food safety (Kiermem et al., 2007; Pirinen et al., 2004). They were worried about the long-term health effects of public food and their ability to address their responsibility to provide healthy food to young people. Occasionally, they were able to affect food choices for domestic and local food, but not as often as they would have liked.

The action approach, the dictates of the hierarchic procurement system could not be changed for preferred organic food. However, stepping outside of the dilemma (Rose, 2002) proved to be a solution, whereby organic food could be served outside one's everyday schedule on special occasions at a premium price.

The contingent approach for sustainability was a rather positive and easy-going professional identity for sustainability, whereby sustainable food as an idea was embraced, but efforts for its coherent implementation were disregarded in the changing conditions of everyday work; the limitation to premises and the focus on waste management was in the immediate interest of the manager.

The selective approach for sustainability was a rather plain professional identity for sustainability, whereby managers committed themselves to competitive business (Bergström, Soler, & Shanahan, 2005; Granqvist & Biel, 2007) and accepted that their position allowed them no connection to extensive sustainability issues beyond the kitchen premises of their work. They perceived themselves as entrepreneurs within the company, responsible for earning their position by running the business competitively (du Gay, 1996). It was therefore expected that the use of local and organic food was their premium practice and weakened the position of the company on the market. The approach paved the way towards disinterest in alternative food options and tended to align with the cheapest tenders for large volumes of food. However, the option of vegetarian meals was discovered to favour sustainability developments.

Influence of professional identity for sustainability on activities on the premises and beyond

In the cases studied, the professional identity for sustainability was invariably concerned with waste management and the use of utility systems. These sustainability aspects were, however, mostly delimited to premises and behaviours which were under the more direct control of the caterers. Waste management is also regulated on the local level, which automatically induces visible activities of compliance (Magnusson et al., 2003). On the executive level, the delimited approach chose to focus on waste management and kitchen renovations within the premises. On the management level, the managers were generally responsible for waste management and worked out creative measures to reduce the amount of food waste as well as other waste fractions.

However, more profound waste management, such as reducing the amount of packaging waste and transport, could only take place in co-operation with industries, as occurred in the balanced and co-operative approaches by crossing the boundary of the 'catering regime' (Morgan & Sonnino, 2008, 119-120). In the critical approach on the executive level and in the concerned approach on the management level, the caterers were aware that what counts is the local origin of food and organic food's role to reduce water consumption on the chain level, an account which clearly demanded crossing the 'catering site' boundary. This required expertise and research beyond caterers' competence, however, and was considered a possible future effort.

In most cases, the caterers' professional identity for sustainability resulted in the choice of sustainable products or efforts for the readjustment of food supply chains. On the executive level, the balanced approach focused on choosing categorised products such as organic food and Fair Trade products, while readjustment was attempted through negotiations with local suppliers to upgrade their sustainability performance. The co-operative and juggling approaches sought first to negotiate and develop activities with suppliers who were either trusted domestic industries or available local suppliers. In the rule-abiding approach, the supply chains were left to be reorganised by wholesalers through a focus on categorised sustainable products. In the critical and delimited approaches, this reaching beyond catering to the supply chains was not realised due to ambiguous understandings of sustainability and the consideration of no liability for chain operations.

The caterers could influence the choice of sustainable products on the management level as well. In the supportive and concerned approaches, caterers used their position to directly 'vote' for local or organic food, or they informed the executive level about their desires. Even in the action approach, from a relatively powerless position within the hierarchical organisation, the caterer sought opportunities to convert to organic supply chains. In the concerned approach, there was no perceived need for more extended efforts, and in the selective approach the caterers deemed supply chain activities to be beyond their powers, except for the choice between animal- and plant-based foods. Finally, in the contingent approach, the best intentions for sustainability were present, but lacked determined action for the choice of sustainable products.

It seems that caterers can promote catering for sustainability on both levels of hierarchy. The managers had some opportunities to this, whereas the executive position offered more influence on the downstream and upstream supply chains. The boundary-crossing activity was performed as a choice of categorised sustainable products, such as products with a particular provenance or production method, or by engaging in the production process along the chain (Kovács, 2008; Seuring & Müller, 2008).

Orchestration of shaping professional identity for sustainability

Within the organisational hierarchies, the professional identities for sustainability were rather less than more orchestrated.
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Whereas executives could work with balanced or rule-abiding approaches for sustainability, their managers exhibited concerned or contingent approaches. Whereas executives exercised critical or delimited approaches, their managers followed concerned, supportive, action or contented approaches. Whereas an executive had cooperative approach, the manager was concerned. In some organisations did some executives and managers exhibit more compatible approaches such as the balanced and rule-abiding approach followed by the supportive one, and delimited approach followed by the selective one. Given the rather loose management of some organisations within this new area of responsibility, this finding is unsurprising. Rather, it suggests that catering organisations need to learn and negotiate about sustainability issues for more coherent implementation, which could boost catering professionals' role within society (Beck, 1954, 47–52; Castells, 1997, 6–12; Morgan & Sonino, 2008).

The cases involving balanced, rule-abiding, co-operative, contented and supportive approaches for sustainability showed evidence of eased and positive professional identities for sustainability with perceived satisfaction and appreciation for the professional orientation. However, executives experienced negatively the troubled juggling, critical, concerned and action approaches whereby the orientation for sustainability was more or less prohibited. Finally, the delimited, selective and contingent approaches exhibited ‘eased’ distancing as a solution to the problematic quest for sustainability. ‘Healing’ the professional identities for sustainability (Thomas, 1995) seems to offer opportunities for organisations to invest catering work with new meaning ‘beyond the kitchen walls’, and thereby increase work satisfaction among caterers.

The varied approaches to sustainability within public catering organisations suggest that one’s disposition towards participation in the contextual process of sustainable development must be developed. The organisations may proceed, as was the case with the balanced approach to sustainability, by sustainable product choices and by more profound developmental approaches both upstream and downstream of the supply chains (Kovács, 2008; Seuring & Müller, 2008). The latter option in particular is compatible with the critical approach to sustainability, and would offer extensive and deep impacts on the food system within reach. The professional identity for sustainability, by both its easy and rewarding as well as its more troubled approaches, seems to offer a platform for future developments, and could be particularly empowered by extended co-operation with research and development as well as with extension services working towards a more sustainable food system. The possible result of a more unified contextual understanding, consequential strategies and their implementation would better match the political aims addressed to catering organisations and to national and EU-level political recommendations at large. Catering for sustainability, if actively engaged, could contextually and incrementally transform public catering organisations towards their initial task, as reformulated in the beginning of 21st century, to promote sustainability by mediating between their two environments: that of the individuals and that of the ‘environment’.

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Catering for sustainability: building a dialogue on organic milk

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Abstract. As an industrialised high quality food commodity, organic milk would present a reliable option to feature catering for sustainability. However, its use in schools, hospitals and workplaces is minimal in Finland at the moment. To boost perspective taking on organic milk among caterers, a co-developmental dialogue in terms of organic milk was employed by researchers and practitioners. The first turn of the dialogue was taken by the researcher who invited the caterers to focus on organic milk; the second was offered by practitioners, who disclosed their views about organic milk in individual interviews and focus group discussions. The third turn was taken by the researcher, who shared information with caterers about their issues and suggested the test use of organic milk. As the fourth turn of the dialogue the caterers responded to the researcher by their chosen practices for the (test) use of organic milk. The dialogue as a participatory research method seemed to offer new ways to promote catering for sustainability.

Key words: participatory method, dialogue, organic milk, public catering, catering for sustainability

INTRODUCTION

Public food has been interpreted as ‘prism’ of sustainable development, mediating sustainability between supply chains and customers. This mediation is coined in the notion of catering for sustainability, which seeks to support social justice and more equitable economic development, both locally and across distances, and to integrate these with environmental protection (Morgan & Sonnino, 2008). ‘Flagship’ cases for public food promoting sustainable development are reported in world cities such as Rome, London and New York, and less well known cases can be identified in urban and rural areas in the UK and Italy (Morgan & Sonnino, 2008) as well as in the Nordic countries (Mikkelsen et al., 2007). In Finland, developments such as these command political support by a national program (Getting more from less, 2005) seeking to increase the consumption of local and organic food, often one hallmark of catering for sustainability (Morgan & Sonnino, 2008). This paper stems from the research project ‘innovative Public Organic food Procurement for Youth’ (iPOPY), studying the ways to increase the consumption of organic food by public catering, in alignment with European and national policies for sustainable consumption and production.

Within the research project, organic milk as an industrial, safe and secure food seemed interesting as a sustainable commodity. Milk is a basic part of the school meal in nutritional terms (Lintukangas et al., 2007) and some consumers regard organic milk as a sustainable food choice (Hill & Lynchehaun, 2002). It offers more equitable income for dairy farmers, is available in ample supply supporting dairy companies’
strategies for future (Franks, 2003), means reasonable cost for institutional consumers (Morgan & Sonnino, 2008) and implicates environmental benefits such as not using pesticides and synthetic fertilizers.

Many governments have used participatory research approaches to further sustainable agriculture (Bruges & Smith, 2008). While participatory methodologies in research have been seen both as means to ends and fundamental rights (Pretty, 1995, in Bruges & Smith, 2008), these methods promote practical solutions in cases where research participants have the primary decision-making power; evidently they also expect to benefit from the participation in the research (Bruges & Smith, 2008). Participatory methodologies include the dialogue ‘family’, which features commitment to dialogue, reciprocity, listening to the other, understanding, experience and realization as well as finding solutions for various situations (Bohm, 1996). Because public caterers often tend to look rather for efficient processes with volume products implicating cost benefits than to sustainable food choices such as organic food (Mikkola, 2009), such a dialogue seemed to offer a suitable method for mapping issues and creating decision making ground (Cronin & Jackson, 2004) for the use of organic milk within public catering. Dialogue as a research method also aligned with Franks’ (2003) recommendation about greater distance between organisations campaigning for and the ones informing about organic milk. This paper reports about the dialogue as a participatory research method in promoting the use of organic milk in public catering in 2007–2009 in Finland. The paper analyses what kind of perspectives caterers made and took (Boland & Tenkasi, 1995) for the use of organic milk as a sustainable practice and concludes with the evaluation of the method applied in this project.

MATERIALS AND METHODS

Dialogue as a participatory research method was chosen because through dialogue, participants may deliberate on issues, identify areas of common ground and build mutual understanding with the researcher(s) as well as find support for informed debate and decision making (Cronin and Jackson, 2004). According to these authors, dialogue may also provide ‘early warning’ of potential problems and opportunities. The participatory method relies on committed research participants, and a relation of trust is a presumption between researcher and participants (Bruges & Smith, 2008). These authors suggest that when project goals are negotiable and flexible, honest researchers and dedicated communities may further their goals by a participatory research approach. In this study, the researcher exhibited honesty on two levels. Firstly, the researcher made and took personally a perspective towards organic milk as a sustainable product (Risku-Norja & Mikkola, 2009). Secondly, the researcher explicated personal commitment to catering for sustainability through the project work, but left, however, in flexible way responsibility for operations and innovations for caterers themselves. The researcher also understood to some extent caterers’ positions and commitment for the dialogue through their professional identity for sustainability, which in some cases called for the use of organic food, in others critically questioned the justification for this and in still others delimited the focus on sustainability by exclusion of supply chains (Mikkola, 2009).

The researcher structured the dialogic process in co-operation with participating networks during 2007-2009. This process made use of background understanding
about the use of organic milk in catering, which was developed by expert interviews dealing with vitamin D fortification of organic milk and focus group discussions about green house gas emissions of dairy and vegetable milks to be used in catering (2007-2008). The core of the dialogue consisted of turns between the researcher and the 15 caterers representing five different catering organisations, supported by interviews and discussions with dairy experts during 2008–2009. The first turn was taken by the researcher, who took a perspective for organic milk, invited the caterers and their organisations to participate in the research and finally suggested organic milk to be tested as a sustainable product. The second turn was taken by caterers who presented their views in interviews about the current and optional use of organic milk in public catering. The third turn was taken by researcher, who sought for and shared additional expert information to cope with caterers’ views, who, in the fourth turn, responded by their perspectives and decisions about the (test) use of organic milk. The caterers’ interviews regarding organic food, particularly organic milk, and their informal discussions and communications with the researcher were used for mapping practical issues and solutions (Cronin & Jackson, 2004) in the use organic milk in public catering. The interviews of the professionals were transcribed verbatim. The informal discussions and electronic messages, created during this dialogic process, represented ‘self-ethnography’ (Alvesson, 2003), which was used to support the discursive interpretations based on the text analysis of caterers’ perspectives (Fairclough, 2003) on the use of organic milk. The limited time frame of the research project does not allow for the prolonged follow-up of developments.

RESULTS

First turn - Researcher’s perspective

A perspective for organic milk as a sustainable commodity was made by the researcher. The developmental trajectory of agriculture was seen to have proceeded through volume oriented conventional agriculture to the alternative one, such as organic and other extensive agricultural production practices, to sustainable agriculture, whereby the economic, ecologic and socio-cultural aspects of agricultural production are implemented as intertwined activities supporting the continuity of both the human and other populations (Risku-Norja & Mikkola, 2009). Currently, organic agriculture is often conceptualised as a member of ‘the sustainability complex’ whereby it becomes framed as sustainable. However, sustainable agriculture does not comply with particular regulations in the way organic agriculture does, but adopts an orientation towards low-input farming allowing the use of agrochemicals when needed to keep up with the crop levels, at the core of the dynamic relation between the population’s nutritional demands and available food supply (Risku-Norja & Mikkola, 2009). The feasibility of organic farming obviously varies, but in addition to sometimes ‘modest products’ (Morgan & Sonnino, 2008) there are also cases where high quality products are cultivated in favourable conditions, depending on the variety and locality (Risku-Norja & Mikkola, 2009). According to researcher’s expert interviews, Finnish organic dairy farms offered meaningful work and produced high quality raw material for processing in excess of demand. A similar situation seems to prevail in the UK, where only about half of particular company’s organic milk was sold as organic (Franks, 2003). Furthermore, the feed for organic cows stems largely from
the farm which makes the organic milk ‘extremely local’ and environmentally friendly, and the farmers are paid a premium for the milk. According to expert interviews, the organic milk is included in the sustainability strategy of the dairy company in spite of its rather low profit level. The premium price in retailing does not exceed the price of functional milk products either. This suggests that organic milk represents an overall sustainable option to be used in public catering as well.

Second turn - Caterers perspectives

The issue mapping of caterers’ interviews and more informal discussions produced five particular themes for the use of organic milk in developing catering for sustainability; these were the chemical composition of organic milk, packaging sizes, milk market, price issues and ‘all organic’ policies.

The chemical composition of organic milk was accepted without further questions by some caterers, who worked towards sustainability through product choices. Again some were ambiguous about the lack of vitamin D, which is not added in the dairy process to the organic milk in the way conventional milk is treated. This kind of milk becomes problematic in public catering because of Finnish school meal recommendations of 2008, which include vitamin D fortified milk. Most caterers wanted to use the vitamin D fortified version of organic milk, which does not currently exist, and expected it to be delivered by the dairy company. Some caterers also referred to the lack of selenium in the organic milk. However, there were also those who were concerned about the authentic organic quality of the milk if possibly a synthetic molecule would be introduced to the product by possibly genetically modified matrix of maize oil. An additional concern was that the homogenization process would change the product which would turn out to be unsuitable for users who have been able to drink organic milk only. The low-fat organic milk had also proved problematic due to the lacking homogenization, which caused the fat to layer on the milk surface. This phenomenon was particularly unpleasant in large packaging sizes. An additional problem was that organic milk was not available in non-lactose or other more refined varieties.

Packaging sizes currently available for low-fat and non-fat organic milk are the one litre milk cartoons, which are not feasible at some dining halls where normally a 10-litre or 20-litre volume package is used for serving milk. The caterers using the large serving sizes were not willing to use the one litre cartoons, which were in contradiction to the strict waste avoidance policies. The small cartoons also increase the amount of work in serving. However, some caterers only use the one-litre cartoons for occupational safety reasons.

Milk market developments caused additional supply chain problems for some caterers, who tried to procure their organic milk from wholesalers. The milk product market - as well as other markets too – has been in transition whereby large wholesalers aim to deliver all the products needed by caterers. The milk products have been previously delivered directly by the dairy company and the wholesalers are to some extent ambiguous about the growth of their milk market. Thus, the procurement contract for organic milk could turn in practice to delivery of conventional milk which left the caterer’s sustainability practices deficient and caused additional work to negotiate about the contracts. The dairy company operated as usual and delivered organic milk to caterers awarding their contracts to the company.
Price issues, particularly the premium price of organic milk was questioned by caterers, who calculated how much one glass of organic milk, as part of a balanced public meal, would cost and how large a share it would be of the overall cost of the meal. The figure was approximated at about 10-15 % of the raw material costs of the average school meal. This share was deemed as a large one, but comparable with the cost for pupils with lactose intolerance who were allowed to drink lactose free milk or low lactose milk. However, these pupils had a medical certificate, and in the case of organic milk the question concerned catering for sustainability, a more difficult topic for the caterers to explain to municipal authorities funding the free service by tax payers ‘expensive’ money.

‘All organic’ policies was a point made by some caterers, who wanted to have all (or nearly all) the products organic, which would ease the separation and book-keeping about organic products, dictated by previous organic registration, in force before 1.1.2009. Most caterers did not subscribe to this view but approved that organic produce is used in feasible ways depending on availability and price. To focus more effectively on the use of organic food, some schools and day-care centres were dedicated to the use of organic food or its use in ‘ordinary’ units was limited to particular thematic organic days or weeks. In general, caterers perceived no strong contrast between sustainability quality of organic and conventional food (Mikkola, 2009), which together with other issues decreased their efforts to use organic milk.

Third turn - Coping with caterers perspectives

The researcher’s task, both in group and personal discussions with caterers, was to share information about dairy farming and dairy company’s developments to be used by caterers in their process of making and taking sustainability perspective for public catering. The researcher’s answers to caterers’ issues were developed to bridge the chasms as follows.

The chemical composition of organic milk in terms of the vitamin D was suggested to be solved by organising vitamin D fortification as in Sweden and the US. This would present alignment with school meal recommendations and scientifically evidenced need for vitamin D during the dark time of the year. However, this fortification would be enabled only by a national legislative act, conforming to the EU directive for food additives. Moreover, to accommodate to the needs of those who for one reason or another prefer organic milk without vitamin D fortification, organic milk in one-litre cartoons would be produced without this addition. This suggestion implies that the majority of consumers are willing to use vitamin D fortified organic milk.

Finnish organic milk normally lacks selenium because it is produced by selenium poor feed, grown in selenium poor soils without synthetic fertilizers containing selenium. This problem is finding new solutions by adding selenium rich yeast to the feed. This addition was able to increase the selenium level of organic milk to that of conventional milk (Kuusela & Okker, 2007). This new method for increasing the selenium content seems like a feasible, cost saving way to introduce selenium into organic milk, and to follow the organic farming prescriptions. Additionally, fatty acid composition of organic milk seemed to be favourable based on preliminary results at University of Joensuu. These results need more research to be corroborated.

Packaging sizes were lacking 10 and 20 litre volume sizes because of an earlier historical development; originally, organic milk was packaged in catering sizes to be
used for self-service and to decrease the amount of cartoons for recycling. However, caterers who served this organic milk, paid attention to the lacking vitamin D fortification, and gave up the use of this product not to violate public nutrition recommendations. According to some commentators, it is possible that in the background there were also efforts to save in public catering, which aligned well with the use of conventional milk. Due to low demand, the dairy company stopped large volume packaging and moved on to use one-litre cartoons. The additional problem of low-fat milk in large serving packages was that the fat tended to layer on top of the milk phase, whereby the first customers got the non-fat phase and the last ones the fat-phase. Today, these problems would be solved by using non-fat organic milk, which would be served in large packages as vitamin D fortified, if there would be institutional consumers who would subscribe to this sustainability approach.

Price issues and ‘all organic’ policies could be solved by the periodical use of organic milk, aiming at the use of larger volumes gradually. This initial low serving frequency would also ameliorate the current lack of vitamin D fortified organic milk. Additional price negotiations with the dairy company could end up with a better solution than the present one, whereby a lot of organic milk is processed and sold as conventional milk due to the low demand on the market but high supply by the dairy company. The solution would clearly not be a solution ‘once and for all’, but rather an incremental change towards sustainability according to increasing understanding as to how to posit oneself on the market. This stance was communicated with caterers as “intermediary mediating strategy” towards sustainability, a notion coined by Deane-Drummond (2007), advocating a slowly evolving but determined process towards sustainability.

Forth turn - Caterers’ perspectives to and decisions on the (test) use of organic milk

The five catering units participating in the dialogue about catering for sustainability agreed to test the use of organic milk (products), and to include to the test situation a poster explaining researcher’s answers (the Third turn) as sustainability strategies in catering. For these test purposes, the delivery of organic milk in stead of conventional one was agreed with the dairy company experts at the same price as conventional milk.

The problem of the vitamin D fortification and large serving size packaging were discussed with the dairy company. The caterers could not have for short test period organic milk in large serving size packages and with vitamin D fortification, because the organic dairies and the ones with the particular packaging machinery were located in different parts of Finland. Changing transport routes to fill 100 cubic meter milk tanks, or machine installations for vitamin D and packaging equipment, together with organic labelling as a certified activity (with new pieces of legislation) could not be organised for a test of minor scale and of short duration. Industrial and legislative logic enables the production of massive amounts of products such as vitamin D fortified organic milk in large packages, if and when there is realistic indication of demand. The caterers understood this and got a basis to look forward to vitamin D fortified organic milk, either in one or 10 to 20 litre packaging sizes. The selenium problem seemed also to find its solution in the future, which was found very positive. Additionally, the possible indications of positive fatty acid composition of organic milk added interest in the product, and caterers wanted more information about possible health related
benefits.

The price of organic milk remained an issue to be negotiated with the dairy company and caterers. The effects of the current economic situation at the end of the first decade of 21st century appear unpredictable, not only for economists. Today, the public funding seems to develop into negative direction.

Some caterers accepted the idea of the poster of organic milk as “intermediate mediating strategy” towards sustainability, as expressed by Deane-Drummond (2007). The caterers did not seem to expect that the reality of milk production, including organic production, would be thoroughly understood. Therefore, they make decisions based on their available knowledge and the prevailing situation. An ‘all-organic’ view was suggested as too totalitarian in the current conditions; it would be better for the supply chain to have time to reorganise the production according to demand in one way or the other.

DISCUSSION

The caterers seemed to benefit from the dialogue in the way that they saw organic production as an evolving production mode. They realized better than before, that it was impossible to have a full-blown organic market where they could pick up what they wanted, but that they were participants in the market effecting on its development. They also agreed to the incremental approach of increasing the use of some organic products; lowering the ambition made the development easier. Finally they perceived that the farmers as well as the processors had long term strategies to which they were holding and offering the organic option for caterers. The dialogue also exhibited counselling features, since the caterers could present their thoughts more freely when discussing with a trusted but ‘knowing’ outsider. The meeting with the researcher seemed like a “fresh wind” which supported ‘out-of-the-box’ thinking without the pressure of immediate organisational realities but rather more long-term developments. The result seemed to increase the use of organic milk and other products to some extent; a caterer who was willing before the test to start using organic milk due to organisational strategies made a contract about deliveries of organic milk. Still one caterer converted to organic milk and buttermilk as well as signed up to a scheme for organic food, called step-by-step for organic, and informed this to the researcher. Additional use of organic products was looked forward to in schools using organic bread. However, the large caterers still think about their moves, possibly concerned about economic developments and ways to release some funding for them.

CONCLUSION

The dialogic method seemed to allow for a communication not otherwise available within the milk supply chain. The two-way communication was able to make the views of the supply chain parties mutually understandable by particular answers. The approach seemingly elicited discussions leading to perspective making and taking, whereby participants assumed more strategic role for themselves. However, the changes, although at least partly increasing the consumption of organic food and milk particularly, may not be forecasted in the recession at the end of the first decade of the 21st century. The results suggest that this kind of more informal, independent and
trusted ‘round of talks’ may bring some previously unknown facts into the discussions, and therefore is able to change cemented exchange patterns. Catering for sustainability seems to need more profound grounds, developed discursively within the organisations and with the suppliers (Mikkola, 2009). These discussions could be organised on a regular basis, in order to find new innovative ways to comply with sustainability as a moving target. Caterers wishing to extend to supply chains need to learn about the networks at the local and regional level (Tynjälä, 2008), namely in their own organisations and with their immediate and more remote suppliers to see how their buying behaviour is connected with the developments in agriculture and the processing industry.

However, developing a participatory approach may be demanding in three ways. Firstly, the researcher needs to interpret his/her frame for the participatory approach called for by the government in order to avoid promotion by persuasion; secondly, the researcher needs co-operative organisations committed and willing to participate in the dialogue and practical tests needed by the research. Networking with research participants seems to be an important part of successful social research projects. Thirdly, extensive understanding is needed to be brought to play by the supply chain actors, as well as other experts dealing with the issue. By putting an expert and practitioner team together through participatory research helped to connect consumers with environmentally and economically sustainable development through products such as organic milk, thereby bringing the “Moral Charge” home by advocating fair trade within the North (Jaffee et al., 2004).

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