Executive Summary:
This project focused on the development of sustainable food production and consumption patterns, which could importantly contribute to the solution of today's sustainability problems. More particularly the project aimed at experimenting with new integrative modalities of collaboration between policymakers, researchers and civil society organisations. The idea is that supporting collaboration and collective learning among these key actor groups through so-called Communities of Practice will enhance the development of more effective policies for promoting sustainable food systems and with it sustainable food production and consumption practices.

The project supported and monitored the development of three Communities of Practice (CoP) in which policymakers, researchers and civil society organisation collaborate in the field of short producer to consumer food chains, re-valuing public food procurement and urban food strategies. The general idea was that the CoP members explore the issue at stake in order to reach a shared understanding of the problem; in a following step they reflect on their vision of a desirable future development in the light of existing policy agendas and strategies; then they explore the knowledge actually available and its relevance for the solution of the problem at hand; eventually they commonly identify future research needs. This process of collaboration and social learning was supported by scientists who collected and examined useful knowledge brokerage activities and supported the CoPs in their application. They also accompanied the CoPs in their continuous reflection on the usefulness of knowledge brokerage, and monitored and evaluated the development and learning experiences of the CoPs and the project team as a whole.

All three Communities of Practice followed basically the same model of collaboration along the four stages presented above. Their experiences overlap and they were all three successful. There are also interesting differences in the processes they went through. The
differences were related to leadership style, level of collaboration with local initiatives, and level of shared responsibility. All three CoPs established a virtual community on the same web-platform, the Knowledge Hub. They all started as a closed community but opened up for new members within the first year of the project. All three CoPs experienced uncertainty about how to structure their collaboration. After about 9 months all three CoPs decided to produce a guide or action plan around short food supply chains, sustainable public procurement respectively urban food strategies. This worked very well as it gave direction to the CoP work and motivated on-going engagement. Besides, it effectively supported social learning and the understanding of each other's language and viewpoints through the process of collective writing. Important was also that it satisfied the CoP members’ need to produce a tangible outcome of their engagement, something worthy of three years of work and something to be proud of. In all three cases, the CoPs were successful also in this respect - the action plans and guidelines that the CoPs produced, are welcomed and appreciated as very useful by policymakers and CSOs.

Monitoring the development of the CoPs gave insight in the processes that new Communities of Practices go through and the requirements for their effective support and facilitation. We may conclude that collaboration between researchers, policymakers and civil society organisation is of great value and supports the development of new solutions. Communities of Practice represent a valuable modality for this kind of collaboration. We also learned that Communities of Practice need support and facilitation in order to function effectively. Among others ‘new born’ Communities of Practice require leadership and continuous facilitation, especially when interaction proceeds mainly online. Evaluation of the knowledge brokerage activities applied revealed the fitness of specific tools in specific contexts and situations. The lessons learned are summarised in recommendations for effective knowledge brokerage across science, policy-making and civil society, that are presented in a separate booklet available at the website. Besides, we produced a policy brief that informs policymaker about the project and its results.

Project Context and Objectives:
The project focused on today's sustainability problems as the main policy issues. Many of the problems around sustainability are related to the prevailing pattern of food production and consumption (e.g. water shortage, GHG emissions, pollution of soil and water, decrease of biodiversity, urban waste). Hence, developing more sustainable food production and consumption patterns will have a significant impact on sustainable development in general.

The prevailing dynamics in food production and consumption patterns in the EU in the past decades are characterised by three mutually reinforcing processes:

1. the modernisation and industrialisation of food provisioning;
2. the standardisation of food production and processing practices and procedures; and
3. the globalisation of the food market.

The EU’s Common Agricultural Policy has supported this development, which has also been promoted through the strong links between agricultural policy, agro-food research, extension and farmers’ advocacy. The knowledge system supporting the modernisation of the food supply chain was predominantly organised in a hierarchical and linear way: agricultural policymakers and farmers’ union define problems, researchers develop solutions to these problems and extension experts transfer the knowledge generated and technologies developed by research to end-users. The emerging modern, industrial and global food system has very successfully realised the ambitions of the original CAP: self-sufficiency in food supply at low prices for consumers.

But there are also costs. There are monetary and budgetary problems linked to the EU's market and price policy and trade distortions resulting from surplus production at EU-level. Besides, the following issues raise more and more concerns:

- Downward pressure on farm family incomes,
- Environmental pollution and ecological degradation,
- Loss of organoleptic quality and diversity,
- Consumers’ uncertainty about and distrust in food,
- Health problems.

As a response to the multitude of food-related concerns a new food geography is developing, which is grounded in a new logic and a new set of values. It is driven by concerns about food quality and safety, nutrition, food security and carbon food prints. This new food geography is developing along three societal axis:

- Short producer to consumer food chains – new relations between civil society and the chain of food provision (the civil society – market axis).
- Re-valuing public food procurement – new relations between the public sector (as buyer and consumer of food) and the chain of food provision (the market – state axis).
Urban food strategies – the rise of municipalities and city-regions as food policy makers, pointing to new relations between the (local/regional) government and civil society (the state – civil society axis).

The new food geography departs from a territorial (as opposed to global) approach to food production and consumption, and aims at the integration of food related policy issues. Food is conceptualised as a commodity containing calories, vitamins, proteins, nutrients, et cetera that we need to eat in order to survive; but it is also considered as a product that links environmental pollution, environmental degradation, environmental quality, social (in)equality, public health, employment, education, et cetera. The new food geography is an integrated territorial geography. This has considerable implications for scientific research and policymaking.

Scientists have to cross their disciplinary borders and policymakers have to cross their departmental borders; both have to collaborate with civil society. Defining problems, designing and executing research, formulating recommendations, designing and implementation policy, as well as monitoring and evaluating policy activities and defining new problems, needs to become a collective and interactive process of scientists, policymakers and other stakeholders. The different actors involved may have different roles and responsibilities, but need to find a way to work together and co-produce new understanding. In doing so the territoriality of sustainable foodscapes has to be taken into account: creating more sustainable food production and consumption patterns will differ from place to place and so will the solutions.

The overall aim of the project is to develop and experiment with new integrative modalities of linking research to policy-making in the field of sustainable food consumption and production. It thereby contributes to the establishment of new policy-relevant communities of researchers, policy makers and civil society organisation, which through collaboration will enhance the use of research insights in policies to promote sustainable food systems.

The specific objectives of the project are defined as follows:

1. To obtain a sound overview and understanding of Knowledge Brokering Activities (KBAs) that have proven to be effective and/or are potentially effective, and to assess which KBAs could be used to foster the interaction between scientists, policymakers and civil society organisations in order to enhance sustainable food production and consumption practices;
2. To initiate three Communities of Practice with the aim:
   a. To identify the questions and needs of the participants;
   b. To select relevant KBAs according to these questions and needs;
   c. To experiment with the selected KBAs in the scope of the thematic ‘brokerage cluster’ challenges;
3. To facilitate, monitor and evaluate the performance and usefulness of the applied KBAs, to adapt/optimise the KB process in order to increase the quality of the specific science-policy-society interactions, and to identify ways to enhance the (collective) social learning process and knowledge integration within the KBAs;
4. To propose new modalities for enhancing the science-policy-civil society interaction for the domain of sustainable food production and consumption as well as for other sustainable production-consumption domains;
5. To disseminate intermediate and final results to a wide range of actors and organisations and to actively involve stakeholders to give feedback on the project activities and outcomes.

Project Results:

4.1.3.1 Overview of effective knowledge brokerage activities
We started the project with a literature study and a review of other knowledge brokerage projects in order to identify key concepts and useful tools and methods. A conceptual framework was elaborated, expectations were consolidated, experiences on knowledge brokerage were exchanged, and a pool of tools and methods was compiled. In the second period of the project the “Pool of tools and methods” was updated whenever a new method was applied within the thematic CoPs. In addition, we advised and supported the three CoPs in their selection and application of tools to experiment with.

SIGNIFICANT RESULTS

1. Elaboration of a conceptual framework for Knowledge Brokerage Activities
Knowledge Brokerage, Social Learning and Communities of Practice proved to be the crucial building blocks of the FOODLINKS project. In addition, we learned that knowledge brokerage in FOODLINKS proceeded as a participatory, heterarchical, non-linear and reflexive interaction process.
We started off from the idea that the use of knowledge is a complex social process that goes beyond knowledge management, transfer, exchange and translation in a technical sense. Right from the start we therefore promoted interaction between researchers and end
users through activities that catalyse both, the technical and the social dimensions of the processes. The basic idea is that actors from different communities are enabled to build relationships that allow for an efficient exchange of knowledge and experiences, or in other words ‘knowledge brokerage’. By engaging in on-going interactions and joint activities, this knowledge brokerage process deepens actors' knowledge and expertise, and fosters their learning from each other's and development of a mutual understanding of the topic at stake.

Social learning concerned the learning content and outcome as well as the learning process and the learning context that it offers. Project members jointly reflected on problems and the relevance of existing knowledge, in order to better understand and solve these problems. In FOODLINKS social learning was based in experiential learning that took place at different levels; it included individual learning through social interaction with others, and collective learning within the CoPs, as well as wider social learning beyond the project-based CoPs. Participants inquired new knowledge, better understand a variety of viewpoints but also reconsidered and redefined their own standpoints and values.

In FOODLINKS knowledge brokerage and social learning took place in Communities of Practice: the project team as a whole constituted a Community of Practice, next to the three specific Communities (CoPs) gathered around the three aspects of the new food geography: short food supply chains, re-valued public procurement, and urban food strategies. These three CoPs consisted of core communities with only project members but in the course of the project also as expanded CoP that included members beyond the project. The participation in CoPs can be seen as an essential process of learning, and the stability of the CoPs may be considered as an essential factor for a mutual learning process. At its core, the CoPs are about learning as social participation, which do not only give room for explicit knowledge, but also for tacit knowledge.

2. Key lessons learned from previous Knowledge Brokerage Activities
The cultivation of new Communities of Practice entails efforts at the level of the "domain" (common ground and sense of common identity), the "community" (group of people, who interact and build relationships), and "practice" (the set of frameworks, ideas, tools, information, language, stories shared by the CoP members). In particular this needs:
1. Agreement about a shared domain: CoP members need to develop a shared understanding of the problem and agree about what defines the success of their collaboration.
2. Focus on community building: A CoP as a vital and productive community has to be constantly nurtured and facilitated – roles have to be defined and filled out, the process of interaction and collaboration has to be organised, methods and instruments for collaboration and interaction have to be tried out and used. A proper balance between public and private community spaces is important.
3. Openness: the CoPs should not turn into closed shops but remain open to new interested participants and new ideas, thus the CoPs should stay open for different levels of participation.
4. Development of shared practices: by integrating knowledge and exchanging experiences around the domain CoPs need to develop shared practices. Different methods should be employed to support this process and to facilitate the reframing and integration of knowledge and sharing of practices.

Face-to-face interaction are of crucial importance to form a group and build trust as needed within a CoP ICT tools can be adapted to serve for networking and regular interaction between CoP members, to store, access and share relevant data and information, and to develop common strategies and better practices for future research activities. However, those tools have to be carefully chosen and matched to the needs, skills and expectations of CoP members.

The success and effectiveness of Knowledge Brokerage processes depends on the following factors:
- Contextual conditions: KB needs appropriate time and sufficient resources for all actors engaged; their effectiveness depends on their timeliness (given a certain policy development) and their fitness in the organisation process;
- Design and organisation of the KB process: capacity for KB has to be built through tailor-made measures; it is important to support the interlinking of actors, to ensure that an appropriate range of knowledge is used, that different KB activities are started and combined, that the process is structured but flexible, that there is a shared ownership of the process and that there is open communication and transparent decision making;
- Range of actors: participants need to include an appropriate range of stakeholders; they should have the personal attributes and competences that are needed for open communication and exchange of experience, and for the constitution of trustful relationships;
- Compilation of a pool of methods and tools: CoP coordinators use it to consult the document when planning their activities and choosing suitable methods for the respective Knowledge Brokerage activities. Currently the pool describes 26 tools.
4.1.3.2 The CoP experience

One of the specific aims of the projects was to initiate three Communities of Practice, in which scientists, policymakers and civil society organisations exchange and co-produce knowledge around the three developments that characterise the new food geography. CoP participation means engaging in a process of social learning. Based on regular interactions the participants discover new perspectives and viewpoints, and learn collectively how to better address or deal with the issue at stake by recruiting a shared repertoire of explicit and tacit knowledge, resources and practices. FOODLINKS departed from the idea that CoPs engage in a cyclical, iterative and participatory process of scoping, envisioning, research exploration and assessment of learning. In doing so they would develop a shared and integrated interpretation of the issue at hand in order to explore new solutions for policies enhancing the development of short food supply chains, re-valued public procurement, or urban food strategies. Two principles are underlying this cyclical, iterative and participatory approach:

1. The principle of non-linear knowledge generation: knowledge is developed in a complex, interactive process of co-production with a range of stakeholders involved, all of which are considered to be knowledge producers and knowledge consumers.
2. The principle of social learning: when ready-made solutions at unavailable social learning offers the opportunity for experimentation and learning through interaction with other actors.

The cyclical process of CoP collaboration includes the following SERA learning stages, which maybe repeatedly gone through, possibly in different orders.

- **Scoping stage:** All CoP members explore the topic and collectively create a shared understanding of the issue at stake.
- **Envisioning stage:** CoP members jointly reflect on their vision/s about the future development of the theme based on policy relevant agendas and strategies, and prioritise which aspects they want to engage with first.
- **Research reservoir exploration stage:** CoP members explore the existing research reservoir and consider the relevance of knowledge and information available.
- **Assessment of learning stage:** CoP members reflect on the relevance of the existing research reservoir and their learning outcomes and identify future research needs.

In the following we describe the process of CoP development for each of the three CoPs. They were all successful and followed basically the same model of collaboration along the four stages presented above. Their experiences overlap but there are also interesting differences in the processes they went through. All three CoP started in Month 6 of the project. They established a virtual community on the same web-platform, the Knowledge Hub: this platform is available for free and established by the British government (accessible through the project website [www.foodlinkscommunity.net](http://www.foodlinkscommunity.net)). They all started as a closed community but opened up for new members within the first year of the project. They made use of the project's newsletter for public dissemination but also developed their own tools for communication, in particular online (f.e. newsletters, mailings, webinars). The CoPs met face-to-face during six General Assembly meetings and organised specific CoP meetings, some of which were joined meetings that included a public event.

### 4.1.3.2.1 The Short P2C Food Supply Chains CoP

The SHort P2C Food Supply Chain (SFSC) CoP started off as a group of project members, which included researchers, policymakers and a civil society organisations. Online interaction started off with difficulty and a low level of participation. A set of 30 hours on-line coaching sessions with an expert of online facilitation, organised by the project coordinator, importantly contributed to the facilitators’ knowledge and understanding of how important is to continuously facilitate on-line activity especially at the start of a new CoP. The CoP facilitators developed a periodic newsletter to encourage participation in the virtual community (on the Knowledge Hub) and to update members on current CoP activities. Besides, a Google Group was created which enabled CoP to respond the newsletter received. This proved to be a very effective instrument due to the easiness of use, and it helped to spread the word about the existence of the SFSC CoP, as demonstrated by the numerous requests from people outside the FOODLINKS project to join the CoP.

The third face-to-face meeting (one year after the start of the CoP) was a turning point for the CoPs existence. The CoP decided to commonly produce a “policy document” (called the Evidence Document). From now on CoP activities were oriented towards this goal – a document that reflected the collaborative work of the network, that was facilitated by the core CoP members, but would also include the work that the project members engaged in at the local level.

It is impossible to precisely indicate which activities took place during which step of the learning cycle, because the CoP went through the cycle several times. The following list of activities and outputs, however, gives some idea which activities were most important in specific steps of the SERA learning cycle

The Scoping stage has been carried out through:
• Presentations given by participants during face to face meetings about their experiences with short food supply chains.
• Brainstorming/visualising exercise on short P2C food supply chains through the collective drawing of mindmaps.
• The collection of relevant material on the blog, the forum and the library of the KH.

During the envisioning stage we identified which aspects we considered as most important to engage with right away. The collaborative writing of an “Evidence Document” had the purpose of elaborating on the four priorities identified for short P2C food chains, by presenting the features of the debate and discussing the main questions and contradictions evidenced through case studies, national experiences and knowledge brokerage activities.

In a first stage of the development of the CoP, research reservoir was tapped through webinars and face to face encounters during the project meetings. The core stage of tapping research reservoir has been reached during the collaborative writing of the Evidence Document, through the WIKI available on the Knowledge Hub. A common template for case studies provided the CoP members with an easy framework to report on their experience and expertise. Twenty case studies were built, and presented during the General Meeting in Vitoria Gasteiz (Sept 2012).

Since the beginning, the CoP has reflected on its progress and assessed the learning realised. Its tangible results are presented below.

SIGNIFICANT RESULTS

Above we summarised the experiences gained and insight produced through the collaboration in the SFSC CoP. In addition the CoP produced a number of tangible outcomes:

1. The Evidence Document and its executive summary—see The FOODLINKS SFSC CoP evidence document and Foodlinks -CoP Short Food Supply Chains (SFSC CoP)
2. The SFSC online community on the knowledge hub, which in time significantly expanded beyond the FOODLINKS project and effectively gathers researchers, policymakers and CSO engaged in short food supply matters across Europe and at various local, regional, national and European level. In December 2013 the SFSC CoP had grown from 13 to 68 members.
3. A definition of short food supply chains was produced on WIKIPEDIA; it is available online at the following link: http://en.wikipedia.org/wiki/Short_food_supply_chains
4. The public event organised by the Austrian team in parallel to a CoP meeting in May 2013, when the CoP, Austrian policy makers and NGOs discussed the problems around ‘on farm slaughtering’ and a specific initiative carried out by a group of small organic farmers in Austria.
5. Webinar on the impact of regulations on short food supply chains in April 2012

"Hygiene rules on the hygiene of foodstuffs in Europe: Which challenges for small scale producers?”, Author: Elisa Bianco, Slow Food Presentation with audio is available here: www.slideshare.net/francescagalli/hygiene-rules-challenges-for-small-scale/1/yes

4.1.3.2.2 The Revaluing Public Procurement CoP

The work and development of the Revaluing Public Procurement (RPP) CoP can best be presented by following the CoP learning cycle.

The scoping stage began with the second project meeting in Wageningen (June 2011) that opened the CoP phase of the project in month 6. Scoping took place in two distinct phases as the CoP identified a working framework with a common goal for generating 'problem-driven co-operation' around the topic of revaluing the public procurement of food. Scoping identified four key aspects for revaluing public sector food procurement: legislation and public policy, values, good practice and learning, and barriers.

The initial phase of envisioning (July 2011 – February 2012) ran alongside the scoping stage as the CoP got established, its core KB activities were developed, and the ongoing process of reflection on its purpose and direction began. This included initial engagement with the public, external Knowledge Hub platform which was identified by all project members as a key source of KB engagement with external ‘others’ outside the project group. Envisioning led to recognition within the CoP that cultural-political approaches to sustainable food and its public procurement differ throughout Europe which raises issues about who/what is the driver of change; and that a variety of options exists for being creative with EU procurement legislation - beyond what might be more restrictive national practice. Moreover, envisioning led to agreement within the CoP that the CoP needed a unifying aim to drive
activities and provide a deliverable and that a collaborative document would help define common goals.

Exploring the research reservoir began in earnest in the lead up to the project meeting in Pisa Feb 2012. In order to engage more widely with practitioners and CSOs engaged in these issues, this was followed up with a CoP conference (held in London in May 2012) on the public procurement of sustainable food. CoP exploration of the research reservoir involved:
- CoP sessions using face-to-face activities;
- Extending and externalizing CoP networks using face-to-face KB activities to include CSOs, campaigning NGOs, catering practitioners and public procurement officers;
- Virtual activities that extended and externalised CoP networks building membership of the RPP Group on the Knowledge Hub (KH), RPP Mailings to members, joint work on a collaborative RPP document on the wiki site on the KH, and analysis of 'hits' on the KH suggesting widespread ‘external’ interest from a range of stakeholders active on the KH;
- KB activities that focused on policy frameworks and the potential for change using webinars;
- Cross-CoP activities that stretched across CoP boundaries using face-to-face KB, including activities and networking in general meetings and joint CoP meetings; and
- Virtual KB including, making connections between SP2C and UFS groups on the KH; building collective agency by joint work to combine the documents produced by each CoP in a final publication on sustainable food production and consumption.

At each stage of the work the CoP has taken time to reflect on the learning process – and to enter the assessment of learning stage. To this extent, the learning process has been an iterative and on-going one of refection and adaptation. The CoP explored the existing research reservoir on public sector food procurement and used various KB tools and activities to explore how it can be used effectively to increase sustainability at the European, national and local levels. The findings reveal how face-to-face interaction proved more successful than virtual learning. However, there was also a clear acknowledgement that using the right tool at the right moment led to successful knowledge brokerage. This was particularly evident in the joint work on the document, which was carried out as a virtual KB activity, suggesting that successful KB needs time, trust and a variety of tools and activities in order to build successful linkages between policy-makers and scientists.

An important task is setting up and administering the venues (virtual and face to face) that have enabled the CoP to develop its knowledge broker activities and has been undertaken initially by the WP coordinators. The CoP has learned that there are difficulties in building up a CoP from the beginning and in stimulating virtual forms of engagement among members on a regular and active basis. Also, there are differing degrees of engagement from CoP members. That engagement occurs often in a latent manner (through observation) and active involvement is more episodic. Proving the events and activities to prompt engagement has been a key task of the CoP members and coordinators. This has been part of the learning process for the WP. When starting the core, project-based CoP was composed of both academics and policy officials. During the first project period civil society organizations/NGOs have been incorporated as part of the broadening and externalising of the CoP. This was achieved by including members of the project’s expert forum and through researchers from the linked Purefood project. A more significant step has been the creation of web based platform (on the Knowledge Hub) and a CoP conference (held in London) to engage wider practitioners and policy activists (including NGOs) engaged in the public procurement of sustainable food.

SIGNIFICANT RESULTS

Above we summarised the experiences gained and insight produced through the collaboration in the RPP CoP. In addition the CoP produced a number of tangible outcomes:
1. The collectively produced Action Plan for Change, which helps urban governments take up the challenge of more sustainable purchasing practices (see FOODLINKS RPP CoP Action Plan.
2. The RPP CoP community on the knowledge hub which in time significantly expanded beyond the FOODLINKS project and effectively gathers researchers, policymakers and CSO engaged in short food supply matters across Europe and at various local, regional, national and European level. By December 2013 it has expanded from 11 to 54 members.
3. Various ‘spin-off’ activities resulting from their KB experience in the FOODLINKS project. These ranged from active involvement in new public procurement initiatives (Tukums Municipality, Latvia and Pisa), to invitations to speak at conferences and other related
events that stretched from the international stage to local on the ground initiatives, and to invitations to sit on working groups on public procurement.

4. Five RPP CoP newsletters; see Foodlinks -CoP Revaluing Public Sector Food Procurement (RPP CoP)

5. A small day conference on "Public Procurement of Sustainable Food" took place at City University London in May 2012; the CoP ran webinars on CAP reform and on social return on investment; and we used an external-facing website where CoP members invited those working in public sector food procurement to join the Revaluing Public Sector Food Procurement (RPSFP) Group on the Knowledge Hub, hosted by the Local Government Association (https://knowledgehub.local.gov.uk/home).

6. In November 2012 there was a meeting in Malmö, organised by the RPP and UFS CoP where policymakers from Pisa and Malmö exchanged experiences.


8. A webinar on Social Return on Investment in April 2013.

4.1.3.2.3 The Urban Food strategies CoP

The Urban Food Strategy (UFS) CoP included participants from all three groups (researchers, policymakers and civil society organisations) right from the start. Most members of the core group remained in the CoP during the whole run of the project. The most important change regards the wp-leader who left the project after the end of the first project period and was replaced. Leadership is needed mostly in the initial phases of group development, and an initial lack of definition and clear leadership in the CoP influenced the prolonging of the forming and storming phases.

Since the beginning of the UFS CoP, face-to-face interactions as well as on-line collaboration have been used to develop and experiment with new integrative modalities of linking research to policy-making and civil society in the field of Urban Food Strategies. In fact, on-line collaboration has been challenging needing more time to familiarise with tools such as the knowledge Hub or the intranet to be used as effective knowledge brokerage tools. Face-to-face interaction has constituted a key space to accomplish knowledge brokerage activities. Another key aspect of the UFS CoP has been the interaction with their respective cities, as a means to extend social participation and learning processes through practice. The opportunities to interact between different partners and cities and 'city-to-city learning' have been essential building blocks of the social learning process. This has been an on-going activity in the project meetings and also in the CoP work. Interaction has also been fostered through specific meetings to enhance city-to-city learning and cross-CoP exchanges.

Learning has been proceeded in this CoP in a cyclical, iterative and participatory manner, in which scoping, envisioning, research exploration and assessment of learning has taken placed but not necessarily in this chronological way, instead some elements have been repeated as our knowledge has grown while some elements are only covered once.

During the scoping stage different KB activities were carried out in order to create a shared interpretation of what urban food strategies means. This included among others the elaboration of mind maps, the mission statement, the KB lattice or the conceptual framework. Through the interaction and mutual presentation of our city cases and the development of short stories the different interpretations and understandings were further discussed and negotiated. The collaboratively written brochure represents the final shared interpretation of the concept of Urban Food Strategies. This brochure represents the results of the envisioning stages during which we prioritised the most important aspects of urban food strategies. The brochure contains the most important aspects of urban food strategies, emphasising the diversity of forms that UFS might take and underlining the importance of participation and civil society-government relationships.

When exploring the existing research reservoir on urban food strategies, CoP members compiled and shared existing literature on urban food strategies in different cities and presented them in so-called short stories. Through the writing of a conceptual paper and the brochure CoP members took account of academic and practical knowledge. In the field of UFS it is practitioners who are leading, generating documents and concepts even before they are codified and analysed in the academic world. In order to tackle in depth the existing academic literature a webinar was organised that involved PhD students from the PUREFOOD Programme.

The reflection on and assessment of the learning outcomes has constituted a constant activity in the CoP. Besides, specific questionnaires and activities were designed to conduct this reflection. Summarised briefly, reflection revealed that there was quite a lot of confusion and uncertainty at the start of the CoP due also to the change in wp-leadership. The initial brainstorming and mindmapping assisted the partners in understanding and managing the process of collective learning about urban food strategies. Comparing the real life development of urban food strategies across cities has helped us to learn about the process of developing urban food strategies as well as the role of the different actors involved and the tools they use to broker knowledge between
stakeholders. The UFS brochure reflects this learning process.

The work on the USF CoP highlights the usefulness of the CoP model to share knowledge and create new knowledge and to fashion new identities in the process of collaboration. In particular, this CoP has benefited from enlarging the members’ experience through active participation and engagement with processes occurring in their respective cities. This twin process of collaborative learning – internally among members within the CoP, externally between members and their respective cities - has created a double dividend by enhancing the knowledge and the impact of the CoP beyond its core members.

SIGNIFICANT RESULTS
Above we summarised the experiences gained and insight produced through the collaboration in the UFS CoP. In addition the CoP produced a number of tangible outcomes:

2. Development and wide dissemination of the “Urban Food Strategies: The rough guide”, which has been received well by civil society organisations and policy makers, for instance through the Food for Cities FAO network (Food for the Cities: Food for the cities - Home; for the document see FOODLINKS UFS CoP rough guide).

3. Elaboration of policy recommendations for local governments, available at http://www.foodlinkscommunity.net/1133.html?&L=0

4. The UFS CoP community on the knowledge hub which in time significantly expanded beyond the FOODLINKS project and effectively gathers researchers, policymakers and CSO engaged in short food supply matters across Europe and at various local, regional, national and European level. By December 2013 it has expanded from 9 to 52 members.

5. The webinar on Urban Food Strategies organised on 20 March 2013: Frameworks and Governance with 200 attendees from around the world. The webinar can be watched through the following link http://www.foodlinkscommunity.net/1133.html?&L=0

6. In June 2012, officers from the city of Malmö participating in the UFS and RPP CoP travelled to Bristol to learn from each other processes. Bristol learned about Malmö's public procurement strategy and Malmö learned from Bristol's approaches to private food businesses.

7. In November 2012 there was a meeting in Malmö, organised by the RPP and UFS CoP where policymakers from Pisa and Malmö exchanged experiences.

8. Participation in several academic conferences including the following: Food Planning Conferences organised by the Association of European Schools of Planning as part of the scientific committee and presenting specific papers (Cardiff 2011; Berlin 2012 and Montpellier 2013); International Rural Sociology Association Conference (Lisbon 2012), Conference Feeding cities: food security in a rapidly urbanizing world (University of Pennsylvania, 2013) and the European Society for Rural Sociology Conference (Florence 2013) participating as organisers of a working group and presenters of results from the Urban Food Strategies CoP process.

9. A number of city-related results, such as:

- In Basel the FOODLINKS project has acted as a door-opener for engagement between the Research Institute of Organic Agriculture and the city of Basel on the topic of food, which included the organisation of a public forum discussion on Food Policy and the supervision of a master thesis on the Basel urban food system. This has recently been translated into a project on the evaluation and sustainability assessment of the Basel food system.

- In Vienna, the FOODLINKS partner has been involved in mapping and understanding different initiatives around sustainable food in the city, in an effort to link them and to spread information about urban food strategies. This has included participation in the event "Food Sovereignty in the City" (spring 2012) and the conduct of interviews and meetings with different civil society organisations.
In Vitoria-Gasteiz the project partner involved in FOODLINKS tried to act as a link between the international CoP, the local civil society and the key technical staff of the City Council. This included the co-organisation of the VI Encuentro Cívico Alimentario (16th of June 2012) - a technical workshop in which the municipality and FOODLINKS partners collaborated (September 2012). FOODLINKS also participated as facilitator in a workshop on Territory, Food and Landscape (7th of November 2012) that focused on the design and development of a sustainable UFS in Vitoria. This workshop led to the development of recommendations for the municipality and civil society organisations and the establishment of a food network. These aspects were further explored in different events and presentations. The participation in the VII Civic Food Encounter (7th of June 2013) was of particular importance. This event was organised by the Zadorra Foundation, Slow Food and UAGA Farmers Union, with the collaboration of the researcher of Neiker who prepared a presentation entitled “Who Feeds Vitoria-Gasteiz? Data for reflection and references for a more sustainable food system”. The FOODLINKS project provided important support in this process through the provision of expertise and promotion of knowledge exchange.

Malmö municipality has expanded its experience on responsible public procurement, but has also benefited from a broader understanding of Urban Food Strategies. Particularly, in June 2012, officers from the city of Malmö participating in the UFS and RPP CoP travelled to Bristol to learn from each other processes. The participants described the meeting as very fruitful since Bristol learned about Malmö's public procurement strategy and Malmö learned from Bristol's approaches to private food businesses. This experience of peer-to-peer learning, or in this case city-to-city learning, was acknowledged as a key tool for knowledge brokerage in the field of UFS.

4.1.3.3 In-built monitoring and evaluation of policy-research integration
We monitored and evaluated the development of the CoPs and their use of knowledge brokerage methods, focusing in particular on processes of mutual and collective social learning between researchers, policymakers and CSO representatives. In order to do so we elaborated a framework for monitoring and evaluation based on reflective and participatory assessment methods. The project team collaboratively determined the criteria of success and thereby indicators to monitor and evaluate the process. They identified challenges and possible solutions through intermediate CoP reflections and gave feedback on meetings which allowed for timely project adjustments. In addition we made use of existing analytical frameworks such as the value creation model of Wenger et al. (2011) and evaluation criteria such as described in the context of former KBAs and science-policy interaction activities.

Data-collection took place at different levels (at individual, CoP and project level) starting in month 1 until month 30, using tools that would help us to collect the data for our key indicators but also advance knowledge brokerage. These included tools such as the following: social network analysis, the dynamic learning agenda or the (audio-visual) learning histories or storytelling. We used most of the data collection tools repeatedly, to monitor the effect of the KBAs and the CoP development over time. In addition, we regularly shared the monitoring results with the project team, either online or during the project meetings, in order to adjust the KB processes, validate interpretations and conclusions, and stimulate (cross-)CoP learning and exchange.

SIGNIFICANT RESULTS
1. Extent of expansion of the CoP/ network
All three groups have been able to expand their CoP by involving outsiders in various activities and to varying degrees; ranging from informing them by newsletters to more active contributions in project meetings. The project team members generally initiated activities; newcomers followed discussions or participated but rarely became active strategic contributors. Interactions within the project team and among stakeholder groups have increased. The Knowledge Hub has played an important role as a place to connect the CoP members and to facilitate the connections and knowledge brokerage engagement across CoPs and with external participants. It has also proven to be a valuable platform for writing the various collective CoP documents.

2. Value creation in FOODLINKS
Value creation was observed for all five cycles through participation in the FOODLINKS project, and concerned the following issues:

Added value in regard to positive emotions, social relations and group building: Team members appreciated becoming a group, feeling connected, building trust, commitment and enjoyed the advancement of mutual understanding among CoP members and across stakeholder groups.

Added value that refers to participant's knowledge, expertise and experience: People were inspired by discussions with others, which stimulated their interest in the expertise of the others and encouraged them to share experiences. The knowledge of project team members improved, and people increasingly called upon CoP members’ advice.

Learning about knowledge brokerage methods, and gaining KB skills: Team members valued the use of the KB tools in the project meetings. They became more aware of the importance and relevance of KB, network building and facilitation, and the integration of different viewpoints. Some project participants became knowledge brokerage experts in their own organisations, transferring their
experiences to colleagues.

The value of extending networks, materialised in various respects: by using these networks for knowledge exchange and dissemination purposes, by implementing joint activities, by getting advice and assistance for daily work. The enlargement and diversification of networks also helped to increase the visibility of individuals and organisations. Team members gained new insights in sustainable food production and consumption and a broader understanding of the topics discussed. This inspired the participants to reflect on their own approaches and to elaborate new ideas. Moreover, the project motivated them to reconsider their standpoints and to change their practice.

3. Challenges and reflexive project steering measures
All CoPs faced challenges and difficulties throughout the project. In the beginning, the presence of two goals that were content and process related caused confusion and frustration as for many the emphasis on knowledge brokerage as a process was disproportional against the background of participants’ interest in promoting sustainable food systems. The broad definition of the three CoP themes brought uncertainty about what the CoPs were exactly supposed to do. It took some time before the CoPs realised that they could and should use the freedom of defining the CoP objectives and outputs as well as designing the process themselves.

4. Making the CoPs less artificial
While ‘natural’ communities of practice mostly develop spontaneously from an informal social network, we started rather artificially and with many participants not knowing each other. Some of the CoPs quickly overcame the uneasiness that went along with this ‘forced and artificial start’, others needed more time.

5. Enhancing leadership and interaction
Especially in the beginning and in between the physical meetings it was a challenge for all CoPs to keep the interaction going. For CoP facilitators, the workload turned out to be much higher than expected. Consequently all three CoPs decided to distribute tasks and leadership. However, the right balance of leadership and self-governance posed a challenge during the whole duration of the project. Too much freedom can be inhibiting if it is unclear what should be contributed, while a targeted contribution engages and stimulates. On the other hand, too much leadership is perceived as ‘dominance’, as addressed by several non-research actors, who thought that there was too much influence from researchers, who were superior in number and had leading roles such as work package leaders.

6. CoP size: extending the thematic CoPs
The CoPs were constituted by a limited number of project team members and as a result. Although a successfully working CoP in principle may differ in number, a critical mass of people is necessary to sustain regular interaction. Members perceived the CoP size of around 10 people as too small, since this was putting high pressure on the single participants to be regularly active.

7. Linguistic barriers
Challenges referred to English as working language and specific jargon, and concerned both, the CoPs and the enlarged knowledge exchange.

8. Improving shared practice connecting people
We experimented with several tools, practices and processes to share and disseminate knowledge. Most face to face knowledge brokerage activities were considered as very useful in terms of fostering interaction and the exchange of tacit knowledge, mitigating (knowledge) hierarchies, activating creativity, strengthening social relationships, highlighting and reconciling differences. Virtual interaction turned out to be the most challenging for all CoPs as many project partners had few skills in using online tools, and perceived the use of virtual facilities as strenuous.

4.1.3.4 Integrative modalities of linking research and policymaking
In the following step we reflected on the usefulness of collaboration between research, CSO’s and policymaking and the tools that could be used for this purpose. In doing so we made use of the information gathered through monitoring and evaluation, the reports in which the three CoPs had reflected upon their experiences, as well as the insights gained in a reflection workshop. In this workshop we presented our preliminary results and discussed our insights gained with project members and experts engaged in similar knowledge brokerage projects. Based on this information, we developed recommendations for effective knowledge brokerage. These recommendations constitute the most significant results of wp7 and are therefore listed below.

SIGNIFICANT RESULTS
1. Communities of Practice as a tool for knowledge brokerage
-Communities of Practice are a valuable tool for organising knowledge brokerage between policymakers, scientists and civil society organisations.
- Communities of Practice should be organised around an issue of mutual concern, that requires collaboration between the three groups
to be adequately addressed.
- Future members should be involved in the design of the communities at an early stage to assure a sense of ownership that supports equal participation. Funds for setting up the community can enable also groups with few resources to engage in the community design.

2. Membership and enrolment
- Diversity in membership and the participation of key actors enhances the relevance of knowledge brokerage. An ex ante stakeholder mapping helps to identify the key actors.
- The participation of stakeholders should be balanced in terms of roles and numbers to assure equality among community members.
- Boundaries between actor groups (e.g. policymakers vs. researchers) are unintended reconﬁrmed when choosing actors according to stakeholder categories; it is advisable to ‘play’ with boundary settings regularly and regroup members according to new criteria. This reshufﬂes positions and opens up new views.
- Community members need to be willing to cross the borders of their own domain and working culture; they need to be ready to develop a new language and common understanding of the purpose of their collaboration. This requires empathy and patience as well as curiosity and creativity, and is in particular supported by face to face interaction.
- Participation in Communities of Practice usually competes with other activities. It is, therefore, crucial to make participation easy and to support it with suﬁcient resources.
- At the start of the communities it is important to encourage the members to explore each other’s viewpoints as it raises awareness of the added value of diversity in the group and allows members to link their different life worlds, interests and perspectives.
- In order to ensure that the communication process does not rely on few key individuals, Communities of Practice need to include a considerable number of participants. The minimum number increases signiﬁcantly when communication takes place mainly online.
- An active core groups of people keeps the larger community alive and discussions on-going.

3. Facilitation of Communities of Practice
- Communities of Practice need leadership and facilitation especially in the beginning to engage members in regular communication and provide a sense of direction.
- It is best to appoint one person as facilitator and leader who initiates activities and provides guidance throughout the process of collaboration.
- Once Communities of Practice are up and running, and members have gained experience in organising communication, facilitation may also be rotated as long as there is a facilitator in charge at any moment.
- Allowing for rotating facilitation ensures a broader spectrum of skills and expertise and allows for a variation in leadership styles.
- A good facilitator needs experience in managing group dynamics and in organising knowledge brokerage online and face-to-face. S/he needs to understand the different languages spoken among the community members and to be capable of bridging the differences in background.
- A facilitator needs to be able to dedicate considerable time to the management of the community. Online communication needs daily maintenance.
- In order to encourage a sense of ownership within the community it is important to regularly assign speciﬁc tasks and responsibilities to community members.
- In international communities it is important to deal with language barriers and to regularly employ tools that do not rely on language proﬁciency.
- In professionally mixed communities it is important to prevent the use of jargon to impede effective communication.
- It is important to regularly check if language barriers hamper communication. The facilitator should assure that speakers do not talk too fast or use speciﬁc jargon, and should regularly ask if everything is clear. Organising communication in smaller group settings can be helpful.
- Planning budget for interpretation and translation (e.g. for disseminating results) helps to overcome language barriers.
- The circulation of detailed minutes for comments helps those with less distinct verbal skills to catch up with the outcomes of activities.

4. Goal and mission
- Communities of Practice need to invest time in a problem deﬁning phase, where goals and objectives are clarifed and a common understanding of aims is reached.
- Participation in Communities of Practice should create value for their member on the short and longer terms. Since communities thrive on the value that they deliver, it is important to make this value visible by regularly reﬂection.
- Collaboration needs purpose and a plan of action as guidance and encouragement of active participation.
- A community action plan should accommodate the variety in cultural and organisational background and different working routines.
Collaboration should result in tangible outcomes as they give direction to community activities and encourage contributions especially when the products support the members’ work outside the community. Producing tangible outcomes provides an instrument for recognising and integrating the variety of knowledge and experience present in the Community of Practice.

5. On-line and off-line collaboration
- Face to face activities are important for developing trust and a sense of community and affinity, and to nurture the willingness to remain actively involved.
- Online interaction builds on face to face processes and have a clear complementary purpose especially in the starting phase of the community.
- Online interaction needs to be encouraged on a daily basis.
- Online interaction offers an un-costly opportunity to follow up on face-to-face meeting, maintain regular interaction, and to expand participation and membership.
- Communities of Practice that rely heavily on on-line communication, need to choose an online platform that is easy to use, and accessible for all community members.
- Choosing the right software is decisive: freeware is easily accessible, but not always easy to manage; various software might be blocked by firewalls of institutes.
- In order to ensure continuity and long term persistence it is important to create a durable online platform for communication.
- Community members often need assistance and training in getting familiar with on-line communication.
- Fixing a date and time for concerted online activities supports active participation.

6. Choice of knowledge brokerage tools
- When selecting specific knowledge brokerage tools it is important to consider the pleasure derived from their application. The ‘Fun factor’ of knowledge brokerage tools acts as an important driver of effective knowledge exchange.
- When offering a pool of tools for facilitation it is important to explain how the tools work and which specific added value can be expected from their application.
- Using different tools produces cumulative value as the outcome of one tool can feed into another tool. When selecting knowledge brokerage tools their iterative use should be considered. Learning enhances with the right combination and sequence of tools.
- Some tools need preparation for effective application, and some need participant training.
- In international communities it is important to choose tools that do not require language proficiency and help overcoming linguistic barriers (for instance visualisation tools such as mind mapping).

Potential Impact:
The FOODLINKS project was formulated against the societal background of:
- The challenge of feeding a growing world population (> 9 billion in 2050) that is rapidly urbanising (from 50% in 2007 to approximately 75% in 2050) and changing its diet in favour of animal protein, processed food and fast food;
- The growing sustainability, health and social equity concerns in systems of food provisioning (i.e. the range of activities from food production to food consumption), such as resource depletion (fossil fuel, phosphorus, water, biodiversity), diet-related ill-health (> 15% of the world population is suffering from overweight and obesity, > 20% of the world population is suffering from hunger or chronic malnutrition), waste collection and disposal (approximately 35% of the urban waste basket is food related), and socio-economic inequalities in access to healthy and culturally appropriate food.
- The changing roles of the state, the private sector and civil society in governing systems of food provisioning. In the first decades after the second World War nation states (and later the European Union through its Common Agricultural Policy) strongly intervened in food production, food markets and food prices. With growing budgetary problems in the 1980s this led to a reformulation of the CAP, resulting in a withdrawal of the state in regulating food markets and prices and a stronger role of the private sector, in particular the retailers. Concomitant with the increase in sustainability, health and social equity problems the influence of civil society organisations (e.g. ecology groups, animal welfare organisations, food movements) has increased, either through covenants between the private sector and civil society organisation or by influencing national and European legislation. Characteristic for food policies is that they remain within rural realm, despite the fact that most food is consumed in urban areas and a significant part of urban sustainability and health problems are related to the prevailing urban food provisioning system.

Starting point of FOODLINKS has been the emergence of a new food geography as a response to the multitude of food-related sustainability, health and social equity concerns. Driven by these concerns, we stated that the new food geography is developing along three partly interrelated and mutually reinforcing paths:
1. Short producer to consumer food chains – new relations between civil society (consumers) and the chain of food provisioning (the civil society – private sector dimension).
2. Re-valuing public food procurement – new relations between the public sector (as buyer and consumer of food) and the chain of food provision (the private sector – state dimension).
3. Urban food strategies – the rise of municipalities and city-regions as food policy makers, pointing to new relations between the (local/regional) government and civil society (the state – civil society dimension).

The basic premise of FOODLINKS is that the new food geography not only reflects a territorial (as opposed to global) approach to food provisioning, but also an integrated conceptualisation of food. This means that food is more than a commodity or a substance containing calories, vitamins, proteins, nutrients, et cetera that we need to eat in order to survive; it is a product and a process that links environmental degradation (e.g. loss of biodiversity), urban environmental quality (e.g. productive green spaces in cities) social (in)equality (e.g. differences in access to food), public health (e.g. obesity and malnutrition), employment (e.g. food stores, restaurants, urban farmers), education (e.g. food lessons at primary schools, farmer-to-school initiatives), et cetera.

Hence, fostering more integrated and territorial modes of food provisioning could have considerable sustainability and societal impacts. However, achieving these impacts also has considerable implications for scientific research and policymaking and for the interaction between scientists and policymakers. Hence, we stated:

If the sectoral approach to food (i.e. food production = agriculture, food processing = industry, food distribution = transport, and food selling = retail) is making way for an integrated approach to food (i.e. food = environment + public health + social justice + employment + education + quality of life), scientific research and policymaking have to change accordingly.

Although the main aim of FOODLINKS was to develop and experiment with new integrative modalities of linking research to policymaking, the project not only resulted in a better understanding of different online and offline tools for knowledge brokerage activities (see preceding sections). Experimenting with knowledge brokering was done in the field of sustainable food consumption and production and this also advanced our substantive understanding of that domain. This was predominantly realised by producing a thematic document within each CoP: an evidence document on ‘Short food supply chains as drivers of sustainable development’ by the SFC CoP, an ‘Action plan for sustainability’ by the RPP CoP and the ‘Rough guide to sustainable food systems’ by the UFS CoP. The review of literature, collection of data and analysis of cases has rendered new insights that could have significant sustainability and societal impacts in the realm of sustainable food production and consumption.

We will first report on the potential impact and societal implications of the results of each thematic CoP (section 4.1.4.1) and then synthesise this by highlighting the key aspects of sustainable food production and consumption (section 4.1.4.2). We conclude with a brief reflection on the potential impact of the FOODLINKS approach for enhancing sustainable food production and consumption (section 4.1.4.3).

4.1.4.1 Potential impact and implications of new food related initiatives

Short food supply chains (SFC)

Short food supply chains are an alternative to long globalised food chains and are becoming increasingly important in food provisioning. They are varied in nature and practice and exist in a wide variety of forms: e.g. box schemes, farmers’ markets, consumer cooperatives, community supported agriculture, direct internet sales. Due to this diversity in combination with geographical specifities, ‘short’ can only be defined within a particular policy context. However, a common denominator is that short refers to both the physical and the social distance:

• The social distance refers to the opportunity for producers and consumers (when they are not the same person) to interact and share information, due to the fact that there are no or very few intermediaries in SFCs. The information exchanged includes details about the origin, production method and sustainability of the product, but also the identity, values and ethics of both the producer and consumer.
• The physical distance covers the distance a product has travelled between the location of production and the sales location. This distance varies and depends on policy contexts, territorial conditions and consumers’ expectations. Hence, a specific distance in terms of kilometres or miles cannot be set to define a SFC.

SFCs can act as a driver of change in modes of food provisioning and contribute to sustainable development, socio-economic equality
and trust in food and food suppliers. The (potential) impacts on sustainable development of SFCs are the following:

- SFCs are not by definition more environmentally friendly than conventional, longer supply chains. To that regard, the impact of production methods, processing, packaging, distribution, cooling, transport and waste in each chain should be considered. However, SFCs do present advantages in environmental sustainability in some cases, for instance when the use of fossil fuel or packaging is minimised, or when there is the adoption of pesticides free / less input-intensive methods of production or when SFC create resistance to urban sprawl and degradation of peri-urban agricultural land. A considerable challenge for many SFCs concerns distribution logistics, in particular the costs and use of energy.

- SFCs increase knowledge about food amongst consumers and lead to the adoption of a healthier diet but due to seasonality the supply of a varied range of foods may be limited. However, several SFCs specialise in luxury high fat or high sugar products thus also increasing exposure to foods which are less healthy. Products in SFCs often travel shorter distances, are sold fresher and therefore have no or less need to contain preservatives or be extensively processed. Shorter duration of transportation and storage also reduces damage and spoilage, whilst a reduced time between harvesting and purchase may prevent nutrient loss. SFC products are more often harvested when ripe and with less mechanical intrusion which may both improve their nutritional qualities. Yet in general, there is insufficient evidence to argue that SFCs offer food that differs nutritionally from food from elsewhere or that there is a difference in microbial food safety. Grow Your Own (GYO) activities can also increase physical activity levels. Community Supported Agriculture (CSA) and GYO activities have been shown to improve mental health and wellbeing, whereas a few different forms of SFCs can contribute to social inclusion due to the social proximity between producer and consumer. The potential for healthier food in SFSC is created by both formal and informal measures, but cannot always be fully reached due to trade-offs that need to be made with other characteristics.

- Social sustainability of SFCs refers to their capacity to contribute to the equity or fairness among food chain actors, food security and the viability of local communities. It is much rooted in the trustful, fair and personal relations, solidarity and shared values between consumers and producers. Besides social impacts at food-chain level, SFCs also can contribute to a revitalisation of local communities. Considering the amount of labour which often has to be put into SFCs, keeping them socially and economically sustainable and fair for the producers can sometimes create problems.

- Economic sustainability of SFCs addresses such issues as competitiveness and economic viability of food chains and their actors, efficient use of and contribution to resources (including human ones), contributions to communities in terms of creation of jobs and income. It is characteristic that especially small and medium farmers are involved in SFCs. This stems from the fact that they are often less competitive in the conventional chains due to their higher costs of production (because of the lack of economies of scale and the different organisation of production processes) and the higher prices. Providing a fair access to the market, SFCs represent a solution to increase economic viability of small and medium farms and processing companies. SFCs are often developed as collective economic initiatives in response to aggravating disadvantageous market conditions, and therefore they "shorten" and strengthen links among local entrepreneurs and mobilise local resources in a synergetic manner. SFCs increase or help re-circulate community income and create new jobs (among others also in peripheral, rural regions). Operating in a SFC often demands additional investments and/or special skills which may create barriers to economic success. Also competition with expanding supermarket chains, some of which started even with regional product lines and local deliveries in larger towns, puts economic pressures on SFCs.

Regarding the wider societal implications of SFCs it is worth mentioning that they can increase the resilience of food supply as they complement the more globalised and industrial food chains. Furthermore SFSC are based on a wider range of producers and they usually have, from a consumer point of view, a better traceability of food products. Finally, SFCs are generally more flexible and adaptable to changing circumstances and consumer needs.

Revaluing Public Food Procurement (RPP)

One area that European policy makers have identified for furthering sustainable consumption and production is the greening of public procurement. Public sector institutions as centres of procurement represent a significant part of the procurement of any national food economy. These agencies and institutions of the state, which serve the public, have a moral responsibility to promote an "ethic of care" for their communities and environment in the ways that they purchase, prepare and serve food. Many public authorities at the local, regional and national levels have adopted sustainable procurement practices. Based on a selection of inspiring best practices conclusions were drawn about the potential impact and wider societal implications of revaluing public food procurement.

These best practices demonstrate that public procurement is one of the most powerful tools public bodies have to fashion sustainable food systems. They also show that investing today in public food systems may indeed imply a significant financial effort and sacrifice at a time of recession, but the savings made in other budgetary accounts will far outweigh and offset the costs of the initial investment.
At the policy level, the examples highlight the importance of integration, i.e. the adoption of an approach that recognises and emphasises the cross cutting, multifunctional nature of public food systems and their capacity to deliver multiple socio-economic and environmental benefits.

However, to deliver these benefits and thus realize the potential sustainability impact of public food procurement, the following sets of sustainability indicators could (depending on place-based culture and governance system) be incorporated in public food procurement strategies:

- Environmental issues: Percentage of organic and sustainably sourced fish using recognised certification schemes; Availability of products that promote animal welfare; Emphasis on seasonality/ local food; Initiatives in place to minimize waste at all stages of the food chain; Freshness (intended as use of unprocessed and freshly prepared foods); Number and/or percentage of vegetarian dishes and meals; Reduce energy consumption; Reduce water consumption and protect ground water from contamination.
- Social/Health issues: Availability/percentage of Fair Trade/fairly traded products; Number of staff trained on sustainable public procurement issues; Educational initiatives in place to promote awareness of sustainable food; Social Return on Investment (SROI); Prioritise nutritional content; Prioritise menu planning/ innovative recipes.
- Economic issues: Support for local employment and local small and medium sized enterprises (SMEs) by ensuring they remain financially viable when adjusting to new quality requirements; Adopt an incremental approach – phase in change and budgets to support this over time; Establish criteria to improve kitchens and eating environments; Establish budgets to train catering staff and educate practitioners and the public over time.

The contribution that public procurement of food can make to sustainability thus crosses all three areas of environmental, economic and social improvement. Public institutes, which are usually large buyers can have great economic benefits to local and regional communities through the market that the buyers provide. Establishing new local public procurement markets can contribute to enlarging the space for a civic led economy that supports both innovative food production and sustainable consumption practices. By sourcing foods based on clear environmental criteria societies will be able to reduce their ecological footprint and meet the challenges that current food supply practices pose to the natural resource base and ecosystems. Wider societal benefits in the form of healthier school children and college students, improved patient recovery, more attentive pupils and healthier employees are direct outcomes of food produced for, prepared and consumed in public restaurants. The incorporation of local cuisine in menu provision can enhance local cultural traditions and practices in the public space, as well as, reacquaint consumers with the seasonality of traditional menus. In addition, the menus can provide templates of good sustainable dietary practice for the public and communities to pursue in their more private and personal consumption spaces. The reduction of diet related ill health costs and the attendant suffering as outcomes from eating a healthier diet provide further economic and social benefits. The procurement of fair trade foods provides a focus to raise public awareness on principles of greater equity and fairness in the distribution of profits along supply chains and across different communities where caring at a distance can unite urban producers with developing world producers.

Urban Food Strategies (UFS)

The term 'urban food strategy' refers to a process consisting of how a city envisions change in its food system, and how it strives towards this change. UFS aim to place food on the urban agenda, capitalising on efforts made by existing actors and creating synergistic effects by linking different stakeholder groups. Ideally, UFS take a holistic approach to the food system of a city, considering horizontal and vertical dimensions. Horizontally, a holistic food system embraces different policy domains and fields of action, which mainly include health and wellbeing, environment, economy and community development, social and cultural aspects, and education. Also this holistic view implies a vertical food system approach, considering all different stages of the food system: food production, processing, storage, transport, retail, consumption and waste. Inevitably, developing comprehensive UFS is challenging, but increasingly cities understand that food is an important urban issue and consequently develop different food-related action fields (such as public procurement of food, urban production or educational projects) and gradually embrace more dimensions and activities. Also, in order to develop an UFS different stakeholders need to come together from the public and private sector to take responsibility for the city’s food system. Ideally these stakeholders include civil society, business, policy makers and politicians – the latter being particularly important to drive change in the public sector. It is vital to provide a space for the different actors and interests in the city to be heard, and to forge networks between distinct types of stakeholders, making a special effort in engaging with the wider community on a continual basis. However, in each city stakeholders come together differently. Some UFS start from a rather top-down approach mainly initiated by local authorities; others have their origins in networks of civil society organizations. Yet in the long run a comprehensive UFS needs effectively to integrate and promote participation of the local state, market actors and civil society.

By and large UFS attempt to achieve sustainability impacts and societal benefits in the following thematic fields:
• Health and wellbeing (e.g. improve the health of the population as a whole, increase the welfare of society at large);
• Environment (reduce negative environmental impacts of the food system, e.g. reducing carbon emissions, being more energy efficient);
• Economy and community development (support a vibrant local economy, green economy, e.g. by supporting local growers, retailers, markets, and employment);
• Social and cultural aspects (support resilient, close-knit communities, food-friendly neighbourhoods, e.g. by celebrating and promoting local food culture).

Wider societal benefits of UFS include food security/social justice (e.g. fight food poverty, improved access for affordable, culturally diverse and healthy food, fairness in the food chain, a just food system), learning and empowerment (e.g. life-long learning, empowered residents), and strengthening of urban-rural linkages (i.e. connect city and the countryside through food).

4.1.4.2 Key aspects of sustainable food production and consumption

The previous section indicates that there are many similar (potential) sustainability benefits of short food supply chains, greening of public food procurement and urban food strategies. In this section we will briefly synthesise these thematic findings at the level of the project. The potential impacts and wider societal implications of enhancing sustainable food production and consumption relate to four key themes:

1. Proximity. Both the SFC and RPP CoPs highlight the importance of enhancing spatial proximity as well as social proximity in the food provisioning system. Potential impacts of increased spatial proximity are a more viable local/regional food economy by retaining more value added within the territory, improved income and market opportunities for local farmers and thus maintaining family farming and strengthening of urban-rural linkages. The benefits of social proximity are increased trust in and more knowledge about food and its origin, potentially resulting in more commitment to and involvement in local/regional systems of food provisioning by consumers.

2. Synergies. The food provisioning system (encompassing the range of activities from production to processing, marketing, purchasing and preparation/cooking) is increasingly viewed in relation to issues of waste, water, climate change, health, energy, transport, employment, regional economy, etc... This multidimensionality of food makes it a very powerful entry point to link and integrate different public concerns and this implies that multiple sustainability, health and social equity benefits can be realized by changing food provisioning practices.

3. New roles for local/regional public authorities and bodies. The last decades have been characterised by a withdrawal of the government from food policy combined with a transfer of responsibilities from nation states to supranational authorities (EU) and international treaties (e.g. GATT). With the growing understanding of food-related sustainability and health concerns in this era of urbanization, new integrative challenges (and thus also opportunities) emerge at the level of the city-region. By taking on that responsibility municipal and regional governments and public bodies can help to deliver multiple sustainability benefits through creative public food procurement strategies and holistic urban food policies.

4. Contextuality and transdisciplinarity. The different cases featuring in the thematic CoPs make clear that there is no blueprint solution for any of the sustainability challenges city-regions are facing. In order to be effective in enhancing sustainable food production and consumption, place-based food procurement practices and strategies and place-based food governance arrangements are required. But to successfully develop and implement these place-based practices, strategies and arrangements learning from different settings and working across professional boundaries (so indeed linking research, policy, advocacy and business) is a prerequisite.

There may be a tendency to see short food supply chains, revaluing public food procurement and urban food strategies as expressions of re-localising systems of food provisioning as well as counter movements against the globalisation of our food system. Looking at the rapid growth of short food supply chains, green and ethical public food procurement practices and policies and urban food strategies in Europe but also beyond (see for instance the role taken up by cities or metropolitan regions as Toronto, New York, Havanna, Belo Horizonte, Rosario, Casablanca, Amman, Hanoi and Beijing) we are beginning to see a global movement of local (or better place-based) solutions for sustainable food provisioning systems. This was well summarized by means of the Mayors’ declaration at the June 2013 ICLEI Resilient Cities Congress: “We call upon local governments to develop and implement a holistic approach for developing city-region food systems that ensure food security, contribute to poverty eradication, protect and enhance local biodiversity and that are integrated in development plans that strengthen urban resilience and adaptation.” The documents produced by each of the FOODLINKS CoPs, each entailing a set of policy recommendations and action plans, will be of great value for local governments, public bodies and civil society organisations that plan or have begun to develop sustainable city-region food provisioning systems.

4.1.4.3 Potential impact and implications of the FOODLINKS approach

As mentioned in previous sections of this report, the FOODLINKS approach is based upon a cyclical, iterative and participatory
approach in which non-linear knowledge generation and social learning constitute the two basic principles of collaboration between researchers, policymakers and civil society organisation in CoPs. From the onset of the project three CoPs were identified as these were considered to represent the three dimensions of the emerging territorial and integrated food geography. FOODLINKS has shown that intensive and continuous interaction between researchers, policy makers and civil society organisations is of crucial importance to effectively reform systems of food provisioning. Policies designed to support sustainable, healthy and equitable modes of food production and consumption can only be effective if they are evidence based. This evidence can come from research findings but policymaking can also be based on expert views, successful cases and best practices. Civil society organisations can fulfil this expert role or inform policymaking by highlighting successful cases. The science-policy-civil society dialogue is equally important from a scientific research perspective. The relevance of scientific research can increase significantly if it is better embedded in policymaking challenges and societal concerns, although it is of crucial importance that researchers can remain critical and independent.

In the context of sustainable food production and consumption and given the aforementioned territorial specificity of sustainability, health and social equity challenges and of governance arrangements, it seems most promising and effective to institutionalise the science-policy-civil society dialogue at the level of the city-region. This can be done through food councils that (co-) design, implement (or support the implementation of), monitor and evaluate urban food strategies and/or public food procurement programs.

The international thematic CoPs that were central to FOODLINKS can be a useful intermediary between city region food councils (which are in fact regional CoPs), in particular to collect experiences and best practices from different places. However, given the overlaps and inter-linkages between short food supply chains, revaluing public food procurement and urban food strategies a continuation of these thematic CoPs after the project does not seem to be an effective strategy. We have therefore decided to a) merge the FOODLINKS CoPs and b) merge FOODLINKS and other completed and on-going EU-funded projects on sustainable food provisioning in which scientists, policymakers, civil society organisation and/or food SMEs collaborate into FoodNet. We expect that this broader CoP and online network (http://foodnet.ning.com/) will have a larger impact on sustainable food provisioning due to the larger critical mass, the involvement of the private sector in addition to that of researchers, policy makers and civil society organisations, the open character of the network and the efforts of its members to link up and create synergies with other networks such as the International Urban Food Network (http://www.iufn.org/en/) the FAO’s Food for Cities network (http://www.fao.org/fcit/fcit-home/en/) the Resilient Cities group of the Local Governments for Sustainability network ICLEI (http://resilient-cities.iclei.org/) and the International Network of Resource Centres for Urban Agriculture and Food Security (http://www.ruaf.org/). Linking up is ‘passively’ done by referring to each other’s websites and online platforms and by jointly organising webinars and other online activities that have been applied in FOODLINKS, but also ‘actively’ by organising joint events (combined project meetings, joint field visits and conferences). The FOODLINKS approach has been an important lesson and stepping stone for this next step in international collaboration in research, policy making and advocacy aimed at enhancing sustainable food production and consumption.

4.1.5 Main dissemination activities and exploitation of results
In the first period of the project dissemination activities focused on the presentation of the project to the public by way of a public website. At the same time a shared working space needed to be provided to the project team to ensure online collaboration. The project website went online as planned at the end of month 1. To provide an online collaborative working space for the project partners (intranet), Sharepoint technology was used. In addition, template for power point presentations and documents were designed, making use of the project logo. To support the presentation of FOODLINKS to interested stakeholders, a short fact sheet about the project was produced.

In the second period of the project the focus of the dissemination WP was to maintain and continuously update the project website, and to maintain a shared working space to ensure online collaboration of distant partners. Part of the online collaboration, in particular sharing internal documents was continued with the initially set-up sharepoint intranet. Online collaboration that included also stakeholders outside the project was increasingly undertaken on a platform more easily accessible: the knowledge hub. The detailed communication plan developed in the first project period, was continuously updated. Its latest addition is a brief newsletter, which is used to increase communication across the Communities of Practice as well as to promote the Communities of Practice to potential new members outside the FOODLINKS project.

On October 16 2013, the final conference of the project took place in a central locality in Brussels. It was organised in a highly interactive way so that all participants could present their projects, discuss their ideas, exchange new ideas and collectively reflect on their experience on sustainable food provisioning and consumption. In addition to the members of the different CoPs, people from outside the project consortium were invited to present their projects, and expert board members were integrated in the conference as discussion group organisers and observer/discussants of the event. The conference was documented in a video that is available on the project website. In order to summarise the project’s results and communicate them to policymakers a policybrief was produced.
In addition, all three Communities of Practice decided within the first year to focus their collaboration on the production of a common document. This gave purpose and direction to their engagement and fuelled on-going engagement. It fulfilled the need of members to produce something tangible, that effectively contributed to building a more sustainable food system. It enabled actual co-production (shared writing, exchange of case-studies, interviewing each other, participatory lay-out and design), and hands-on learning of what it means to develop a common language and to accommodate different approaches and interests. Through joining up forces the communities produces guidelines and action plans for short food supply chains, public procurement and urban food strategies that are already put to use in policy and practice. The documents may be accessed through Foodlinks - Home/News.

In short, the following dissemination activities were organised:

- A functioning, informative and lively website has been created and continuously developed: [www.foodlinkscommunity.net](http://www.foodlinkscommunity.net)
- An intranet for online collaboration of partners was established and intensively used by the CoP members
- Links to other projects have been established by a common blog and links on the website
- A fact sheet on the project has been produced;
- Key outputs of the three CoPs have been published prominently on the website;
- A regular newsletter was published and disseminated among and beyond the project team;
- A new tool was used to enlarge interaction of the CoPs beyond the project partners (Knowledge Hub);
- A communication plan was developed and continuously updated;
- A working group has been organised at the XXV ESRS Congress to enlarge scientific discussion of results with a broader audience;
- A number of scientific publications have been published or are being prepared for publication (see table A1);
- A great number of dissemination activities for a varied public have been organised (see table A2);
- All three Communities of Practice published guidelines and action plans for short food supply chains, public procurement and urban food strategies, which are accessible through the project website and the links included above;
- A final project conference has been organised and taken place with about 90 participants;
- A video about the final project conference was produced and published on the website;
- A policy brief was produced.

List of Websites:

Participant 2 developed the public website that went online at the end of month 1 and contained an overview of the planned activities, the project structure, information about the partners together with their contact details, as well as a blog: [www.foodlinkscommunity.net](http://www.foodlinkscommunity.net).

The blog is managed jointly with another project "Purefood" - a PhD programme on the similar topic of sustainable food production and consumption. In this way it contributes to the interaction between the two projects. The blog is located on the foodlinks website, but may be also be accessed directly through Easy to Digest » The PUREFOODLINKS Sustainable Food Blog. To provide an online collaborative working space for the project partners (intranet), Sharepoint technology was used. It is used intensively for online collaboration. In addition, there is an extra section to which the members of the expert board have access, containing documents relevant to them.

The three Communities of Practice used the knowledge hub as platform for developing their online communities. The knowledge hub was chosen as it was offered for free and maintained by the UK government which made the tool accessible also for our participants from the Scottish government who had difficulty accessing most of the other online platforms or using online tools because of strict safety regulations. The address of the knowledge hub is [Sign in - Knowledge Hub](http://Sign in - Knowledge Hub). The knowledge hub worked well and allowed us to expand the communities of practice although it was experienced as rather user-unfriendly by user with little experience with social media.

Toward the end of the project the knowledge hub communicated that the service might be closed down because of budget cuts of the British government. In order to safeguard the continuity of the CoP we started a new platform – the foodnet (Home - FoodNET). The foodnet is a simple platform which offers less facilities compared to the knowledge hub but is easy to use. In ‘foodnet’ we want to link the different food related projects that we are collaborating in and use it as our primary tool for public online communication.

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