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# "Marketing Sustainable Agriculture: An analysis of the potential role of new food supply chains in sustainable rural development"

## SUS-CHAIN

**QLK5-CT-2002-01349**

# Final report

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# Executive summary


**Original research objectives**

This project assesses the potential role of food supply chains (FSC) in enhancing sustainable food production and rural development by 1) identifying critical points in FSC's which currently constrain the further dissemination of sustainable production and 2) recommend actions that are likely to enhance the prospects for sustainable food markets. In-depth case studies of FSC's in different European regions will be conducted to obtain a better understanding of the diversity of the dynamics and socio-economic performance of FSC's. Specific attention will be given to factors related to the organisational and governance structure of FSC's, the socio-economic performance and impact of FSC's and the institutional context of FSC's. The project will result in policy recommendations to public institutions at different levels to overcome the bottlenecks in the food chain that inhibit the wider development of markets for sustainable products.

**Expected deliverables**

The following deliverables were expected:

1. A macro-level description and analysis of on-going experiences in different parts of western, eastern and southern Europe with respect to various organisations of food supply chains and various approaches to increase consumer trust (organic farming, integrated production, PDO/PGI etc.). This will indicate the relative importance and durability of these approaches in different countries.
2. A desk-study summarising previous findings on consumers' attitudes towards sustainable food products.
3. An analysis of discourses on the sustainability of 'new' food supply chains in different national/regional settings. These will give insight in the degree to which sustainability definitions are intertwined with other quality concerns (health, food safety, ethics) and opinions of relevant stakeholders on the potential contribution of different approaches to sustainable food supply chains.
4. A set of representative in-depth case studies (2 per country) for their demonstrative power, successful performance and innovation potential, covering diverse and contrasted types of food supply chain organisations.
5. A set of indicators which enables an assessment of the performance of food supply chains, especially in terms of their ability (a) to encourage technical changes at both agricultural and processing levels, (b) to restore consumer confidence (c) to incorporate societal demands and environmental objectives, (d) to retain value added at farm level and with rural areas, and (e) to create cohesion between different stages of the supply chain.
6. Best-practice recommendations for actors involved in sustainable food supply chain initiatives:
   - Ways to define specifications related to sustainability along the supply chain under varying influences of actors (producers, co-operatives, processing companies, retailers, consumers).
   - Ways of reducing the transaction costs of achieving 'sustainability' in the food chain.
   - Ways to communicate to consumers and improve their confidence in food quality.
   - Ways to successfully coordinate the collective action of actors within food supply chains.
7. Information and recommendations to public institutions at different levels (local, regional, national, European) in respect of the promotion of sustainable food chains.

8. Academic research findings and scientific publications, concerning amongst others conceptions of the sustainability of food chains and an assessment of the capacity of food chains to accommodate sustainability principles at different levels and scales.

**Project's actual outcome**

Contemporary changes in the agro-food sector in Europe are characterised by two processes:

1. Globalisation: industrialisation, standardisation & concentration in processing industry and retail;
2. (Re)localisation: new food supply chains / networks: relocalisation, embedding, turn to quality.

Most of the new food networks that emerge in Europe are considered to be countermovement to globalisation, in particular regarding: a) The creation of distinctiveness, e.g. through specific organoleptic qualities of food, and b) The establishment of new forms of connectivity between production and consumption, reconnecting food production to its social, cultural and ecological context.

These new food networks are extremely heterogeneous and differ with respect to:

1. Sustainability meanings (promises): Ethical, Ecological, Health, Quality, Culture, Locality
2. Starters: Public, NGO, Retail, Processors, Farmers
3. Actions taken: Communication, Education, Technical innovation, Certification, Regulation, Political action, Organisational innovation
4. Output pursued or obtained: Awareness, Technical standards, Codes of practices, New technologies, Organisational arrangements, New organisations, Labels, Hallmarks, etc. …
5. Functional integration (impact on subsystems): Production, Processing, Food service, Marketing and Distribution, Consumption
6. Geographical scope of the chain: local to international
7. Type of product: Conventional, Fair Trade, PDO/PGI, Organic

In this project the start and evolution of fourteen food supply chain initiatives in seven European countries were reconstructed. Despite the impressive diversity represented by these 14 initiatives, an analysis of these initiatives revealed that distinctiveness is created and realised through three dimensions 1) Governance (the structural as well as process-related aspects of creating and maintaining a food network), 2) Embedding (the extent to which a food network uses local resources and the extent to which societal norms and values are incorporated in the food product and the chain) and 3) Marketing (the market oriented business management of an enterprise or alliance). Constructing a new food network always involves making conscious and strategic choices over governance, embedding and marketing and co-ordinating these three dimensions. These three dimensions are interrelated and interconnected. When scaling up a food supply chain these have to be continuously coordinated and balanced. The fourteen cases show how each initiative has created and pursued its own path. Although each path is unique there are clearly observable similarities and differences between them. Detailed comparison of these similarities and differences has led us to distinguish three different trajectories:

1. Chain innovation: the construction of a new food supply chain, generally with the aim of improving the position of farmers in the food supply chain or network. This trajectory initially focuses on the design, development and implementation of new forms of food supply chain governance, such as new rules, codes of practice, division of roles and institutional arrangements.
2. Chain differentiation: the production and marketing of new, more distinctive products within an existing chain. The aim of this trajectory is to improve the commercial performance of an

existing food supply chain or network by developing one, or a range of, distinctive product(s) that differ significantly from those presently available. Chain differentiation is most often initiated by chain actors such as processors or retailers.

3. Territorial embedding: the (re)construction of a food supply chain as vehicle for regional development. This trajectory is primarily driven by public or societal concerns over sustainable regional development and is usually initiated by public-private partnerships as a broader strategy of strengthening synergies between food production, consumption and regional economic development.

Policy is about making choices: who and what to support, and how to provide this support in the most effective way. We can identify a number of different types of support: financial, marketing, information and public relations; advocacy and public legitimisation of the initiative, brokering; training and consulting; and technical and legal support for innovative and experimental approaches. The question of how to provide effective support in the most efficient way comes back to issues of identifying the type of support needed, and providing it in the right amount and at the right time. The GEM-framework allows for a better understanding of development opportunities, constraints and risks faced by different types of alternative FSCs at different stages in their development. This framework provides a tool that could prove of use in helping improve the targeting of support. The conceptual framework (the GEM framework) allows a better understanding of how sustainable chains are constructed. It posits that a sustainability trajectory always involves a combination of Governing, Embedding and Marketing (GEM). Different types of trajectories can be formulated that reflect different configurations of these three aspects. The analytical framework also intends to demonstrate how each type of sustainability trajectory has a specific performance in terms of sustainability, in terms of its impact on rural development as well as commercial performance, marketing and communication, etc. Particular types of trajectory require specific kinds of public or private support to enhance their sustainability performance and enable them to meet their full potential. The framework can also be used as reflexive tool for practitioners and their supporters, one that can help them to position themselves, develop a clear strategy, find the right allies, develop their skills and build the capacities that they need. The framework can not only help practitioners to find the right road, but also to travel along it well equipped.

# 1 INTRODUCTION

## *1.1 Scientific background*

It is now widely accepted that sustainability of the modern agro-food system is questioned. Food scares, environmental pollution, degradation of biodiversity, animal welfare concerns and food safety concerns are some of the issues that are considered to be illustrative for the unsustainable character of the modern agro-food system (Yakovleva & Flynn, 2004). Sustainability concerns have provoked additional rule sets to the prevailing agro-food regime to redirect the future path and built additional capacities. For instance, the development and introduction of quality assurance schemes (e.g. HACCP, EurepGap, Red Tractor, Label Rouge), which sometimes also incorporate norms and rules to reduce the negative impact of agricultural production on the environment and to enhance the welfare of animals, is an example of such an additional rule set. Another has been the development and implementation of agro-environmental and food safety policies. Although these and other measures have had a positive effect on the ecological sustainability of food production and processing and food safety in general, they have failed to incorporate other sustainability criteria, such as the distribution of value added along the food supply chain, the negotiation power of primary producers, the equality between stakeholders in decision making power, et cetera. In addition, rules and schemes aimed at regulating conventional food supply chains have also ignored the potential synergistic links between food supply chains and sustainable rural and regional development.

In recent years one can observe the emergence of a wide variety of new or alternative food supply chains and networks (Renting *et al*. 2003) that aim to address different socio-cultural and economic sustainability concerns and create synergies between sustainable food provision and sustainable rural and regional development (Murdoch *et al*. 2000; Kirwan 2004; Sonnino & Marsden 2006; Watts *et al*. 2005). The increase in the number and kinds of new food supply chains is generally understood as a movement “against the prevailing trends of globalisation” (Marsden *et al*. 1999: 295). Inherent to this countermovement is, according to Kirwan (2004: 395), the “deliberate intention to create alterity (or otherness) in the food system and to produce change in the ‘modes of connectivity’ between the production and consumption of food, generally through reconnecting food to the social, cultural and environmental context of its production”.

To improve our understanding of the sustainability of food supply chains, the role and potential of food supply chains in enhancing sustainable rural development and the ways in which alterity and new modes of connectivity are constructed, we need to come to better, empirically grounded conceptualisations that move beyond a simple description of product flows and examine how supply chains are built, shaped and reproduced or transformed over time and space (Marsden *et al*. 2000). This calls for an analysis of the dynamics and performance of food supply chains that enables us to address the multi-facetted character of empirical expressions of new food supply chains (Van der Ploeg *et al*. 2000). The development of new, sustainable food supply chains is multi-facetted in nature (Wiskerke 2003) and unfolds into a wide array of different practices, such as organic farming, integrated production and regional quality production (PDO/PGI).

At the start of this project, the literature on the development of 'alternative foods' was already large (IATP 1998; Stassart & Engelen 1999; Van Broekhuizen *et al*. 1997), yet highly fragmented and lacking sufficient theoretical background. By carrying out a comparative overview at European level of the dynamics of the agro-food sector in general and of new food supply chains in particular this project aimed to overcome the significant research gap associated with isolated studies. Studies of

which some, despite their isolated character, indicated that the clustering of activities and synergies arising from new food supply chains are highly important for delivering rural development impacts and that within consumer perceptions sustainability considerations are highly intertwined with other quality concerns (Brunori & Rossi 2000; Nygard & Storstad 1998).

To improve the theoretical understanding of the dynamics and diversity of food supply chains and the impact of new food supply chains on sustainable rural development, three research domains were considered to be of particular relevance:

1. The organisational structure and governance of food supply chains
2. The performance of food supply chains
3. The institutional setting of food supply chains

*Ad 1. The organisational structure and governance of food supply chains*

Building a market for sustainable food products profoundly modifies the food supply chain, as it introduces a commitment to collective goals, the need to define and guarantee product attributes and the challenge to attune the behaviour of all relevant actors to these. The diversity of supply chains is reflected in the wide array of different organisational forms and structures of which they are composed (Lowe *et al*. 1995) and in their ability to translate social and economic goals of sustainability into practices. Each specific organisational form and structure is characterised by a specific level of coherence, a specific 'centre of command', specific quality definitions (Ventura & Van der Meulen 1994) and a specific level and distribution of transaction costs (Saccomandi 1998). Following Porter (1985), it is hypothesised that, in many cases, these organisational forms and structures are as decisive for the emergence, development, reproduction and demise of supply chains as technological opportunities and (external) markets as such.

Network interrelations are decisive for the emergence of new food supply chains, but also for their continuity and further unfolding in time and space. Scaling up sustainability to larger markets raises significant challenges (Röling & Wagemakers 1998). To asses if food supply chains are able to play a significant and lasting role in enhancing sustainable rural development, it is important to identify evolutionary patterns in their development and underlying strategies for building social capital over time (Putnam 1993). For the development of sustainable food supply chains and their performance it is crucial to understand how different stakeholders' perceptions are aligned in a common framework and through which horizontal and vertical mechanism (e.g. labelling, face to face selling, product regulations, codes of best practice etc.) such a co-ordination is achieved.

*Ad 2. The performance of food supply chains*

With the performance of food supply chains we refer to the extent to which food supply chains achieve sustainability. Achieving sustainability means meeting three challenges:

- An economic challenge by strengthening the viability and competitiveness of food supply chains.
- A social challenge by improving the living conditions and economic opportunities in rural areas.
- An environmental challenge by promoting good environmental practices as well as the provision of services linked to maintenance of habitats, biodiversity and landscape.

To meet these three challenges it is of crucial importance to create synergies and coherence between these three dimensions of sustainability.

In order to assess the role of food supply chains in sustainable rural development there is a need for developing indicators for their socio-economic and environmental performance. During the last

decade much work has been done on the development of indicators for assessing the environmental impact of agricultural production (European Commission 2000; OECD 2000; Van Mansvelt and Van der Lubbe 1999; Vilain 2000). Food supply chains contribute to the viability of rural areas and a balanced territorial development by generating employment in primary production and the supply, processing and distribution firms.

Sustainable food supply chains must also reflect the concerns of consumers, particularly concering quality, safety and transparency of production and processing methods. This feature of food supply chains also implies an analysis of the variety of regional discourses on sustainability and an assessment of regional differences in priorities regarding economic, social and ecological indicators (Assouline & Just 2001). The communication and co-ordination between different actors in the food chain is crucial in the construction of new food markets. Relevant stakeholders apply different definitions, preferences and perceptions of sustainability and through their involvement in supply chain networks seek to materialise these. Rather than considering sustainability as an objective term, it is better examined in the context of competing discourses (MacNaghtan & Urry 1998), which may emphasise *inter alia* economic, social and/or environmental aspects of sustainability or any combination thereof.

*Ad 3.The institutional setting of food supply chains*

While the emergence of new food supply chains primarily depends on the co-ordinated collective action of actors within the chain, at several points their further unfolding and performance may be facilitated (or hindered) by policy measures and institutional arrangements. The institutional context or setting of food supply chains is a relevant aspect of food supply chains as agriculture is one of the economic sectors in which direct public intervention is and most likely remains the norm rather than the exception. This makes farming and food processing activities particular sensitive to changes in public policy (European Commission 2000).

The range of relevant interfaces between new food supply chains, policies and institutions goes beyond sectoral divisions and comprises policy schemes at local, regional, national and transnational level. Obviously these include policy regulations that are explicitly directed at various approaches to sustainable food production (organic production, PDO/PGI), but indirectly other regulations (hygienic and sanitary measures, a possible GMO labelling directive etc.) may also interfere with the future scope of sustainable food chains. Another cluster of relevant policies includes training and extension, investment support and compensation payments (e.g. for conversion to organic farming) and measures that are part of territorial rural development schemes (e.g. LEADER partnerships). And last but not least sustainable food chains are influenced by CAP reforms and WTO negotiations.

## *1.2 Objectives*

To enhance sustainable production at farm level and to make sustainable food attributes more transparent to consumers, it is important to better understand the role of food supply chains in the process of articulating consumer demands and their translation into farm practices. A comparative analysis of new, more sustainable food supply chains in different territorial settings can inform us about the key factors underlying their successful development and point at crucial parameters to enhance performance in terms of sustainable rural development and regaining consumer trust. The diversity in the way sustainability is articulated in food supply chains - both within chains and

between countries and regions - is also important since there appears to be no single 'blue print' that is valid for all territorial settings. To a certain extent, therefore, the development of sustainable agricultural production depends on the way the demands of consumers are articulated with the various actors in the food supply chain. The organisation of the food supply chain, i.e. the patterns of interaction among the involved actors, the contractual relations between them, technologies employed, functional and product specialisation, the degree of concentration/distribution of the power along the chain should be a main focus to induce a change towards more sustainable forms of agriculture. The degree of regional embedding appears to be a critical modifier for the successful enhancement of sustainability through food supply chain approaches.

**The overall objective of the project is:**

To assess the potential role of food supply chains in the enhancement of sustainable food production and rural development by identifying critical points in food supply chains which currently constrain the further dissemination of sustainable production and recommend actions that are likely to enhance the prospects for sustainable food markets. Specific attention will be given to factors related to the organisational structure of food supply chains and interactions between different stages of the chain.

**Specific objectives are:**

(1) To map the diversity (in time and place) of current definitions of sustainability that are associated with new food supply chains. To examine the extent to which there is convergence / consensus regarding competing meanings of sustainable production and quality at different levels of different food supply chains in various European regions To examine the extent to which sustainability claims are intertwined with other quality attributes, such as health, food safety, regional identity and ethics (e.g. fairness of trade and labour standards). To map, on the basis of a set of indicators (e.g. actors involved, types of relations, spatial distribution, degree of formalisation of standards, etc.), the diversity of food chains, which incorporate sustainable farm products, taking account of situational specificities in different member states.

(2) To order this diversity by identifying the most widely encountered bottlenecks and constraints that inhibit the enhancement of sustainable food production. To examine in detail the ability of the food chain as a whole to convey consumers' expectations and civic values related to sustainability and food quality to farmers.

(3) To examine different ways of communication and mechanism of economic co-ordination between the actors in the food chain (e.g. labelling, face to face selling, product regulations, farm plans, codes of best practice etc.) and assess their capacity to enhance cohesive, collective action within sustainable food supply chains. To do so a carefully selected, representative set of case examples in different countries will be studied to assess their performance in relation to factors such as marketing channel choice, institutional embeddedness and policy interfaces.

(4) To develop performance indicators (e.g. high / low consumer prices, improvement/worsening of farmers' income, participation to the process of standard setting, degree of concentration of power along the chain, consumer confidence, etc.) and methods that assess the collective performance of the food chain as a whole towards sustainable food production and transparent food markets.

(5) To examine the relevant policy environment for the development of sustainable food supply chains. To formulate policy recommendations to public institutions at different levels (local, regional, national and European) that could help to overcome the bottlenecks in the food chain that inhibit the wider development of markets for sustainable farm products.

# 2 MATERIALS AND METHODS

To address the objectives a work plan consisting of five, partly consecutive and partly parallel, phases was designed. The five phases are:

1. Profile and performance indicators: development and fine tuning of food supply chain performance indicators
2. State of the art: the diversity and dynamics of food supply chains and consumers' attitudes
3. Case studies: micro-level assessment of the socio-economic performance of food supply chains
4. Recommendations: recommendations for policy makers at regional, national and European level and for food supply chain stakeholders
5. Dissemination and feedback: dissemination of results to and feedback on provisional results by the academic and professional public

In the figure below the relations and interaction between the different phases is presented. This is followed by a brief description of materials and methods used per phase.

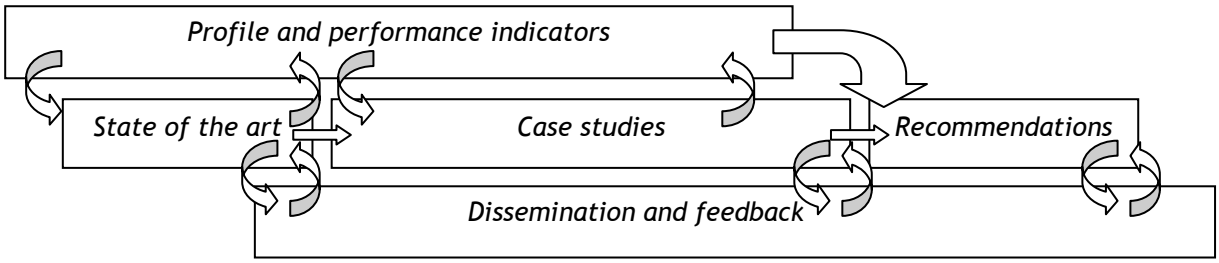



***Figure 2.1**. Relation and interaction between the different phases of SUS-CHAIN*

For each phase the materials and methods used will be presented and discussed in the sections below.

## *2.1 Profile and performance indicators (phase 1)*

The project commenced with the development of a provisional set of profile and performance indicators. As figure 2.1 indicates, the development of indicators was a continuous iterative process during the first two years of the project. Indicators inspired the development of research methodologies for phases 2 and 3, while results of phases 2 and 3 contributed to the further development and fine-tuning of profile and performance indicators. Profile indicators were used to represent the organisational and institutional choices of the supply chains. Performance indicators were developed and used to assess success or failure according to objectives that are specific / internal (shared by the economic actors) or external (pursued by institutions).

The provisional sets of profile and performance indicators were developed by means of a desk study on the basis of literature reviews and an assessment of completed and ongoing work of the project contractors and subcontractors. These provisional indicators were used to map and analyse the socio-economic dynamics and diversity of food supply chains and their institutional environment and

to construct the socio-economic profile of food supply chains. The provisional sets of indicators served as input for the second phase of the project, i.e. the analysis of macro-level dynamics and diversity. Based on the results of the second phase of the project, the sets of indicators were fine-tuned. The fine-tuned sets of performance indicators were used to conduct the case studies (phase 3 of the project). Based on the results of the case studies the set of performance indicators were finalised.

The final sets of profile and performance indicators were not only used to map and analyse the socio-economic dynamics and diversity of food supply chains and to assess their socio-economic performance, but also to:

- identify strengths, weaknesses, opportunities and threats for enhancing the performance of food supply chains towards sustainability;
- identify 'entrance' or 'nodal' points for intervention aimed at enhancing the performance of food supply chains towards sustainability.

Finally, the final sets of profile and performance indicators also provided input for the policy and practical recommendations (phase 4).

## *2.2 State-of-the-art: macro-level dynamics and diversity (phase 2)*

The second phase is entitled 'state of the art' and entailed a macro-level description and analysis of the dynamics and diversity of food supply chains as well as of consumers' attitudes towards sustainable food products in the participating countries. The objectives of this description and analysis were:

- To get a general overview of the diversity in socio-economic dynamics of food supply chains regarding sustainability in relation to their socio-institutional environment. This includes:
  - Approaches to and organisational forms of food supply chains;
  - Policies and regulations with respect to sustainable food production in general and food supply chains in particular;
  - Stakeholders' perceptions of and involvement in food supply chains;
  - Consumers' attitudes towards sustainable food products
- To assess the general performance (sustainability, transparency, trust) of food supply chains, especially their ability to:
  - Initiate or encourage technical changes at both agricultural and processing levels;
  - Restore consumer confidence in food and the way it is produced at processed;
  - Incorporate environmental objectives and societal demands with regards to food production;
  - Enable viable economic development by retaining sufficient value added at farm level and within rural areas;
  - Create cohesion between different stages of the supply chain.
- To identify major opportunities and constraints with respect to improving the performance of food supply chains towards sustainability.

The macro-level description and analysis was conducted by means of a well-balanced range of complementary methods and tools (Knickel and Renting 2000), such as reviews of completed and ongoing research on different aspects of food supply chains as well as on their socio-institutional

environment, analysis of policies at national and European level regarding food supply chains, a desk study summarising previous findings on consumers' attitudes towards sustainable food products and interviews with relevant stakeholders (e.g. farmers' associations, retailers, consumers' organisations and policy-makers). This second phase of the project was divided into two fields of research:

1. A description and analysis of the dynamics and diversity of food supply chains at macro-level.
2. A description and analysis of consumers' attitudes and behaviour with regards to sustainable food products.

The materials and methods applied for these two fields of research will be presented in the following two sections.

### 2.2.1 Dynamics and diversity of food supply chains at macro-level

The objectives of the macro-level description and analysis of the dynamics and diversity of food supply chains were:

1. To establish an overview of the territorial diversity of the socio-economic dynamics of FSCs regarding sustainability and transparency in relation to their socio-institutional environment, including:
   - approaches to and organisational forms of FSCs;
   - policies and regulations with respect to sustainable food production in general and FSCs in particular;
   - stakeholder perceptions of and involvement in FSCs.
2. To assess the general performance of FSCs (sustainability, transparency, trust).
3. To identify major bottlenecks to increasing sustainability within FSCs.

Data for this part of the project were collected by means of literature review (policy documents, different kinds of reports, scientific articles and websites) and, in some cases, interviews with key informants. Data collection was guided and structured by the format for the national reports:

1. *General description of evolution of FSCs - the historical perspective*. This section was intended to draw out the historical context (including the recent history) in which FSCs have developed in each country. As this was likely to vary considerably between the countries concerned, the emphasis was on identifying what is distinctive, rather than on what is common. In other words, what are the national chain characteristics and significant structural changes typified in each country.
2. *General configuration of FSCs*. While section 1 explored the evolution and history of FSCs in the country, section 2 explained the general configuration of FSCs. Are FSCs predominantly local, regional, national or international? This section wais intended to provide a general description of the configuration of FSCs within each of the countries concerned. All FSCs within each country were to be identified and briefly described, including their relative economic significance and organisational forms. Crucially, this section incorporated the diversity of FSCs across the participatory countries, and highlighted those areas within the FSCs that were the sites of actual (or potential) dynamism and change. There was particular attention to those FSCs which contribute to enhanced sustainability or enhanced rural development.
3. *Overview of the regulatory and policy environment and institutional setting*. In this section the national context needed to be provided. This included the specific implementation of EU legislation; national-level regulations that are germane to the development of FSCs (e.g. health

and hygiene, competition, labelling); and the impact of global regulations and institutions, such as the WTO. The development of agri-environmental programmes was to be explored insofar as they impacted on sustainable food production in general, and FSCs in particular. Likewise, the institutional contexts of each country had to be identified, especially any developments that influenced FSCs. The emphasis needed to be on unravelling diversity and identifying elements of change within FSCs that may impact on their actual (or potential) sustainability and transparency, and ability to contribute to rural development.

4. *Sector by sector summary of FSCs*. Core sectors covered included: dairy; beef; sheepmeat; pigs; poultry; fruit and vegetables; cereals; potatoes; and sugar. Other sectors were to be provided at the discretion of each partner, where they were considered to be important or promising to a particular country. This approach enabled comparisons between the core sectors, while allowing sufficient flexibility to include the diversity of FSCs across the countries. The individual sectors were summarised as follows:
   a. A diagram showing the current structure of each of the sectors involved, ideally with some kind of volumetric/value indications of particular chain elements.
   b. A brief description of the institutions, organisational forms and governance as they pertain to each of the sectors.
   c. The identification those areas of the sector that exhibit dynamism in terms of being sustainable or alternative, and briefly describe what these entail.
   d. A judgement as to the sustainability and transparency of the current structure, and the possible effect of the actual or potential changes identified in (3) above.
   e. As for (4) above, except that the focus should be on rural development.
   f. Identify bottlenecks within each of the sectors to the further development of those actions identified in point (3) above.
5. *Drivers of change in FSCs*. This section was based on a PEST framework:
   - **P**olitical factors. For example: the relative power and agendas of those actors involved within FSCs; the multiple retailers as arbiters of quality; the waning power of the farming lobby; the impact of NGOs; the sustainable development of FSCs; health and diet; food access; control within FSCs at various levels; public procurement.
   - **E**conomic factors. For example: economic marginalisation; regional identity; falling farm incomes; globalisation and localisation; adding value; comparative advantage; acknowledgement of externalities such as 'food miles'.
   - **S**ocial factors. For example: the individualisation of risk; changing perceptions of quality; the effect of food scares; ethical awareness of environmental and equity issues; food access; local identity; personal health; trust.
   - **T**echnical factors. For example: distribution; scale; GMOs; the Internet; vacuum packing; mobile abattoirs.
6. *Issues summary*. This final section identified the central issues raised within the report in order to bring a unity to the identified diversity. These included:
   - Institutional changes relating to FSCs and their implications.
   - The identified areas of dynamism within FSCs.
   - The relative performance of FSCs on sustainability and transparency, and the significance of emerging initiatives on rural development.
   - The significance of SFSCs (short FSCs), and their potential to be scaled up.
   - The identification of bottlenecks and the opportunities and constraints for enhancing the performance of FSCs.

- Stakeholders' perceptions of, and involvement in FSCs, at a variety of scales and the extent to which different perceptions of sustainability and rural development are held by different stakeholder groups within FSCs.

### 2.2.2 Consumers' attitudes and behaviour

The objective of this part of the project was to identify and assess the diversity in consumers' attitudes towards sustainable food products by means of a desk study summarising previous findings. Diversity related to differences in consumer reactions towards production methods processes (e.g integrated production or organic production), market channels (e.g. farm gate sales or short market channels), as well as down to the level of specific product attributes (e.g. quality, safety or label). The assumption was that diversity in consumers' attitudes likely associated with differences in socio-demographic characteristics (age, gender, education), economic situation (wealthy, poor), lifestyles, knowledge and general attitudes. Basic questions to be answered were: 1) "Who is the consumer of sustainable food products?", in terms of individual characteristics; 2) "What types of products – produced through which production process – is this individual buying"?; and finally, 3) "For what reason is this individual buying sustainable food products?", which related to consumer motivations. The focus of the desk study was on the analysis of secondary, i.e. existing data sources. Three types of secondary data were identified as relevant for the desk study:

1. *Literature including books, journal articles, congress papers and scientific reports.* Relevant sources included publications focusing on consumer attitudes towards food in general, food production systems (like organic, integrated production, …), specific market channels, and specific product attributes like food safety or food labelling (PDO/PGI, labels indicating sustainability, …). Both exploratory (qualitative) and descriptive (quantitative) studies were considered to be relevant.
2. *Consumption data, e.g. from household consumer panels or retail panels.* Consumption databases with data collected through household panels often include time series data about volume, expenditures and place of purchase (outlet choice) for different food categories, and may include specific categories of sustainable food products. These data allowed answering the question of what types of sustainable food products are bought.
3. *Databases from primary research (e.g. consumer surveys conducted by the partners).* Primary data collected through consumer surveys for purpose of assessing consumer attitude and behaviour towards food in general may include measurements that pertain to sustainable food products. Such measurement may either relate to consumer interest in sustainable production methods, specific market channels or product attributes.

All partners were asked to identify the above-mentioned secondary sources within their respective countries. Based on those data, national country reports describing diversity in consumers' attitudes towards sustainable food products were drafted, according to the following structure:

- *Part I: Definition of sustainability of food products.* The context in which sustainability of food products was situated.
- *Part II: General food consumption trends.* The purpose of this short section was to have some idea of the general trends in food consumption: why consumers do or do not buy sustainable products?
- *Part III: Consumer behaviour towards sustainable food products.* To investigate consumer behaviour towards sustainable aspects in food products, the conceptual framework depicted in figure 2.2 was used.

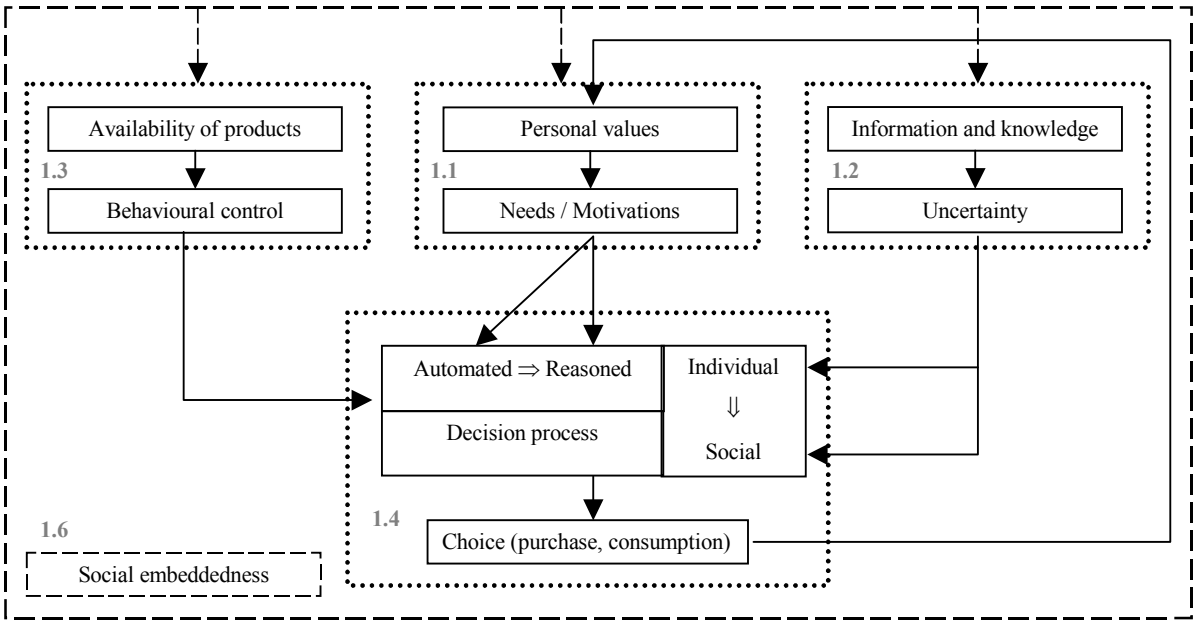



***Figure 2.2**: Conceptual framework to investigate consumer behaviour towards sustainable food products (according to the consumer behaviour model of Jager, 2000)*

1. *Consumers' values, needs and motivations.* Human values are referred to as relatively stable *beliefs* about the personal or social desirability of certain behaviours and modes of existence, while *needs* refer to internal forces that drive our actions. Products have a certain capacity to satisfy one's needs. Consumers choose products through the interaction of personal needs and the possibilities that these products offer to satisfy these needs. People are motivated to invest cognitive effort in a decision problem (*reasoned processing*) when an important personal need is not satisfied, while *automated processing* or habitual behaviour occurs when consumers have low motivation due to satisfied needs. The aim of this section was to identify consumers' values associated with sustainable consumption.
2. *Information, knowledge and uncertainty.* According to the consumer behaviour model of Jager (2000), the availability of clear information on the products to choose from is an important factor in the decision process. The less information available and/or the more complex and contradictory this information is, the more uncertain consumers may be regarding what products to choose. Uncertainty will lead to use of social information, which means that consumers will look at other people to get an indication of the best outcome. The relative uncertainty about availability and the need-satisfying capacity of products will also stimulate social processing. In this section, *research about consumers' awareness, knowledge and understanding of any sustainable products* was reported. Furthermore, results about *information consumers receive* and the *accompanying (un)certainty* were described. The impact of possible information sources and media, which provide information about sustainable products, can differ according to the variation of several factors, such as credibility of the information source.
3. *Availability of products and behavioural control.* The availability of sustainable products is important since it has an influence on consumers behavioural control. The latter indicates if the consumer can easily consume a certain product or that its consumption is difficult of impossible. Although the motivation of consumers to buy sustainable products can be high, it is possible that this does not result in actual sustainable consumption behaviour due to a

low availability of these products. This section included consumer studies that reported about *consumers' perception of the availability of sustainable products*.

4. *The decision process: attitude and consumption behaviour*. In many consumer research studies, attitude towards some kind of sustainable products are measured. However, a positive attitude does not always lead to the desired behaviour, in this case the purchase and consumption of sustainable food products. This is due to the type of decision process that is used by the consumer. As mentioned before in the sections of the two main determinants, two dimensions are distinguished in the decision making process. Consumers can have an automated versus reasoned and a social versus individual decision making process. Only when consumer process information in a *reasoned* and *individual* manner, a *positive attitude* towards sustainable products will lead to *sustainable consumption*. However, most consumers often use a combination of many different decision processes. Information of section 1 and 2 can provide insight in what type of decision making process is used. This section aimed at reporting consumer attitude towards sustainable food products and their consumption behaviour.
5. *Socio-demographic profile*. Socio-demographic variables are used in a lot of consumer studies to identify regular consumers and non-consumers of sustainable products. These variables can be interesting to *target specific segments* of the population when communication efforts try to stimulate sustainable consumption.
6. *Social embeddedness*. Different large-scale developments in the social environment affect the behaviour of many individuals. Driving factors for environmental overexploitation are culture (as a conglomerate of socially shared beliefs, values and attitudes), institutions (as instruments for constituting and governing human societies), demography, technology and economy. In this section, the impact of these different factors were described, but in certain cases it was also relevant to discuss these issues in the sections 1, 2 and 3.

*Barriers for consumption of sustainable food products*. Barriers for consumption of sustainable food products were deduced from the consumer behaviour model, applied on sustainable consumption.

*Possibilities to remove the above-mentioned barriers*. When searching for possibilities to remove the barriers, identified in the previous step, the consumer behaviour model again served as a basis. Strategies to change consumer behaviour focussed at four types of driving forces/factors of consumer behaviour.

- Changing the need-satisfying capacities of opportunities indirectly affects the consumer's motivation to use a product.
- Changing consumers' behaviour control through
    - changing the resource demands of products. This can be achieved by using laws, prices, information, …
    - changing the abilities of consumers (consumer resources). An example is the use of income taxes to decrease consumer's financial abilities or education to increase the knowledge of consumers.
- Changing the perspective people have on the preferred mode of need satisfaction.

- *Part IV: Strategies to stimulate sustainable consumption*. The report ended with conclusions about strategies that could possibly stimulate sustainable consumption.

## 2.3 Case studies (Phase 3)

The third phase of the project aimed to result in a more in-depth and fine-tuned understanding of the socio-economic dynamics of food supply chains. This general aim of phase 3 was somewhat similar to that of phase 2. The main difference is that the focus of phase 2 was on the meso/macro-level dynamics of food supply chains, while phase 3 focused on micro/meso-level dynamics.
The objectives, general approach and the expected achievements of the case studies together constituted a general framework, which provided an overall starting point for the case study methodology. However, several strategic decisions had to be made with respect to the guiding principles for the case study methodology. These decisions regarded the following questions:

1. What is the focus of the case studies?
2. What will be the unit of analysis?
3. How many units of analysis per case study?
4. Which criteria to use for the selection of cases?

### 2.3.1 Focus of the case studies

To address the objectives of SUS-CHAIN in general and of the case studies in particular, the case studies were to focus on processes (rather than, for example, on structures). Processes can be represented as follows (see also figure 2.3): an initial state of a food supply chain, assessed on the basis of sustainability criteria by actors outside the chain (public opinion, health or environmental authorities, etc…) or by actors within the chain (consumers, retailers, processors producers) in relation to a specific context, gives rise to pressures that put into question the present state of the matter, until a problem is recognized and defined. The problem, once recognized, raises strategic questions: e.g. how to restore consumers' trust or how to maintain a minimum level of welfare in the countryside? Such questions are addressed through one or more initiatives started by actors who build alliances to carry them out.

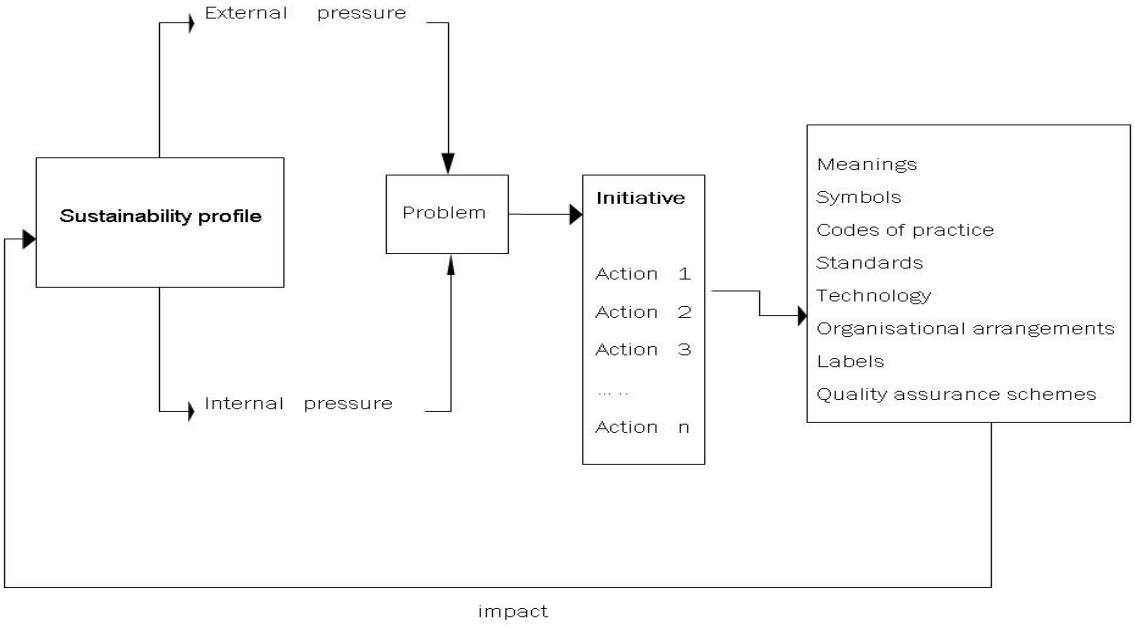



***Figure 2.3**. Food supply chain initiatives as dynamic processes*

Each initiative is composed of a cluster of actions. Each action aims to obtain specific outputs (for example, creating a label implies technical coordination, organisational innovation, new technologies, etc.) All outputs have an impact on the state of the food supply chain and therefore on the boundaries, relevance and intensity of the problem. The impact can be broken down into components to assess the change produced on different subsystems. Sometimes, initiatives generated by one problem take autonomous paths and become part of new clusters (umbrellas). For example, a labelling scheme based on safety claims evolves into regional quality schemes.

### 2.3.2 Hypotheses and research questions

The case studies were structured along several hypotheses. In this situation hypotheses were not primarily meant to be validated or falsified through case studies. Rather they were considered to function as heuristics.
The main hypothesis around which cases were to be built was the following: *Scaling up an initiative in the field of NFSCs changes the nature of the organisation (structure, rules, procedures, values, goals) and its sustainability performance*. The hypothesis contained three keywords: scaling up, nature of the organisation, sustainability performance. In all cases under examination all the three aspects had to be taken into consideration, as they are steps of the same process.

The general hypothesis was broken down into three sub - hypotheses:

| |
|---|
| **Sub-Hypothesis 1:** *Scaling up depends on commercial performance and appropriate public support* |
| 1.1 Commercial performance of sustainable FSCs depends on a specific marketing competence. Appropriate marketing competence is the key to build consumer involvement, stimulate participation, realise "food citizenship" to identify and meet "higher" needs and motivations, and create wants for sustainable food products. |
| 1.2 Public policy will be successful when it support the possibility to coordinate and make strategic decisions (prices, volumes, product differentiation…) |
| **Sub-Hypothesis 2:** *Nature of organisation changes with scaling up as an effect of growth in market power and of the increased pressure of economic constraints and logics* |
| 2.1 Market power is a hurdle for successful development and commercial performance of sustainable food supply chains, because its reduces credibility among consumers |
| 2.2 The direction of change of the nature of organisation depends on the management of the network. |
| **Sub-Hypothesis 3:** *NFSCs have a positive effect on rural sustainable development* |
| 1.1 New FSCs positively support the rural economy through defending and/or creating employment and income. |
| 1.2 New FSCs positively strengthen local and regional capacity to self organisation and self governance. |
| 1.3 New FSCs improve the sustainability and the liveability of the rural areas. |

For each of the sub-hypotheses a large number of research questions were formulated and different profile and performance indicators were proposed for description and assessment. To enable comparison between and analysis of all cases the decision was taken to select a limited number of basic research questions as well as profile and performance indicators to be used in each case study. In the table below these basic research questions and common profile and performance indicators are presented. Which of the other questions and indicators were used in the case studies was to be decided by the research teams themselves, depending on their own interests as well as on the characteristics of the case itself.

| **Main hypothesis:** *Scaling up an initiative in the field of NFSCs changes the nature of the organisation (structure, rules, procedures, values, goals) and its sustainability performance* | | |
|---|---|---|
| **Sub-Hypotheses** | **Basic Research questions** | **Common profile and performance indicators to all cases** |
| Sub-Hypothesis 1:<br>*Scaling up depends on commercial performance and appropriate public support* | – Has the considered initiative scaled up? If not, why hasn't the initiative scaled up?<br>– How do the actors involved assess their commercial performance? What relation exists between marketing actions and these achievements?<br>– What kind of public support has been granted to the initiative? | ⇨ Rate of growth<br>⇨ Price differentials<br>⇨ Types of public support granted |
| Sub-Hypothesis 2:<br>*Nature of organisation changes with scaling up as an effect of growth in market power and of the increased pressure of economic constraints and logics* | – How has the nature of the organisation changed along the process of scaling up?<br>– How has market power distribution changed along with the initiative? | ⇨ Asset specificity<br>⇨ Mapping of networks at different stages<br>⇨ Narrative of network creation<br>⇨ List of problems ranked by importance by stakeholders |
| Sub-Hypothesis 3:<br>*NFSCs have a positive effect on rural sustainable development* | – Does the initiative support the rural economy?<br>– Does the initiative strengthen local and regional capacity to self organization and self governance?<br>– To what extent does the initiative improve the sustainability and liveability of the rural areas? | ⇨ List of resources ranked by importance<br>⇨ Number and type of stakeholders involved<br>⇨ Rate of demographic change in the relevant area<br>⇨ IDEA indicators as perceived by informants and stakeholders . |

### 2.3.3 Principal initiative and satellite cases

According to the technical annex, the SUS-CHAIN project should deliver 2 * 7 = 14 case studies. If each case study covered only one initiative, it would be difficult to create a representative set of cases. On the other hand, the technical annex requires *a detailed understanding of the complex interrelations, dynamics, interfaces and synergies embodied in sustainable food supply chains in specific national/regional settings.* Therefore, the level of inquiry had to go sufficiently in depth to go beyond the mere description. With the case studies at least three goals had to be fulfilled:

- a good coverage of diversity of initiatives
- enough information to compare
- enough information to add value to already existing literature and to build theory

It was therefore decided that a case study had to include at least three initiatives: one principal initiative, at least one national satellite initiative and at least one foreign satellite initiative (see figure 2.4). This strategy appeared to be the most effective one to address all three goals mentioned above. Initiatives had to be linked together into a unitary narrative.

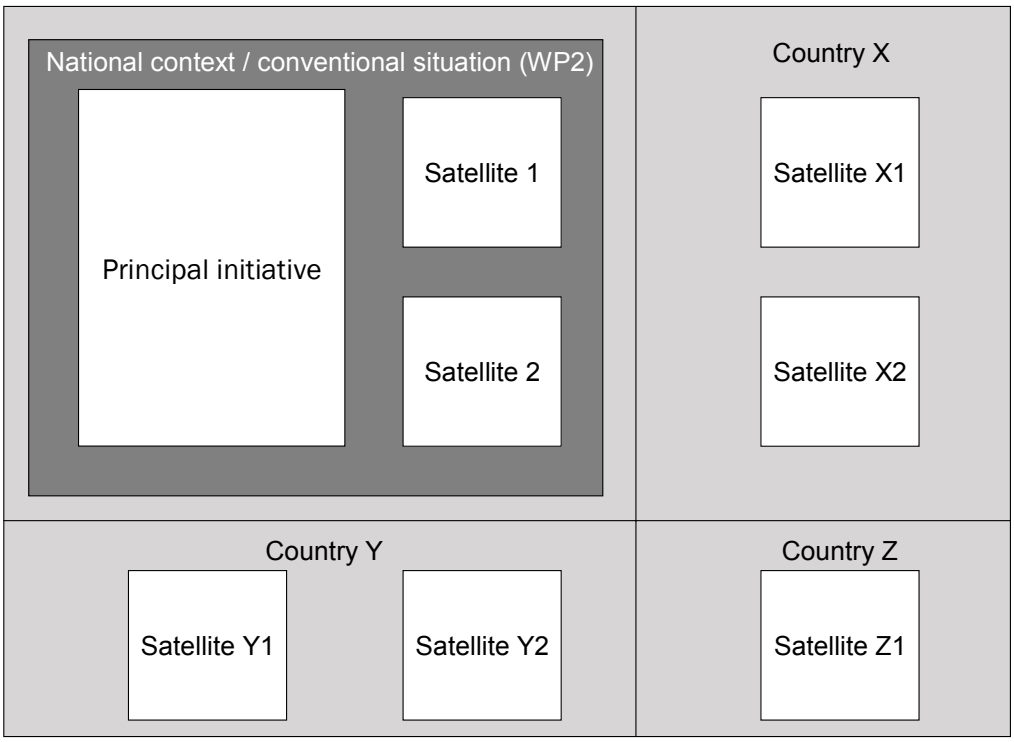



***Figure 2.4**. Principal initiative and satellite initiatives*

In order to design a case, the following steps were to be taken (see also figure above):

2. *Choice of unit of analysis* → principal initiative.
3. *Identification of the conventional unit for comparison* → national context / conventional situation.
4. *Choice of replications* → satellites:
   - One different solution within the national context (a product, a commercial pattern, trademark, certification systems, etc.) → satellite 1, 2, etc.
   - One similar and/or one different solution in another country → satellite X1, X2, Y1, Y2 and/or Z1, etc.

In the table below the main cases, national satellites and international satellites are presented. Together the cases represent an impressive diversity in terms of:

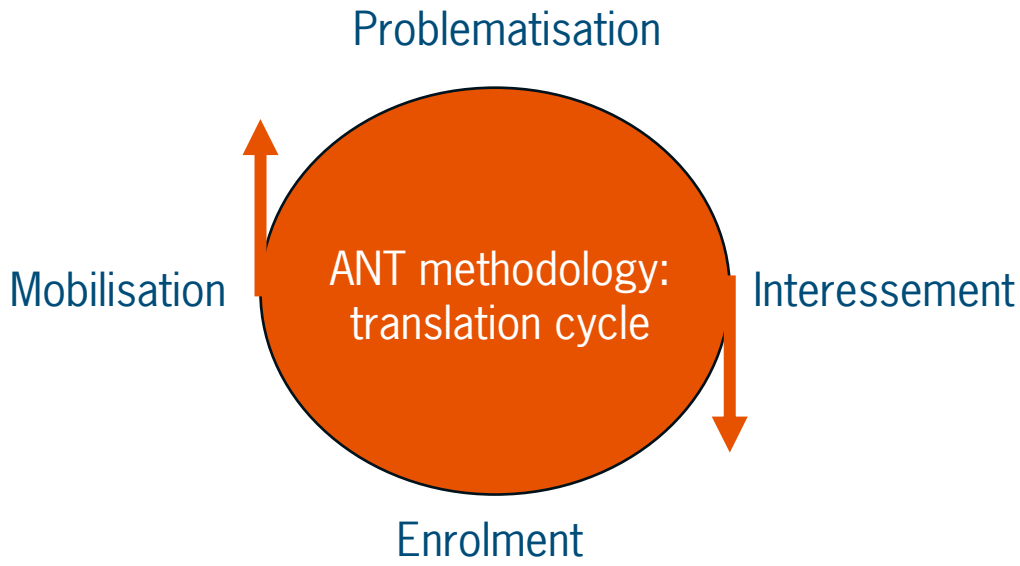
- Sustainability meanings or promises (ethical, ecological, health, quality, culture, locality)
- Starters (public, NGO, retail, processors, farmers)
- Actions taken (communication, education, technical innovation, certification, regulation, political action, organisational innovation)
- Output pursued or obtained (awareness, technical standards, codes of practices, new technologies, organisational arrangements, new organisations, labels, hallmarks)
- Functional integration (impact on subsystem, i.e. production, processing, food service, marketing and distribution, consumption)
- The geographical scope of the chain (local, regional, national, international)
- The type of product (conventional, organic, PDO/PGI)
- The problems addressed (improving farmers' livelihoods, building/improving local capital, responding to safety/ecological crises, open/enlarging new markets of sustainable products, greening/moralising conventional networks/chains/subsystems, raising awareness and stimulating changes in attitudes and behaviour of the involved actors)

| COUNTRY | MAIN CASE | NATIONAL SATELLITES | INTERNATIONAL SATELLITES |
|---|---|---|---|
| THE NETHER-LANDS (NL) | Case 1 De Hoeve BV | LIVAR | 1. Belgium - Vita project<br>2. Germany Neuland pork |
| | Case 2: Dairy co-operative Cono | Groene Hart Landwinkels | Switzerland - Emmenthaler |
| United Kingdrom (UK) | Case 1: Cornwall Food Programme | A variety of hospital trusts in the South West | Public sector catering in The Netherlands and Switzerland |
| | Case 2: Co-op local sourcing initiative in the High Weald | Waitrose 'Locally Produced' | 1. Italy – Unicoop Firenze |
| SWITZERLAND (SW) | Case 1: Rye Bread of the Valais | 1. Conventional bread<br>2. IP Suisse<br>3. Coop Naturaplan organic bread<br>4. Migros Bio industrial Rye bread | Italy - Raw sheep milk cheese of Pistoia mountains |
| | Case 2: Natura Beef | 1. Viande de nos Monts<br>2. Lo Bao | |
| ITALY (I) | Case 1: CAF (Co-operative of meat cattle breeders) | 1. Intensive Chianina breeding<br>2. Azienda Salvadori | The Netherlands – direct selling of organic beef |
| | Case 2: Raw milk sheep cheese | *1.* Raw milk sheep cheese of *Balze Volterrane*<br>2. Lardo di Colonnata | Switzerland– Rye Bread |
| BELGIUM (BE) | Case 1: Biomelk Vlaanderen (organic milk in Flanders) | Het Hinkelspel | Germany - Upländer Bauernmolkerei |
| | Case 2: Farm products of the Westhoek (marketing of regional products) | Groupement Viande Bio d'Origine Belge | Several countries – Farmers' markets |
| LATVIA (LV) | Case 1: LAMCB (Beef meat production/Latvia Association of Meat Cattle Breeders) | 1. Zaubes kooperativs<br>2. Rosiba ZS | |
| | Case 2: Rankas Piens (Ranka Dairy chain) | *1.* regional dairy *Smiltenes Piens*<br>2. organic dairy *Keipenes Piens* | |
| P7 GERMANY (DE) | Case 1: Upländer Bauernmolkerei (dairy sector; organic milk; co-operative) | Andechser-Scheitz dairy | 1. Latvia: Rankas Piens & Keipenes Piens<br>2. Austria: Tirol Milch dairy |
| | Case 2: Tegut supermarket chain (Conventional food retailers) | 1. Retail chain GLOBUS<br>2. Tagwerk (regional organic food retail) | Switzerland: Coop Natura Plan |

### 2.3.4 Case study approach

A case study commenced with a brief description of the relevant context of the principal initiative, including the profile and performance of the conventional chain before the start of the initiative. This description of the context ended with an overview of the sustainability problem(s) addressed by the initiative. This was followed by a short description of the emergence of the initiative as response to the sustainability problem(s) defined. Next the type of initiative was to be positioned in its national and international context.

The story of the principal case was to demonstrate how a specific sustainability concept was progressively embodied into initiatives and how these initiatives changed the existing networks. The story followed the actors in their network building. The story was therefore subdivided into translation cycles, a notion derived from Actor-Network Theory (ANT). Translation cycles are articulated into four stages: 1) problematisation, 2) interessement, 3) enrolment; 4) mobilisation (Callon 1986). Each cycle brings to a consolidation of a new network, according to the following scheme:




The passage from a step to another is marked by the presence of milestones.

1. Identification of the starter/s
   - Identify the actors who started/manage the initiatives, their social and cultural background, and the conception of sustainability they carry forward.
   - Describe the aspects of the story of the actor necessary to understand the nature of the organisation [for example, for cooperatives the story should cover the period from the foundation to the 'starting point' of the narrative, see next section].
2. Genesis of the problem and formulation of the initial project (Problematisation).
   - The emergence of the problem, or its precipitation into actors' awareness, identifies the 'starting poing' of the case. In other words, the starting point should be identified as the moment in which the actor/s formulate a project to face a problem/crisis. All events preceding the starting point should be described in the preceding section.
   - The genesis of the problem should be described in relation to external and internal pressures.

   Milestone: agreed definition of the problem.
3. Development of the initiative (interessement - enrolment - mobilisation)

   *Interessement*
   - Describe the initial project of the initiative.
   - Analyse the way the starters are able to link up with other actors and with non humans (living organisms, built environment, technologies) around the project.
   - Identify the resources they have access once they set up a relationship with new actors;
   - Analyse the actions taken by the actors along with the project.
   - Analyse how they deal with the principal obstacles to the fulfilment of their goals.
   - Analyse how the initial project changes along with the process;
   - Analyse how, for effect of any new relationship, the relevant network evolves.

- Map the network that has been constructed (see Appendix A), and describe the changes occurred compared to the preceding cycle.

Milestone: objectives around which actors 'align'.

*Enrolment*

- Analyse how, for effect of any new relationship, the actors negotiate/reshape their initial conception of sustainability;
- Analyse the different positions, the contrasts emerging and their resolution;
- Analyse the consolidation of the network around the obligatory passage points
- Map the network that has been constructed (see Appendix A), and describe the changes occurred compared to the preceding cycle.

Milestones: formalised outcomes: sustainability promise to the consumers, technical requirements, organisational rules;

*Mobilisation*

- Analyse how the new network operates to implement the proposed solution;
- Analyse how the new network represent itself to the outside (for example, how communicates the sustainability promise);
- Analyse the outcomes of the actions taken by the actors and assess their contribution to the performance of the initiative;
- Map the network that has been constructed, and describe the changes occurred compared to the preceding cycle.

Satellite cases were inserted as boxes within the preceding section, or as separate paragraphs. Each satellite case made explicit the specific aspects to be compared and contrasted with the principal cases. The next step was to analyze the profile and performance of the chain after the initiative by responding to the questions generated by the main hypothesis and sub hypotheses. The case studies were concluded by a discussion about the potential for scaling up and by highlighting the contradictions arising in the process of scaling up.

### 2.3.5 Themes and questions for comparative case analysis

In order to compare the 14 case studies (consisting of 14 principal initiatives and a larger number of satellite initiatives) six themes were identified as well as a number of key questions per theme that guided the cross-case comparison. They were:

1. Commercial performance and distribution of value added.
   - Has market power been a hurdle for successful development and commercial performance of sustainable food supply chains, e.g. because it has reduced the initiative's credibility among consumers?
   - How has the distribution of market power changed along with the initiative? Which kind of relation exists between changes in market power and credibility (loyalty, involvement etc.) among consumers?
   - What are the strengths (and weaknesses) of the FSC in terms of commercial performance and distribution of value added along FSCs? Are there common patterns?
2. Marketing conception, marketing measures and communication.
   - Has an appropriate marketing competence been the key to building consumer involvement, stimulating participation, realising 'food citizenship' and creating demand for sustainable food products?
   - Are there other key factors?

- What are the strengths (and weaknesses) of the FSC in terms of marketing conception, marketing actions and communication? Are there common patterns?

3. Public support (kind, significance) and other types of intervention.
   - Has public policy been successful in terms of supporting the coordination and making of strategic decisions (regarding prices, volumes, product differentiation etc.) within the initiatives studied?
   - How have public policies affected strategic decisions?
   - What kind of public support hampered the development of the initiatives? Which kinds of support have been efficient? Are there common patterns?
   - What are the strengths and weaknesses of the FSC in terms of efficiently utilising the different kinds of support available?
4. Nature of organisation, self-governance and changes during scaling up.
   - Did the FSCs studied positively strengthen the local and regional capacity to self-organisation and self-governance?
   - Is there a broad participation of the local population? Was there a large diversity of stakeholders involved at the local level (social embeddedness) and was this an important aspect?
   - Have there been new institutional forms developed? How has the nature of the organisation changed along with the process of scaling up? What are the strengths (and weaknesses) of the FSC in terms of nature of organisation and self-governance?
5. Impact on the rural economy and rural assets: connections with rural development.
   - What is the economic performance of the initiative compared to the conventional chain in terms of a) NVA in the region, b) direct, indirect and induced employment in region, c) farmer's share in retail, d) transaction costs of establishment, e) transaction costs of maintenance, f) dependence on public support, g) displacement effects within the region and h) halo-effect?
   - What is the social performance of the initiative compared to the conventional chain in terms of a) self organisational capacity, b) bridging capital, c) learning and knowledge, d) trust/faith in food system, e) social inclusion, f) job satisfaction and g) succession?
   - What is the environmental performance of the initiative compared to the conventional chain in terms of a) biodiversity, b) negative externalities, c) positive externalities, d) cultural landscape and e) food miles.
6. Social embeddedness, local networks and locality.
   - What are the strengths and weaknesses of the 14 cases in terms of social embeddedness, local networks and the capitalisation of locality?
   - What are the main challenges to embeddedness during the expansion of networks, and how have FSCs dealt with these challenges?

## *2.4 Recommendations (phase 4)*

The fourth phase of the project focused on the translation of research findings into recommendations for policy and other types of intervention. The recommendations built upon the

findings from the meso / macro-level analysis of phase 2 and the micro / meso-level analysis of phase 3. Two types of recommendations were developed:

- Policy recommendations, enabling policy-makers at regional, national and European level to support the development of sustainable food supply chains;
- Practical recommendations (i.e. protocols: tools, methods and strategies), enabling actors in the food supply chain and 'surrounding' actors (e.g. farmers' unions, consumer organisations, environmental groups, extension services, applied research institutes, local partnerships) to improve the performance of food supply chains towards sustainability.

The 'nodal' points for intervention to enhance the collective performance of (different types) of food supply chains, which where identified in the previous phases, constituted the basis for the formulation of recommendations. In this phase the relevant policy environment associated with sustainable food supply chains that was 'mapped' in Phase 2, and described more profoundly as part of the case-studies, was analysed in relation to different types of food supply chains. The methodology applied was that of interface analysis as has been amply described by Long & Long (1992). 'Interface analysis' focuses on the complex and often highly differentiated interactions between policy and practice, which can differ considerably between different contextual settings. It is therefore highly suitable for analysing the impact of policy frameworks on the performance of supply chains in the context of different supply chain organisations and national/regional contexts.

## *2.5 Dissemination and feedback (phase 5)*

The project opted for an active involvement of end-users throughout the project. Three different target groups were distinguished:

- Stakeholders in the social and institutional environment of food chains (e.g. politicians, consumer organisations, environmental groups, applied research institutions, extension services etc.)
- Actors in the food chain and organisations of these (e.g. farmers, retailers, processing industry, etc.)
- The scientific community (agricultural sciences, environmental sciences, consumer studies, economy, sociology, rural studies, etc.).

At national level three seminars were organised oriented at the most relevant combination of target groups for each specific national/regional setting. The aim of these seminars was to get feedback from the target groups on the provisional results of the project, to validate these provisional findings and to disseminate results to the target groups. The seminars were organised one month before the delivery date of important deliverables and/or milestones. In this way the national research teams (contractors and subcontractors) were able to use the comments of the seminar participants (i.e. representatives of the target groups) in the finalisation of different deliverables (reports). The first seminar was intended to get feedback on the provisional set of performance indicators and on the provisional results of phase 2 and to get suggestions for interesting and relevant cases for phase 3. The aim of the second seminar was to get feedback on the results of the case studies, in particular on the assessment of the socio-economic performance of the food supply chains and on the identification of opportunities and constraints for the sustainable development of these food supply chains. At several of the second seminar the results from other countries were discussed as well in order to assess whether experiences from other countries are relevant to the domestic situation. The third and last seminar was organised to get feedback on and fine-tune the practical and policy recommendations.

At the European level the dissemination activities focussed at the elaboration of a book for practitioners and policy-makers about ways to improve the collective performance of sustainable food supply chains. This book was presented at an international conference oriented at Commission representatives and policy makers / stakeholders' organisations from the participating countries. Dissemination of results to the scientific community were, besides the national seminars, mainly done by means of the various reports of the project and a scientific book, in addition to normal channels of publication such as scientific journals, presentations at scientific conferences and the internet.

# 3 RESULTS

In this chapter the results of phase 1 (development of indicators), phase 2 (state-of-the-art analysis) and phase 3 (case studies) of the project will be presented. The recommendations (phase 4) will be presented in the next chapter. The results of phase 5 (dissemination and feedback) have been incorporated in the finalisation of the results and conclusions of the first 4 phases of the project and are therefore presented and discussed in this chapter and the next chapter accordingly. Information about the exploitation and dissemination approach is presented and discussed in chapter 5.

## *3.1 Profile and performance indicators*

As result of the iterative process of developing profile and performance indicators, six sets (i.e. themes) of indicators identified. Per set a number of profile and performance indicators were considered to be relevant to understand the profile and performance of the food supply chain:

1. *Commercial performance and distribution of value added along FSCs:*
   a. Potential for creating value added (VA):
      - Price premium at consumer level
      - Variation (Δ) of the value added (VA) at producer level
   b. Market share
   c. Degree of market differentiation
2. *Marketing conception, marketing measures and communication:*
   a. Joint communication effort
   b. Unique Selling Proposition (USP)
   c. Ownership of the brand and significance for performance
   d. Degree of vertical integration and consequences for marketing
   e. The 4 Cs (competence, coherence, commitment and co-operation) related to the implementation of marketing measures
3. *Public support:*
   a. Importance of public financial support (as a proportion of total investment).
   b. Reduction of constraints.
   c. Targeting and phasing of support.
   d. Importance of non-financial support.
4. *Nature of organisation, self-governance and changes during scaling up:*
   a. Presence of growth (scaling up).
   b. Ability to choose the most adequate type of organisation.
   c. Ability to control the organisation and the process of scaling-up.
   d. Outcomes of growth (scaling up).
5. *Impact of alternative FSCs on rural economies and rural assets:*
   a. Economic impact indicators:
      - Net Value Added (NVA) in the region.

- Direct, indirect and induced employment in the region.
- Farmer's share in retail.
- Transaction costs of establishment.
- Transaction costs of maintenance.
- Dependence on public sector support.
- Displacement effects within the region.
- Halo effect.

b. Social impact indicators:
- Self organisational capacity increased.
- Bridging capital increased.
- Learning and knowledge increased.
- Enhanced trust/faith in the food system.
- Enhances social inclusion.
- Yield job satisfaction.
- Encourages succession.

c. Environmental impact indicators:
- Increases biodiversity.
- Reduces negative external effects.
- Increases positive external effects.
- Enriches cultural landscape.
- Reduces road miles.

6. *Social embeddedness, local networks and locality:*
   a. Use of own and/or local resources (e.g. soil, breeds, skills and knowledge, processing, retail outlets).
   b. Level of participation of all actor groups involved in the initiative.
   c. Existence of shared values, codes and rules within the FSC.
   d. Communication of these values, codes and rules to consumers, and their sharing with consumers.

The six sets of profile and performance indicators mentioned above played a crucial role in the comparative analysis of the 14 case studies (see section 3.3).

## 3.2 Food supply chain dynamics: a macro-level perspective

As outlined in the previous chapter, this phase consisted of two parallel studies:

1. A macro-level analysis of the dynamics and diversity of food supply chains in Europe.
2. A desk study on consumers' attitudes and purchasing behaviour.

The results of these two studies will be presented separately.

### 3.2.1 Dynamics and diversity of food supply chains at macro-level

The results of the study on the macro-level dynamics and diversity of food supply chains in Europe will be presented along two main themes:

a. Drivers of change in food supply chains
b. Areas of dynamism

**Ad a) Drivers of change in food supply chains**

The institutional setting for food supply chains has undergone dramatic change in all the countries included in this study. No longer are producers the dominant actors; the balance of power has shifted firmly in favour of an increasingly concentrated retail sector whose main focus is satisfying consumer expectations and demands. This has occurred against a background of increased consumer concerns about the environment, food quality and safety along with a redirection of policy to move away from the industrial model of agriculture and take into account the broadening scope of agriculture. This section seeks to draw out similarities and differences across the countries using a PEST framework (see section 2.2.1).

*Political factors*

At European level, the reform of the CAP in 2003 shifts the form of regulation in the farm sector away from production support towards direct payments. It can be argued that such an approach will lead farmers to reduce levels of production, especially in more marginal areas and this could result in adverse knock-on effects in some areas. However, alongside the decline in production-oriented support, there has been an increase in the level of support for diversified enterprises on farms (and rural development), as well as a necessity to introduce agri-environmental programmes, which are likely to impact beneficially on the environmental sustainability of farming systems.

The drive to decouple European farm policy from production can be seen to be influenced largely by WTO imperatives, although the eastward expansion of the EU can also be seen as an influence, because of concerns relating to the affordability of the old CAP. There is a principal difference in food cultures between countries that have a history of more open trading and those that have protected their national agricultures to a greater degree stands out. The UK and the Netherlands, with their long histories of international trade and their colonial enterprise, appear to have advanced further down the route, which more willingly throws their farming and food sectors open to market forces. The impacts of globalisation have proceeded faster where there is a policy predilection towards more open trade and a national culture that has fostered farm modernisation and a commodity production approach to farming.

Clear policy differences exist in the special case of Latvia, until 1991 a socialist republic in the Soviet Union; now on the threshold of EU membership. Inevitably, the Latvian situation is coloured by the massive extent of state ownership and by the problems of creating private companies from previously state owned assets and letting market forces rip in an agro-food sector that was struggling to reacquaint itself with markets.

The shift from an agricultural to a more rural policy is evident throughout Europe without exception, placing a new emphasis on opportunities for the development of sustainable food chains. However, as the Belgian report points out, the success of this process could be impeded by the fragmented nature of different political competencies. The acceptance of such a change differs and the precise configuration of the rural policy varies from country to country, but there is nowhere that has not experienced this trend and no-one who anticipates that it will not continue. In Latvia, the SAPARD programme of the EU has endeavoured to prepare the country for a more rural policy orientation after accession. In the other non-EU country, Switzerland, a more rural and more environmentally friendly agricultural policy is in place.

Food production and the utilisation of the countryside has become increasingly contested and political, incorporating a broad range of issues and interests, such as heightened consumer awareness of (the impact of) food production methods, a succession of food scares and associated concerns over food safety, nutritional issues, and environmental concerns. Fuelled by the emergence of strong public concern about food quality and safety and the emergence of a EU rural policy, the roles and spheres of responsibility of national government ministries are undergoing a process of restructuring or reorientation to develop a more integrated, regional approach to the development of agro-food systems, which addresses the needs of a broader range of rural and food stakeholders, in particular consumers. As the Dutch report puts it, its ministry has moved from a "*farmers' ministry*" to a "*ministry for consumer and citizen*". The British, German and Dutch ministries of agriculture have been replaced (or renamed) to encompass food safety and environmental responsibilities and/or consumer protection. Both the UK and Belgium have newly established agencies to deal with food safety and public health issues, whilst in Italy the roles of the Ministry of Environment and the Ministry of Health have become increasingly significant as far as food and agricultural policy is concerned. Although the Italian Ministry of Agriculture has apparently retained its influence over agricultural policy without major restructuring, this has been achieved by a change of focus that takes on board the changed circumstances of agriculture. In Italy, a much broader range of institutions is involved in the re-regionalisation of food systems and the policy integration is more regional than rural.

Against a backdrop of the diversification of agriculture and a shift towards integrated rural development, a process of territorialisation of policies has occurred. Regional governments and the local administrative level in both Italy and Germany have extended their roles beyond that of policy implementation and delivery to make a more strategic contribution. It is found in most highly developed form in Germany, where a profound restructuring of farming and food systems into a more regional model has underpinned FSC policy reform. Italy's strong regional orientation in policy is reinforced by an existing strong identity for regional food and where origin of production is a strong signifier of quality. Even a country as small as Belgium can and has regionalised it farming and food policies. Agricultural policy in the UK, with its strong tradition of centralised government, has also undergone a process of regionalisation. Although this has no doubt been influenced by the general trend towards integrated rural development in the regions and latterly the fall out from the UK's Foot and Mouth crisis in 2001, at this stage it is more a by-product of the country's overall devolution process as opposed to a strategic change in direction for food and farming.

A significant policy difference is the extent to which FSC developments are seen holistically or as completely separate policy arenas. Germany and the UK stand out as taking a holistic and integrated view of policy for FSCs, what is described in the German report as a 'whole chain ethos'.

The publication of the *Curry Report* in the UK and its demands to reconnect the production and consumption of food indicates a milestone in policy development. This message of reconnection might be pursued in a different way in Germany but the resonances of the policy are very similar. In other countries, the rather more traditional productivist sectoral policy for the farm sector still seems to prevail. The Belgian report notes how this strong production orientation remains as a major policy influence, and in the Netherlands, whilst there is no specific policy aim with regard to FSCs and rural development at national level, the willingness to engage in these issues is much higher at community or regional level.

The trend away from a producer-oriented policy setting is reflected in all countries, to a varying extent, in the waning influence of the traditionally powerful farming lobbies and unions in the policy making process. The one clear exception is Latvia where the *Latvian Agricultural Joint Consultative Council* (LOSP) uniting 48 agricultural organisations still has a significant role in policy making. Italian and, to a lesser extent, Belgian farming unions appear to have bucked this trend by moving away from a predominantly productivist ideology to embrace the concept of the multifunctional role of agriculture. Both Italy and Switzerland have reinforced the role of producers' associations and inter-professional bodies through legislation. Small-scale producers in general are politically less organised and represented in policy networks, but there are signs in the Netherlands and Belgium and, to a lesser extent, the UK that producers are (re)organising to regain the initiative by forming organisations that represent small-scale, regional or alternative methods of production, fostering greater collaboration between producers (and other rural stakeholders) so that they can take advantage of new marketing opportunities. Such developments represent new territory for these countries with their tradition of centralised policy making and food systems.

Simultaneously, other rural and food stakeholders and non-governmental interest groups are emerging as an important force in rural decision making processes. Increasing attention to the links between agriculture and other fields of activity such as tourism, the environment, health and food quality have progressively broadened the policy network. Some of these are well-established national organisations such as the German *Deutscher Verband für Landschaftspflege* (DVL), an umbrella organisation representing countryside conservation groups and *Legambiente* in Italy. International NGOs such as *Greenpeace* and *WWF* have also become heavily involved in the debate on food and farming, and, the *Slow Food* consumer movement has been particularly significant in Italy. In the UK, *Sustain* has emerged as a significant co-ordinating NGO over a relatively short period of time. It is an umbrella organisation for 100 NGOs with an interest in sustainability in the FSC from both a farming and health standpoint. At the same time, the Belgian report observes a tension between predominantly environment-oriented groups and other countryside inhabitants who are grouping together to preserve their traditional rural ways of life. This clash of interests is evident in both Belgium and the UK in the area of field sports such as hunting which, in the UK, is actively supported by the Countryside Alliance.

Some countries have witnessed increased activity at a regional/local level to revitalise rural areas by building up networks involving a range of local actors. A strategy of localisation through intensified interaction and cooperation is perceived as a way to (re)empower rural actors (including producers) and provide a buffer against the forces of globalisation. This process has been greatly facilitated by an increasingly devolved administrative and political framework influenced by NGOs, and actions such as LEADER, whose projects are a prominent and pan-European example of local partnerships that have developed throughout Europe. These partnerships and coalitions of stakeholders have emerged, sometimes endogenously, but often with some public sector support as a form of resistance to the globalising tendencies in economy and society.

All of the country studies give evidence of a myriad of groups an initiatives, for example the Regionen Aktiv pilot programme in Germany, constituted as co-operatives or other coalitions, some sectoral, some regional, some organic, although the extent and impact varies between countries.

Even in traditionally unitary action states as the UK have witnessed the emergence of such activity. Most are trying to reassert local control over development processes and regain power and retain more value added in the region in question, although the extent to which this trend is embedded in the notion of 'defensive localism' as opposed to an actual shift towards sustainable and quality food production and consumption has been questioned. Within LEADER there have been high grant rates, but unlike other measures, low volume spent. There is potential for additionality but the extent to which this is realised is questionable.

An agenda which underpins much policy is the commitment to Rio principles for sustainable development and the articulation of sustainability through/under Local Agenda 21. In most reports this is an invisible presence, whereas it was highlighted in the German report as part of the new regionalisation ethos.

The policy drive to increase the safety of food and better regulate the food from a quality perspective aims to ensure healthy and safe food following a spate of food scares (especially Belgium and the UK), and the dramatic decline in consumer confidence. Partly as a response to this, agencies were established in Belgium (Federal Agency for the Safety of the Food Chain) and the UK (Food Standards Agency) in 2000 to restore public confidence in the food system through providing a science-based and objective assessment of risk.

The demand of consumers for higher quality and food safety has triggered new initiatives both from the government and market-middlemen in a number of countries. There is now greater emphasis on self regulation and the BE, IT, NL and UK reports all observe how responsibility for food quality control has shifted away from government and public health authorities, towards industry actors (mostly the major retailers). For example, in the UK, the 1990 Food Safety Act effectively gave corporate retailers "political legitimacy for regulatory control" within the food chain. The 2002 EU food law has reinforced this by placing responsibility on the food operator to ensure compliance. In essence, these regulatory changes exemplify a change from public to private interest regulation, which has resulted in the regulatory domain becoming more closely aligned with the consumption end of the food chain, rather than the production end. Growing concerns that the regulation of the food chain had favoured economic actors over the public interest, led to the formation of the Directorate General for Consumer Protection (DG-XXIV), or DG-SANCO, in 1997 and the EFSA now takes responsibility for food science in order to restore public confidence in the food system and to protect the public interest.

*Economic*

The dominant economic force is that caused by competition in a highly competitive market place. This competition is the motor of the market economy. As mentioned above, in many but not quite all of the countries, there has been a marked shift of power away from producers and processors to retailers. The European farm sector has lost some of its mantle of protection as the CAP has reformed and the policies for the farm sector have been drastically altered in the accession states and Switzerland in the last decade. This has brought market forces to bear with a vigour not previously experienced since before the Second World War in the UK, and for even longer in some of the other countries.

The main economic outcome in FSCs has been the decline in the number of farmers, the cost-price squeeze affecting the farm sector, major price pressure on processors and attempts to strip out costs of production and distribution in a drive for competitive advantage. Particularly in the retail end of the chain, but to a degree in processing, there has been a marked concentration of ownership, creating firms with very substantial buying power. Discount supermarkets, in particular in Germany and Belgium, are bringing increased pressure to bear on producer prices. These processes of consolidation and concentration are evident from Italy to Latvia.

Increased standardisation and concentration of power in the hands of major retailers raises concerns about the diminishing diversity of products and excluding smaller supply chains. Many supermarkets now deal with 'preferred suppliers', whereby suppliers are obliged to conform to the standards and specifications set by the multiples in order to have access to these markets. At the same time, whilst the concentration of the major retailers has a tendency to push towards greater industrialisation of the supply chain, it also forces producers to seek added value options, for example, by processing and marketing through alternative supply chains. In almost all of the countries there is a large number of small and medium sized enterprises (SMEs) and micro-businesses and a large number of small farmers, which create an almost dualistic industrial structure. In several countries, observers commented on the desperately difficult challenges of being a middle-sized firm (or farm) connected to the mainstream FSCs. The sharpness of the adjustment pressures in the farm sector can be seen in many countries as creating a search for alternative and usually shorter FSCs, over which farmers can exercise a greater degree of control.

A principal difference is the relative size of the alternative and traditional sectors. In some countries, such as the Netherlands and Belgium, this sector is very small indeed; probably at well under 2% of the market for food (although there is no clear definition as to what comprises the alternative food sector). In somewhere like Italy, the share of this sector is much larger, possibly as much as four or five times so. This re-regionalisation of food markets in Italy would appear to be largely a demand driven phenomenon, in contrast to the more policy driven approach in Germany.

In all countries, there is evidence of product differentiation and brand proliferation. Brands can be created by any chain actor, from biodynamic farmers, to food processors, to retailers and these may be producer driven, retail driven, demand driven or may be mediated by the state. Many smaller operators have sought to create value added and competitive advantage by capitalising on consumer demand trends through quality production and labelling, as well as labels of origin. Perhaps one of the most successful examples of this common to all countries is the organic sector. PDOs and PGIs are also a means of preserving regional traditions and economically marginal enterprises from international competition. Such measures are widely adopted in countries with more local or regional specialities such as Germany, Switzerland and Italy, but even in a country like the Netherlands with its industrialised food systems, farmers are looking interested in PDO products such as Parma ham. The UK report suggests that demand for PDOs and PGIs is most likely to come from those businesses that see it as a good marketing opportunity, rather than as a means of protecting SMEs.

Major retailers and other industry players have also perceived a demand trend towards sustainable agriculture products and are looking for differentiation and higher value added options. In Switzerland considerable efforts are undertaken upstream of the supply chain to develop production standards and control procedures. In the UK, there has been a growth of (private sector and NGO initiated) quality assurance schemes (QAS), which seek to positively differentiate food produce from the 'norm'. However, despite being 'independently' established, many QAS do eventually become linked with and in some cases dominated by the large retailers who may insist on sourcing through a particular QAS. In this way, standards for products that were initially earning a premium become 'normalised' and the minimum point of entry into the supermarkets. It has been suggested that these schemes are an attempt by the multiples to consolidate competitive advantage with a spin-off effect that responds to consumer's concerns. A great deal is invested in registering and promoting PDO/PGI products. However, according to the Swiss report, PDO/PGI products are de-facto de-classified on the shelves of the retailers, as there is no legal obligation to mention or use the PDO/PGI logo on the packaging.

The extent to which there is transmissibility of production standards along the supply chain varies considerably between countries. In Switzerland, the branding strategies of the two major retailers have the potential to override new regional labelling initiatives, whereas in a number of other

countries, there is clear transparency whereby the product attributes are evident and transmitted all along the FSC. There is widespread use of supermarket 'own labels' (also for organic products) in the UK and Switzerland with the accompanying implications for decision-making and negotiation within the supply chain. The German report points to the lack of clear regulations on labelling which has led to the unsubstantiated exploitation of environmental, animal welfare, nutritional and health claims on food labels leading to lack of transparency and loss in consumer confidence.

The mainstream food sector in the UK has proved adept at taking up certain products from the alternative food sector and mainstreaming them. Organic food is perhaps the best example of this, although it has been suggested that the economic advantage of local or regional sourcing may drive certain changes in the food system for major retailers in the foreseeable future. Swiss supermarkets have similarly taken up the mantle of organic food, whereas, for a variety of reasons, it is weakly represented in Dutch and German supermarkets. In general, the UK big retailers have been keener to embrace (albeit at slightly different pace/time) the more sustainable forms of food product than some of their continental counterparts. This partly stems from close cooperation between UK multiples and some sections of the organic farming sector to increase availability and access, whilst in Germany has a well-known tradition of marketing organic food through well-established customised retail channels.

*Social*

There is no doubt that social factors strongly shape the course of FSCs. Societal pressure has put issues such as the environment, animal welfare and food quality high on the agricultural policy agenda and these demands have been recognised as new opportunities for many farm households. A principal socio-cultural difference is the extent of consumer attachment to regional food production. This is flagged up as a key feature of the Italian food system. Although there are parts of the Swiss system that illustrate a partial consumer attachment to locally specific production, such demand constitutes a smaller proportion of the food system than in Italy. The German study also indicates how consumer surveys yield evidence of a strong desire for re-regionalisation of food. In the UK, amongst a minority of consumers, there is an ambivalent attitude to supermarkets and other large-scale elements of the FSC, and an increasing association between sustainability and locally produced food which has provided a context in which an alternative food sector has been able to develop. In the Flanders region of Belgium, consumers are apparently less interested in regional identity, while this approach has a certain success in the Walloon region where there is perhaps a closes association between origin and quality.

There is evidence that more sustainable products are conceptualised more in environmental terms in northern Europe and more in terms of local specificity of production in southern Europe. With only one southern European partner, it is difficult to get corroborative evidence, but the notions of 'specificity' and 'typicity' are much more strongly highlighted in the Italian report than any other.

Three general common trends stand out with respect to other social factors. First, many more people live in smaller households where more adults work, there is less time for meal preparations and more 'grazing' and snacking takes place than in the past. Second, increasingly affluent populations are spending a much greater proportion of expenditure on food outside the home. Third, there are now many NGOs operating from international down to local level that are energising the construction of alternative food futures. Their existence is itself a manifestation of concern about the contemporary state of FSCs.

In spite of all the hype surrounding the development of the alternative sector and the renewal of traditional food systems, and interest in short chain marketing initiatives, there has been a remarkable willingness of the average consumer (if one exists) to embrace the conveniences of the supermarket. The inexorable rise of the supermarket system reflects its capacity to deliver a wide

range of produce that the contemporary consumer wants or that he/she can be persuaded to want in a convenient place.

However, from a demand perspective, there is also widespread evidence of consumer distrust, which has arisen in different countries from different food scares, in almost all of which the large-scale food sector is implicated. The BSE crisis has cast a dark shadow not just over the red meat industry, but is seen as the prime example of where modern farming, feeding and meat processing practices have gone badly wrong. But, as noted above, behind the mistrust, there is still a remarkable willingness to use the large-scale sector with its enormous variety, its convenience and apparent low prices.

*Technological*

A number of technological factors have impacted on FSCs across all countries including the development of more efficient cool chains, allowing longer shelf life, easier long distance storage and the rapid advance of pre-prepared food technologies. Electronic tagging of food at reasonable cost, to be able to ensure traceability, is a core issue confronting large-scale processors and retailers. The Italian report notes a particular technical development in liquid milk, which allows a longer shelf life for the product. Whilst communications technologies such as the Internet have expanded distribution options for niche products, for example in Italy and the UK, this strategy has been successfully embraced by some of the major UK multiples creating an even more competitive environment for smaller scale operators. The issue of GMOs was mentioned as a factor in only four countries; Belgium, the UK, Switzerland and Germany.

**Ad b) Areas of dynamism**

A number of factors impacting on the dynamism of FSCs seem to be common across all the partner countries, although there are certainly differences in emphasis. These factors include: a succession of food scandals and crises that have led to a growing distrust and critical awareness amongst certain consumers concerning the production of their food; increasingly differentiated consumer demands; market liberalisation and a growing cost-price squeeze on mainstream producers (most noted in the NL and BE reports); a tendency towards de-territorialisation, standardisation and concentration within the conventional FSC, leading to a loss of transparency and a disconnection between producers and consumers; governmental introduction of food safety self-regulation within the FSC (especially within the UK, NL and BE reports), which has led to greater standardisation but also normalisation; average farm sizes are increasing and the numbers of farmers are decreasing; a reduction in the power of the agricultural policy community and a rise in corporate retailer power, whereby the latter are now (invariably) seen as the most powerful actors within the FSC; and the emergence of a myriad of small-scale, local, regional, artisan, organic, ethical, traditional and direct FSC initiatives.

As a result of these elements of dynamism, there is a widely identified bifurcation between those food supply chains linked to normalised and concentrated systems (dominated by corporate retailers and large processors), and those more intent on product differentiation linked to regional or localised production systems (typified by producer co-operation and more direct producer-consumer interaction). Within the context of the SUS-CHAIN project these have often been described as the 95% (in that in simplistic terms they deliver circa 95% of all food) and the 5%, respectively. The latter have attracted enormous attention as being inherently more 'sustainable' than the 95%, and yet they are relatively insignificant economically. Conversely, the 95% are generally perceived to be less 'sustainable', but of much larger economic significance. Arguably, therefore, dynamic

processes that result in a small 'sustainability' gain within the 95% may have a larger overall impact on aggregate welfare, than a proportionately larger 'sustainability' gain within the 5%. Critically, this suggested dichotomy is not impermeable and the two sectors are in a constant state of dynamic interaction, with critical implications for the future sustainability of FSC. However, what also seems to be likely is that there is no middle ground between these two extremes.

*The 95% - normalised, concentrated and conventional*

Within the context of SUS-CHAIN it is the growing dominance of the corporate retailers that is highlighted as the most dynamic element affecting the sustainability of FSCs. Their primacy within the FSC varies, but in many cases four or five companies (two in the case of Switzerland) are responsible for over 80% of food retail sales. Across many of the different food sectors described, and all the partner countries, there is a process of concentration and normalisation within conventional FSCs, driven forward by large food processing and marketing companies. Industrial logic and private regulation initiatives dominate, leaving little room for manoeuvre by individual producers and suppliers: either they follow the rules of the mainstream actors, or they must develop an alternative approach.

A major component of this concentration and normalisation has been a process of vertical integration between large-scale conventional farmers, industrial-scale processors, and the corporate retailers, whereby the retailers (in particular) have sought to control the quality (in food safety terms) of the produce they sell in order to ensure they comply with their obligations of 'due diligence'. Food safety legislation increasingly gives responsibility to the large private actors within the respective chains, and most now have their own codes of quality (such as EurepGap) which suppliers must adhere to if they wish to sell to the retailer (or processor) concerned. Within this context, sustainability is equated with the ability to compete on price, which in turn necessitates that suppliers/producers increase their scale of operation through concentration and intensification in order to remain economically viable. The effect is that smaller producers/suppliers are effectively denied access to this FSC. Nevertheless, in the Latvian report, the increased involvement of the large retailers is viewed as having improved quality control within the FSC.

Until recently, large companies engaged in food processing and retailing were essentially only interested in mainstream food products, but clearly they are now increasingly concerned to differentiate themselves through providing 'high quality' produce, wherein quality is equated with traceability and origin, artisan production methods and ethical concerns. As such, there has been a proliferation of private quality assurance schemes within the conventional FSC (usually driven by the corporate retailers), which seek to demonstrate 'higher' quality standards (with this focus on 'higher quality' being in addition to food safety concerns). In some cases these initiatives may result in extra income for the producers concerned, but it is apparent that they are frequently becoming the 'norm' if producers/suppliers want to access a particular outlet, at which stage there is commonly no longer a price premium available. In Belgium, for example, fruit and vegetable producers are not obliged to obtain the hallmark *Flandria*, but there is a recognition that their produce will not be accepted by the large-scale operators if they do not. The producer is then tied to particular production standards, even though there is no contract as such and often no financial premium in doing so. To some extent it seems that large-scale producer cooperatives are redressing the power imbalance between corporate retailers and relatively smaller-scale producers, particular in Italy, but less so in other countries (most notably the UK and Latvia).

In relation to the *quantities* of 'sustainable' produce sold, the strategy of the large retailers is critical. In many countries, for example, organic produce has until fairly recently been sold through specialist outlets, or by direct sales, meaning that in economic terms it has remained marginal. Organic produce continues to be sold through these traditional outlets, but progressively (even in

Germany) the large retailers are selling more and more organic produce (markedly raising its profile and economic significance), and in the UK over 80% is now sold in this way. Likewise, the Swiss report noted the impact of the Coop supermarket starting to sell organic produce in 1993 (as a means of differentiating itself from its main competitor). Similar tendencies were noted in the UK report with respect to 'fairtrade' produce. Nevertheless, despite the involvement of actors within the 95% (most notably the corporate retailers) in providing greater quantities of 'sustainable' produce, there are widespread concerns amongst the reports that less benefit/value added will go to the producers concerned; that the mainstream actors emphasis on sourcing produce at the lowest possible price (whether of higher quality or not) means that the produce is often sourced on a global basis, thereby bringing into question its environmental sustainability (as identified with some organic produce); and the lucrative nature of certain 'quality' produce is prompting large-scale actors to industrialise what were once artisan processes in order to capture the value-added potential. As highlighted within the Dutch report, it is critical to understand the dynamics between smaller-scale (5%) operations within the FSC and those of the large-scale (95%).

In rural development terms, the dynamics of the 95% lead inevitably towards industrialised farming and a reduction in the number of farmers, as well as international sourcing which means that those rural areas unable to supply what is demanded by the mainstream players are marginalised.

*The 5% - diversified, regionalised and alternative*

Those suppliers and/or regions unable (or unwilling) to compete within the mainstream FSC have sought to create production niches, often utilising traditional species or varieties, artisanal skills, and making specific quality claims related to the origin of production (including ethical considerations), thereby increasing the transparency of food provision ('food with a story'). Coupled with this, direct and regional marketing initiatives are perceived to produce additional income and employment in rural areas, as well as enabling synergies with other rural development activities such as rural tourism. However, it is stressed that these initiatives must always be seen against the ever increasing concentration of the mainstream (or 95%) FSC. It is also pertinent to ask to what extent these processes are the result of market and producer-driven pressures, or supply-side driven (by ethical consumers, for example).

As mentioned in the introduction to this section, a myriad of what might be termed 5% initiatives have emerged across the partner countries, although there are certainly differences in emphasis. It is also the case that the figure '5%' is somewhat arbitrary: useful descriptively, but in reality the economic market share of these initiatives is likely to range from perhaps 1-2% (in the case of the UK, BE, NL), up to perhaps 10-15% in the case of Italy and more still in the case of Latvia. These figures are little more than guesswork, but the point is that the economic significance of the '5%' is not uniform across the SUS-CHAIN partners.

In the Dutch report, the primary motivation is on providing 'alternatives' to the mainstream FSC in order to diversify production, add value, and circumvent the cost-price squeeze. However, even within these 'alternatives' the aim is often towards extending their range to a national or pan-national level, and ensuring convenience to the consumer. Nevertheless, there are also initiatives intent on circumventing the 95% structures and enabling direct relations between producers and consumers, such as farmers' markets and specialist farm shops. There seems to be a certain ambivalence as to whether the 95% and the 5% should remain as separate identities, or whether there is any future in bridging the divide (and if so, how). Although not articulated in quite the same terms, these ideas find a resonance within the Belgium report, where a wide range of 'alternatives' are identified. Yet, at the same time they are described as being rather limited, usually linked to organic farming (often sold through the 95%), the promotion of specific quality

attributes (adding value to counter the cost-price squeeze), or making direct linkages between producers and consumers (such as within farmers' markets).

As with the NL and BE reports above, the UK report suggests that initiatives within the 5% are an opportunity for producers (and consumers) to overcome some of the constraints of the 95%, even though some of these initiatives often end up becoming part of the 95%. Again, as with the NL and BE reports, initiatives such as farmers' markets and farm shops are an important and rapidly growing development within the 5%, distinct from the 95%. The 5% initiatives are specifically linked to rural development and a strongly emerging regional agenda. This is encapsulated with the twin notions of 'local' and 'locality' food products, with the former intent on localising the FSC (i.e. remaining within the 5%), and the latter on valorising local/regional food products (which may, or may not, remain within the 5%). The German report indicates an even stronger regional emphasis, coupled with organic production and the direct marketing of produce. The notion of 'food with a story', which is told either through direct contact between the producers and consumers concerned, or through ensuring that consumers have access to good information about the produce they are buying. Again it seems likely that some of this produce will remain within the 5%, but some will also be channelled through the 95%.

Dynamism within the Italian report is heavily focused towards regionalisation and the promotion of traditional products. Some of this production remains orientated towards the local or regional level, utilising local markets and shops; some retains strong linkages to its production roots and yet is large scale and sold through large national retailers, or even internationally (e.g. where large cooperatives are involved); some even starts off with a regional identity, but becomes part of a 95% actor's marketing strategy. These tendencies are also evident in the Swiss report, although more in terms of artisan production rather than regional identity *per se*. Artisan production is seen to be vital for the protection of the way of life in particular (usually mountainous) areas, through enabling better prices for smaller producers. As with many of the reports, localised outlets for these products certainly exist, but the introduction of PDO/PGI certification is perceived as a real opportunity for traditional products to enter large retailers and to access to the export market.

Dynamism within the 5% sector of the Latvian FSC differs from the other reports, mainly due to Latvia's recent history of state ownership and the emergence of a market economy since 1991. Unlike the other partner countries, a much more significant localised 'alternative' structure has continued to exist within Latvia[1] (household production, direct sales to local markets etc.), whatever the overarching structures. As such, the continuance of these FSCs is not considered to be new or dynamic, but traditional, making up perhaps 30% of the whole FSC. New 5% FSC initiatives in Latvia refer to new products, new production methods and new marketing outlets. Nevertheless, in large part due to Latvia's imminent entry to the EU, there is an emphasis on engaging the larger-scale actors in these initiatives in order to increase their economic scope and developmental potential.

It seems clear, therefore, that although FSC dynamism can be identified in terms of the 95% and the 5%, there is very considerable interaction between the two sectors. As suggested in a number of the reports, it is critical to understand what happens to the sustainability criteria inherent within the 5% once they engage with the 95%, whether this be in terms of selling through the corporate retailers, or being appropriated by a large processor. It is also critical to understand the nature of the permeability between the two sectors, in order to clarify the nature of the bottlenecks inhibiting the development of more sustainable FSCs.

### 3.2.2 Consumers' attitudes and behaviour

As outlined in section 2.2.2 the consumer behaviour model of Jager (2000; see also figure 2.2) was the starting point for the conceptual framework for the analysis on consumers' attitudes and behaviour. An important remark beforehand is however that most results are focused on the sales of sustainable products in supermarkets. Although the importance of out-of-house consumption increases in Europe, there are almost no data available on the consumer preferences and motivations towards this type of consumption. In many cases, there is also a lack of information about direct selling and short food supply chains and the reasons why consumers prefer to buy their products there.

#### Definitions of sustainability for food products

There is nowadays a general recognition that the impact of the food sector extends beyond what happens on the farms themselves, and incorporates complex relationships between rural development, food production, processing, distribution and consumption at a variety of scales. Issues of provenance, and the environmental, economic and social costs/benefits associated with its production and consumption, have necessitated a critical appraisal of what is meant by sustainable agriculture and sustainable food production (UK report).

A traditional view on sustainability is that sustainability is reached when environmental soundness, economic viability, and social justice are equitably balanced among all actors. The major advantage of this definition is that it holds on all levels; but sustainability is at the same time a very complex notion that is often not understood by the consumer. This complexity is also in contrast with the (simplified) marketing approach of sustainability used by some actors in the chain.

A definition of sustainable agriculture is only mentioned in the UK report and originates form the Sustainable Development Commission. It concerns agriculture that contributes to the overall objectives of sustainable development -- to meet the needs of the present without compromising the ability of future generations to meet their own needs. Starting from this definition, seven objectives for sustainable agriculture within the UK are formulated (SDC, 2003).

At the other end of the food supply chain, sustainable food consumption is defined by the Dutch and Belgian report (Bruyer et al., 2003; Meulenberg, 2003). Both definitions have in common that sustainable consumption is not only determined by the individual needs of the consumer, but that there is a broader view on the social and ecological relevance of production.

Several countries report furthermore that different types of products are linked to the concept of sustainability. According to the Swiss report, the categories concern the environment, fair trade and the origin of the product; the Italian report has very similar criteria to categorise the products, namely ecological, geographical and ethical products. The German report states that three types of products are perceived as "more than the standard food offer" by the consumer: organic, regional and fair trade products. In Belgium, Mathijs (2003) puts that the different aspects of sustainability lead to four types of products that could be communicated to the consumers: government protection, sector labels, distribution brands and private labels, and direct contact with the consumer.

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[1] The current continuance of this 'alternative' structure is a function of the transition process towards a market economy, and the economic casualties of this transition needing to find cheap food in local markets and from household plots.

## General food consumption trends

Important trends in food consumption are the observation that the basic needs are fulfilled, the socio-demographic changes in society and the growing consumer awareness and concerns.

Although five countries mention the fulfilment of the basic needs of consumers, this probably is the case in all countries; the consequences attributed to this phenomenon however differ amongst the countries. Examples are the low willingness to pay for food products, the decreasing budget spent on food products and the complex nature of food consumption. The tendency towards individualisation, hedonism and attention for well-being, which were mentioned by three national reports, are in many cases also a consequence of the satisfaction of basic needs.

Socio-demographic changes are another obvious tendency in many (all) countries. There is for example an increasing number of double-income and one-person households, more women are present in the workforce and the population is ageing. Several other trends, such as the increasing demand for convenience food in order to manage time and work more efficiently, but the changes in type of food consumption and distribution (growing success of the catering sector and supermarkets) can also be linked to this.

Consumer awareness and concerns are the third food consumption trend. These result in many cases from the several food crises and scares in Europe and can lead to an increased interest in health-related food and organic products. The growing interest for new and alternative products can also be linked with to these concerns and the fulfilment of the basis needs, but it has to be understood in a broader context. Many consumers are nowadays interested in ethnical products and other using situations, probably as a consequence of the increasing globalisation and modernisation.

## Consumer behaviour towards sustainable food products

*Consumers' values, needs and motivations*

A general claim concerning this topic is that food is a low involvement product and therefore consumers do not link their food consumption with environmental and societal problems. All countries however mention that individualistic motives, such as health (as the key issue), price, taste, appearance and convenience are important for the consumer. A growing group of consumers is also concerned about sustainability issues and they mention altruistic motives to buy sustainable products. Therefore, a combination of personal advantages (such as security for health) and of sustainable products (e.g. protection of the environment, animal welfare, fair trade, regional identity) should be targeted. Personal advantages are almost an essential conditions because these are important for the majority of the consumers.

A comparison over the seven SUS-CHAIN national reports learns that taste and good quality is mentioned in all the individual reports, followed by health (6 countries) and environmental (5 countries) concerns. In four country reports, value for money / price and identification / social motives are mentioned as motivations that influence the sustainable consumption of consumers.

Similar results can be found in the international literature. Thøgersen & Ölander (2002) studied the human values (which are assumed to be some of the most stable phenomena in a person's mental set-up) and the emergence of a sustainable consumption pattern. Their results show that Danish consumers give a higher priority to benevolence and universalism than to power and achievement, but hedonism is also a high priority value. This finding can lead to conflicts between striving for a more sustainable lifestyle and hedonic desires. According to Magnusson *et al*. (2003) health is the

most important predictor of attitudes and the purchase intention for four types of organic foods. Purchase frequency is however also influenced by environmentally friendly behaviour such as saving electricity, refrain from car driving to spare the environment, etc. Other important determinants are age, the factor environment and in some cases gender or education.

*Information, knowledge and uncertainty*

A major problem concerning this topic which is mentioned by all country reports, is the limited and inaccurate knowledge of the consumer on agriculture and food production in general. The reports also mention that consumers have a low understanding and are not capable of interpreting information concerning food production. The confusion is furthermore enhanced by the large and still increasing amount of sustainable labels, initiatives, and certification systems on the market. The issue of limited knowledge is also linked to a limited search behaviour and lack of interest, but is also a consequence of the growing gap between producers and consumers. Uncertainty is another important issue and results in many cases from the recurring food crises in Europe. Consumers try to reduce their uncertainty by establishing a relation based on trust with the retailer or even the producer of the food. Another possibility is to find credibility in the claims of labels and hallmarks.

*Availability of products and behavioural control*

Comparative analysis learns that many sustainable products (e.g. organic products) do not longer belong to a niche market but have an increased availability, due to the increased number of distribution channels (mainly supermarkets) that sell these products. An increase in organic convenience food was noticed in the UK. However, sustainable products are still seldom offered in a broad and deep assortment, while consumers claim that a higher availability could increase their consumption. The German report furthermore mentions that sustainable food products are presented in a less attractive way in comparison with their conventional equal.

For local food, some (often practical) difficulties are mentioned but these could be solved in new chains. These new and innovative marketing channels are not mentioned by all reports, but different initiatives of course exist in each country.

The sales of fair trade products are in evolution in several countries and these products are in many cases available in supermarkets. Two countries, however, report an inefficient distribution of these products.

Briz & Al-Hadji (2003) refer to a study of MAPA (2002) that identifies two main commercialisation models for organic products across Europe. Model A is the one in which most of the sales is made through hypermarkets and supermarkets, as for example in Denmark, Austria, Sweden and the United Kingdom. While in model B the specialised stores are the most important outlet with Italy, France, the Netherlands and Spain as examples. This difference leads to an important distinction in the percentage of organic product sales. In model A, this is on average 1,375% of the agricultural and food market and only 0,575% for model B. The authors conclude that, as soon as the distribution channels change and organic products are available at hypermarkets, providing appropriate information about organic food could lead to a higher level of consumption.

*Decision-making process: attitude and consumption behaviour*

The gap between the positive attitude and intention of consumers and their actual purchase behaviour is the most important bottleneck according to the different country reports. Different explanations are suggested and price is hereby considered to be an important obstacle. Another problem is that consumers often have a negative perception of essential attributes such as taste and convenience. Next to these attributes, the sustainable aspects of the product should be trusted.

The image of the products, producer and trader should be able to convince the consumer to buy the product. Furthermore, behaviour based on habit is also proposed as a reason for the low market share of sustainable products. Even if consumers have good intentions, once in the shop they will search for their habitual products or are influenced by situational factors such as promotion. Several national reports mention a positive perception of regional and local food products, since they have the image of freshness and quality and contribute to the regional economies and identity.

Next to the values, Thøgersen & Ölander (2002) also studied consumer behaviour and found that behaviour is rather variable in time because of external conditions and the frequency of performing a certain behaviour. Stability of behaviour is often assumed to be the result of habits, but the authors conclude that, when behaviour is stable, the forces determining behaviour are unchanged. It was furthermore observed that predominant causal influence between basic values and environment-friendly behaviour indeed goes from values to behaviour in a short-term perspective.

*Socio-demographic profile*

An overview of the results concerning the socio-demographic profile is given in the table below.

**Socio-demographic profiles of sustainable products mentioned in the country reports**

| Country | Ecological products (organic) | Regional products | Ethical products (fair trade) |
|---|---|---|---|
| NL | 1. No differences<br>2. Elderly, with children, higher income<br>3. Higher education, involved in societal organisations | | 1. Better educated<br>2. Better educated, age 40-49, smaller families |
| UK | Families, age 35-44, ABC1 | 1. Age 55+, ABs & Es, family groupings, women<br>2. Farm products: rural consumers | |
| CH | German speaking part, age 40-49, income effect | French speaking part, city, men,<br>- younger | |
| IT | 1. Male, high socio-economic level, graduate, age 40-49, North, self-employed<br>2. (Medium-) high income, young families, North, 3-4 members in family | | Age 35-55, academically well-qualified, North, buy in World Shops, men or women |
| BE | 1. Women, city, age 25-45, young children,<br>- highest & lowest income class<br>2. Similar results gender & age, decreasing trend social class | Farm products: older consumers,<br>- 1 person households, upper social class | Age 31-44, male, higher educated, men |
| LV | Better educated, better off, city dwellers and women | | |
| DE | 1. Higher incomes, higher formal education, relatively young, with children<br>2. Relative high willingness to pay, in dink-households<br>3. Socio-demographic criteria loose explanatory potential<br>4. Confirmation results 1. | 1. Wide-minded, high willingness to pay, relatively high revenues<br>2. Patriotism<br>3. Elderly people with low level of formal education | Young families, high formal education |

Generally, this table mentions issues that have a positive influence on the purchase and recognition of three types of sustainable products. Elements that have a negative influence on the purchase decision are indicated with '-'. The table comprises furthermore three types of sustainable products: (i) ecological products but most studies concern organic products, (ii) regional and typical products, and in some cases farm products, but this is mentioned explicitly, and (iii) ethical products which are in all cases fair trade products. A problem with the interpretation of these results is the fact that no distinction can be made between regular and occasional buyers. This could lead to different findings because both groups do not have the same expectations and involvement.

If the results of the different studies on ecological products are compared, the presence of children or young families as a positive factor can be noticed several times. This has probably to do with the health concerns of parents towards their children. Another recurring element is the beneficial effect of a higher income, although this is seen as an negative element in a Belgian study for the highest and lowest income classes. Organic consumers seem to have a rather high level of education, but not all research could prove this tendency. The results concerning the age of the consumers and their gender differs from country to country, but the relatively higher presence of the age group 40-44 seems a common element. In several countries, there are also differences noticed in the purchase behaviour according to the region.

The socio-demographic profiles of consumers of regional and traditional products don't seem to have common elements, except for a relatively higher age in the UK, Belgium and Germany, and a younger age is a negative indicator in Switzerland.

A high formal education is a common characteristic of consumers who buy fair trade products. These consumers are in many cases also relatively young (35-40), except for the Dutch case where the group 40-49 is more present. Other socio-demographic characteristics of buyers from ethical products are that they have a young or small family, but no statement can be made about their gender.

There are some important differences between the socio-demographic profiles for the three groups of sustainable products and so it is impossible to identify 'THE consumer of sustainable products'. It can however be stated that educated people with a relatively high income and that are between 35 and 45 years old have a higher chance to buy sustainable products.

*Social embeddedness*

A first dimension of social embeddedness mentioned in several reports is the involvement of consumers and citizens in the food supply chain, the reconnection of consumers with the food they eat and the increasing significance of social relations within the FSC. The link between consumers and the other chain actors is at this moment not widely developed and in some countries, a disconnection can even be noticed. Measures to improve this situation are for example the covenants in the Netherlands. Improved relations between the different levels in the FSC will inevitably lead to a situation of more trust and transparency. The UK report furthermore mentions the definition of local embeddedness. This concept adds the relevance of the location to the social embeddedness, which gives more recognition to the social ramifications of the exchange process.

A second aspect of social embeddedness is the fact that a consumer is only a small part of the entire society and hence undergoes influences from that society. Examples are the food scares and crises, fashion trends, familial judgement and decisions made by other actors in the food supply chains. Other influences come from the process of post-modernity and the milieu the consumer belongs to.

## 3.3 Food supply chain dynamics: a micro-level perspective

The 14 case studies were analysed and compared according to six key themes and a set of indicators per theme (see 3.1). The results of these comparative analyses will be presented accordingly.

### 3.3.1 Commercial performance and distribution of value added along FSCs

The commercial performance of the 14 cases is summarised in the table below.

| Good commercial performance | Medium commercial performance | Low (or poor) commercial performance |
|---|---|---|
| DE: Uplaender dairy | BE: Westhoek farm products | BE: Biomelk Vlaanderen |
| DE: Tegut | | IT: CAF organic beef |
| IT: raw milk sheep cheese | | LV: LAMCB (beef production) |
| LV: Rankas dairy | | UK: CFP [7] (local food in Hospitals) |
| NL: De Hoeve pig-meat | | UK: supermarkets (local food) |
| NL: CONO cheese (Beemster-Kaas) | | |
| CH: Rye bread of Valais | | |
| CH: NaturaBeef | | |

*Potential for creating value added (VA)*

The comparative analysis of the 14 cases shows that the commercial performance of a FSC is first of all based upon its potential for creating value added (VA). VA can be created by means of a price premium at consumer level. In order to realise that, the following aspects turn out to be important:

- Well conceived marketing concept.
- Appreciation of the region.
- Appreciation of the "philosophy" of production (production methods).
- Appreciation of the product itself (e.g. because of quality standards).

The low share of VA at producer level is considered to be one of the economic constraints for sustainable food production. A number of the initiatives studied in this project therefore aim to increase the share of VA at producer level. Important aspects in that respect are:

- Better chain efficiency.
- Functioning and diversified channels of distribution.
- High degree of recognition of the product / brand.
- Reliable and trustworthy chain.
- Compliance with quality requirements / production standards.

*Market share*

Second, the commercial performance is based upon its market share. Aspects that have a positive impact on the market share of a product or range of products are:

- Creation of new distribution channels.
- Strong partnership between producers and other chain actors.
- Coherent management concept.

- Differentiation of the product.
- Prominence / degree of 'familiarity' of the product .
- Ability to fulfil quality requirements.
- Continuous / permanent supply.

Aspects that have a negative impact on the market share are:

- High production costs.
- Lack of product differentiation.
- Lack of purchasing power (particularly the case in Latvia).
- Lack of an economically sound long-term strategy (particularly the case in Latvia).

*Market differentiation*

Third the degree of market differentiation is important for the commercial performance of the food supply chain. The degree of market differentiation is a key factor for commercial performance and also for the distribution of value added along FSCs. It is characterised by the type of market the initiative is operating in. We need to distinguish at least between: a) the highly competitive market for mass products (no differentiation), b) the medium competitive market segmented by branding (medium differentiation) and c) the low competitive market protected by certification like PDO / PGI (high differentiation). For each of these types, different factors are influencing the degree of market differentiation. By creating PDO regulations, the Swiss Valais rye bread as well as the Italian sheep cheese obtained a high product differentiation in the market. Only producers conforming to the specific PDO rules are allowed to use the corresponding label. By using own production standards (like the 'Green label' in the case of the Dutch pork production) or by co-operative production and sale (e.g. the Belgian 'Westhoek' farmers, the 'Uplaender' dairy farmers, the Swiss suckling cow farmers or the Dutch dairy farmers) initiatives reached a certain level of product differentiation in the market. The brands established by the co-operatives distinguish their products from comparable products in the market.

| Highly differentiated market (certification like PDO / PGI) | Medium differentiated market | Low differentiated market |
|---|---|---|
| CH: rye bread | BE: Westhoek farm products | BE: bio-milk |
| IT: raw milk sheep cheese | CH: beef meat from suckling cows | IT: beef meat (organic) |
| | DE: dairy (Uplaender) | LV: Rankas dairy |
| | NL: pork | LV: beef meat |
| | NL: CONO cheese | UK: Cornwall Food Programme (CFP) [5] |
| | | UK: supermarkets |
| | | DE: supermarket |

The German Tegut supermarket chain has also reached a remarkable position of differentiation in the market for their products. Tegut was able to differentiate from other supermarkets by listing a high percentage of organic products and by emphasising the regional sourcing of many products.

Some of the initiatives are only at the beginning of their development making the assessment of their future market position speculative. The survival of the initiatives is depending on their capacity for finding a 'niche', as can especially be observed in the cases of the Belgian organic milk and the Latvian and Italian beef producers. Although they are associated in a co-operative they have so far not been able to find adequate strategies to make their products more successful (e.g. by finding suitable outlets or by increasing consumers' demand). The Latvian Rankas dairy is in

transition to a certain market differentiation due to the fact of 'new' products. An example of a speciality, the dairy tries to enhance its profile with is 'rye bread yoghurt', produced with rye bread from organic agriculture.

### 3.3.2 Marketing conception, marketing measures and communication

Marketing conception, marketing measures and the communication among all actors involved play an important role for the success of an initiative. Marketing describes the market oriented business management where all measurements are oriented versus the distribution and controlled about their effectiveness. Marketing obviously is more than just 'putting in the market', 'enhancing sales' or 'advertising', but part of the successful management of an enterprise. Recent concepts of marketing aim to assess an enterprise including all aspects from the market's angle. According to marketing theory the success of an enterprise depends on its capacity to permanently understand, anticipate and adapt to market development. Enterprises can opt for implementing imparting values or messages, like ethical ones, into their marketing conception and, thus, into any level of decision-making and action within the enterprise. They can even chose to use ethical criteria as central part of their positioning on the market. A key term of positioning is the 'unique selling proposition' (USP), a set of items that renders the enterprise (or the FSC) and its products unreplaceable with respect to particular features in the perception of consumers. Cues like ethical and ecological correctness and/or sustainability can well be part of the USP of food supply chains (FSCs). The communication policy will be in charge to present the ethical / ecological cues, that are realised within the enterprise, to the audience the enterprise is targeting (the universe of food consumers or parts of it). Against this theoretical background indicators concerning marketing and communication were identified.

*Joint communication effort*

The positive factors influencing the joint communication effort can be divided into factors inherent in the FSC, those related to a network around the FSC, those related to special actors within the chain and, finally, factors based on the 'social environment' of the FSC. The positive factors are:

- Strong common interests among partners along chain
- Other actors within a wider network
- Special personnel in charge of communication
- Charismatic person, able to convince people of his vision
- Importance of non-economic values

Factors negatively influencing the joint communication effort can also be observed. These are:

- Lack of adequate partners
- Lack of appreciation / recognition within the own co-operative
- Lack of communication know-how
- Weak position of one actor in the chain or strong position of a single actor

*Unique Selling Proposition (USP)*

The 'unique selling proposition' (USP) is, in an economic sense, the term for an unique combination of clues that can satisfy best the needs and wishes of target groups. USP can only be attributed to products or to enterprises, and not to market situations or competition patterns. USP can only be

described from the target groups point of view. A unique selling proposition (USP) can substantially contribute to an initiative's success. Attributes that are describing the USP of particular products or initiatives are listed below:

- De Hoeve (NL) and the Uplaender dairy (DE) name a short chain / closeness to farmers as USP factor. Short chains facilitate the maintenance of a strong network and a functioning communication in these cases.
- Tegut supermarket chain (DE) substantiates its USP by factors as freshness, high quality and regional linkage, social commitment and price competence.
- The Raw milk sheep cheese association (IT), together with Slow Food, was able to communicate that the sheep cheese is a unique credible and coherent product because it incorporates regional, tasty, traditionally and rural attributes.
- BeemsterKaas distinguishes itself from conventional Gouda cheese by milk quality, artisan production, taste and the grazing cows farming system. For the Valais rye bread a PDO regulation with a credible code of practice has been established. Tegut was able to distinguish itself by offering a large range of organic products (accounting for 10 % of total turn-over), and the Uplaender dairy focused on the development of specialities such as sour cream (Schmand) and a special kind of cheese (Handkaese).
- The Swiss beef case provides another example as the farmers' NaturaBeef co-operative is the only organisation offering a speciality product in Switzerland. The specialty in this case is beef of suckling cows within a production systems that contributes to maintain grassland in the mountainous regions. The co-operative was able to communicate this fact to consumers in a clearly formulated and simple message.
- In the Dutch pork case, the constant high product quality and product freshness are the attributes that characterise the credible and coherent product. And additionally this products is offered at an affordable consumer price (the same as in supermarkets).

There are also obstacles to the creation of a USP. The main factors are listed and described below:

- Weak competitiveness in relation to other high quality products.
- Consumers' low brand loyalty.
- Lack of appreciation through the selling organization.

Those initiatives so far not able to create a qualitative differentiation of their products consequently were not able to reach a USP.

*Ownership of the brand and significance for performance*

Factors influencing the ownership of the brand and significance for performance in a positive way are:

- An active marketing and clear communication strategy centred around product features (e.g. organoleptic qualities) or production process characteristics (e.g. animal welfare, artisan production).
- Support by external experts assisting in or responsible for the launch of products in the market through the development of a brand and corresponding marketing measures.
- The creation of a PDO or PGI label, which, as a public sign, cannot really be compared with other private-owned labels and brands.

Factors negatively influencing the development and maintenance of a brand or label are described below.

- The emphasis on 'local' as a marketing and communication tool without the existence of a real brand. 'Local food for local people' is not sufficiently distinguishable.
- The lack of a promotion strategy associated with the creation of a brand.
- The quantity produced being too small to create a popular brand: if there are no or insufficient amounts of marketable products it is not worthwhile to create a brand.

*Degree of vertical integration (coordination)*

Vertical integration is a basic requirement for effective communication outwards. This requirement is even more important with 'challenging' products and chains. Factors that contribute to a strong vertical integration are:

- Responsibility of chain actors (they take over important tasks).
- Strategic vision and a coherent management within the chain.
- Good and balanced partnership along chain.
- Strong leadership.

Negative factors contributing to a weak vertical integration are:

- Lack of networking among producers.
- Insufficient communication between different actors in the food chain.
- Lack of power to gain access to existing food chains.

*The 4 C's related to the implementation of marketing measures*

There are very few sources on marketing communication regarding regional or sustainable products. The approach of the so-called 4 C's introduced here is based on Hopfenbeck (1994). The 4 C's are:

Competence: Line out the enterprise's competence regarding its field of activity and the environmental topics associated.

Coherence: Coherence between the different elements of the entire marketing strategy.

Commitment: Prove one's readiness to continuous improvement of solutions regarding ecological issues. Highlight the own ecological policy as wide ahead of legal requirements.

Co-operation: Engage suppliers and retailers to participate the own environmental policy. Jointly communicate this co-operation.

The following table gives an overview of the performance of the case studies concerning the 4 C's, competence, coherence, commitment and co-operation.

It can be stated that those initiatives that show a low or a very heterogeneous performance concerning the 'marketing C's', are the same FSCs as those classified as having a low commercial performance (see section 3.3.1). The only FSC that was classified with a medium commercial performance, the case of Westhoek farm products (BE), also in the marketing sense it presents itself with a rather medium performance. Most all of commercially successful initiatives show a high or good performance in terms of marketing-communication. Comparing these results of marketing performance with commercial performance, it may be assumed that both performances are strongly linked. But actually it can not be said if marketing performance provokes commercial performance (or vice versa) or if they develop at the same time on the same level.

**Performance of the initiatives studied concerning the 4 C's**

| Country | Case study | Competence | Coherence | Commitment | Co-operation |
|---|---|---|---|---|---|
| BE | **Biomelk Vlaanderen** (organic milk in Flanders) | - | + | ++ | - |
| BE | **Westhoek farm products** (marketing of regional products) | 5 | 6 | 4 | 4 |
| DE | **Uplaender dairy** (dairy sector; organic milk; co-operative) | 7 | 6 | 5 | 7 (farmers) 4 (partners) |
| DE | **Tegut supermarket chain** (conventional food retailers) | 6 | 6 | 5 | 4 |
| IT | **CAF** (co-operative of meat cattle breeders) | 1 | 1 | 1 | 1 |
| IT | **Raw milk sheep cheese** | 5 | 6 | 5 | 3 |
| NL | **De Hoeve BV** (sustainable produced pig-meat) | 5 | 6 | 5 | 5 |
| NL | **CONO dairy** (dairy chains in the Western Peatland Region) | ? | 3 | 5 | 5 |
| UK | **The Cornwall Food Programme (CFP)** (food procurement by the National Health Service) | 5 | 2-3 | 6 | 3-4 |
| UK | **Procurement of local food by UK supermarkets;** The Co-operative Group in the High Weald of SE England | Low | Low | Low | Low |
| LV | **LAMCB** (beef meat production/Latvian Association of Meat Cattle Breeders) | 5 | 4 | 5 | 3 |
| LV | **Rankas dairy** (Ranka dairy chain) | 5 | 5 | 3 | 4 |
| CH | **Rye Bread of the Valais** - Pain de seigle du Valais AOC (typical product; quality certification) | 5 | 7 | 5 | 7 |
| CH | **Natura Beef** (a national certified bovine meat) | 5 | 6 | 6 | 7 |

Note: The numbers in the table give a ranking from 1 (poor) - 7 (very high / good performance).

### 3.3.3 Public support

External networks play an important role regarding business support. Financial as well as non-financial support can derive from the public sector. Other potential providers of support are private actors or non-profit organisations. The following types of support have to be distinguished:

- Financial support, e.g. as investment or as start-up financing;
- Marketing support, information and public relations, public legitimisation of the initiative, brokering;
- Training and consulting;
- Support of innovative and experimental approaches.

*Importance of public support*

In the present food system and market situation, which is characterised by processes of concentration and price-based competition, support provided by public institutions plays a particularly vital role for establishing and developing *new* or *alternative* marketing initiatives. Public support can be important for a number of reasons:

- To reduce high risk and transaction costs.
- To financially support Innovations (technical and organizational) and structural changes.
- To finance the appointment of an FSC manager.
- To realise cost-intensive marketing measures.
- To elaborate a joint label.
- To support the registration and certification of pedigree cattle.

*Importance of non-financial support*

Besides financial support, several aspects of non-financial public support should be mentioned. Public support is not always expressed in flow of financial resources. Non-financial support may even be critically important for the successful development of a new or alternative FSC. Examples of non-financial support are:

- Information, advice & advocacy
- Collaboration with other actors (e.g. outside the chain) to overcome administrative constraints or to apply new suitable techniques

The following key factors determining 'non-financial support' can be listed:

- Capacities and competences (and strategic vision) of the initiators are essential to mobilise (non-financial) support.
- A high degree of conformity between aims of chain actors and other actors outside the chain (e.g. NGOs) lead to a strong integration and involvement of those other actors. New ideas can be developed or advocacy for the initiative may be obtained.
- Political interest or in other words a change in agricultural policy may lead to public (non-financial) support.
- A basis for organising non-financial support is the performance of an initiative in terms of networking, resulting in e.g. commitment to long term collaboration, access to information and non-financial resources (advisory services etc.).

The above factors contribute considerably to the positive effect of non-financial support, and they can significantly reinforce financial support.

*Reduction of constraints*

In many of the case studies constraints on the part of public institutions and administrations are described. For instance, the De Hoeve pork initiative (NL) had to face the problem that the government showed a lack of flexibility regarding official regulations. The organic beef producers of CAF (IT) and the organic milk farmers of Biomelk Vlaanderen (BE) report a lack of interest of public authorities in the initiative. As food security is an important issue in Belgium, in the Westhoek initiative farmers had to implement HACCP-like measures, meaning a high burden for the individual farmer. There are similarities to the above-mentioned case of Rhoengut (DE), where hygiene regulations at local level at first obstructed product innovation.

Besides hindrances on the part of public institutions there were also other constraints:

- Social pressure: e.g. difficult relations between actors taking part in the initiative and colleagues not participating in the initiative (bad standing, loss of reputation)
- Dependence on a large retailer.
- Conflicts about production standards: e.g. the production standard for organic products at members states level are often higher than the EU-standard for organic products

Key factors that effectively contribute to a removal or reduction of constraints are:

- Communication: A better communication and network building among producers, technicians, researchers (and local health authorities) was essential to make raw milk accepted (Raw milk sheep cheese, IT)
- Legislative measures: Legal protection of 'real farm products' as a brand name and of their points of sale can be very helpful.
- Research and information: Research revealed that the processing techniques desired are legal (Tegut supermarkets, DE)

*Targeting and phasing of support*

Several case studies show that the support received from the public sector is most important in the starting phase of an initiative as elaborating new models often requires external support. This can be seen, for instance, in the case of the Raw milk sheep cheese initiative (IT) which received support from many actors (as well as the public sector) at the beginning, allowing for continuing the use of raw instead of pasteurised milk.

The De Hoeve pork initiative (NL) was able to mobilise financial support at different stages of development. In the first stage technical support for defining criteria and norms for the 'Environmental Label' was obtained. In the second and third stage funding for chain development, management and marketing tools was received. And in a fourth stage, experiments with new criteria for animal welfare and dissemination of knowledge were supported.

### 3.3.4 Nature of organisation, self-governance and changes during scaling up

The nature of an organisation formation, legal form etc., its ability to govern itself independently and changes regarding both aspects that may occur during a scaling up process, are the themes that will be highlighted in this section.

*Presence of growth or scaling up*

Some of the initiatives studied have registered growth or scaling up, while no growth or scaling up was noted in other initiatives. Growth implies a more intense use of existing resources, scaling up implies a different organisation of resources (e.g. from informal to formalised, from artisanal to industrial, from local to national or international markets). Accordingly, the indicator ('presence of growth or scaling up') is built by using several other indicators such as growth of volumes and prices, number of participants and technological change (from artisanal to industrial production). The presence of growth and scaling up is regarded as an indicator of success. Therefore it was chosen as an important aspect within this core theme. Although it is important to distinguish more precisely between growth and scaling up, it proved rather difficult to differentiate between them in the case studies.

Key factors influencing the 'presence of growth' or 'scaling up' are:

- The existence of strategic alliances.

- A short and efficient chain.
- An appropriate legal framework stimulating other producers to join an initiative.
- A clear strategy regarding management and marketing. This allows a more efficient coordination of all processes along the chain. It is often combined with a strong and convincing marketing concept.
- A more efficient coordination within the chain
- The capacity to translate retailers' demand to all other FSC actors.
- Continuous innovation (new ideas, new products, new technology, etc). Initiatives which have 'fixed' their production methods in statutory rules (e.g. PDO regulations) can not use the aspect of continuous innovation for growth.
- Not only a strong vertical but also horizontal network.
- A well-defined USP to put the product on the market.
- A certain degree of public (financial but also non-financial) support.

Beside the positive factors supporting the growth and scaling up of initiatives, there are also negative factors that inhibit growth and scaling up. These factors are:

- Uncertain distribution channels. On this basis it is difficult to find new producers willing to join the initiatives.
- Inability to guarantee a price (premium) that is either fixed to a certain volume or includes a fixed premium for quality above the price for conventional products.
- The lack of an effective marketing strategy
- A limitation to the number of producers in the statutory rules of the consortium. On this basis, the only possible growth could be by improvement of the overall organisational efficiency.

*Ability to choose the most adequate type of organisation*

Food supply chains, as they were described in the 14 case studies, can be organised very differently. The types of organisations found are co-operatives, private and individual enterprises, consortiums (or associations) or umbrella organisations promoting a basket of products like 'Slow Food'. As key factors in choosing the most adequate type of organisation the following were identified in the case studies:

- A balanced decision-making power between the FSC actors as very important for deciding on the 'right' type of organisation.
- The advice of external consultants about the right or most adequate type of organisation.
- A wide network which includes not only chain partners but also other actors.
- The admission of non-farming participants in the management of the organisation.
- The type of organisation most suitable for the type of product or its special way of sale.

These factors do on the one hand determine the ability to choose the type of organisation, but on the other hand they have an influence on the type of chain or network the initiative is working in. So with De Hoeve pork (NL), e.g. the two initiators decided to found De Hoeve on the basis of the legal form of a limited company. But more important than this is the way the chain actors (pig farmers, slaughterhouse, butchers) work together. The factor of a 'balance of decision-making power between chain actors' seems more important than the legal form of De Hoeve. Something similar can be stated regarding the factor of a 'wide network'. The wide network in cases like NaturaBeef (CH) (mainly in the very beginning), Raw milk sheep cheese (IT) or Uplaender dairy (DE) seems again more important than the legal form of each of these initiatives.

*Ability to control the organisation and the process of growth or scaling up*

Using this indicator, it can on the one hand be demonstrated how all participants of an FSC work together most efficiently. On the other hand, it can be demonstrated how volumes of sale are managed and preferably increased. A strategic vision is often the basis for a well-functioning organisation and for successful scaling up.

The key factors that enable to control the organisation and the process of scaling up in an efficient way are:

- Establishing sales licences is one factor allowing control over the quantity of a certain product sold.
- Introducing a clear 'code of practice' that defines the rights and duties of certain chain actors.
- A more or less obvious factor that determines efficient control of an organisation is a small size.
- Another determining factor allowing for control over the organisation is the 'omnipotent chain captain'.
- A clear organisational structure.

Factors that constrain control over the process of growing and scaling up are:

- The volumes sold depend on the demand of the retailers.
- The initiative is not really supported by the organisation in control of sales.
- The low ability of farmers to control the organisation due to strong leadership of the manager.
- PDO regulations do not allow, for example, to choose new partners that are not mentioned in the regulation.

*Outcomes of the process of growth or scaling up*

Obviously, the process of growth or scaling up does not happen without any 'internal' or external changes in FSCs. Changes may concern the distribution of power, the objectives, the way marketing is carried out or even the product itself (e.g. product quality). Relevant factors that are influencing the existence and the outcomes of growth (scaling up) were already mentioned in the preceding sections. Factors that allow a good commercial performance, successful marketing conceptions and communication and efficient public support also contribute to the growth and scaling up of initiatives. In order to avoid repeating the same factors as mentioned above, they will not be listed again in this section. Nevertheless, some other important key factors influencing the outcomes of the growth or scaling up of initiatives can be discerned:

- The improvement of the technical quality of the product
- Investments in quality and new technologies, allowing for achieving a special market position
- Through fixing PDO regulations there were also better guaranties for food safety established. These guaranties attracted many bakeries to participate in the initiative and led to an increase of the volumes processed per year.
- Gaining new distribution partners and finding new (or different) distribution channels.

### 3.3.5 Impact of new FSCs on rural economies and rural assets

Assessing the impacts of alternative food supply chains on rural development (RD) is central to the SUS-CHAIN project. A principal reason for the interest in alternative food supply chains is their potential for contributing to sustainable rural development. Rural development is recognised as having multiple dimensions. Operating within the widely accepted sustainable development

paradigm, these are normally seen as comprising three major fields: economic, social and environmental.

**Economic indicators of rural development**

Economic indicators may concern the 'new' or additional value added created within a region or as well the direct, indirect and induced effects on employment. In connection with these indicators, it is expected that in the case studies the part of the value added received by the farmers we will be examined, as well as the level of transaction costs and possibilities of reducing them. Other aspects to be examined are the degree of dependence on public support and the multiplicator effects that are created within the region. Accordingly, relevant indicators are: NVA in the region; direct, indirect and induced employment in the region; farmers' share in retail profit; transaction costs of the initiative's establishment; transaction costs of the initiative's maintenance; dependence on public support; displacement effects within the region; halo effect.

Net Value Added[2] (NVA) created in the region: In 80 % of the case studies, the creation of value added (VA) is documented.

Direct, indirect and induced employment[3] in the region: Regarding around 90% of the initiatives it is mentioned that there is a direct or indirect positive impact on employment.

Farmers' share of retail[4] profit: In most cases it was stated that farmers receive an increased share of retail profit, for example, in the form of a price premium for their products. In all other cases, there is no significant change in farmers' share.

Transaction costs: Most initiatives generate a certain amount of transaction costs in the first period of development. It is stated that the amount necessary for an alternative sustainable initiative is higher than for a conventional equivalent. New outlets – often a number of small ones – outlets have to be found, many negotiations have to be made in order to allow for the interests of each actor (e.g. UK: farmers need to know the quality volumes of produce demanded throughout the year). For many initiatives it was necessary to receive support in the initial phase in order to overcome the problem of high transaction costs. Vice versa, a lack of financial support at the very beginning was a constraint for a good start. High maintenance costs are likely to be a more profound challenge to alternative FSCs than high establishment costs. The maintenance costs may vary widely, considering that direct sale at farms will have very low transaction costs, whereas finding outlets for speciality products may be very costly in terms of time and resources. It only can be assumed that these costs may be reduced to the cost level of conventional food supply chains at a later stage of development.

Dependence on public support: Public support is often discussed controversially. On the one hand, it is considered as important in the initial phase, on the other hand, there is the risk of an initiative becoming dependent on public 'financial injections'. Recently, it is often argued that there is a need

[2] Net Value Added represents the value added within the region net of costs. It is regarded as a suitable indicator because it reflects the difference between the costs of production and the prices received for the product within the region, recognising value added, but also recognising that value is added at a certain cost. It is a good measure of the efficiency of the economic transformation of inputs into outputs either at enterprise or regional level.

[3] The measurement of direct, indirect and induced employment (or income) creation is a standard procedure in regional input-output analysis demonstrating the regional connectedness of enterprises and the employment output and income effects resulting. The indirect effect is the result of purchases from up- or downstream sector enterprises and the induced effect is the increased regional output, income or employment. In this case we are only interested in the employment effect in direct effects as there is no data for indirect and induced effects.

to ensure public support induces a development allowing for the initiative promoted to be self-sustaining after the end of the support period. From this angle, any reduction of dependence on public support appears desirable.

**Table 1: Performance of economic RD indicators**

| Country | case study | Phase | NVA in region | Direct, indirect, induced employment effect | Farmer's share in retail | Trans-action costs of establish-ment | Trans-action costs of main-tenance | Depen-dence on public support | Displace-ment effects within region | Halo effect |
|---|---|---|---|---|---|---|---|---|---|---|
| BE | Biomelk Vlaan-deren | present | 0 | 0 | 0 | + | + | 0 | 0 | 0 |
| | | scaled up | + | + | + | + | + | 0 | 0 | 0 |
| BE | Westhoek farm products | present | ++ | ++ | +++ | - | - | 0 | 0 | + |
| | | scaled up | ++ | ++ | +++ | - | - | 0 | 0 | ++ |
| DE | Uplaender dairy | present | + | ++ | ++ | + | + | +++ | 0 | ++ |
| | | scaled up | + | ++ | | + | 0 | + | - | ++ |
| DE | Tegut super-market | present | ++ | ++ | 0 | -- | -- | 0 | - | ++ |
| | | scaled up | +++ | +++ | 0 | - | - | 0 | -- | ++ |
| IT | CAF organic beef | present | +++ | +++ | | +++ | +++ | + | 0 | 0 |
| | | scaled up | + | ++ | | -- | --- | + | 0 | 0 |
| IT | Raw milk sheep cheese | present | + | + | | --- | --- | + | 0 | +++ |
| | | scaled up | +++ | 0 | | --- | --- | +++ | 0 | +++ |
| NL | De Hoeve pig-meat | present | + | + | + | -- | + | -- | + | + |
| | | scaled up | | | | | | | | |
| NL | CONO cheese | present | +/0 | | -- | - | - | 0/+ | 0 | 0 |
| | | scaled up | ++ | | | | | | | +(+) |
| UK | Cornwall Food Programme | present | + | 0 | + | --- | - | --- | 0 | 0 |
| | | scaled up | ++ | ++ | ++ | -- | - | - | + | 0 |
| UK | local food in supermarkets | present | | | | | | | | |
| | | scaled up | | | | | | | | |
| LV | beef meat | present | ++ | + | ++ | 0 | 0 | 0 | + | + |
| | | scaled up | ++ | + | ++ | + | + | ++ | 0 | 0 |
| LV | Rankas dairy | present | … | +++ | … | 0 | + | - | + | + |
| | | scaled up | + | +++ | + | + | ++ | + | + | + |
| CH | Rye bread (Valais) | present | ++ | + | + | -- | -- | --- | -- | ++ |
| | | scaled up | +++ | ++ | + | | - | - | -- | ++ |
| CH | NaturaBeef | present | ++ | ++ | + | 0 | 0 | - | + | 0 |
| | | scaled up | ++ | ++ | + | 0 | 0 | - | + | 0 |

Source: Own compilation

Displacement effects within the region: 'New' activity can actually displace existing intra-regional activity and reduce the net benefits of the initiative. Displacement can take on a variety of forms: generally, resources used for the support of the new development are not available for the 'old' system.

[4] The farmers' share of the food retail profit is a widely used indicator of the farm sector's capacity to derive benefit from food consumption. Its long-term decline reflects the weak bargaining position of farmers and the efforts of processors to add value at their own level.

The Halo effect[5]: The 'halo effect' is an indirect effect arising from a project, typically, because other enterprises who are not immediate project partners move in and benefit from the activity. The effect most occurring is that some forms of tourism initiatives start to grow along with an alternative food supply chain.

**Social indicators of rural development**

Social indicators concern the conditions of employment, the ability of self-organisation (and creation of social capital), the trust of consumers in FSCs, the job-satisfaction of actors within a chain, and, at a higher level, the social embeddedness of chains and enterprises, the conservation of typical regional traditions and the recognition of agriculture in society. Accordingly, relevant indicators are: increase of self-organisational capacity; increase of bridging capital; enhancement of learning and knowledge; enhancement of trust in the food system; enhancement of social inclusion; enhancement of job satisfaction; encouragement of succession.

Increase of self-organisational capacity: Increases in self-organisational capacity can be seen as a type of bonding capital[6]. An increase in that capacity, particularly in bonding, was affirmed in nearly all case studies. Key factors for the increase are seen in the stronger participation of farmers in chain management and in the capacity of farmers to mobilise societal or institutional support (e.g. knowledge, new regulations, subsidies).

Increase of bridging capital[7]: 'Bridging' between actors (implying the building or extension of networks) was observed in 10 cases. At the least, good relations between stakeholders or actors (e.g. between producers and processors) are noted as an outcome of new food supply chains. They result in trustful relationships and a good working climate between the different actors. Based on this, chain partners are able to establish stable relations with, and to get support from, stakeholders from outside the chain as well.

Enhancement of learning and knowledge: It is often argued that a well-trained workforce is vitally contributing to economic growth. The idea of the 'knowledge-based economy' has received much attention as it is argued that a skilled workforce is more flexible and more skilled. Most of the research teams agree that this indicator has a positive impact on their initiative.

Enhancement of trust in the food system: The loss of trust in the food system is a characteristic of many mainstream food sectors. The enhanced trust in alternative food systems can be seen as part of their successful development process. Nearly all initiatives benefit from trust in the new food system they have established. Consequent and continuous consumer information, benchmarking for quality and sustainability, creating transparency through PDO regulations, or just the link to a region are key factors positively influencing a development towards trust in food and its system of production, processing and distribution.

Enhancement of social inclusion: Social inclusion has become a major policy priority in the UK and among development agencies operating in disadvantaged areas and so-called developing countries. Some types of food systems can be regarded as leading to social exclusion. Some areas (such as 'working class' areas of inner cities) have been described as 'food deserts'. Combating social exclusion and the 'poor diet-poor health' problem often going along with it, can be evaluated as socially inclusive. With regard to the case studies the issue of social inclusion or exclusion can be viewed as ambivalent: Food produced in new FSCs is often more expensive than the mass products

[5] In a marketing sense the halo effect refers to a product's or initiative's influence on the general attitude of people (consumers) towards a product and on the perception of certain product attributes.
[6] Bonding capital is associated with the building of trust among similar actors.
[7] Bridging capital connects one group with another group through building trust and/or networks. It can be seen as a factor contributing to chain development.

of conventional food chains. Consumers with a limited budget per month to spend on food will likely consider high-price food as non-affordable, which might result in a feeling of exclusion.

| Country | case study | phase | Self organisational capacity increased | Bridging capital increased | Learning and knowledge enhanced | Enhanced trust / faith in food system | Enhances social inclusion | Yields job satisfaction | Encourages succession |
|---|---|---|---|---|---|---|---|---|---|
| BE | Biomelk Vlaanderen | present | + | + | 0 | 0 | 0 | + | 0 |
| | | scaled up | + | ++ | 0 | + | 0 | + | 0 |
| BE | Westhoek farm products | present | 0 | + | + | ++ | 0 | ++ | + |
| | | scaled up | + | ++ | + | ++ | 0 | ++ | + |
| DE | Uplaender dairy | present | +++ | ++ | ++ | + | + | + | + |
| | | scaled up | +++ | ++ | ++ | ++ | + | ++ | + |
| DE | Tegut supermarket | present | + | 0 | ++ | ++ | ++ | ++ | + |
| | | scaled up | ++ | 0 | +++ | +++ | ++ | ++ | + |
| IT | CAF organic beef | present | +++ | ++ | ++ | ++ | ++ | +++ | +++ |
| | | scaled up | 0 | + | +++ | ++ | + | -- | --- |
| IT | Raw milk sheep cheese | present | +++ | ++ | ++ | +++ | + | +++ | +++ |
| | | scaled up | + | +++ | +++ | +++ | ++ | +++ | +++ |
| NL | De Hoeve pigmeat | present | ++ | ++ | +++ | + | ++ | ++ | -- |
| | | scaled up | | | | | | | |
| NL | CONO cheese | present | 0 | ? | | + | -/0 | | 0/+ |
| | | scaled up | +(+) | | | ++ | -- | | ++ |
| UK + | Cornwall Food Programme | present | + | + | + | + | + | + | 0 |
| | | scaled up | ++ | +++ | +++ | ++ | ++ | ++ | ++ |
| UK | local food in supermarkets | present | | | | | | | |
| | | scaled up | | | | | | | |
| LV | beef meat | present | ++ | + | ++ | 0 | 0 | 0 | + |
| | | scaled up | ++ | + | ++ | 0 | 0 | 0 | + |
| LV | Rankas dairy | present | 0 | ++ | ++ | 0 | + | + | + |
| | | scaled up | + | ++ | +++ | + | ++ | ++ | 0 |
| CH | Rye bread (Valais) | present | ++ | +++ | ++ | ++ | + | ++ | + |
| | | scaled up | ++ | +++ | ++ | ++ | + | ++ | ++ |
| CH | NaturaBeef | present | ++ | + | 0 | ++ | 0 | + | + |
| | | scaled up | ++ | + | 0 | ++ | 0 | + | + |

Enhancement of job satisfaction: The contemporary food sector is often seen as an environment where job satisfaction is generally low. Where alternative food systems create higher job satisfaction this should be viewed positively. In 10 cases it was stated that job satisfaction was relatively high, in eight initiatives it was even higher than in the conventional equivalent.

Encouragement of succession: One of the characteristics of sustainable business is intergenerational succession. Any food system encouraging succession of the often small family businesses that comprise many parts of the food chain, can be evaluated as positive

**Environmental indicators of rural development**

Environmental indicators include, among other things, the preservation of cultural landscapes, the reduction of 'food-miles' and, more generally, the contribution of marketing to sustainable cultivation forms and therefore the conservation of a high-quality environment (e.g. Rye bread of the Valais (CH): rye fields are spectacular at harvest time and create a particular type of landscape; rye production is carried out with integrated pest management, or according organic standards).

Relevant indicators are: increase of biodiversity; reduction of negative external effects; increase of positive external effects; enrichment of the cultural landscape; reduction of road miles

Increase of biodiversity: The 'level' of natural or managed ecosystems is widely regarded as a good indicator of the robustness of the production system. Where particular food systems encourage greater biodiversity this should be regarded as positive. Only for 5 initiatives it was stated that at present there is already an increase or at least a maintenance of biodiversity. All other initiatives had difficulties to make statements about this indicator.

| Country | case study | phase | Increases biodiversity | Reduces negative external effects | Increases positive external effects | Enriches cultural landscape | Reduces road miles |
|---|---|---|---|---|---|---|---|
| BE | Biomelk Vlaanderen | present | 0 | 0 | 0 | 0 | 0 |
| | | scaled up | ++ | ++ | ++ | ++ | + |
| BE | Westhoek farm products | present | - | - | - | - | ++ |
| | | scaled up | - | - | - | - | ++ |
| DE | Uplaender dairy | present | +/0 | + | + | - | - |
| | | scaled up | +/0 | + | + | 0/+ | 0/+ |
| DE | Tegut super-market | present | ++ | + | + | ++ | + |
| | | scaled up | ++ | ++ | ++ | ++ | ++ |
| IT | CAF organic beef | present | -- | ++ | ++ | ++ | --- |
| | | scaled up | +++ | +++ | +++ | ++ | + |
| IT | Raw milk sheep cheese | present | +++ | +++ | +++ | ++ | ++ |
| | | scaled up | +++ | +++ | +++ | +++ | - |
| NL | De Hoeve pig-meat | present | -- | ++ | -- | -- | ++ |
| | | scaled up | | | | | |
| NL | CONO cheese | present | - | - | | -/0 | -- |
| | | scaled up | +(+) | | | ++ | - |
| UK + | Cornwall Food Programme | present | 0 | + | 0 | 0 | + |
| | | scaled up | 0/+ | ++ | + | + | ++ |
| UK | local food in supermarkets | present | | | | | |
| | | scaled up | | | | | |
| LV | beef meat | present | 0 | 0 | 0 | + | + |
| | | scaled up | + | ++ | + | ++ | + |
| LV | Rankas dairy | present | 0 | 0 | + | ++ | -/+ |
| | | scaled up | + | 0 | + | ++ | + |
| CH | Rye bread (Valais) | present | + | + | + | ++ | +++ |
| | | scaled up | ++ | ++ | ++ | +++ | ++ |
| CH | NaturaBeef | present | ++ | ++ | ++ | + | 0 |
| | | scaled up | ++ | ++ | ++ | + | 0 |

Source: Own compilation

Reduction of negative external effects: Negative external effects are costs to be carried by other actors than those economically active within a certain initiative. While these external costs are a form of market failure, so-called positive external effects refer to an initiative's external utility. With respect to production and consumption processes often costs emerge which are not reflected by market prices. External costs are mainly generated in the energy and traffic sector. In the agricultural sector negative externalities include pollution, loss of biodiversity etc. In 8 cases it was mentioned that the initiatives have contributed to a reduction of certain negative external effects.

Increase of positive external effects: Besides the better-known external costs there are also external utilities. Positive external effects can be compensated for through public payments (as is the case with agri-environmental schemes). In the agricultural sector positive externalities include

landscape, biodiversity etc. In 8 cases it was stated that there was an increase of positive external effects resulting from the initiative.

Enrichment of the cultural landscape[8]: This aspect was answered very similar to the point 'increasing biodiversity'. In mountainous regions several initiatives contribute to the maintenance of the cultural landscape by supporting grazing animals (cattle and sheep). Accordingly, those initiatives are not really contributing to an enrichment of the landscape, but rather help avoid a loss of its richness.

Reduction of road miles: 'Road miles' are a widely cited concern related to modern food systems. In fact, the notion of road miles should really embrace all travel miles associated with production and distribution of food, including air and boat transport. Food systems with low travel miles contribute much less to global warming, congestion etc. In 9 cases road miles are reduced: Products are sold on farmers' markets, in small shops within the area and at local festivals.

### 3.3.6 Social embeddedness, local networks and locality

In recent years the notion of 'embeddedness', initially introduced by the economic sociologist Mark Granovetter (1985), has been reintroduced in studies of alternative food chains to explain their capacity for obtaining price premiums and to protect (local) specificities. The concept of 'embeddedness', as used by Granovetter, is based on the idea that economic systems are not autonomous. They operate within a context of networks of relationships, institutional arrangements and cultural meanings limiting the extent to which economic actors can be regarded as purely instrumentally rational in their market orientation.

Against this background it becomes apparent that the broad concept of embeddedness comprises a number of important aspects to be dealt with. They are important because they directly affect the functioning (and success) of FSCs within society and within a particular local context.

These aspects are, amongst others:

- embedding the governance of local-level networks and the challenge to embeddedness posed by the expansion of networks;
- the functioning of networks is often subject to special 'rules': a charismatic person at the centre of the network without whom the network would not exist or function; rushed efforts towards embeddedness or efforts to re-localise highly centralised systems may result in shallow and poorly functioning networks (as an example, the unsuccessful attempts of big retailers to introduce local sourcing into their business may be mentioned);

Embeddedness is a dynamic and not a fixed concept; it also takes on different meanings, including symbolic values associated with 'place'. Embeddedness can be used in relation to different subjects or different levels. The following types of 'embeddedness' ought to be distinguished:

- products' embeddedness;
- peoples' embeddedness (producers, consumers, store managers, etc.);
- retailers' embeddedness;
- FSCs' embeddedness, i.e. the interface between producers, retailers, consumers and support institutions.

[8] The cultural landscape of rural areas is largely configured by food (and fibre) production systems. The cultural landscape is created and sustained by the actions of land managers, who are often maintaining regionally or locally specific cultural traditions.

The way in which these different types of embeddedness function is important for all initiatives and it may change at different levels of the individual chains as well as in different phases of its development. Embeddedness tends to be linked with a local population's acceptance of initiatives, and thereby raises the political capital of an initiative. A key question is what happens to local embeddedness when an initiative scales up.

How are the concepts of 'embeddedness', 'local networks' and 'locality' interconnected?

- Embeddedness is, in certain respects, a broader concept of social and cultural affection, and it can be described as a shared relationship (not only local producers, but distant consumers may experience and express embeddedness through buying regional products).
- Local networks are a common organisational form of new FSC initiatives; however, they might expand and include further actors in the chain.
- Locality is a geographically fixed place but in food chains it is being transformed, expanded and marketed as symbolic capital. Networks probably are the best organisational form to manifest embeddedness and locality and to govern new initiatives in FSCs.

Embeddedness can on the one hand mean defensive localism, and on the other hand a celebration of 'place'. But how authentic are claims of embeddedness? People may connect embeddedness with a distinct locality outside their own region. Networks and locality are interrelated and different actors in FSCs have their perception of and influence on embeddedness and locality.

*Use of local resources*

The use of own and/or local resources is a way to improve the embeddedness of a product, of a certain group of people, of retailers or of a food supply chain as a whole. The resources used may comprise soil, breeds, skills and knowledge, processing, retail outlets and other. In order to achieve a level of improved embeddedness, the various chain actors have to develop a certain awareness of the resources and opportunities available.

Key factors that determine the use of own or local resources in a positive way are the following:

- A strong connection with other products or other resources from the region is an important aspect that contributes to an improved embeddedness.
- A strong connection with other actors aiming at supporting the region and at production within the region is another factor that strengthens embeddedness. At this, it is not relevant whether these other actors are part of the chain or 'only' part of a well-functioning network around the food chain.
- A factor differing from the two mentioned above in some respects is the pride of producers (farmers) in delivering their product to a local processor.
- A factor strongly influencing the use of local resources is the fact that a particular type of production process as well as the provenance of a product serve as quality characteristics.
- Another factor determining the use of local resources to be mentioned is the desire of chain actors or consumers to maintain the local production. This aim is often combined with the desire to maintain the existing landscape.

The factors mentioned so far are those supporting the use of local resources. But it has to be recognised that there are also factors constraining an embeddedness. Those factors will be mentioned subsequently.

- In cases where 'regionality' is not sufficiently promoted or marketed local resources are not used to the extent possible.
- In some particular cases it may occur that traditional production or breeding systems can not be applied because of changed needs and requirements.

*Level of participation of actor groups involved in the initiative*

Stronger embeddedness may be achieved when there is a high level of participation by and interaction between a diversity of actors and networks. A higher level of participation or interaction allows the building of shared values, codes and rules within an FSC. It also helps to avoid an opportunistic behaviour of single actors. Furthermore, it can be stated that it helps to avoid an initiative to be perceived as being 'imposed' by some 'forces'.

The key factors that lead to a high level of participation are the following:

- A short chain gives the possibility to easily involve all actors.
- Another factor leading to a higher level of participation of all actors is mutual dependence.
- The involvement of all actors from the very beginning as a corresponding strategy

Obviously there are also constraints that hamper a higher degree of participation. One of those 'negative' factors is a strong position of an individual actor influencing the degree of interaction between other actors.

*Existence of shared values, codes and rules within FSCs*

Successfully embedded initiatives integrate more than purely economic values. They show various combinations of several values, but also codes and rules. Among them there are merchant, civic, cultural, industrial or economic values. In a successful initiative they are shared by the participants.

The main factors determining the existence of shared values, codes and rules within FSCs are:

- The expectation of a better market position is one of the factors that stimulates initiatives to agree on common values or rules.
- Approval of rules and values. However, it is very important that rules and values established by one actor (e.g. the initiator) are approved of by the other actors.
- When all actors participating consider common values as very important, the step to formalising them is not very far.

*Communication of shared values, codes and rules to consumers*

It can be assumed that an external communication of the values of embedded initiatives to the wider public, using market and media channels, will add to the recognition of the initiative and its products, and finally contribute to an improved commercial performance. However, it has to be taken into account that communication is at the same time associated with risks. For instance, the 'idea' of an initiative might be imitated by competitors. And it may also happen that the members of an initiative have to face criticism and find themselves in a position where they have to justify and legitimise their (innovative) approaches. If an initiative's codes or rules attract potential consumers' attention and if making these codes and rules known to the public is additionally supported by a 'third party', the communication to the consumer shows to be quite successful.

Factors determining an effective communication to consumers[9] are the following:

- The ability to promote the special features of the product.
- To profit from the PDO strategy implemented in a certain region. There is usually a basket of typical food products that are registered as PDO. Regional events, like sports-related and

[9] In this context, it is difficult to categorise the CFP (UK) as it is difficult to determine who is the end consumer: the patient or the hospitals themselves. Here, it is suggested that it is the hospitals because they

cultural ones, which are organised by the different municipalities in the region, contribute to promoting the PDO products.

- Strong and effective co-operation with organisations like 'Slow Food'.
- Through direct sales, farmers have the possibility to create trust in their work and product. It becomes apparent that consumers appreciate buying an 'embedded product'.
- Promotion of the common values of the initiative by other actors of the wider network
- The presence of a clear claim which identifies the quality attributes of the product connected with local resources and traditions.

decide on food suppliers to be commissioned. However, ironically, it was due to a patient complaining about eating non-local sandwiches, that the initiative was started in the first place.

# 4 CONCLUSIONS, DISCUSSION AND SYNTHESIS

## *4.1 Barriers to the development of sustainability within FSCs*

What are the barriers and constraints to the development of sustainability within food supply chains? In this first section the key points related to this question will be summarized.

First, the very limited willingness of consumers to pay more for higher-quality products clearly is a major constraint regarding the expansion of a sustainable food sector. Or, the other way round, a change in consumer behaviour has substantial potential for establishing a more sustainable food sector. The limited willingness of consumers to pay more for high-quality products is intensified by the low disposition to get informed about the backgrounds of food production and trade as well as consumption patterns. Another aspect to be considered with respect to sustainable FSCs is a lack of consumers' purchasing power. Normally a price premium has to be paid for higher product quality or a production method that is superior in certain respects. In new EU member states such as Latvia the purchasing power of consumers is still low (in comparison with old EU member states), making it more difficult to find acceptance among consumers for higher prices and to sell products with a price premium. The issue of sustainable consumption will be discussed in more detail in section 4.2.

Second, the alignment of diverse chain actors with diverging interests regarding a common goal as well as coherent production, processing and marketing strategies is a major difficulty hat has to be overcome if a FSC as a whole is to be successful. Such an alignment requires time for discussions and skills as well as commitment and energy.

Third, many initiatives have to face problematic competitive situations. Conventional food chains (and productions systems) cause substantial external costs (that they do not need to bear), and support schemes too may hamper a fair competition of different production and marketing systems in the market place. In case that funding or other types of support are available for FSC, it is important that the actors responsible are able to mobilise this support. Efforts need to be made for that type of 'research'.

Fourth, the growth or scaling up of an initiative may lead to negative effects within the chain, for instance the loss of a Unique Selling Proposition (USP), a less even distribution of power along the chain or even a concentration of power in only one chain actor. This may cause a loss of self-governance or a loss of independence of other chain actors.

Fifth, growth or scaling up might also result in a loss of credibility and authenticity. The maintenance of transparency and the communication within a wider network requires a very good coordination and management. If this is missing and the 'special' quality of the product is no longer communicated convincingly, consumers will lose trust and stop buying the initiative's products.

Sixth, most financial support still goes to mainstream production and marketing (the 95%) in order to support their business competitiveness, and is not well targeted to the support of alternatives (the 5%). Related to that is the fact that regulations within the FSC tend to relate to the 95%, meaning that they may sometimes be inappropriate for emerging FSC relations within the 5%. An increased regional emphasis within many countries would seem to be changing this, but the whole system of subsidies needs to be examined and their legitimacy questioned. This change seems to be particularly difficult to achieve in countries like the Netherlands, UK and Belgium where policy is mainly oriented towards agricultural production for the world market.

Seventh, the liberalisation of trade is contributing to a cost-price squeeze, wherein many cheaper food imports are perceived as unfair competition for domestic producers due to less strict

regulations, most notably concerning animal welfare standards. Within the Latvian report there are particular concerns about illegal imports of food, and in general there is a recognised need for clearer country of origin labelling.

Eighth, a lack of appropriate small and medium scale processing, storage, preservation and marketing facilities is adversely affecting the development of alternative small-scale FSCs. These facilities are mainly geared towards large-scale production and marketing structures. The recent closure of large numbers of smaller-scale abattoirs in many countries is highlighted as a problem. A lack of specific organic processing facilities is recognised in many of the reports as leading, on occasions, to organic produce being sold as conventional with no price premium being paid. In general it can be stated that there has been a 'stripping out' of the middle within FSCs through processes of competition. This is manifest in the declining numbers of regional wholesalers; the demise of medium-sized processors; and the huge reduction in smaller and medium-sized retailers. The effect of this has been that it is now much harder to scale up smaller-scale (5%) initiatives, because in many cases there is no longer an infrastructural stepping stone available.

Ninth, there is often an asymmetry in negotiation power between small-scale producers and large scale processors/retailers, meaning that the latter are able to (unfairly?) determine contracts and conditions of supply. Even where 'quality' products are involved, there is a danger that the emphasis on lowering costs leads to a replication of conventional supply chain relationships. This tendency is recognised in all of the reports, although the Italian report in particular stresses that sustainable food production often takes place on very small units and the need, therefore, for these small (and often fragmented) producers to coordinate their actions.

Tenth, the high percentage of food sold in supermarkets is recognised as highly significant across all the countries. In terms of being a bottleneck, this is generally understood in terms of the emphasis on price competition and the pursuit of profit, which may have the effect of undermining the ethical or sustainability attributes of a product and reducing margins to the suppliers concerned. Most retailers tend to be reluctant to include origin of production labelling at the point of sale. However, it is also indicative of the more widespread recognition that the large retailers will only promote a particular initiative if it is in their own commercial interests to do so.

## *4.2 Sustainable consumption: barriers and opportunities*

### 4.2.1 Barriers for consumption of sustainable food products

Price seems to be the most important barrier for sustainable consumption as it was (in)directly mentioned by all countries. The consumers perceive the price of sustainable products as being too high and this has several reasons. The country reports mention the low willingness to pay a price premium, a lack of insight on the origin of the price premium, the unfair comparison with non-sustainable products, etc.

A second barrier is the remoteness between production and consumption. It concerns for example the consumers' limited knowledge of agriculture and production processes and a lack of insight of the implications of food purchase decisions. This lack of information does not only concern agricultural and food production, but in many countries there is also a lack of knowledge or confusion about the concept sustainability and the corresponding logos and labelling. A problem is that sustainability is a credence quality and this hampers the creation of authority and trust.

The availability of sustainable products is the third identified barrier. These problems are related to problems of local food shops (difficult access, opening hours, …), the presence of sustainable

products in supermarkets as major sales outlet, but also to the continuous presence of products expected by the consumers.

Other barriers are the importance of the consumer's decision process with for example the problem of a negative attitude towards sustainable food products, the necessity to respond to consumers' needs and finally the appearance and quality of the product.

These barriers are also identified in other countries and available literature. Briz & Al-Hadji (2003) for example indicate that the two main reasons for not consuming organic products are the lack of knowledge and confidence considering these products and the absence of organic produce in the consumers' frequently visited shops. Vindigni *et al*. (2002) state that, despite the green trend in consumer values and attitudes, there are still several important barriers to be overcome. The first one concerns the reluctance of the consumers to pay higher costs, not only in money, but also in time and effort. A second barrier is the unwillingness to accept sacrifices in the subjectively perceived quality of the sustainable variant. Finally, sustainable food consumption is also constrained by the complexity of the information related to the product characteristics and the impact of the mode of production on the environment.

### 4.2.2 Possibilities to remove barriers

The measures proposed by the countries can be grouped as possibilities to remove five different (groups of) barriers: the price barrier, limited knowledge, consumer decision-making process and needs, confusion about logos and labelling and, finally, the availability of sustainable products.

Many measures concern the limited knowledge of the consumers of agricultural and food production; in some cases this is however extended to a limited knowledge of all actors in the chain. Important elements hereby are education and providing information without specification of its nature, the stimulation of alternative food supply chains and a greater access to suitable information. The Swiss case is a very particular one as almost the entire agricultural system meets prescriptions concerning ecological sustainability, but the discussion remains if this should be communicated to the consumers.

In previous paragraphs, the higher price and price premium of sustainable products were considered to be the most important barriers for sustainable consumption and several measures are proposed to overcome this barrier. Governmental intervention and self-regulation are the tools that were most frequently cited. Examples are subsidies for sustainable and taxes for non-sustainable products, internalisation of sustainability aspects in price setting and a greater availability of sustainable products in supermarkets which will lead to a price reduction. Other possibilities are that non-buyers are persuaded of the value of sustainable products and become willing to pay a higher price for these products; a reduction of production costs through collaboration between actors and FSCs and finally, the concept of 'transparent price' could also be useful.

The proposed measures to limit the confusion about logos and labels are very diverse, but still they aim at a better understanding by the consumer. This can be done through a continuous dialog, better contact, limitation of the number of sustainability hallmarks and improved knowledge.

The increased availability of sustainable products was frequently mentioned by the national reports, but this is not the case for the way in which this can be achieved. It is however a fact that many of the proposed measures don't work on one single barrier, but also have effects on other barriers. If the consumer demand for sustainable products for example grows, because the consumer are better informed and prepared to pay the inevitable (but perhaps lower) price premium, the availability in supermarkets will grow as these actors don't want to loose their market share.

The proposed possibilities aim at changing consumer decision-making from automated to reasoned processing and from social to individual processing. After deliberation and consequently the purchase of a sustainable product, consumers will need heuristics to develop a new routine in buying these sustainable products. Heuristics are hereby defined as behavioural rules that are used to reduce complex themes to a level that can be used in consumers' daily life.

#### 4.2.3 Strategies to stimulate sustainable consumption

The strategies to stimulate sustainable consumption can be summarised as the improved availability of sustainable products, the need for police involvement and the provision of information. Although these issues are not mentioned directly by all reports, they are particularly relevant for most of the countries.

It was already clear from the identification of barriers that the availability of sustainable products is a major problem. Several country reports mention thereby that it is important that these produce are present in all marketing channels and thus also in supermarkets. A major condition hereby is a changed perception from the big retailers, in many cases combined with a better organisation of the producers to provide enough products at the right time. The example of fair trade products, which are in several countries present in the supermarkets, shows that this type of broader availability is possible. There is of course also the danger this will lead to unwanted side effects such as the presence of many foreign sustainable products in the supermarkets.

A second point of interest is information. It was shown several times that the average consumer is unaware of the agricultural production practices and has limited knowledge about food production, the concept of sustainability and so on. A major strategy should thus be to provide information to the consumers about all these issues. A side-effect could be that a better informed consumer is willing to pay a higher price for sustainable products as he can now assess the benefits of these products and the reasons for the price premium.

A final element concerns the policy involvement in the process of promoting sustainable production and consumption. It was mentioned several times that the government has its responsibilities to create a better context for sustainable production and should also give incentives to motivate the consumer to buy sustainable products. A broad set of tools and measures can be used for this on the different levels in the food supply chain.

## *4.3 Improving the sustainability of FSCs*

Based on the 14 case studies (being combinations of principal and satellite cases) a large number of conclusions can be drawn on how to improve the sustainability of food supply chains. These conclusions will be presented along the six themes that have been used to analyse the results of the case studies:

1. Commercial performance
2. Marketing and communication
3. Public support
4. Organisation and governance
5. Impact on sustainable rural development
6. Social and local embeddedness

### 4.3.1 Improving the commercial performance

In order to improve the commercial performance of new food supply chains the following aspects have to be taken into account:

- The market share of the initiative. A large market share is generally considered to be an indicator for success, yet, enlarging the market share may have negative effects on the level and distribution of value added.
- The market position of the initiative. Roughly speaking three positions can be distinguished:
  1. Low market competition – highly differentiated product (e.g. PDO product or alike);
  2. Medium market competition – medium differentiated product (e.g. brand or alike);
  3. High market competition – low differentiated product (conventional product).
- A strong partnership along chain is of crucial importance and this should be build upon clear and mutually shared agreements, clear communication, etc.
- The exploration and development of new distribution channels. This may require new agreements between chain partners.
- To be able to obtain a premium price it is important to comply with quality requirements and production standards that are considered to be vital to produce premium products.
- The purchasing power of the consumers is important. The lack of purchasing power of the majority of the consumers in Latvia was considered to be an important constraint in improving the commercial performance of sustainable food supply chains.

### 4.3.2 Improving marketing and communication

FSCs incorporating sustainable aspects into their business philosophy, their strategies and their communication, have to deal among other things with the following aspects in order to be successful:

- They have to formulate a clear, convincing and appealing claim ('promise'): The product's attributes (such as organic or artisan production methods, particular territorial origin, outstanding taste) have to be communicated clearly to consumers.
- The coherence and reliability of the claim should be allowed for in order to gain and keep up consumers' trust. The claim should be in line with the FSCs field of competences.
- Should the major claim be adopted by the 'mainstream', e.g. through adjustment of product prices or decreasing differences in quality there is the risk of loss of the USP. Accordingly, continuous efforts need to be put in innovation. A strong extension of marketing structures going along with scaling up might result in a loss in credibility and authenticity.
- Initiatives should strengthen their capacity to create alliances with other stakeholders in order to promote the product and/or the brand (co-operation and vertical linkage throughout the FSC, from producers to consumers).

### 4.3.3 Improving public support

Various cases demonstrated that well-targeted support provided in the initial phase of an initiative tends to be very effective and often more cost-efficient than support provided at later stages.

It can also be stated that the availability of funds tends to stimulate the motivation of actors to creatively develop new ideas and models. At the same time it has to be taken into account that in the case of quickly developed ideas or projects that are primarily targeted at the acquisition of public funding often developments are less sustainable. A good indicator of that is that well-conceived business plans with long-term perspectives are lacking.

In later phases – scaling up, dissemination or expansion – initiatives ought to become (more) independent of external public support. Where further support is still needed, it is more and more likely to come from the private sector. A good example is the case of the NHS Cornwall Food Programme.

The following conclusions regarding more effective support schemes can be drawn from the case studies:

- Support programmes that are more holistic and facilitate linkages between different actors and projects tend to be more effective.
- The capacity of initiatives to mobilise support is vitally important. Actors need to be clearly informed about the amount of time and the knowledge needed in order to deal with applications.
- For the success of an initiative it is very important that there is a minimum level of convergence of objectives and agenda between the recipients and the (potential) providers of support.
- For the new member states it must be noted that SAPARD and similar programmes have been very important for the constitution and further development of FSC initiatives.

The following aspects characterise the particular situation of Latvia which may in some respects be typical of the challenges faced in the new member states:

- A new set of regulatory / economic framework conditions has been introduced within a relatively short time period: a) change of hygiene standards, environmental requirements etc., and b) a change of information required by economic actors.
- There is a tendency towards insufficient capacities to lobby for rural and FSCs interests. Often the interests of larger farms and processors predominate.
- It can be expected that for some time there will be significant differences in subsidy levels between EU member states resulting in an unfair competition and increasing food imports, i.e. a particularly high pressure on local FSCs.

### 4.3.4 Improving growth and scaling up

The form of organisation is one of the key factors influencing the success of newly-established initiatives as well as their future continuity. The comparative analysis of those cases of FSCs that appear more sustainable and more successful leads to the following conclusions:

- Business and assortment strategies have to be embedded deeply in each level of a chain and of an enterprise. The strategies have to be supported by all decision-makers in the chain and by all staff members.
- Key persons often play an essential role in the history of an enterprise. They often have the possibility to use large personal networks. However, often this is linked with the risk of a concentration of power which tends to increase dependence and eventually decreases the motivation of other actors or partners within the enterprise or the chain. Even economic success may in the end depend on individual persons and personal networks.

- Concerning the joint enterprise or project, there is always the risk of diverging objectives and motivations. This mostly happens when there are many different partners working together in a chain. The balance of maintaining and adjusting the quality demands and message along the chain always represents a particular challenge.

Success and the economic, social and ecological performance of enterprises are, amongst others, demonstrated through the process of growth. Besides positive socio-economic effects like employment creation or the increase of income and value added within a region, the process of growth also includes changes. These changes may have negative effects on the internal and external structures of an initiative and also on the credibility towards consumers.

Scaling up may have the following consequences:

- The demand that is connected with quantity buyers (e.g. retailers) may result in the initiative growing at a pace the further development of the organisational structures and the claims towards product quality can not keep up with.
- Changes caused by growth may be expressed in the form of an adjustment of the organisational structure but also in the form of modified values. Different value systems, for example, between younger and elder colleagues, and the resulting conflicts, may only become apparent during rapid processes of growth. While older actors tend to stick to the former values, the younger colleagues in contrast might think and act more pragmatically. Here, a new agreement regarding the strategic vision will be necessary.

### 4.3.5 Improving sustainable rural development

There is relatively limited quantitative information available on specific indicators. By using the method of 'flagging' it was tried to overcome this problem and to make statements about the FSCs regarding rural development impacts (for example the support of the rural economy through securing and/or creating employment and income). The assessment method applied allowed to compare the FSC studied with a) the most comparable conventional equivalent ('normalised initiative') and b) the scaled up initiative. Using this approach, strengths and weaknesses of all case studies could be assessed.

Concerning RD from the economical point of view it can be stated, that there are only few initiatives that generally contribute to rural development in a broader and/or more substantial way. A lot of initiatives show good or even very good performance in terms of net value added (NVA) or increase of employment, but most of them have high transaction costs. To make more precise statements it would be necessary to have more quantitative data for each indicator.

The flagging of the social indicators (the 'softer' indicators) points out that most of the initiatives generate an above-average contribution to RD. Enhancement of learning and knowledge, self-organisational capacity, enhancement of trust / faith in food systems or increased job satisfaction are indicators that are consistently appraised as positive. The positive performance is not noted only for the actual situation but also expected for the scaled up versions of the initiatives.

In environmental terms of RD, most of the initiatives have a positive contribution to RD. Especially the scaled up FSCs are assumed to contribute to an increased biodiversity, reduced negative external effects and an enrichment of cultural landscape. But in this context is has to be added, that initiatives that are still very young and have to overcome their 'starting troubles' as well as initiatives that are not successful in an economic sense obviously will not make significant contributions.

The hypothesis that new FSCs have a positive effect on rural sustainable development is the focus of the Cornwall Food Programme case study. Overall there is broad consensus that the project has or

will have a positive impact on the reduction of 'food miles' in the local area; the level of impact depends on the amount of local production vs. local supply; the LM3 - local multiplier - method was applied to demonstrate the impact on the local economy.

### 4.3.6 Improving social and local embeddedness

As already mentioned in the previous chapter it is important to acknowledge that embeddedness directly affects the functioning and success of FSCs within society and within a particular local context. Related to the particular indicators of embeddedness the following conclusions can be drawn:

- The use and/or conservation of local resources is a way to improve embeddedness and sustainability performance of FSCs. Learning processes regarding the use of local resources and opportunities available should therefore be facilitated and encouraged. Intermediaries, as consultants, should play the role of facilitators to develop means and tools for learning about local resources.
- A greater embeddedness is achieved when there is a high level of participation by (and interaction between) a diversity of actors and networks throughout the development of an initiative. A greater embeddedness
  - allows the building of shared values, codes and rules within an FSC
  - avoids opportunistic behaviour
  - avoids an 'imposed' initiative.
- To support achieving a higher level of embeddedness, conditions and platforms for interaction and negotiation between food chain actors as well as for self-assessment should be created. An atmosphere contributing to the establishment of bottom-up approaches should exist. Highly prescriptive regulations, in contrast, can reduce embeddedness.
- Successfully embedded initiatives include more than purely economic values. In fact it is a combination of several values – like merchant, civic, cultural, industrial or economic values – that should be shared within the chain. The building of alliances must allow for the incorporation of a range of values.
- The external communication of values in embedded initiatives via market and media channels can reach a wider consumer and civic public. But it has to be considered that external communication is also associated with risks and threats (imitation, criticism). Therefore, the external communication towards consumers should be controlled constantly concerning the 'message' accompanying a product. The message should include the range of values incorporated in the initiative.
- Growth and scaling up may comprise a risk of losing embeddedness. This may happen in case alliances between the actors (including the consumers) get looser. The risk of losing embeddedness can be reduced through maintaining strong alliances throughout the chain, including consumers - and the advocacy by public policy.
- Embeddedness of products in supermarkets can be short-cut through just 'alibi stocking' of a few locality products without the involvement of local store managers (as it happened in the case of the UK supermarkets).

### 4.3.7 Ways to encourage sustainable FSCs: concluding remarks

Which are the 'nodal' points for (policy and other types of) intervention aimed at enhancing the performance of different types of FSC?

Most importantly, there needs to be a clear and coherent development strategy:

- The development strategy should be based on a clear vision how the initiative should be organised in terms of governance and transparency. It must be supported by all decision-makers along the chain. The structuring and organisation of the food chain must match the type of product (in terms of qualities and quantities) and the market outlets aimed at.
- Another important dimension of networks is horizontal integration, i.e. of actors that are mainly non-chain partners but external actors who have their own interests in supporting the product or the corresponding initiative. In order to be able to realise the above-mentioned strategy, the initiative should create and consolidate networks. These networks should extend not only one-dimensionally, but in various directions. Actors of the horizontal network may be consultants, politicians, municipalities, local stakeholders such as interested consumers, conservationists as well as tourism or consumer protection associations. Interests of these groups in supporting the initiative may vary from maintaining or increasing employment in the region10, over increasing biodiversity and enrichment of the 'cultural' landscape to reducing risks for consumers associated with new and possibly insecure food.
- The development strategy should comprise a coherent marketing concept. It is very important for the success of an initiative that the marketing strategy contains clear, convincing and credible claims ('promises'). These claims must be simple and have a positive message attracting consumers' attention.
- Local staff are much more likely to have a feel for which local products stand the greatest chance of succeeding. In terms of operations management, the simplest way to accommodate this change would be for each store to have an allocation of space explicitly for local foods, over which store managers would have discretion. Given the quality of store managers and their enthusiasm for local foods, there is little doubt that this would have significant impact on the type and volume of products listed, with more products likely to be given a chance and from a wider range.

Communication and coordination along the chain are key factors of success:

- A strong (vertical) integration of the initiative and an effective structuring and organisation of the food chain is important. It makes it easier to put the product on the market in cost-efficient ways. When all chain actors feel 'responsible' for the product, they will put efforts into 'marketing'. This again includes the communication of the product's positive attributes.
- A person that is willing to take over leadership and has the charisma to attract other actors sharing his ideas may help getting the institutional support need as well as reducing the effort needed in communication or information.
- An aspect vitally contributing to raising an initiative's success is the 'availability' of special staff for marketing and communication activities. People that are mainly in charge of communicating the initiative's ideas to a wider public contribute to a better and easier understanding of a product's 'special' quality.
- A food supply chain consisting of few chain actors allows a much easier active involvement, commitment and coordination of all actors. As communication and coordination require less

[10] Employment through production, processing and retail, but also through induced tourism.

effort, the management of such FSCs is more efficient and generally also more coherent. The case of the British supermarkets is a negative example because a short chain is not supported by the retailer's central management. The spread of local food probably would have been more successful if the local managers of each supermarket would have been given more freedom of decision on the purchase of local products.

A very useful instrument to make a product and its surrounding initiative credible is a 'code of practice':

- By defining the rights and duties of all actors involved, every participant of the chain knows how to comply with the respective production standards. Similar to a clear (marketing) strategy, production standards help to avoid inefficient and recurrent discussions and allow to concentrate on the core business, i.e. production, processing and retail (including communication to consumers).
- Production standards contribute to building consumers' trust. If these standards are made transparent to them by communication, it is much easier for consumers to have confidence their requirements, which may comprise quality, provenance or way of processing, are fulfilled. Informed consumers who 'see' their requirements fulfilled contribute considerably to a stronger embeddedness of the product or even of the initiative as a whole.

What are the policy interfaces relevant for different types of FSC?

- Support programmes that are more holistic and facilitate linkages between different actors and projects tend to be more effective.
- Financial support is particularly important in the initial phase of many initiatives. Well-targeted support provided in the initial phase of an initiative tends to be more effective and more cost-efficient than support provided at later stages. Some of the cases studied would have had a better start if there would have been funding, e.g. for special staff taking charge of the initial steps of internal and external communication or of marketing.
- Other kinds of public support (as there are food security regulations and, e.g. permission of exceptions to generic rules and regulations) were found to be more important in later phases of an initiative's development.
- For the success of an initiative it is very important that there is a minimum level of convergence of objectives and agenda between the recipients and the (potential) providers of support.

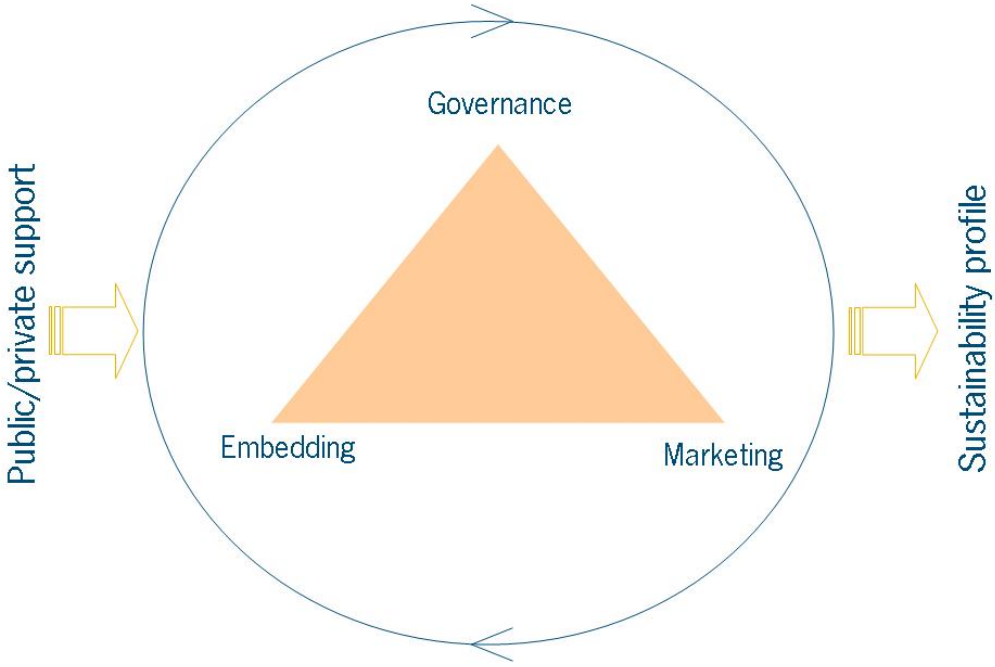
## *4.4 Towards a synthesis: differential sustainability trajectories*

The case studies provide a detailed reconstruction of how networks of sustainable food provision actually have evolved. A meticulous comparative analysis of all case study material along six relevant fields has revealed important patterns and key factors in the construction of sustainable food supply chains and the evolvement of networks. This has been capitalised in the results of the comparative case study analysis (section 3.3) and conclusions (section 4.3) derived from this analysis.

The next step is to go beyond the ample presentation of empirical material and analytical results, to identify more general patterns and to synthesise the main outcomes, draw more general lessons and formulate recommendations how the construction and sustainability performance of initiatives can be enhanced by stakeholders. For this purpose a framework has been developed that is based on the earlier identified six analytical fields, but stresses the dynamic nature. The framework thus captures the three main constituting processes in the evolution of initiatives: i.e. through the

mutual development and co-ordination of different forms of governance, embedding and marketing distinctiveness is actually created (see the figure below).

The circle stresses its evolutionary nature. This path has been reconstructed in case studies. The figure shows that the construction of a sustainable food supply chain is basically a matter of developing and combining different forms of marketing, embedding and governance, but the actual realisation and evolvement depends on the strategic decisions of its initiators *vis a vis* their strategic environment. The success of an initiative, operationalised as the scores on a set of sustainability indicators, then basically depends on the coherence of the strategic choices of its initiators, their ability to implement their strategy and to overcome all kind of obstacles and to mobilise public and private support. The properties and sustainability performance of an initiative at a certain time (each initiative has its own sustainability profile) is thus the result of its past development, or its development path. So the GEM-framework enables one to explore and identify coherent patterns in the empirically encountered development paths. These patterns are conceptualised as differential sustainability trajectories. Three ideal typical sustainability trajectories are explained below.




In summary, the GEM-framework can serve as an analytical as well reflexive tool as it:

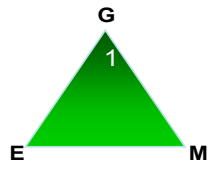
- identifies the three main strategic constitutive processes that provide the building blocks needed to create more sustainable FSC, whereby these processes and building relate to both empirical evidence and as well current theoretical debates in the field of agro-food studies;
- allows for an analysis and subsequent an evaluation of what and how (well) different (new) forms of G, E and M have been developed and combined;
- can be used as reflexive tool for practitioners as it can help them to position themselves, evaluate their past decisions and current abilities and create an adequate and coherent strategy.

A sustainability trajectory is always a combination of governance, embedding and marketing (thus G+E+M), but different trajectories reflect different basic configurations of G+E+M. These basic differences are reflected different sustainability profiles: i.e. different patterns in the performance on a set of sustainability indicators. Furthermore the kind of public and/or private support needed to improve the performance of an initiative, is different for each type of sustainability trajectory as well.

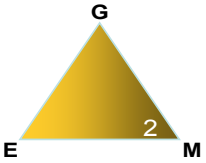
### 4.4.1 Chain innovation, chain differentiation and territorial embedding

The analysis and synthesis has provided a grounded, integral and dynamic perspective into the creation of sustainable food supply chains. Enhancing the sustainability of food supply chains involves an ongoing cycle of developing and judiciously combining suitable forms of governance, embedding and marketing. Depending on the starting point, the initiators, their scope, strategy and abilities, each initiative carves out its own distinct trajectory through time. Some are more successful than others. These trajectories are reconstructed for the fourteen initiatives studied. Some of these initiatives are young and are still maturing, others are longstanding and well developed. Some operate on a small scale, while others have scaled up significantly.

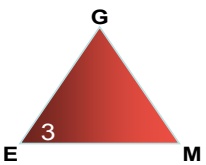
Despite this diversity, one can distinguish three ideal typical trajectories in constructing sustainable food supply chains: chain innovation, chain differentiation and territorial embedding. Each reflects a different drive and scope: each creates different pathways towards sustainability, balancing opportunities against new dependencies. Some initiatives follow one type throughout their evolution, others evolve from one type to another. Some embody elements of two or more types, creating 'hybrid trajectories'. A short characterisation of each sustainability trajectory is given in the figure below.




1. Chain innovation
   - Key objective is to strengthen the bargaining power and commercial position of farmers in the food supply chain
   - Focus is on designing, developing and implementing new forms of chain governance (new rules, new division of roles, new arrangements) by mobilising strategic alliances, and building a strong support network to create a protected space or niche for experimenting and learning.
   - Often initiated by farmers aiming to improve their livelihood

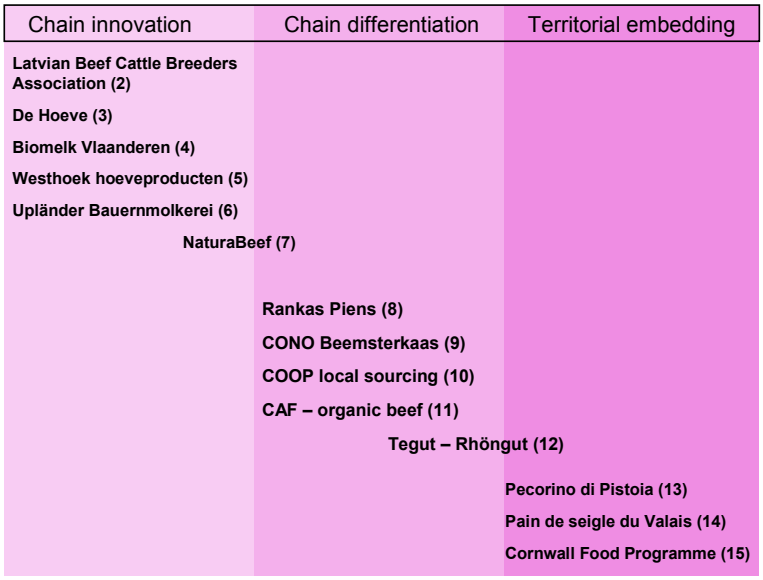



2. Chain differentiation
   - Key objective is to improve the commercial performance of an existing (in terms of organisational configuration) food supply chain
   - Focus is on developing and marketing more distinctive products (or assortment of products) alongside existing, well established products.
   - Often initiated by highly influential chain captains or directors (usually processors or retailers) aiming to improve the competitive position of their firm




3. Territorial embedding
   - Key objective is to (re-)construct a food supply chain as vehicle for sustainable regional development
   - Focus is on strengthening interlinkages and creating coherence and synergies between food supply chains and other economic activities in the region
   - Often initiated by public-private partnerships aiming to address public/societal concerns regarding sustainable regional development.

All fourteen cases have been allocated to one of the three types of sustainability trajectories (see table below). It is, however, important to realise that this is not an exclusive but a relational classification: each case has been classified according to the type of trajectory that best or most resembles its own development trajectory. This may, however, mean that aspects of the other types can also be seen in a particular case.




Furthermore, some cases with a longer history have actually 'travelled' through the triangle, their focus changed in time and they moved from one type of trajectory to another. Take e.g. the Italian beef case CAF: it started as a typical example of chain innovation in the 70's (raising a co-operative with local marketing of beef), then moved towards chain differentiation with developing a supply chain for organic beef next to the conventional chain, that was marketed by a national retailer (this is the actual case described and analysed) and because of its failure the initiative now moves towards a strategy of regional embedding strategy to enlarge the outlet.

### 4.4.2 A grounded perspective on the creation of sustainable food supply chains

An indicative, integral assessment of the contribution of such initiatives to sustainable rural development demonstrates that their effects differ significantly, i.e. their sustainability profile differs. The differences may partly mirror the success of the development to date, but they are also related to differences in drive and in scope, which are underpinned by differences in values and trade offs between objectives. Just as there is no single measure for sustainability, so there is no single road to sustainability. Different trajectories result in different profiles and different contributions to sustainable rural development. One of the findings in this respect is that direct and regional marketing initiatives do generate additional income and employment for rural areas, although the degree to which they do so differs. In addition they enable synergies with other rural development activities, such as rural tourism. In more marginal areas, these benefits can help counter the abandonment of agriculture, out-migration and 'greying' populations. Furthermore, they often contribute to an increase in job satisfaction and organisational capacity within rural communities, greater consumer trust in food systems, and reductions in food miles or waste.

These findings are of interest for those seeking to enhance sustainable rural development, in particular policy makers and consultants who often face difficult decisions over what type of initiatives and development patterns they should support or promote. The case studies show that support is crucial, but that it needs to be well targeted and appropriate to the stage of development of the initiative and its specific needs. While financial support is often important, other forms of support, in terms of advocacy and political legitimisation and required changes in regulations are also crucial. In addition it essential that these networks can mobilise the expertise required to achieve all of this.

There is potential for elaborating the Governing-Embedding-Marketing (GEM) framework into a useful tool for helping meet these objectives. This framework can be further developed as a grounded analytical tool that can enrich current research through a more integral approach, facilitating interdisciplinary understanding as demonstrated by work on the SUS-CHAIN project on which this book is based. The framework can also be used as reflexive tool for practitioners and their supporters, one that can help them to position themselves, develop a clear strategy, find the right allies, develop their skills and build the capacities that they need. The framework can not only help practitioners to find the right road, but also to travel along it well equipped. It also has great relevance as a policy tool for politicians and policy makers, to improve their strategic choices on what needs enhancing and how that can best be done through developing better and more targeted policy instruments.

Studies of initiatives show that the development of sustainable food and farming systems crucially depends upon the involvement and participation of a broad range of stakeholders, including the local community. Private sector initiatives and public-private partnerships and the strengthening of urban-rural (consumer-producer) relations are of great importance in this context. Many initiatives show that much can be achieved even in less favourable market conditions, with limited public support and/or under restrictive regulations.

# 5 EXPLOITATION AND DISSEMINATION OF RESULTS

The exploitation and dissemination of results has been a central and integral part of the project from the beginning till the very end. At different stages of the project national seminars (see 5.1) were organised to disseminate and get feedback on provisional results. The overall results of the project were presented and discussed at an international conference in Brussels (see 5.2). Furthermore several scientific seminars or workshops at scientific conferences were organised to present to and discuss with other scientists and researchers the provisional results of (parts of) the project (see 5.3). Other forms of exploitation and dissemination of results have been public presentations at conferences, meetings, etc. (see 5.4) and professional and scientific publications (see 5.5).

Finally results have been disseminated by means of a project website (www.sus-chain.org) and a project leaflet. The website contains information about the objectives, expected achievements, workplan, deliverables, milestones and project consortium. From the website all project reports intended for public use can be downloaded.

## *5.1 National seminars*

In each country three national seminars have been organised: the first (see 5.1.1) to discuss the provisional results of work packages 2 and 3 (macro-level analysis of the dynamics and diversity of food supply chains and the desk study on consumers' attitudes and behaviour), the second (see 5.1.2) to discuss the provisional results of the case studies and the third (see 5.1.3) to discuss the provisional practical and policy recommendations. The different target groups – i.e. practitioners, policy-makers and researchers and advisors – were invited to all three national seminars.

### 5.1.1 First national seminars

The first national seminars have taken place starting from late autumn 2003 till early spring 2004 (26th of November in Latvia, 2nd of December in Switzerland, 15th of December in Belgium, 16th of December in Italy, 22nd of January in UK, 12th of February in The Netherlands, 20th of February in Germany). The venues have been chosen in one or another way related to rural reality - during the World Organic Trade Fair "BioFach 04" in Nuremberg in Germany, at a rural conference centre in Latvia, etc.

Efforts have been made to gather at the seminars the stakeholders from all food chain stages (producers, distributors, retailers, consumers) and also other relevant agents, such as politicians and scientists. However, the responsiveness, availability and interest of all the invited has not been similar. Some sectors, especially retailing, remained underrepresented, whereas the organic sector was overrepresented in some countries.

Various methods have been combined and applied in the organisation phase of the seminars

- Mobilisation of stakeholders
- Drawing lists of invitees
- Sending out invitation letters

- Telephone calls, letters and double checks
- Preparation of information materials and handouts
- European FSC dimensions emphasised
- Finding proper place and adjacent event
- Good planning and preparatory work to get stakeholders at seminars

The seminars have been moderated either by SUS-CHAIN country team members or by invitees.

The seminars' programs have been split in several parts. They started with a plenary sessions, which included an introduction to the SUS-CHAIN project, its progress and first results; presentations about the main developments, issues and bottlenecks in the functioning of national and European FSC and sustainability issues. Presentations were given by SUS-CHAIN team members and/or invited keynote speakers. After the presentations there were discussions among the seminar participants about the presented topics.

In most countries the plenary session was followed by workshops/group sessions, except for Germany, where discussions were combined with stakeholder and market actor speeches "in order to be more attractive for food chain actors". They have been devoted to exchange opinions about the current state and dynamics of food chains in national contexts, problems and constraints, driving factors, opportunities and new initiatives in sustainable food chains. Various methods were used to facilitate the discussions and to obtain better results: questionnaires to rank several sustainability issues, round-table brainstorm discussions, clustering the ideas, prioritising problems. The seminar participants have received several handouts: information about SUS-CHAIN and results, handouts of presentations, list of SUS-CHAIN partners, address list of seminar participants, questionnaires and evaluation papers.

The workshops/group sessions were followed by a final plenary session at which the results of the workshops/group sessions were presented. The seminars ended with an evaluation session in which participants in which, amongst others, improvements were suggestions for future national seminars.

### 5.1.3 Second national seminars

The objective of the second national seminar was to get feedback on the contents and results of the case studies. Due to the link with the case studies many national teams decided to either organise two seminars instead of one (each seminar being devoted to one case study) or to have parallel case specific workshops at the second national seminar.

<u>The Netherlands</u>

- Date: 23 June 2005
- Two parallel workshops (one related to *De Hoeve* case study and one to *Beemsterkaas* case study) at conference about food safety and sustainability (60 conference participants)
- Objective workshop 1 (*De Hoeve* case study): to examine the relationship between the scale of the pork supply chain (regional vs international) and the sustainability profile of the pork supply chain (20 participants: producers, processors, researchers, societal organisations)
- Objective workshop 2 (*Beemsterkaas* case study): to examine the impact of different strategies (commercial approach of enterprise vs. ethical based consumer movement) on sustainable consumption practices (20 participants:

United Kingdom

- Two case study specific workshops held in the case study areas: one related to the local food procurement by supermarkets in the High Weald (July 2005) and one to the Cornwall Food Programme (October 2005)
- Objective Workshop 1: to pool the findings from the case study with knowledge on production, processing, retailing and consumption in the High Weald, and to evaluate opportunities for deeper links between supermarkets and the local agrifood economy (12 participants, all key stakeholders from the case study and the region).
- Objective Workshop 2: to examine and develop sustainable development indicators for the Cornwall Food Programme, and to corroborate and develop a set of policy recommendations and practical protocols for the case study report (13 participants, all key stakeholders within the case study area)

Switzerland

- Date: 8 June 2005
- The first objective of the seminar was to present and discuss the theoretical framework underlying the case studies for reconstructing the development trajectories of food supply chains.
- The second objective was to assess, with the help of 13 invited experts, the sustainability profiles of the principal and satellite case studies. The results of this exercise were incorporated in the case study reports.

Italy

- Date: 10 March 2005
- First objective was to present and discuss the main results of the two national case-studies.
- The second objective was to discuss the main hypothesis of SUS-CHAIN in the Italian context: *"Scaling up an initiative in the field of alternative food supply chains changes the nature of the organisation (structure, rules, procedures, values, goals) and its sustainability performance"*. The discussion was facilitated by a video documentation about the second case study (CAF).

Belgium

- Date: 8 March 2005 (14 participants representing the main stakeholder organisations)
- First objective was to present the state of affairs within the project and to given an overview of the 14 selected case studies.
- Second objective was to discuss 3 core themes (each time introduced by an overview of research results):
  1. coordination within supply chains and the effect on chain performance and scaling-up (introduced by Pieter Jan Brandsma on the Dutch case "De Hoeve"),
  2. contribution of alternative FSCs to rural development and the role of public support and
  3. scaling-up of alternative FSCs: opportunities, restrictions and key factors.

Latvia

- Two seminars in April 2005, held in the case study areas.

- Objective of the seminar about the *Rankas Piens* case study was to discuss three themes: internal organisation of the dairy, opportunities and challenges in the market, and relation with surrounding actors (25 participants - milk farmers, processing company managers, suppliers, institutional partners, media).
- The other seminar on beef case concentrated on the problems between producers and processors and issues how to develop new market segment.

Germany

- Date: 25 February 2005
- Workshop (21 participants representing a broad range of business (food processors), private associations, interest groups, academics as well as representatives of policy and administration) at the world organic trade fair "BioFach 05" which took place in Nuernberg from the 24 - 27 February 2005
- First objective was to present and discuss the 'variety of different food supply chains' and its 'similarities' and its disparities.
- Second objective was to discuss new approaches for 'sustainability marketing'.

### 5.1.3 Third national seminars

The objective of the third national seminars was to discuss the lessons, conclusions and recommendations of the project within the national context. Third national seminars have been held in the Netherlands and Belgium in 2005 and in the other countries in 2006.

The Netherlands

- Date: 17 November 2005 (25 participants: mainly research, consultancy, food production and processing and societal organisations).
- First objective was to present and discuss the main results of the project: e.g. diversity of food supply chain configurations and development paths in Europe, the typology of sustainability trajectories, the lessons learnt from the comparative case study analysis and the recommendations for practitioners, policy-makers and researchers. Important feedback from the participants was that they all valued the analytical framework (i.e. the *governance-embedding-marketing* triangle), also as a management tool for practitioners involved in constructing a new food supply chain. This would, however, require a further practical elaboration of the framework.
- Second objective was to elaborate the recommendations for different stakeholders for the trajectory of chain differentiation, using the example of *Beemsterkaas*.

The UK

- Date: 22nd May 2006 (24 participants: mainly from research, consultancy, rural development agencies, food-related NGOs and societal organisations).
- First objective was to present and discuss the main results of the project: e.g. diversity of food supply chain configurations and development paths in Europe, the typology of sustainability trajectories, the lessons learnt from the comparative case study analysis and the recommendations for practitioners, policy-makers and researchers.

- Second objective was to help elaborate the potential (and perhaps identify a 'tipping point) for initiatives, such as those examined within the Suschain case studies, to become part of the mainstream. This involved:
  - A stock taking of what's known in terms of research on regionalised food procurement, including the core question: is there empirical evidence of a positive impact on the rural economy?
  - A stock taking of what's known about policies that facilitate successful and sustained regionalisation of food procurement.
  - Research and policy priorities for 2006-7 to maintain the momentum in creating regional food supply chains.

Switzerland

- Date: 3 May 2006
- First objective was to present and discuss the main results of the project: e.g. diversity of food supply chain configurations and development paths in Europe, the typology of sustainability trajectories, the lessons learnt from the comparative case study analysis and the recommendations for practitioners, policy-makers and researchers. We invited for a talk Gundula Yahn (from P7), A. Vuylsteke (P5) and Ada Rossi (P 4) to contribute with the Swiss researchers to this presentation.
- Second objective was to discuss the specific problems in Switzerland for developing sustainable food chains. Mr Zizyadis, member of the Swiss parliament, which created recently a parliamentary group about "tasty food", was invited to react to the Swiss team recommendations report. The parliament has recently approved the declaration on food products packaging about the respect of ecological and animal welfare requirements linked to the Swiss agricultural law. Discussion with the participants highlighted a strong interest for developing new initiatives.

Italy

- Date: 11 April 2006
- Participants: around 20 participants from public institutions (Agricultural Policy Ministry, Regional Governments), research organisations (Wageningen University, Pisa University, INEA, ARSIA), producers' organisations (Associazione La Fierucola, Assobio Toscana, AIAB, Anagribios, Foro Contadino, etc.), opinion makers (Legambiente), and other organisations leader in agricultural and rural development.
- The Third National seminar was held in Rome, with the objective of presenting and discussing the main results of SUS-CHAIN project, such as the diversity of food supply chains in Europe, the typology of sustainability trajectories, the lessons learnt from the comparative case study analysis and the recommendations for practitioners, policy-makers and researchers.
- In order to involve all the participants in this discussion, the joint intervention of P4 (University of Pisa) and P1 (University of Wageningen) was centered around the three main axis of sustainable food-chains: governance, commercial performance, territorial and social embeddedness.
- The further discussion of participants was focused on the current paths of organic production in Italy, which provided insightful inputs for policy and practical recommendations, such as: enhancement of short food supply-chains, connecting local production to catering, involvement of organic production in long food supply-chains, and particularly considering producers and territorial specificities in drawing up code of practices.

Belgium

- Date: 8 December 2005
- Joint seminar with a Belgian research project on local food systems (in which S5 is also a partner) at Agribex (the national agricultural fair in Brussels) in the presence of more than 80 stakeholders.
- First objective was to present and discuss the main results of the project: e.g. diversity of food supply chain configurations and development paths in Europe, the typology of sustainability trajectories, the lessons learnt from the comparative case study analysis and the recommendations for practitioners, policy-makers and researchers.
- Second objective was to discuss, according to the approach of the World Café, the question 'How can we (each from our own perspective or organisation) reinforce sustainable food supply chains? Four recommendations resulted from this discussion:
  - Make consumers more aware of the (un-)sustainability of the food they buy, e.g. by making food miles transparent.
  - Be more creative in marketing of sustainable food products, e.g. by incorporating small scale sustainable food supply chains in large scale distribution systems.
  - Support the development of specific knowledge and skills of practitioners, e.g. by developing specific training programmes.
  - Create a supportive policy environment, e.g. by subsidising local products instead of the export of EU products.

Latvia

- Date: 31 March 2006 (20 participants: representatives of Ministry of Agriculture, research, agricultural marketing and farmers organisations and media).
- First objective was to present and discuss the main results of the project: e.g. diversity of food supply chain configurations and development paths in Europe, the typology of sustainability trajectories, the lessons learnt from the comparative case study analysis and the recommendations for practitioners, policy-makers and researchers.
- Second objective was to elaborate the recommendations for different stakeholders using the examples of two Latvian case studies *Rankas Piens* and *Latvian Beef Cattle Breeders Association*.
- Several policy recommendations resulted from discussions:
  - Since there are several interpretations and understandings to food supply chains among different stakeholders (economic understanding among producers, chain partners, marketing organisations; technological/ scientific understanding among researchers, micro-biologists; regulative understanding among policy makers; safety and traceability understanding among consumers) there is a need for improved communication and sharing knowledge among stakeholders in order to improve functioning of food supply chains.
  - The weakest point in marketing sustainable agriculture in Latvia is communication with consumers. Trade marks and quality marks/ labels developed by market promotion organisations and producers organisations based on their codes of practice are seen as major tool to promote sustainable products and food chains.
  - There is a need for greater public support to organisations and producers associations that develop quality marks for sustainable products. Certain quality marks that entail greater sustainability promise, e.g. – beef production based on grazing, positive impact on the

environment, contribution to rural development, could be given priority within public support programmes.

- The Ministry of Agriculture was recommended to allocate greater support to collective marketing initiatives undertaken by groups of producers together with processors and retail organisations.
- There should be considered a possibility of "mitigation" or "adjustment" of EU food regulations with regard to specific conditions in which small producers and small-scale initiatives in sustainable food production operate. The regulative policies need to take into account specificities and sustainability advantages of small productions and localised food chains.

- The practical recommendations / protocols identified the following actions for the improvement of sustainable food chains in Latvia:
  - Communication with consumers, information and awareness rising among consumers
  - Education and training among producers
  - Producers cooperation
  - Collective marketing
  - Scientific research
  - Cooperation between chain partners
  - Development of trade marks and quality labels

Germany

- Date: 16 February 2006. Place: BIOFACH fair in Nürnberg (DE)
- Podium discussion with introductory presentation of national level SUSCHAIN project results. Title of the third national seminar „*Preisdumping in den Lebensmittelmärkten - mit dem Anspruch einer nachhaltigen Entwicklung vereinbar?*" (price dumping in food markets – compatible with a sustainable development?)
- Moderation of podium discussion by a professional journalist, Mr. Werner Prill (*Lebensmittelzeitung*)
- Participants on podium: Eckhard Engert, Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz (MoA), Friedrich-Wilhelm Graefe zu Baringdorf, Europäisches Parlament, Agrarausschuss (European Parliament), Jutta Jaksche, Verbraucherzentrale Bundesverband e.V. (Consumer association), Dr. Heinrich Graf von Bassewitz, Deutscher Bauernverband (German Farmers Union), Herr Karsten Ziebell, CMA – Centrale Marketinggesellschaft der deutschen Agrarwirtschaft mbH (German Agricultural Marketing Agency), Josef Jacobi, Upländer Bauernmolkerei GmbH (Upländer Dairy; SUSCHAIN case study), Gerald Wehde, Bioland Bundesverband (Organic Farmers Association), Christian Waffenschmidt, Coop Schweiz (Coop Switzerland), Dr. Burkhard Schaer, ECOZEPT GbR (France).
- Other participants: approx. 20-35 (varying during seminar)
- The objective was to present and discuss the main results of the project against the background of the extreme process of concentration in the food retail sector: Nearly two thirds of the German food trade is covered by five enterprises. This process also takes place in the processing sector. Market access therefore gets more and more difficult for smaller businesses and farmers. It is expected that the market share of 'discounters' (which is – within Europe – the highest in Germany) will steadily in-crease (from 35 % in 2002 up to 40 % in 2007).

- In the discussion it was found that support systems (technology development, policy support, advisory services, training) are not well targeted at the specific needs of alternative chains and the actors involved in these chains. Some progress in the last four years has been made in Germany in the course of the 'reorientation' of Federal level agricultural and food policy.
- The *Upländer dairy* and its development of a branding and corresponding marketing measures has been referred to as a typical example that shows that alternative development trajectories are possible. In particular the offer of high quality and healthy products from the region to the consumers, linked with a uniform branding, relating the product to the region Upland, is recognized positively by the consumers. The dairy's management has successfully aligned the interests of the dairy with those of the region and have thereby generated a widespread commitment to their objectives from across the region. Thus, the company has built up a remarkable affiliation within the region and ex-tended this to a very successful marketing strategy.
- The podium discussion and presentation of national level SUSCHAIN project results has had a significant repercussion in relevant circles in Germany. The two case studies that have been implemented in the project illustrate nicely that product labels with a specific regional statement and relevant information about product quality help the consumer to differentiate his product choice and to support a more sustainable agriculture.

## 5.2 International conference

The international conference was held on June 22nd 2006 in Brussels and hosted by the Cabinet of the President of the Committee of the Regions. The international conference was organised to present the SUS-CHAIN results to and discuss the conclusions and recommendations with different stakeholders, policy-makers and researchers (see the list of participants below).

| Name and first name of the participants | Occupation |
|---|---|
| HAN WISKERKE (NL) | RESEARCHER, SUSCHAIN COORDINATOR |
| DIRK ROEP (NL) | RESEARCHER |
| HENK OOSTINDIE (NL) | RESEARCHER |
| PIETER JAN BRANDSMA (NL) | STAKEHOLDER |
| GERWIN VERSCHUUR (NL) | NGO |
| RIENTS KOOPMANS (NL) | PUBLISHER |
| NICK PARROT (UK) | STAKEHOLDER |
| JAMES KIRWAN (UK) | RESEARCHER |
| NATHAN HARROW (UK) | STAKEHOLDER |
| RITE SILE (LV) | NGO |
| SANDRA SUMANA (LV) | RESEARCHER |
| TALIS TISSENKOPFS (LV) | RESEARCHER |
| GUIDO VAN HUYLENBROECK (BE) | RESEARCHER |
| ANNE VUYLSTEKE (BE) | RESEARCHER |
| LIEVE VERCAUTEREN (BE) | NGO REPRESENTATIVE |
| KOEN SYMONS (BE) | STAKEHOLDER |
| PAUL VERBEKE (BE) | STAKEHOLDER |
| ERIK MATHIJS (BE) | AGRICULTURE AND FOOD RESEARCH |
| GIANLUCA BRUNORI (IT) | SUS-CHAIN RESEARCHER |
| FLAMINIA VENTURA (IT) | POLICYMAKER (NATIONAL) |
| ADA ROSSI (IT) | RESEARCHER |
| MARGUERITE PAUS (CH) | RESEARCHER |
| SOPHIE REVIRON (CH) | RESEARCHER |
| ALESSANDRA SILAURI (CH) | STAKEHOLDER |
| ERICH WALDMEIER (GE) | STAKEHOLDER |
| DOMINIQUE BARJOLLE (CH) | RESEARCHER |
| KARLHEINZ KNICKEL (GE) | RESEARCHER |
| BURKHARD SCHAER (GE) | NGO |
| CLAUDIA STRAUCH (GE) | RESEARCHER |
| FRIEDER THOMAS (GE) | STAKEHOLDER |
| CLAUDIA STRAUCH (GE) | NGO |
| STEPHANIE SCHLEGEL | POLICYMAKER (EU) |
| BARBARA STUTZ | POLICYMAKER (EU) |
| GESA WESSELER | POLICYMAKER (EU) |
| MARY BROWN | POLICYMAKER (EU) |
| GINEVRA ROSSIGNOLO | STAKEHOLDER |
| HANDAN GIRAY | RESEACHERS |
| DANIELE TISOT | EU-SCIENTIFIC OFFICER SUS-CHAIN |
| THYS WISSINK (NL) | POLICYMAKER (EU) |

The focus of the conference was on the question whether sustainable rural development could be enhanced through the creation of sustainable food supply chains (see the programme below).

www.sus-chain.org

## Enhancing rural development through the creation of sustainable food supply chains: Valuable perspective or mission impossible?

SUS-CHAIN is a research project co-financed by the European Commission, which ran from January 2003 to July 2006. It brought together a multi-disciplinary team of sociologists, economists and marketing experts from seven leading European universities paired with NGOs, which are active in the field of sustainable food production and marketing. The work has been undertaken at times when issues of food quality and sustainable rural development emerged as central concerns in the future development of food, farming and rural areas in Europe. SUS-CHAIN has contributed to this debate by assessing the potential role of food supply chains in the enhancement of sustainable food production and rural development. At the end of the project the SUS-CHAIN consortium would like to present its results to and discuss its conclusions and recommendations with different stakeholders and policy-makers. This will take place on:

**Thursday 22 June 2006** from **13.30 - 17.00 hrs**

at

**Committee of the Regions, Rue de Belliard 101, Brussels**

**PROGRAM**

| | |
|---|---|
| 13.30-14.00 | Start / Coffee / Tea |
| 14.00-14.20 | Constructing sustainable food supply chains: trajectories, lessons learned and recommendations<br>*Prof.dr. Han Wiskerke (SUS-CHAIN coordinator)* |
| 14.20-14.25 | Presentation of book *Nourishing Networks: fourteen lessons about creating sustainable food supply chains* |
| 14.25-15.00 | Comments from stakeholders on Nourishing Networks<br>- Dr. Flaminia Ventura (Head of the Technical Cabinet - Ministry of Agriculture, Italy)<br>- Rita Sile (Executive director of *Zemnieku Saeima* (Farmers Parliament), Latvia)<br>- Nathan Harrow (Project Manager of the Cornwall Food Programme, United Kingdom)<br>- Koen Symons (Consultant Sales & Marketing of the Innovation Support Centre for Agriculture and Horticulture, Belgium) |
| 15.00-16.15 | Round table discussion with stakeholders:<br>- Marketing sustainable agriculture: a matter of image building?<br>- More regulatory flexibility: will this be harmful to food quality and safety?<br>- Policy is all about making choices: which choices ought to be made to support sustainable rural development? |
| 16.15-16.30 | Implications for research policy and for agro-food and rural development policy |
| 16.30-17.00 | Drinks |

The conference commenced with a presentation by the SUS-CHAIN coordinator about the main findings, lessons and recommendations of the project. After this introduction the book *Nourishing Networks* was presented to a panel of 4 stakeholders. All four panel members briefly reflected on this book.

- ***Dr. Flaminia Ventura (Head of the Technical Cabinet – Ministry of Agriculture, Italy)***

  The work presented in "Nourishing networks" is very important as it encompasses a great amount of information on food networks that can serve as an input for the current discussions concerning the new rural development policy (2007-2013). It, for example, illustrates the role of supply chains in rural development strategies, the importance of quality policies (which are the leading trajectories) and show what the lessons are for policy makers at all levels.

  Although many initiatives concerning PDO or organic products aim at an improved remuneration of the farmer's efforts, it is however important to maintain products at their regional level by fixing a price that allows a consumer to use the product on a daily base. When the prices are too high (because of a high value added), the products leave the region and cannot longer be a component of the attractiveness of a region. In this respect, it is also important to reflect on the definition of the quality of life in rural and peri-urban regions, but also to focus on the balance within the rural area between agriculture and newcomers.

  A second important issue that is addressed by the book is the one of innovation in food production and marketing. This also relates to changing food habits, also in rural areas, and the importance of out-of-house meals (schools, restaurants, etc.). In this context, it is necessary to develop innovation to preserve the quality and the identity of the food.

  A third element concerns the problem of integrating different forms of policy (support, regulation) at the different levels and which are managed by different administrations. It shows that there is a need for a different type of governance. Different stakeholders also have divers interests, which are defended through lobbying. In the case of food safety regulation, big food processors and retailers favour increasing food safety levels but this can be an important threat for local food systems. It is therefore important to find a balance between the interests.

  The book also illustrates the importance of public-private partnerships in order to achieve the trajectory "regional embedding" and this is also an important goals of the Leader program and other bottom-up approaches. Practice however learns that it is very difficult to realise these objectives within the existing measures as the framework is designed, but no proper projects are on the table.

  A final element concerns the new role of public administrations, which focuses on the new need for coordination, but at the same time, the people lack the necessary knowledge and skills. Therefore, an investment in human capital is needed and new forms of governance should be developed.

- ***Rita Sile (Executive director of Zemnieku Saeima (Farmers Parliament), Latvia)***

  The Farmers Parliament is a lobbying organisation and represents here the farmers in new entering countries.

  An important field of innovation that is open for the farmers in Latvia are the cooperatives, but in reality the farmers have not accumulated enough funding (cfr. EU funding) to realise this collaboration.

  Also in Latvia, discussions are going on concerning the timing and content of the new rural development plan, but this process has only started and a long discussion is going on about possible measures. It is however regrettable that matters such as sustainability disappear when elections come nearby.

  The solutions to these problems are training, education, science, consulting and an increased knowledge in general. In practice, you have to be very well-trained as a farmer, consultant, administrator, etc. and that is were this research comes in by providing experience and expertise.

- ***Nathan Harrow (Project Manager of the Cornwall Food Programme, United Kingdom)***

  Nathan Harrow is involved in one of the SUS-CHAIN cases and looks from a health perspective as the combination of economic, social and ecological sustainability will lead to an improved health of the community. With the Cornwall Food Programme, they come from a long, 7-years road and its has been very interesting to read people's perspective on it.

  The emphasis put on the development of distinction is very recognisable from his perspective and asks for an alignment of problems and issues. It is indeed to talk to all upstream and downstream actors and to take their considerations into account. The two other issues, marketing and embedding, are also very close to his heart. When the actors can be aligned and the financial and marketing objectives are identified, the benefits of sustainability will follow. Funding is critical in this process, but a lot of emphasis has also to be put on human resources and finding people that can take the lead. In setting-up an initiative, it is also important to identify the key problem to have a kick start.

  The robustness and depth of the research were furthermore appreciated, but it remains a massively complex subject. The significance of the book will be in inspiring people to look for opportunities. They hereby have to bear in mind that there is no wrong or right way, but that is important to get started. In that perspective, it is important that the EU finances this kind of research.

  The example of the Cornwall Food Programme that you can have a massive influence in terms of environmental sustainability (reduction of food miles and $CO_2$ emission) and economic impact.

- ***Koen Symons (Consultant Sales & Marketing of the Innovation Support Centre for Agriculture and Horticulture, Belgium)***

  This type of research is considered to be the right work on the right time because of the enormous pressure of globalisation and competition. This situation will push farmers towards innovation, new networks, etc. Three important elements of the work that has been done are particularly relevant in the Flemish situation.

  A first element concerns the requirement to combine a good product with a coherent marketing strategy.

  Second, initiatives should gain some kind of societal support for their actions. Farmers are, at this moment, afraid of for example environmental organisations while the example of De Hoeve clearly shows that discussion and interaction can lead to a win-win situation.

  Finally, the farmers themselves should be the initiators of this type of initiatives, while the government should create the framework and provide the subsidies at the start.

This reflection was followed by a discussion among the panel members and with the audience. The main topics of discussion were 'agro-food and rural development policies', 'stakeholder involvement' and 'trust' (see annual progress report 4 (2006) at www.sus-chain.org for the minutes of the discussion).

## *5.3 Scientific conferences and workshops*

### 5.3.1 SUS-CHAIN – TRUC research seminar

Following the third project coordination meeting in Pisa, P1 and P4 organised a research seminar entitled "*Rural development, communication and food supply chain dynamics: empirical realities, theories, methodologies and policies*" based on two European projects, i.e. TRUC[11] and SUS-CHAIN. In addition to researchers from both projects scientists, students and advisors from different parts

[11] Transforming Rural Communication, a 5th framework Accompanying Measures project coordinated by Prof. Gianluca Brunori (see http://www.arsia.toscana.it/truc/truc/index.htm for more information)

of Italy attended this research seminar. It was held on the 31st of January 2004 at the University of Pisa. The following presentations were given:

- Jan Douwe van der Ploeg: The future of the CAP – implications of the shift towards the 2nd pillar for socio-economic research.
- Gianluca Brunori: An introduction to and overview of TRUC and SUS-CHAIN.
- Natasja Oerlemans & Paolo Pieroni: Comparative analysis of TRUC case studies.
- Sophie Réviron, Jean-March Chappuis & Dominique Barjolle: Vertical alliances for origin labelled food products: what is the most relevant economic model of analysis?
- Guido van Huylenbroeck: Understanding participation in and organisation of FSC initiatives through a transaction cost analysis.
- Talis Tisenkopfs: A reflection on the TRUC methodology.
- Deidre O´Connor: The TRUC evaluation grid.
- Han Wiskerke: Understanding the differential dynamics of incremental and radical innovations in FSC – a multi-level co-evolutionary framework.
- General discussion chaired by Jan Douwe van der Ploeg: Promising empirical realities and valuable methodologies and theories.

### 5.3.2 Workshop at XIth World Congress of Rural Sociology

At the XIth World Congress of Rural Sociology, which was held in Trondheim (Norway) from the 26th to the 30th of July 2004, the SUS-CHAIN coordinator chaired (together with colleagues from Ireland and Norway) a workshop entitled *The role of new food supply chains in rural development*.[12] The workshop was spread over several days and was, on average, attended by 40 social scientists. In this workshop 7 papers, which were based on SUS-CHAIN, were presented:

1. Han Wiskerke – The potential contribution of new food supply chains to sustainable rural development: setting the scene.
2. Henk Renting – Alternative food networks and rural development: empirical realities and theoretical and methodological issues.
3. Bill Slee, James Kirwan & Carolyn Foster – An overview of the dynamics and diversity of food supply chains in Europe.
4. Talis Tisenkopfs – Communicating research results to actors in food supply chains.
5. Sophie Réviron, Jean-Marc Chappuis & Dominique Barjolle – Why economists need sociologists for analysing the organisational choices of local collective food initiatives.
6. Gianluca Brunori & Andrea Marescotti – Trust, embeddedness, quality: towards a ´radical´ marketing approach to local food.
7. Anne Vuylsteke, Isabelle Vackier, Wim Verbeke & Guido van Huylenbroeck – Consumer behaviour towards sustainable food products

In addition to these presentations another 15 papers were presented, covering food supply chains in other European countries, Latin America, Asia and Australia. This workshop gave the SUS-CHAIN consortium the opportunity to disseminate the project and its first results to an international audience of rural sociologists to position SUS-CHAIN in a global context and learn (empirically, methodologically and theoretically) from other experiences.

[12] see http://www.irsa-world.org/XI/program/workshops.html#15

### 5.3.3 Workshop at XXI[st] Congress of the ESRS

P4 took the initiative to organise a workshop entitled "*Constructions of Food Quality in Contemporary Agri-Food Systems*" at the XXI[st] Congress of the European Society for Rural Sociology (ESRS). The XXI[st] ESRS congress took place from 22-27 August 2005 in Keszthely (Hungary). The focus of this workshop was as follows:

> Contemporary agri-food systems are situated in a rapidly changing economic, political, social and cultural climate, characterised by unpredictability and periodic crises, all of which have profound consequences for all actors involved. Against this backdrop, the construction of food quality is a much debated and highly contested issue. After a long time in which the agenda on food quality has been largely set up by food companies and traditional farmers' organisations, in the last years new actors and new themes have emerged. In front of an increasing attention of consumers to taste, technology-based innovation has shown signs of disaffection, and on the contrary culture- and nature-based innovation (expressed through organic an local food and mainly driven by farmers and farmers' networks) have developed new markets and created links with broader rural development processes. The purpose of this workshop is to examine this multi-faceted issue from a number of standpoints including *governance issues* – (public sector, private sector, multi-level governance, policy formulation and implementation); the role of different *organisational and institutional* arrangements in the construction of food quality; the role of consumers, citizens, food movements; *the role of innovation* and *producer perspective* on the construction of food quality.

## *5.4 Public presentations*

***2003***

Han Wiskerke (P1) - "Versterking van de typiciteit van streekproducten: naar een gefaseerd stappenplan" (Strengthening the typicality of regional products: towards a phased approach) , Presentation and workshop, Innoplaza, Lunteren, 27 February 2003.

Han Wiskerke (P1) - "Globalisering of regionalisering van voedselproductie en consumptie" (Globalisation or regionalisation of food production and consumption, panel-member at a public debate organised by Friends of the Earth, Rode Hoed, Amsterdam, 4 June 2003.

The subcontractor of P7, Ecozept, used its contacts with the food branch actors and with researchers to disseminate information about the SUSCHAIN project. The following presentations were given by staff members of Ecozept in 2003:

- February 2003, Augsburg (Germany): Presentation of SUSCHAIN at "Bioland" – the biggest organic farmers union in Germany.
- March 2003, Montpellier (France): Presentation of SUSCHAIN at a colloquium of the food chain research group MOISA. Public: 25 researchers of ENSA and INRA.
- June 2003, Munich (Germany): Presentation of SUSCHAIN at a congress of the Bavarian Ministry of Consumer Affairs and Food Safety. Topic: European Food Safety Concepts. Public: 250 members of Bavarian food administration bodies and food chain actors.
- June 2003 Clermont-Ferrand (France): Presentation of SUSCHAIN at a colloquium on organic and fair-trade food. Public: 20 postgraduate students and re-searchers of ENITA.
- October 2003, Braunschweig (Germany): Presentation of SUSCHAIN on a work-shop of FAL (Federal research institute for agriculture). Public: 40 scientists and food chain actors

***2004***

Han Wiskerke (P1) - "SUS-CHAIN: scope, objectives & provisional results", presentation at DG Agri followed by a presentation at the European Parliament, Brussels, 23 June 2004.

Anne Vuylsteke (P5) - "Theoretisch concept korte ketens" (Theoretical concept short supply chains) for Wervel (2004).

***2005***

Han Wiskerke – Food supply chains in Europe: dynamics, diversity and initiatives. Presentation at 1st workshop of the JRC-IPTS Food Quality Schemes project, Brussels, 7 April 2005 (http://foodqualityschemes.jrc.es/en/ws1.html).

Han Wiskerke – Dynamics and diversity of food supply chains in Europe. Presentation at multidisciplinary research seminar of Mansholt Graduate School, Wageningen, 9 June 2005.

Han Wiskerke – The construction of sustainable food supply chains in Europe. Presentation at the conference 'Food safety and sustainability: a common project of producers and consumers?, Utrecht, 23 June 2005.

Han Wiskerke – SUS-CHAIN: current state of the art. Presentation at joint SUS-CHAIN – JRC-IPTS workshop, Brussels, 21 September 2005.

Han Wiskerke – Constructing sustainable food supply chains: context, network dynamics and sustainability performance. Presentation at the BRASS seminar "*Measuring sustainability of the food supply chain*", Centre for Business Relationships, Accountability, Sustainability and Society (BRASS), Cardiff University, Cardiff, 27 October 2005

James Kirwan & Carolyn Foster – Public sector food procurement in the UK: examining the creation of an alternative system. Paper presented at the South West Rural Research Network Seminar, Lafrowda House, University of Exeter, 5th September 2005.

James Kirwan & Carolyn Foster – Public sector food procurement in the UK: examining the creation of an alternative system. Paper presented at the RGS-IBG Annual International Conference, Royal Geographical Society, London, 31st August-2nd September 2005.

Sophie Réviron – Le comportement d'achat des consommateurs suisses pour les produits alimentaires à promesse de durabilité, Presentation at the SFER seminar *Au nom de la qualité : quelles qualités demain pour quelles demandes*, Clermont-Ferrand, 5 & 6 October 2005

Margeruite Paus – Evaluation des effets locaux des AOC-IGP : développement rural, organisations sociales et vie des territoires. Presentation at the Conference « *Produits agricoles et alimentaires d'origine : enjeux et acquis scientifiques* » , Paris, 17 & 18 November 2005

Gianluca Brunori, Adanella Rossi & Raffaella Cerruti - Looking for alternatives: the construction of organic beef chain in Mugello, Tuscany. Paper presented at the 21st ESRS conference, Keszthely (Hungary), 23 August 2005

Anne Vuylsteke – Le cas de la Belgique : des exemples de développement réussis. Presentation at 8eme Journée Agroalimentaire de l'Agro «*Les circuits alternatifs de distribution en agro-alimentaire* », Montpellier, 10 March 2005.

Anne Vuylsteke – Policy actions to support system innovation: the case of alternative food supply chains. Paper presented at Colloque SFER *"In the name of quality : what kind of quality for which kind of demand(s)?*", Clermont-Ferrand, 5 and 6 october 2005

Gundula Jahn & Karlheinz Knickel – Promoting a sustainable development of rural areas: Some relevant experiences with the 'Active Regions' pilot programme in Germany. Paper presented at Workshop *Moving Worldviews*, 28 – 30 November 2005, Soesterberg (NL)

***2006***

Han Wiskerke – *De meerwaarde van biologische landbouw voor de kwaliteit van de leefomgeving*. Presentation at 'Zeeuws Eko Congress', 23 March 2006, Rilland

Han Wiskerke – *Constructing sustainable food supply chains: trajectories, lessons learned and recommendations*. Presentation at the SUS-CHAIN international conference "Enhancing rural development through the creation of sustainable food supply chains: Valuable perspective or mission impossible?", Committee of the Regions, 22 June 2006, Brussels.

Roep, D. (2006). *Costruire filiere sostenibili: percorsi e initiative*. Presentation at the INEA (National Economic Research Intsitute) seminar on Biological agriculture, 11 April 2006, Rome (www.inea.it/sabio/eventi.cfm).

Brunori, G. & Cerruti, R. - *Differentiation strategies and marketing networks: evidence from two marginal areas of Tuscany* – Paper presented at the 2nd Seminar of the Scientific Professional Network on Mediterranean Livestock Farming, Saragozza, 18-20 May 2006

James Kirwan **-** Marketing sustainable agriculture: an analysis of the potential role of new food supply chains in sustainable rural development. Paper presented to the Monmouthshire Food Forum, The Hill Education and Conference Centre, Abergavenny, Monmouthshire, 12th June.

James Kirwan - Sustainable food procurement in the NHS: the Cornwall Food Programme. Paper presented at the third Suschain Workshop: Getting a Rural Development Win from Regionalising Food Supply Chains, National Trust Headquarters, Heelis, Kemble Drive, Swindon, 22nd May.

Sophie Réviron - "New architecture, new transaction skills in the food supply chains", paper presented at the 96th European Association of Agricultural Economists (EAAE), "Causes and impacts of agricultural structures", 10-11 January 2006, Taenikon, CH, 16p.

Sophie Réviron, Marguerite Paus, "Impact analysis methods regarding positive effects of Geographical Indications products on rural development", special report presented at the 2nd European project SINER-GI meeting: Strengthening International Research on Geographical Indications: from research foundation to consistent policy, 12 January 2006, 35 p.

Sophie Réviron, " pain de seigle valaisan AOC: enjeux et risques", présentation at the initiative's board meeting, 19 September 2006.

Talis Tisenkopfs – New Ideas and Initiatives in Rural development. Paper presented at the Rural Extension Network in Europe International Conference *"Development of Agricultural and Rural Advisory Services in Globalizing and Changing Environment"*, Jurmala (Latvia), 23-24 March 2006

Karlheinz Knickel (2006) Public demands on the rural environment between supply of food production, recreation and ecosystem services. Contribution to international conference on *"Sustainable Rural Development: Applied Science for Knowledge Driven Governance"*. Florence, University of Florence, Faculty of Economics, 16-17 November 2006

Karlheinz Knickel (2006) Strengthening the positive links between organic farming and a sustainable development of rural areas. Contribution to international conference *"Organic farming and European rural development"*, Odense (DK), 30-31 May 2006

Karlheinz Knickel (2006) Von der Praxis zur Theorie: Paradigmenwechsel in der Agrarökonomie? Contribution to 16. Jahrestagung der Österreichischen Gesellschaft für Agrarökonomie *„Ländliche Betriebe und Agrarökonomie auf neuen Pfaden"*, Universität für Bodenkultur, Wien, 28-29 September 2006

## 5.5 Professional and scientific publications


***2004***

Barjolle D., Reviron S and Chappuis J-M., 2004. "Organisation and performance of the origin labelled food alliances", in Bellows A. R., Focus on Agricultural Economics, Nova science publishers, New York, p. 211-245.

Brunori G., Cerruti R., Medeot S., Rossi A., 2004. "The raw sheep milk cheese of Pistoia mountains: a case study", accepted for publication in *Agricoltura Mediterranea: International Journal of Agricultural Science*.

Reviron, S., 2004. Naissance et croissance des initiatives locales, *Agrarwitschaft und Agrarsoziologie,* 2/04, p.113-133.

Reviron S. and Chappuis J-M., 2004. "Vertical alliances for origin labelled products: what is the most relevant economic model of analysis?", in : Role of institutions in Rural policies and agricultural markets, G. Van Huylenbroeck et al. (editors), Elsevier, p. 239-254.

Wiskerke, J.S.C. & N.J. Oerlemans, 2004. The Zeeuwse Vlegel: a promising niche for sustainable baking wheat cultivation, in: J.S.C. Wiskerke & J.D. van der Ploeg (eds.) *Seeds of transition: essays on novelty production, niches and regimes in agriculture*, Van Gorcum, Assen, pp. 225-264.

***2005***

Réviron S., "Le comportement d'achat des consommateurs suisses pour les produits alimentaires à promesse de durabilité", in the Acts of the SFER seminar Au nom de la qualité : quelles qualités demain pour quelles demandes, that was held on 5 & 6 October in Clermont-Ferrand, France, p. 177- 184.

Paus M. with G. Beletti, A. Marescotti Tand A. Hauwy : "Evaluation des effets locaux des AOC-IGP : développement rural, organisations sociales et vie des territoires" in the Acts of the Conference : Produits agricoles et alimentaires d'origine : enjeux et acquis scientifiques , 17 & 18 November, Paris, France

Brunori G., Cerruti R., Medeot S., Rossi A. (2005) The raw sheep milk cheese of Pistoia mountains: a case study", *Agricoltura Mediterranea. International Journal of Agricultural Science* Vol. 135, 127-146

Vuylsteke, A. & Van Huylenbroeck, G. (2005). Policy actions to support system innovation: the case of alternative food supply chains. In: Blogowski, A., Lagrange, L. & Valceschini, E., Colloque international. Au nom de la qualité. Quelle(s) qualité(s) demain, pour quelle(s) demande(s) ?. Actes du colloque SFER – Enita Clermont-Ferrand, 5 et 6 octobre 2005. pp. 289-296.

Knickel, K. & B. Schaer (2005) Nachhaltigkeit in der Lebensmittelwirtschaft: Experten diskutieren Zustand und Zukunft nachhaltiger Lebensmittelproduktion. Auf unterstützende Rahmenbedingungen angewiesen. *AgraEurope*, 17/05, Markt und Meinung, 5-8

Peter, S., C. Strauch & K. Knickel (2005) Nachhaltige Lebensmittelwirtschaft: Ergebnisse aus zwei Fallstudien in Deutschland. *Ländlicher Raum*, Agrarsoziale Gesellschaft, 56 (5), 31-34

Knickel, K. & G. Jahn (2005) Local marketing strategies and smallholder agriculture – the perfect match? A case study based analysis of the role of local food chains in Europe. *Farming Systems and Poverty: Making a Difference*. Global Learning Opportunity, Rome, Italy. 31 October - 4 November 2005,18th Symposium of the International Farming Systems Association (IFSA) with FAO and IFAD

***2006***

Roep, D. & J.S.C. Wiskerke (eds) (2006). *Nourishing networks; fourteen lessons about creating sustainable food supply chains*. Rural Sociology Group, Wageningen University and Reed Business Information, Wageningen/ Doetinchem, 176 pp.

Wiskerke, J.S.C. & D.Roep (2006). Nourishing networks: a grounded perspective on sustainable food provision. In: D. Roep & J.S.C. Wiskerke (eds). *Nourishing networks; fourteen lessons about creating sustainable food supply chains*. Rural Sociology Group, Wageningen University and Reed Business Information, Wageningen/ Doetinchem, p. 7-16.

Tabuns, A., L. Suna & A. Zobena (2006). Developing a supportive institutional environment: Latvian beef cattle breeders association. . In: Roep, D. and H. Wiskerke (eds.) *Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 17-26

Oostindie, H.A., P. Brandsma & D. Roep (2006). Creating space for change; De Hoeve pork supply chain. In: D. Roep & J.S.C. Wiskerke (eds). *Nourishing networks; fourteen lessons about creating sustainable food supply chains*. Rural Sociology Group, Wageningen University and Reed Business Information, Wageningen/ Doetinchem, p. 27-38.

Vercauteren, L. (2006). Creating space for change: Biomelk Vlaanderen, . In: Roep, D. and H. Wiskerke (eds.) *Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 39-48.

Vuylsteke, A. & G. van Huylenbroeck (2006). Willingness to invest in a shared enterprise: De Westhoek hoeveproducten. . In: Roep, D. and H. Wiskerke (eds.) *Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 49-58

Claudia Strauch, Karlheinz Knickel & Burkhard Schaer (2006) Upländer Bauernmolkerei: Mobilising investment capital for scaling up. In: Roep, D. and H. Wiskerke (eds.) *Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 59-68

Damary, P. (2006). Anticipating the implications of scaling up: Naturabeef. . In: Roep, D. and H. Wiskerke (eds.) *Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 69-78

Tisenkopfs, T. & S. Sumane (2006). A visionary and capable leader: Rankas piens dairy. . In: Roep, D. and H. Wiskerke (eds.) *Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 79-90.

Oerlemans, N. & E. Hees (2006) Building a strong brand: Beemsterkaas of the CONO dairy co-operative. . In: Roep, D. and H. Wiskerke (eds.) *Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 91-102

Vorley, B, Fearne, A, Pitts M and Farmer W (2006) Supermarket sourcing of local food. Pp. 104-112 in D. Roep and H. Wiskerke (Eds.), *Nourishing Networks: Fourteen Lessons about Creating Sustainable Food Supply Chains*. Rural Sociology Group, Wageningen University; and Reed Business Information, Agriboek, PO Box 4, 7000 BA Doetinchem, The Netherlands.

Brunori, G., R. Cerruti, S. Medeot & A. Rossi (2006). Regional marketing as basic security: the organic beef initiative of the Cooperative Agricola Firenzuola. . In: Roep, D. and H. Wiskerke (eds.) *Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 113-122

Burkhard Schaer, Karlheinz Knickel & Claudia Strauch (2006) Tegut supermarket and Rhöngut meat processing: Regional embedding as a marketing strategy. In: Roep, D. and H. Wiskerke (eds.)

*Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 123-134

Brunori, G., R. Cerruti, S. Medeot & A. Rossi (2006). Specificity as a key in aligning regional interests: Pecorino di Pistoia, on farm made sheep chees of raw milk. In: Roep, D. and H. Wiskerke (eds.) *Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 135-144.

Reviron, S. (2006). Promotion of regional identity: Pain de seigle du Valais AOC (Valais Rye Bread PDO). In: Roep, D. and H. Wiskerke (eds.) *Nourishing networks: Fourteen lessons about creating sustainable food supply systems*. Doetinchem: Reed Business Information, 145-154.

Kirwan, J. and Foster, C. (2006) Public sector food procurement through partnerships: the Cornwall Food Programme. Pp. 155-164 in D. Roep and H. Wiskerke (Eds.), *Nourishing Networks: Fourteen Lessons about Creating Sustainable Food Supply Chains*. Rural Sociology Group, Wageningen University; and Reed Business Information, Agriboek, PO Box 4, 7000 BA Doetinchem, The Netherlands.

Knickel, K., G. Jahn, D. Roep & J.S.C. Wiskerke (2006). Enhancing sustainable food supply chain initiatives. In: D. Roep & J.S.C. Wiskerke (eds). *Nourishing networks; fourteen lessons about creating sustainable food supply chains*. Rural Sociology Group, Wageningen University and Reed Business Information, Wageningen/ Doetinchem, p. 165-175.

Brunori (2006), Post-rural processes in wealthy rural areas: hybrid networks and symbolic capital, in *Research in Rural Sociology and Development*, Vol. 12, "Between the Local and the Global: Confronting Complexity in the Contemporary Agri-Food Sector", edited by Terry Marsden and Jonathan Murdoch, MacMillan, London (in press)

Brunori, G., Cerruti, R., Medeot, S. e Rossi A. (2006), Looking for alternatives: the construction of organic beef chain in Mugello, Tuscany, in *International Journal of Agricultural Resources, Governance and Ecology (IJARGE)*, to be published

Brunori, G., Medeot, S. (eds) (2006), *Condizioni di successo e fattori limitanti delle strategie di regionalizzazione dei consumi alimentari*, ARSIA, to be published

Réviron S., "New architecture, new transaction skills in the food supply chains", paper presented at the 96th European Association of Agricultural Economists (EAAE), "Causes and impacts of agricultural structures", 10-11 January, Taenikon, CH, 16p.

Réviron S., Paus M., "Impact analysis methods regarding positive effects of Geographical Indications products on rural development", special report, WP2, European project SINER-GI : Strenghtening International Research on Geographical Indications : from research foundation to consistent policy, January, 35 p.

Karlheinz Knickel & Burkhard Schaer (2005) Nachhaltigkeit in der Lebensmittelwirtschaft: Experten diskutieren Zustand und Zukunft nachhaltiger Lebensmittelproduktion. Auf unterstützende Rahmenbedingungen angewiesen. *AgraEurope*, 17/05, Markt und Meinung, 5-8

Karlheinz Knickel & Gundula Jahn (2006) Promoting a sustainable development of rural areas: The 'Active Regions' pilot programme in Germany. In: B. Haverkort & C. Reijntjes (eds.) *Moving worldviews: Reshaping sciences, policies and practices for endogenous sustainable development*. Compas series on Worldviews and Sciences, Nr. 4, Leusden (NL): Compas, 254-265

Karlheinz Knickel & Melanie Kröger (2006) Public demands on the rural environment between supply of food production, recreation and ecosystem services. In: R. Simoncini (ed) *Sustainable Rural Development: Applied Science for Knowledge Driven Governance*. University of Florence, Faculty of Economics.

Karlheinz Knickel, Merit Mikk, Nick Parrott & Antonio Alonso Mielgo (2006) Dedicated organics: Farmers' markets, box schemes, on-farm shops and the civic conventions around organic

production. 9. Wissenschaftstagung Ökologischer Landbau. http://orgprints.org/view/projects/wissenschafts tagung-2007.html

Karlheinz Knickel, Susanne von Münchhausen & Sarah Peter (2006) Strengthening the positive links between organic farming and a sustainable development of rural areas. In: C.B. Andreasen, L. Elsgaard, L. Sondergaard Sorensen & G. Hansen (eds.) (2006) *Organic farming and European rural development*. Tjele (DK): Darcof, 22-23

Knickel, K. & B. Schaer (2005) Nachhaltigkeit in der Lebensmittelwirtschaft: Experten diskutieren Zustand und Zukunft nachhaltiger Lebensmittelproduktion. Auf unterstützende Rahmenbedingungen angewiesen. *AgraEurope*, 17/05, Markt und Meinung, 5-8

Peter, S., C. Strauch & K. Knickel (2005) Nachhaltige Lebensmittelwirtschaft: Ergebnisse aus zwei Fallstudien in Deutschland. *Ländlicher Raum*, Agrarsoziale Gesellschaft, 56 (5), 31-34

Sarah Peter, Claudia Strauch & Karlheinz Knickel (2006) Nachhaltige Lebensmittelwirtschaft: Ergebnisse aus zwei Fallstudien in Deutschland. *Ländlicher Raum*, Agrarsoziale Gesellschaft, 56 (5), 31-34

***2007***

Wiskerke, J.S.C. & D. Roep (2007) Constructing a Sustainable Pork Supply Chain: a Case of Techno-institutional Innovation, *Journal of Environmental Policy and Planning 9*: 53 – 74.

Roep, D. & J.S.C. Wiskerke (2007). Constructing sustainable food supply chains: a grounded perspective. In: In W. Zollitsch, C. Winckler, S. Waiblinger & A. Haslberger (Eds.) *EurSafe 2007, Sustainable food production and ethics, Vienna, Austria, September 13-15, 2007*. Wageningen Academic Publishers, p. 174 - 179.

Kirwan, J. and Foster, C. (2007) Public sector food procurement in the UK: examining the creation of an alternative system. In D. Maye, L. Holloway and M. Kneafsey (Eds.), *Constructing Alternative Food Geographies: Representation and Practice*. Elsevier.

***Forthcoming***

Wiskerke, J.S.C. & D. Roep (2008). Agro-food dynamics: a grounded perspective on the construction of regional food networks, *Agriculture and Human Values*

Wiskerke, J.S.C., G. van Huylenbroeck & J. Kirwan (eds.) (2008). *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Wiskerke, J.S.C., G. van Huylenbroeck & J. Kirwan (2008). Sustaining food supply chains: an introduction. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Slee, R.W. & J. Kirwan (2008). Towards a grounded theory of food supply chain dynamics. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Jahn G., Karlheinz Knickel, H. Oostindie, D. Roep & J.S.C. Wiskerke (2008). Food supply chains (FSCs): Patterns of development and key factors that affect their evolutionary dynamics and sustainability performance. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Brunori, G., S. Reviron & J.M. Chappuis (2008). Scaling-up an initiative: benefits versus risks. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Reviron, S., A. Vuylsteke & G. van Huylenbroeck (2008). Hybrid firms and power distribution. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Wiskerke, J.S.C. & D. Roep (2008) Path creation and path dependencies in developing sustainable food supply chains. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Barjolle, D., P. Damary & B. Schaer (2008). The role of origin of the products in the supply chains' strategies of sustainable food. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Kirwan, J., T. Tisenkopfs & A. Rossie (2008). Mediating trust and locality: examining the role of social embeddedness in shaping new food supply chains. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Kirwan, J., B. Vorley, C. Foster & A. Fearne (2008). (Re)localising national agrifood procurement and distribution systems: the development of locally-embedded networks of provision. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Schaer, B. (2008). Marketing and communication in sustainable food supply chains. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Vuylsteke, A. & G. van Huylenbroeck (2008). Targeting support to innovative food supply chains. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

Slee, R.W., H. Oostindie, J. Kirwan, D. Roep & J.S.C. Wiskerke (2008) Alternative food chains, sustainability profiles and targeting of institutional support. In: J.S.C. Wiskerke *et al*. (eds.) *Sustaining food supply chains: grounded perspectives on the dynamics and impact of new modes of food provision*. Ashgate, Hampshire.

# 6 POLICY RELATED BENEFITS

## *6.1 Community added value and contribution to EU policies*

### 6.1.1 European dimension of the problem

The sustainability of food production and consumption as well as the role of food supply chains in sustainable rural development is a matter of concern to all EU-member states. Comparative research is a means to solve problems regarding the sustainability of food and rural areas as experiences of one region/country can provide valuable insights for another region/country and vice versa. Based on this comparative approach the project resulted in 14 lessons about creating sustainable food supply chains. Each lesson is linked to a specific example, yet all 14 lessons can be applied, if properly contextualized, in different European countries and regions. Furthermore the comparative analysis of food supply chain trends and dynamics in 7 countries (including consumer behaviour) as well as of 14 concrete food supply chain cases has resulted in a number of policy recommendations at European level.

### 6.1.2 Contribution to developing S&T co-operation at international level

The project brought together a multi-disciplinary team of sociologists, economists, geographers, agronomists and marketing experts from seven leading European universities paired with NGOs, which are active in the field of sustainable food production and marketing. Intensive collaboration between scientists and professionals with different disciplinary backgrounds has been very stimulating and fruitful. The project succeeded in developing a research methodology and theoretical framework that can be applied in different scientific disciplines, thereby theoretically broadening and enriching different disciplines in the field of agro-food and rural studies. It has also resulted in stable and long-lasting collaborations between partners, demonstrated for instance by the fact that (different combinations of) partners have engaged in new research projects that are linked to or build upon (aspects of) this project.

More specifically the project contributed to the following research domains and topics:

- Research on new and improved food production, processing, distribution and marketing systems by demonstrating the shape and contents of those practices that result in more sustainable products and that incorporate consumer preferences and societal demands regarding food quality, food safety, environmentally friendly production and transparency of food production.
- Research on diversification by demonstrating the diversity in practices and discourses with respect to food supply chains.
- Research on quality policy by focussing on the characteristics of and processes underlying the production of quality food with a higher added value as a building block for an integrated rural policy. In addition the project paid detailed attention to the opportunities markets have to offer by studying the wishes of consumers and the demands of society at large (i.e. the vision of the public on agriculture and food production, in which health, safety and quality are some of the key words in this context).

- Research on support for common policies by analysing the influence of common policies on the development of sustainable food supply chains and by giving policy recommendations regarding food supply chains, rural development and the enlargement of the European Union.
- Research on new tools and models for the integrated and sustainable development of rural areas. The project specifically addressed this field of research. Through a focus on the dynamics of food supply chains the project has improved the understanding on how local development potential can be exploited, how the socio-economic quality of rural life can be improved and how different local stakeholders can be involved in the development of sustainable food supply chains.

Finally the project also complied with the general aims for all research fields in agriculture, forestry and rural development:

- A multi-disciplinary approach by combining disciplines such as rural sociology, agricultural economics, marketing studies, agronomy and consumer studies.
- The socio-economic aspects of sustainable agriculture and food supply chains were stressed by developing indicators for assessing the socio-economic profile and performance of new food supply chains, including their socio-economic impact on rural development
- End users of the results have been actively involved in the project by means of the NGO's as subcontractors, through international exchange of practitioners and researchers as part of the case studies and by organising national workshops with relevant stakeholders.

### 6.1.3 Contribution to policy design or implementation

The policy relevance of this project mainly relates to food policies and rural development policies. One of the outcomes of this project is that these two policy domains are sometimes contradictory. Sustainable rural development may benefit from the development and expansion of artisanal/traditional modes of food production and processing, yet the development and expansion of these modes of food production and processing is often hampered by food safety (in particular food hygiene) regulations. Another contribution to policy design or implementation is that this project shows the relevance and importance of financial, as well as non-financial support. A number of different types of support have been identified: financial, marketing, information and public relations, advocacy and public legitimisation of the initiative, brokering, training and consulting; and technical and legal support for innovative and experimental approaches.

This project has provided insights and recommendations to incorporate in future CAP reforms. This includes:

- a better understanding of consumers' attitudes towards sustainable agriculture and food products and their purchasing behaviour as well as of the barriers and opportunities for enhancing sustainable consumption;
- insight in the way consumers' preferences are translated into practices in food chains and in the way actors in the food chain succeed or fail to incorporate these perceptions into their daily practices;
- recommendations on how policies (including the different forms of support) can stimulate the incorporation of societal demands with respect to sustainability in food supply chains;
- insight in the ways sustainable food supply chains contribute to the preservation of landscapes and the improvement of food quality.

## 6.2 Contribution to Community social objectives

### 6.2.1 Improving the quality of life in the Community

This project shows that through the regionalisation of food production and consumption (in particular by (re)connecting food production to its natural, social and cultural environment) and by creating linkages and synergies between food and other commodities and services economic growth and employment can be created in rural areas. This can help to stop the process of marginalisation and depopulation of rural areas and actually contribute to a reversed development trend. Another trend revealed by this project is the growing demand for local food by public organisations like hospitals and schools. Localisation of public food procurement can have positive effects on the local economy. Quite often localisation of public food procurement is combined with health education: i.e. informing and educating patients and children about healthy diets. This is relevant in the fight against obesity.

### 6.2.2 Provision of appropriate incentives for monitoring and creating jobs

New sustainable food supply chains can play an important role in the economic development of rural regions. Regionalisation of food supply chains can create new jobs in primary production, food processing and distribution. New regional/local food products also tend to have a strong symbolic power in the marketing or branding of rural regions. As such sustainable local food can be the vehicle for sustainable regional development, creating jobs in not only food production, processing and distribution, but also in tourism, arts, crafts, construction works, etcetera. The role of public authorities is quite crucial in this respect. Financial incentives for the first development phase is often important, but also political legitimation as well as willingness of authorities to find solutions for contradicting or conflicting policy rules and regulations (e.g. tension between food hygiene regulations and traditional artisanal food products as symbolic capital of a region).

### 6.2.3 Supporting sustainable development

The impact of new food supply chains on sustainable rural and regional development depends on the initial objective(s) of the initiative and on its initiators. When initiated by farmers who aim to improve their livelihood, new food supply chains particularly increase the farmer’s share of value added, improve self-organizational capacity, enhance learning and knowledge and increase job satisfaction. When initiated by food processors or retailers who aim to improve the competitive position of their firm, new food supply chains particularly contribute to NVA in the food supply chain, more trust in the food system and a reduction of negative and increment of positive externalities. When initiated by public-private partnerships that address public sustainability concerns, new food supply chains particularly contribute to NVA, direct and indirect employment in the region, discourage out-migration of skilled labour, enrich cultural landscape and reduce road miles.

# 7 LITERATURE CITED

Assouline, G. and F. Just (2001). *Making Agriculture Sustainable: the role of farmers' networking and institutional strategies - Final report*. University of Southern Denmark (SDU), Denmark; QAP Decision (QAP), France; Institut Supérieur d'Agriculture Rhône-Alpes (ISARA), France; The Centre for Agriculture and Environment (CLM), The Netherlands; Instituto de Estudios Sociales Avanzados de Andalucía (CSIC-IESA), Spain; Institute of Philosophy and Sociology, Baltic Studies Centre (BSC), Latvia

Briz, T. and Al-Hajdji, M. (2003). Consumers' attitude versus organic products. Paper presented at 83rd EAAE seminar, Chania.

Brunori, G and A. Rossi (2000). Synergy and coherence through collective action: some insights from wine routes in Tuscany. *Sociologia Ruralis* 40 (4) pp. 409-423

Bruyer, V., Zaccaï, E., Rousseau, C., Recht, P., Delbaere, P. and Kestemont, M.-P. (2003). Criteria and impulses for changes towards a sustainable consumption: Approach per sector.

Callon, M. (1986). Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Brieuc Bay, pp. 196-233. In J. Law (ed.): Power, Action and Belief: A New Sociology of Knowledge? London: Routledge and Kegan Paul.

European Commission (2000). *Indicators for the integration of environmental concerns into the Common Agricultural Policy*. Communication from the commission to the council and European parliament, Brussels.

Granovetter, M. (1985) Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology*, 91: 481-510.

Hopfenbeck, W. (1994). *Umweltorientiertes Management und Marketing. Konzepte - Instrumente - Praxisbeispiele*. Landsberg

IATP (1998) *Marketing sustainable agriculture: case studies and analysis from Europe,* Institute for Agriculture and Trade Policy, Minneapolis.

Jager, W. (2000) *Modelling consumer behaviour*. PhD thesis, University of Groningen. www.ub.rug.nl/eldoc/dis/ppsw/w.jager/thesis.pdf

Kirwan, J. (2004) Alternative strategies in the UK agro-food system: interrogating the alterity of farmers' markets, *Sociologia Ruralis* 44, pp. 395–415.

Knickel, K. and H. Renting (2000). Methodological and conceptual issues in the study of multifunctionality and rural development. *Sociologia Ruralis* 40 (4) pp 512-528.

Long, N. & A.. Long (1992) *Battlefields of Knowledge: the interlocking of theory and practice in social research and development*, Routledge, London.

Lowe, P., J. Murdoch & N. Ward (1995) Networks in rural development: Beyond Exogenous and Endogenous Models. In: J.D. van der Ploeg and G. van Dijk (eds), *Beyond modernization: the impact of endogeneous development*, Van Gorcum, Assen, pp. 87-106.

Macnaghten, P & J. Urry (1998) *Contested Natures*, Sage: London

Magnusson, M.K., Arvola, A., Koivisto Hursti, U.-K., Åberg, L. and Sjödén, P.-O. (2003). Choice of organic foods is related to perceived consequences for human health and to environmentally friendly behaviour. Appetite 40: 109-117.

MAPA (2002). Estudio del Mercado de los productos de la agricultura ecológica MAPA, DHV MC.

Marsden, T., J. Murdoch & K. Morgan (1999) Sustainable agriculture, food supply chains and regional development: editorial introduction. *International Planning Studies,* 4, pp. 295-301

Marsden, T., J. Banks and G. Bristow (2000) Food supply chain approaches: Exploring their role in rural development. *Sociologia Ruralis* 40, pp. 424-438

Mathijs, E. (2003). Marketing food quality: the role of labels and short chains. In IAAS Belgium (ed.) Food Quality: A Challenge for North and South.

Meulenberg, M. (2003). Consument en burger, betekenis voor de markt van landbouwproducten en voedingsmiddelen. Tijdschrift voor Sociaal wetenschappelijk onderzoek van de landbouw 18: 43-56.

Murdoch, J., T. Marsden & J. Banks (2000) Quality, nature & embeddedness: some theoretical considerations in the context of the food sector, *Economic Geography* 76, pp. 107-125.

Nygard, B. and O. Storstad (1998) De-globalisation of food markets? Consumer perceptions of safe food: The case of Norway. *Sociologia Ruralis* 38, pp.35 –53.

OECD (2000). *Environmental indicators for agriculture: methods and results - the stocktaking report contextual indicators*, Paris.

OECD (2000). *Environmental indicators for agriculture: methods and results - the stocktaking report contextual indicators: farm financial resources*, Paris.

Porter, M.E. (1985) *Competitive Advantage: creating and sustaining superior performance*.New York.

Putnam, R. (1993) *La tradizione civica nelle regioni italiane* (Milano: Mondadori)

Renting, H., T.K. Marsden & J. Banks (2003) Understanding alternative food networks: exploring the role of short food supply chains in rural development, *Environment and Planning A* 35, pp. 393-411.

Röling, N. and A. Wagemakers (1998) *Facilitating Sustainable Agriculture*, Cambridge University Press..

Saccomandi, V. (1998) *Agricultural Market Economics: a Neo-institutional Analysis of the Exchange, Circulation and Distribution of Agricultural Products*. Van Gorcum, Assen.

SDC (2003). A vision for sustainable agriculture Sustainable Development Commission. http://www.sd-commission.gov.uk/pubs/food2001/index.htm

Sonnino, R & T.K. Marsden (2006) Beyond the divide: rethinking relationships between alternative and conventional food networks in Europe, *Journal of Economic Geography* 6, pp. 181–199.

Stassart, P. (ed.) (1999) *Du savoir aux saveurs: 101 chemins pour une alimentation de qualité*, Fondation Universitaire Luxembourgeoise / Vredeseilanden-Coopibo, Arlon / Leuven.

Thøgersen and Ölander (2002). Human values and the emergence of a sustainable consumption pattern: A panel study. Journal of Economic Psychology 23: 605-630.

Van Broekhuizen, R. *et al.* (eds) (1997) *Renewing the countryside:an atlas with two hundred examples from Dutch rural society*, Misset, Doetinchem.

Van der Ploeg, J.D., H. Renting, G. Brunori, K. Knickel, J. Mannion, T. Marsden, K. de Roest, E. Sevilla-Guzman & F. Ventura (2000) Rural Development: From Practices and Policies towards Theory. *Sociologia Ruralis* 40, pp. 391-408

Van Mansvelt, J.D. & M.J. van der Lubbe (1999). *Checklist for Sustainable Landscape Management*, Amsterdam.

Ventura, F. & H. van der Meulen (1994) *La costruzione della qualita: produzione, commercializzazione e consumo della carne bovina in Umbria*, CESAR, Assisi.

Vilain, L. (2000). *La méthode IDEA: Indicateurs de durabilité des exploitations agricoles - Guide d'utilisation*, Dijon.

Vindigni, G., Janssen, M.A. and Jager, W. (2002). Organic food consumption. A multi-theoretical framework of consumer decision making. British Food Journal 104: 624-642.

Watts, D.C.H., B. Ilbery & D. Maye (2005) Making reconnections in agro-food geography: alternative systems of food provision, *Progress in Human Geography* 29, pp. 22–40.

Wiskerke, J.S.C. (2003) On promising niches and constraining regimes: the case of Dutch wheat and bread, *Environment & Planning A* 35, pp. 429-448

Yakovleva, N. & A. Flynn (2004) Innovation and Sustainability in the Food System: A Case of Chicken Production and Consumption in the UK, *Journal of Environmental Policy & Planning* 6, pp. 227-250