PROJECT FINAL REPORT

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Executive Summary

The overall objective of SOLINSA was to identify effective and efficient approaches for the support of successful LINSA (Learning and Innovation Networks for Sustainable Agriculture) as drivers of transition towards Agricultural Innovation Systems for sustainable agriculture and rural development. Specifically, the project explored 17 LINSA and analyzed how policy instruments, financial arrangements, research, education and advisory services might support LINSA in cost-efficient and effective ways. The consortium was comprised of 11 research institutions from 8 European countries.

All countries studied report a fragmented Agricultural Knowledge System (AKS) that includes a diversified landscape of both formal and newly emerging informal organisations that each cover an overlapping part of the AKS. The role of research institutes and universities as the dominant sources of knowledge and innovation is rapidly replaced as organizational boundaries become diffuse. Agricultural education is in a difficult structural position. New actors have emerged and new coalitions of actors have started to pursue different, sometimes competing goals. Networking, knowledge co-creation and collaboration between different partners is very popular across the different countries.

SOLINSA researchers were able to propose theoretical advancements by developing the LINSA concept, models of LINSA interaction with AKS, characteristics of learning and innovation processes in LINSA, the range of sustainability discourses used by LINSA, the links between learning, innovation and sustainability in LINSA, importance of boundary objects and boundary work. A particular methodological framework; the Reflective Learning Methodology, was developed to link local-level fieldwork with LINSA and project-level reflection among the researchers.

The analysis of the LINSA focused on 8 characteristics (Degree of Integration; Level of Innovation; Scale; Origin and Function; Links between AKIS and LINSA; Level of Learning; Governance; Efficiency and Effectiveness of Support), and resulted in the following six qualities for LINSA: a dynamic balance of diversity and commonality; a shared goal of innovation; mutual engagement (participation, commitment (although not all actors participate to equal extent); a minimum level of governance and organization of network; reflexivity: network participants have to steward learning activities, reassess innovation objectives and evaluate sustainability performance; innovation and sustainability are to be connected and embodied in LINSA activities and practices of their members.

There is no ‘one size fits all’ approach to supporting LINSA. Yet the project developed recommendations for education and training, advisory services and extension, researchers and research policy taking into account the current EU research and innovation policy context (Horizon 2020; EIP Agricultural Production and Sustainability).

We conclude that: **1.** LINSA are networks of producers, consumers, experts, NGOs, SMEs, local administrations as well as official researchers and extensionists, that are engaged in sustainable agriculture and rural development - cooperating, sharing resources and co-producing new knowledge by creating conditions for communication; **2.** There are different forms of LINSA. LINSA can have a strong relationship with the AKS or not be connected to the AKS at all, or a relationship that lies between these extremes; **3.** There is a need for opening spaces and creating an environment in which LINSA can develop their full potential to contribute to innovation for sustainable agriculture – beyond traditional AKS; **4.** The role of AKS as partners for LINSA needs to be strengthened; **5.** In this situation, transition partners emerge as new kind of actors, with particular roles and functions. These are various kinds of networkers, facilitators, participatory researchers, boundary persons, or experts who engage with LINSA in joint learning and innovation for sustainability.

Summary description of project context and objectives

Context

As growing empirical evidence shows, the rate and direction of innovation in most of the agricultural sector is increasingly dependent on artefacts, which embody knowledge produced largely outside farming and without farmers' participation, like fertilisers, machinery, commercial standards and codes of practices. In this context, very limited degrees of freedom are left to farmers, who are 'locked into' rigid socio-technical systems wherein knowledge is transferred through linear (and one-way) flows from points where knowledge is produced to points where knowledge is used.

These innovation pathways cannot prevent falling farm incomes, nor can they counter the growing vulnerability of farmers and agro-food systems. And, which is perhaps more important, these innovation pathways are largely inadequate to respond to the challenge of sustainability. In fact, they have been historically developed in response to a specific problem – how to increase production – and research, education and extension are aligned around this goal. By their history and nature, they are not able to address the demand for public goods as for private goods, and therefore cannot support farmers to provide them adequately.

But we can also observe a countertendency. It consists of the activity of networks of farmers, consumers, NGOs, experts and local administrations looking for alternative ways to produce, consume, and innovate. In order to create autonomous spaces of development, they 'break the rules' of dominant socio-technical systems and build up new economic spaces endowed with their own rules, actors, and artefacts. Such multi-stakeholder networks are working in a difficult environment and have historically developed a capacity to innovate based on the principles of endogenous development: autonomy from institutional pressures and formal AKS actors; capacity to get control of technical and economic processes; and consideration on how to reproduce conditions of production. The key to this approach is to give priority to: endogenous resources over exogenous ones, continuous observation and reflection, willingness to try out new practices, intensified interaction and cooperation with a large variety of outside actors. Social learning and co-creation of knowledge, as opposed to 'transfer of knowledge', becomes the core organising principle of these networks. Most of these learning and innovation networks develop around the principles of sustainability. To be competitive, farmers belonging to these networks apply agro-ecological principles; diversify crops or farming activities (on-farm processing, energy production, social services, etc.); participate in collective initiatives; mobilise local and traditional knowledge social capital and local biodiversity; and build new market arrangements to give differentiated products to concerned consumers. As these networks develop, differentiated tasks and roles emerge within the system so that accumulated knowledge can circulate into broader environments and contribute to enlarge the space for further innovation. These processes also have an influence on existing institutional arrangements. In our project we call such networks Learning and Innovation Networks for Sustainable Agriculture (LINSA).

Despite signs of improvement in some countries, LINSA are to a great extent still disconnected from formal Agricultural Knowledge Systems (AKS). This term is used to define a set of public and private organisations dedicated to research, education and extension, and linked to each other with strong (formal) and weak (informal) ties. In fact, AKS have been initiated and developed on the basis of a linear approach to innovation. Under the pressure of macro changes and internal contradictions, formal AKS are changing. They have been increasingly exposed to processes of privatisation and quasi-market regulation; they have diversified their supply to respond to a diversified demand, including the increasing demand for public goods emerging from society and interpreted by public administrations. However, having inherited organisation patterns, structures and mindsets from the past, and being exposed to the pressure of forces pulling into different directions, Agricultural Knowledge Systems have not undergone the necessary reforms. They lack of horizontal (with peers) and vertical (with other actors) connections and therefore suffer from inadequate communication and a lack of common cognitive frameworks. They also lack the

knowledge and skills required for a changing context (especially those related to communication and facilitation of social learning processes).

The transition of European agriculture to sustainability is not independent from the transition of European Agriculture Knowledge Systems, as the latter has an important influence on how the transition to sustainability is fostered or hindered. What is needed, therefore, are knowledge systems linking together system approaches to innovation to meet the challenge of sustainability. This implies a transition from Agricultural Knowledge Systems to Agricultural Innovation Systems for Sustainability (AIS). AIS should apply the same approach to innovation of LINSA, and especially their focus on learning, to a meso level, addressing institutional learning and co-creation of knowledge. They should also apply, as LINSA do, double loop learning, which means learning to adapt (or to change) cognitive frames to changing environments.

There is a lot of literature on new approaches to innovation and on learning. Good theory has developed to indicate which direction to take. However there is an absence of research on how to concretise the scientific knowledge into practical guidelines, e.g. in terms of strategies on how to handle difficult issues related to power relations, trust and gender, or in the field of farming for sustainability. There is a substantial knowledge gap, in fact, concerning the barriers to transition towards a more flexible and innovative AIS and with respect to policy instruments and other support measures to remove these barriers. We have limited knowledge, for example, about the relations between innovation and regulation; about the implications for innovation of synergies and conflicts between policies; and about the difference that different contexts make (North / South, well-structured civil society / weak civil society, efficient / inefficient public administration, centralisation / decentralisation). We also know very little about how to motivate conventional systems of production to unlock and undertake new innovation pathways. Furthermore, more knowledge is needed on how to close gaps between the need for change and farmers' motivation to adjust, and on how to improve the capacities of innovation agencies and advisory services to effectively support changes. Thus, capacities and resources of knowledge actors, such as advisors, have to be changed and supported, and the role of education, research and advice in supporting learning and innovation has to be rethought.

The core concept around which the project evolved is Learning and Innovation Networks for Sustainable Agriculture (LINSA). We define LINSA as networks of producers, consumers, experts, NGOs, SMEs, local administrations as well as researchers and extensionists, that are mutually engaged with common goals for sustainable agriculture and rural development - cooperating, sharing resources and co-producing new knowledge by creating conditions for communication. LINSA respond to the demand for agriculture in transition, they develop new intermediary tasks and roles and involve new actors and institutions into alliances for objectives that refer to sustainability. Acting at the boundaries of consolidated policy networks (for example, between agriculture and environment, agriculture and health, agriculture and planning, agriculture and social services) LINSA can bridge different policy authorities to create common frameworks. Consequently they can facilitate integration and adaptation of policies to given contexts. Operating in this way, they also create pressures and internal contradictions on AKS, fostering their change. It is on the basis of this understanding that we start from the hypothesis that LINSA are among major drivers for transition.

Research can play a role in supporting LINSA, and the challenge is how to organise research in a way that mutual benefit is maximised. For meaningful support of LINSA, one has to identify what their problems are. For LINSA themselves to identify their problems and challenges, they need to find a space in which they can reflect on themselves. Research can open up such a space and empower LINSA to reflect by enabling them to step out of their daily routine. The form of this space and how this space is used is a matter of continuous negotiation, and such a process needs skilful researchers who have the capacity to do so and are willing to engage in the collaboration themselves. Participatory action research is a suitable way to address these challenges for meaningful research on LINSA. It focuses on establishing mechanisms that ensure a cyclical, self-correcting process between researcher and involved stakeholders (here: LINSA members).

Project objectives

The overall objective of this project is to identify effective and efficient approaches for the support of successful LINSA (Learning and Innovation Networks for Sustainable Agriculture) as drivers of transition towards Agricultural Innovation Systems for sustainable agriculture and rural development.

The overall objective is detailed in work package specific objectives as follows:

- Develop a conceptual framework for innovation for sustainable agriculture and rural development and critically reflect and further develop it on the basis of the empirical work in order to advance theory on agricultural knowledge and innovation systems and LINSA (WP2 and WP8)
- Identify institutional determinants that enable or constrain existing AKS in supporting effective LINSA in the context of changing knowledge and innovation policies (WP3), by enhancing the understanding about
    - the main agricultural trends in their national and EU contexts;
    - specific demands of AKS emerging in the national contexts (knowledge needs);
    - characteristics, incidence and main fields of action of LINSA in the national contexts;
    - institutional determinants in AKS that enable or constrain AKS in supporting effective LINSA;
    - trends in national AKS policies for agriculture, rural development and innovation
- Explore LINSA empirically as bottom-up drivers of transition (WP4); in particular:
    - To enhance understanding about mechanisms of network development, learning and innovation processes and connections with the formal AKS systems
    - To enhance understanding tasks, roles and emerging quality needs for the knowledge and skills of actors and institutions and consequences for education and training, in particular for professional advisory systems
    - To collect empirical evidence on policy principles, policy instruments and financial arrangements for successful LINSA in different national and regional contexts
    - To develop evaluation criteria on effectiveness and cost efficiency of support arrangements exploited by LINSA and to evaluate such arrangements
    - To enhance understanding learning approaches, methods and tools used in LINSA, why they are used and if they are useful in the applied context
    - To enhance the understanding of constraints, opportunities and needs for support for successful LINSA
    - To develop operational tools for AKS actors, summarising the findings of exploration of LINSA
- Improve understanding of barriers to complex learning processes and developing recommendations on how to avoid / remove them (WP5); in particular:
    - To ensure the learning process of the involved researchers LINSA actors in the project through the implementation of a transdisciplinary learning methodology
    - To evaluate and monitor the applied methodology
    - To provide recommendations for improved transdisciplinary learning in networks, including methods and tools for intermediary actors

- Create open learning spaces for actors outside the project by sharing and disseminating project findings and test practice-oriented results of the project with potential users of the outcomes (WP6)
- Develop operational tools for relevant actors to support successful LINSA in terms of effective and efficient policy instruments, financial arrangements and a better coordinated approach of different policies (WP7)
    - by comparing and contrasting results from WP3 with results from WP4-6 and
    - by conducting a workshop with EU and national policy actors.

Main S&T results/foregrounds

The overall objective of SOLINSA was to identify effective and efficient approaches for the support of successful LINSA (Learning and Innovation Networks for Sustainable Agriculture) as drivers of transition towards Agricultural Innovation Systems for sustainable agriculture and rural development. Specifically, the project explored LINSA, and how policy instruments, financial arrangements, research, education and advisory services might support LINSA in cost-efficient and effective ways. The consortium was comprised by 11 research institutions from 8 European countries.

To achieve the project objective, researchers collaborated with 17 LINSA networks across Europe using a transdisciplinary method based on participation. These interactions unfolded as a joint learning process, where researchers strived also to be partners for LINSA in addressing actual/topical development issues. Interactions with each of the LINSA resulted in an analysis of 8 characteristics per LINSA (Degree of Integration; Level of Innovation; Scale; Origin and Function; Links between AKIS and LINSA; Level of Learning; Governance; Efficiency and Effectiveness of Support), to examine their potential as bottom-up drivers of transition. To enrich analysis, seven supplementary cases were analyzed.

LINSA are defined as networks of producers, consumers, experts, NGOs, SMEs, local administrations as well as official researchers and extensionists, that are mutually engaged with common goals for sustainable agriculture and rural development - cooperating, sharing resources and co-producing new knowledge by creating conditions for communication (Brunori et al. 2013).

For qualifying as LINSA, networks need to show the following six features:

- a dynamic balance of diversity and commonality;
- a shared goal of innovation;
- mutual engagement (participation, commitment (although not all actors participate to equal extent);
- a minimum level of governance and organization of network;
- reflexivity: network participants have to steward learning activities, reassess innovation objectives and evaluate sustainability performance;
- innovation and sustainability are to be connected and embodied in LINSA activities and practices of their members.

Table 1 (next page) lists the different LINSA studied in the project.

Table 1: The variety of LINSA analysed

LINSA	Components	Size	Field	Focus & level of innovation
E B&H, *Brighton and Hove Food Partnership, England*	NGOs, public organisations, entrepreneurs	Over 200 organisations in the state, private and voluntary sectors	All stages of the food chain	Patterns of food consumption and production in a large urban area. Radical.
E Perm, *Permaculture Community (Permaculture Association and the Land Project), England*	Permaculture practitioners, researchers, Permaculture Association	40 demo sites	Permaculture design	Creating sustainable human environments. Radical.
EU Organ, *The European Organic Data network*	Researchers, market data collectors	Not defined	Organic farming data collection	Standardise methods of data collection, enable access to data.
F RAD, *Réseau Agriculture Durable– Network for a Sustainable Agriculture, France*	Farmers, advisors, researchers	29 local groups, 2000 farms	Sustainability of livestock farming practices	Soil protection, low input farming systems, direct marketing. Radical.
F Charter, *Charter of Good Agricultural Practices in Livestock production, France*	Farmers, technicians - facilitators, researchers, consumers	About 100 000 farmers, 2500 facilitators	Cattle farming	Ensure quality and sustainability of cattle farming practices. Incremental.
G Women, *Bavarian Rural Women's Association, Germany*	Women farmers, facilitators	6, 600 local groups	Promoting women's interests in agriculture policy and practice	Improvements in rural devt from women's perspectives. Incremental.
G DLG, *German agricultural society (Deutsche Landwirtschaftsgesellschaft), Germany*	Farmers, researchers, facilitators, policy-makers, industry	Over 23 000 members	Innovation in agriculture, broadly	Exchange of know-how, dissemination. Incremental.
H G7, *Local Food Council of Gödöllő, Hungary*	NGOs, researchers, authorities, entrepreneurs	About 30 members	Sustainable urban food	Innovation for sustainable urban food strategies. Incremental.
H Nat , *The NATURAMA Alliance, Hungary*	Farmers, facilitators, researchers	11 LEADER local groups	Rural and community development	Improve rural development practices. Incremental.

LINSA	Components	Size	Field	Focus & level of innovation
I CVR, *Consorzio Vacche Rosse, Italy*	Farmers in a consortium	A narrow group	Biodiversity in cattle breeding	Valorisation of traditional dairy cattle breed. Retro-innovation, incremental.
I Crisop, *Association for Solidary Economy I Crisoperla, Italy*	Organic farmers, agronomists, consumers' associations, small food artisans	About 30 members	Local organic farming and food provision	Reorganisation of local organic food system. Radical.
N Care, *Cooperative Boer en Zorg: Care Farmers in the Netherlands*	Care farmers, researchers, public authorities in health care and agriculture	65 farmers	Intersection of health care and agriculture	Alternative vision of health care and farming. Initially radical.
N Dairy, *Sustainable Dairy Farming, Netherlands*	Farmers, researchers, advisors	About 100 farmers	Dairy farming nutrient system	Low external input farming. Incremental.
S ACDF, *Association for the development of fodder production, Switzerland*	Farmers, researchers, extension services	1000 farmers, 40 AKS, 14 technical experts	Pasture management, biodiversity.	Conservation of natural resources. Incremental.
S Naturli, *Naturli Co-operative Cheese production, Switzerland*	Public authorities, farmers, SMEs, small retailers	150 farmers, 27 small dairies	Logistics for organic milk cheese production and marketing	New technologies, business model, and knowledge. Initially radical.
L Biogas, *the Latvia Biogas Network*	Biogas producers, researchers, public authorities, investors	About 90 members	Renewable energy production	Localization of borrowed technologies, economic and environmental goals. Radical.
L Fruit, *Latvian Fruit-growing Network*	Farmers, researchers, extensionists, retailers, NGOs.	About 400 members	Fruit-growing	Promote integrated fruit growing. Incremental, retro-innovation

The project builds on the observation that most of the LINSA have developed at the fringes of the current Agricultural Knowledge System (AKS), and that this AKS is in transition. A new approach to understand innovation in agriculture is needed. We therefore developed a conceptual framework that contributes to the new approach, and a research methodology turning the approach into (research) practice. Accordingly, in the following, the project's results are summarized, with the following sections: section 1 presents the main findings of the analysis of the Agricultural Knowledge Systems in the partner countries; section 2 outlines the conceptual framework that had been developed in the beginning of the project and revised and further developed in the light of empirical data of the project; section 3 presents the methodological framework that has been developed to address the challenges of a participatory action research at European level; section 4 discusses the results of the case study work that has been undertaken over a period of two and a half years in seventeen LINSA case studies, as well as seven show cases; section 5 outlines recommendations for supporting LINSA, for AKS actors, policy actors and transition partners; and we conclude with five lessons learned for advancing learning and innovation for the transition towards sustainable agriculture and rural development.

Analysis of the Agricultural Knowledge Systems (AKS)

At the beginning of the project we assumed that many LINSA have developed outside the official AKS or under the initiative of 'deviant' or minority components of AKS. This has led us to analyse the AKS in countries where LINSA have been studied to identify institutional barriers and potential of integration of LINSA into AKS.

The organisation and functioning of the AKS has been analysed and compared in eight different European countries: England, France, Germany, Hungary, Italy, Latvia, the Netherlands and Switzerland. Agricultural Knowledge System is a term used to define a set of public and private organisations dedicated to research, education and extension, and their interaction with knowledge users (traditionally farmers). The changing political landscape in Europe after the fall of the iron curtain, the subsequent reform of the Common Agricultural Policy, and the decreasing economic importance of the agricultural sector in most European countries have led to a widely diversifying set of Knowledge Systems in Europe, not only between countries, but sometimes even within countries that have a highly federalised or regionalised political system. However, in many cases these changes have not occurred under the push of a clear strategy, but rather have been an adaptation to changing regulatory, social and economic environments. Below, we identify eight of the most important trends that the agricultural sector and the AKS players must respond to in the future:

- Growing world population and issues of food security
- Globalisation and deregulation of markets
- Climate change
- Increasing claims on agricultural lands
- Governance
- Demographic changes
- New actors in the countryside
- New modes of production

These currently on-going trends have been influencing the different countries in different ways. However, they all report a fragmented AKS that includes a diversified landscape of both formal and newly emerging informal organisations that each cover an overlapping part of the AKS. The role of research institutes and universities as the dominant sources of knowledge and innovation is rapidly replaced as organisational boundaries become diffuse. Traditional categories between fundamental and applied research are disappearing as universities start to cooperate with (large) agri-

businesses in research projects. Extension services show the highest diversity between countries. Some countries have completely privatised their extension services, while in other countries a publicly funded extension service still exists. However, the distinction between commercial and non-profit advisory systems is disappearing. NGOs, farmer funded organisations, cooperatives, commercial advisory agencies as well as some successful individual farmers are now recognised as potential suppliers of information in the agricultural sector. Depending on the formal position of government sponsored extension services, new actors have been allowed to establish within the AKS. From the traditional AKS-triangle of Research, Education and Extension, agricultural education is in the most difficult structural position. Many countries report either a lack of funds, a lack of interest from students, or a combination of the two. Compounding these problems, the links of agricultural education and other sectors of the AKS are often not well established. Businesses and schools particularly have difficulty in finding each other.

New actors have emerged and new coalitions of actors have started to pursue different, sometimes competing goals. Networking, knowledge co-creation and collaboration between different partners is very popular across the different countries. The report shows a variety of LINSA-type collaborations. Depending on the characteristics of the national AKS, the support of these Learning Innovation Networks for Sustainable Agriculture (LINSA) takes different forms. In some countries the different types of LINSAs are even eligible for funding as governments see in them a good opportunity to work on public goods, like environmental and social concerns. Regional clusters have become a popular form to improve collaboration between different types of partners. These clusters have strong local ties and focus on the territorial presence of a specialised industry. Intersectoral collaborations, often organised as public–private cooperations, involve SMEs, high schools, suppliers, market partners, research institutes and local governments. Horizontal integration is promoted through a number of new types of network based institutions and 'platforms' that either function as communities of practice (CoPs), or Networks of Practice (NoPs). In countries where the traditional AKS actors still have a powerful position, typical bottom-up innovative projects have difficulty getting recognised and subsequently also funded. Here, LINSAs depend on either private funds or funds from the EU.

Their funding notwithstanding, the practical implementation of LINSA is often fraught with difficulties. Using a system performance matrix, several different types of constraints have been identified and are discussed in the report.

- 'Hard institutional failure' refers to laws, regulations and any other formalised rules, or the lack of them, hampering innovation. Many countries report a lot of bureaucracy regarding the funding of innovation projects. Furthermore the funding criteria are often focussed on the short term and often do not take the soft outcomes of collaborative projects into account: improved stakeholder relations and the development of trust. Combined with a shift towards more attention to short term thinking this results in many countries in incoherent innovation policies that focus on short term results. At the same time however, there is a complete lack of monitoring and evaluation criteria for innovation projects and programmes once a programme has finished. Learning effects are not systematically documented and these feedback mechanisms are not formalised in many countries.
- 'Soft institutional failure' refers to unwritten rules, norms, values, culture, or 'the way business is done'. Some countries have a culture that favours consensus seeking and cooperation, while other countries report a national culture aversive to anything 'collective' as a result of the former communist doctrine.
- The way actors are connected to each other, their connectedness, or the characteristics of the social networks connecting them can also explain particular forms of failure. Strong network failure', refers to a (small) number of actors 'locked' into their relationship with each other without links to outsiders, causing myopia and blocking new ideas from entering. This is especially the case in those countries where the formal AKS partners still have a powerful position. 'Weak network failure' refers to a situation where actors are not well connected and fruitful cycles of learning and innovation may be prevented because

there is no creative recombination of knowledge and resources. Countries whose AKS is defined by a very competitive market often suffer from this type of network failure. A strong competition makes actors less likely to engage in cooperative projects that involve knowledge sharing.

- Capability failure is the lack of technical and organisational capacity of the actors to collaborate in LINSA type of networks. Issues here are the level of entrepreneurship, adequately educated farmers and networking skills. Different actors within the AKS often need to work on their capabilities for networking and collaboration.
- Finally, market structure failures refer to the positions of and relations between market parties. With increasing knowledge supply by brokers, advisors and agricultural consultants, the AKS becomes much more complex and the overview of the different services on offer, not only from commercial actors, but sometimes also from (applied) knowledge institutes, becomes difficult to oversee. Even though bottom-up initiatives have easier access to research institutions, the steering of the AKS does not improve. Governments have a more difficult job to steer the AKS in a desirable direction as there is no consensus over the direction of the agricultural sector.

Table 2 (next page) summarizes the results of the structural analysis of AKS and their potential effects on collaboration and social learning.

Table 2: Structural analysis of AKS and their potential effects on collaboration and social learning (Hermans et al. 2015 forthcoming)

	EN	FR	DE	HU	IT	LT	NL	CH	Potential effects on collaboration and social learning
Infrastructure, investments and funding									
Lack of funds / decreasing funds	X	X		X	X	X	X	X	More competition and more insecurity are not conducive for collaboration, sharing of resources and learning.
Legislation, rules and regulations									
Overregulation, bureaucracy and volatility of topics and criteria		X	X	X			X	X	Collaboration for collective goods are difficult to set up; Continuity/ stability of collaborative networks is threatened; long term effects are not invested in
Monitoring, assessment and evaluation of projects and programmes is not consistent and systemically done		X	X	X	X		X	X	Learning experiences not fully incorporated
Norms, values and culture									
Social capital and trust low or decreasing	X	X	X	X	X	X		X	First steps towards collaboration is difficult
Contested vision of the future leads to competition between different innovation coalitions.	X	X	X		X	X	X	X	Can be a strong motivator: 'us against them', but can also easily lead to wasted time, energy and resources on political struggles
Interactions and networks									
Vertical and horizontal fragmentation and lack of coordination	X	X	X	X	X	X	X		Overview is missing of who does what; potential collaborations are difficult to establish if organisations are not aware of each other.
Capabilities									
Education and specific information skills are often missing (confusion of knowledge consumers)	X			X		X	X	X	Difficulty in formulating knowledge questions and information needs hampers learning.
Barriers for interaction in different types of organisational logic and incentives (science and farmers especially)	X	X	X		X	X	X	X	Individual goals and incentives of people with a different affiliations can be difficult to overcome
Market structure									
Lack of demand of information services			X	X			X		Dependence on embedded advice in commercial agro-industrial products discourages participation in innovative projects that might threaten these old products
Increasing competition between knowledge providers	X	X	X	X	X	X	X	X	Too many competing advisory service providers can create confusion, add to the bureaucratic burden and do not streamline the collaborative process anymore

Conceptual framework

In order to advance theory on agricultural knowledge and innovation systems and LINSA, a conceptual framework was developed at the beginning of the project, and revised continuously on the basis of the empirical work with the seventeen LINSA. The core concepts are outlined below.

LINSA as a special type of network in sustainable agriculture

LINSA embrace producers, consumers, experts, NGOs, SMEs, local administrations and components of the formal AKS that are mutually engaged with common goals for sustainable agriculture and rural development.

LINSA combine a diversity of components – and therefore a diversity on background and expertise – with commonality of view and shared innovation goals connected to sustainability. This combination is at the roots of learning processes. In fact, by creating conditions for communication among such diverse components, LINSA foster cooperation, sharing resources and the co-production of new knowledge.

LINSA allow social innovation through different types of network. They can develop as communities of practice (CoP), networks of practice (NoP), constellations of practice or webs of actors. The difference between these types is related to the degree of commonality among members: it is highest in CoPs and lowest in webs of actors.

Innovations that LINSA develop can be radical or incremental. In many cases, at their beginning LINSA introduce radical innovation and at a later stage they consolidate this innovation with continuous improvement.

LINSA are diverse and complex in form and structure and, in the empirical study, were grouped into those that are consumer, non-food or agriculturally oriented networks. They vary in their degree of formality, modes of learning, size and degrees of consensus. They can overlap. They tend to have 'flat' and egalitarian organizational structures.

LINSA grow for knowledge, economic and accreditation reasons. As they grow they tend to formalize but not all LINSA wish to become mainstream.

LINSA can have a strong relationship with the AKS or not be connected to the AKS at all; or a relationship that lies between these extremes.

Learning and innovation in LINSA

LINSA foster individual, social and organizational learning. Individual learning is the development of knowledge that occurs in individual components of LINSA by effect of being part of LINSA activity. Social learning is the development of shared knowledge among LINSA components. Organizational learning is related to the capacity of a LINSA to embody new knowledge within organizational rules and routines.

As we say above, diversity is the key for learning. However, diversity (and complexity) must be balanced with commonality, which is the driver for communication and sharing. Too much diversity may bring instability of LINSA. Co-ordination can help this balance. As LINSA become more formalised, learning tends to be more co-ordinated.

Innovation paths in a LINSA are influenced by its origin or starting point. Innovation is most likely to be successful when bottom up and top down drivers are convergent and where networks integrate the different actors. Open networks can be more innovative than closed ones and a diversity of stakeholders in a network can stimulate innovation. These latter two factors can stimulate radical innovation. Radical and incremental innovation may be at different points on the same innovation

path as innovation changes over time. As LINSA develop and become more formalized their ability to disseminate innovation improves.

Sustainability

Sustainability is inherently embodied with LINSA innovation goals. This means that different LINSA Have different interpretation of sustainability. Sustainability as a concept is thus considered to be reflexive, inclusive and context dependent. Most however embrace social, economic, technical, multifunctional and environmental factors in a combination of ways. In some cases LINSA have explicit sustainability goals, in other cases sustainability is an explicit goal.

Sustainability meanings are often negotiated (and renegotiated over time) in the context of innovation, learning (and relearning) and the interpretation of knowledge, in an iterative way. Learning is felt to be the most important element of these relationships, but it does not axiomatically lead to improved sustainability behavior.

Boundary objects and boundary work as analytical tools for examining learning and innovation processes in LINSA

Boundary objects are organizing elements of social learning, as they connect together the social worlds of respective LINSA components. They can be artefacts, discourses or processes 'in the making', around which interaction occurs. Their development is an indicator of learning and innovation processes. Once artifacts, discourses or processes are finalized, they become tangible outcomes of progress of the network.

Multi-actor interactions and the co-construction of meanings are central to hybrid agricultural learning. In this context, boundary work that helps to achieve LINSA goals is multifunctional, with a diversity of actors, but each LINSA is different. Boundary work can embrace encounters, practice and specific work. Increasingly, boundary work is virtual.

In LINSA learning, boundaries have to be negotiated between various knowledge bases, attitudes and learning forms. Boundary work and boundary objects evolve as networks develop. Boundary work and boundary objects are instrumental in consolidating innovation. They help internal integration in the LINSA, the mobilisation of external supporters and the adjustment of network goals. Boundary work also is used to accommodate different attitudes towards sustainability.

LINSA and socio-technical change towards sustainable agriculture and rural development

Socio-technical transition approaches can be used to explore the drivers and barriers of innovation, and 'framing' approaches can be used to explain motivation for change and its realization. In these contexts, change that LINSA evoke can be seen in simultaneous membership of different networks; the desire to belong to a specific community; political and policy changes, economic, social and natural shocks and social movements.

LINSA tend to be niche or novelty projects at the margin of mainstream agriculture but others may impact at a regime level. They all undertake some form of transition from their inception and fit well into the policy rhetoric of trying to make agriculture in general more sustainable. It is often necessary for LINSA to begin outside of mainstream agriculture in order to infuse sustainable actions within it. Such LINSA invariably have a broader constituency than conventional agriculture – the constituency from where new ideas come. Not all LINSA have an equal – or even significant - impact on change.

The conventional AKS plays a varying role in knowledge and innovation in LINSA. In some instances it is ill equipped to do so and in others there is a resistance on the part of LINSA to seek the support of the AKS.

Key elements in LINSA transition are: reflection on the status quo; action for new sustainable solutions, and dissemination of good practice. They should acknowledge the regimes and the localities in which they operate even though some may be less compatible than others. Transformation in this context should be both social and technical and these should be interdependent. Incremental innovation can be as successful as radical innovation as it is more likely to be adopted more widely at regime level.

Development of a new methodology for European participatory action research: the Reflective Learning Methodology

A particular methodological framework; the Reflective Learning Methodology, was developed in SOLINSA, which includes two spaces where learning took place. On the project level, the researchers met in reflection workshops to develop the approach, and to reflect on the outcomes of its application (2nd layer learning). On the local level, learning took place in the field, where knowledge was co-produced between LINSA stakeholders and the researchers (1st layer learning). These processes were interlinked: The outcomes of the researchers' reflection workshops fed into the field work in the form of suggested methods and an initial set of research questions. Reports on the results of the field work contained a reflection on the methods that had been applied, responses to the research questions, and feedback to adapt the research agenda according to the stakeholder's needs. The recurring reflective processes that flowed through the research project thus made the learning and research agendas profoundly dynamic and included ongoing monitoring. Figure 1 illustrates the Reflective Learning Methodology, which included implementing a dynamic research and learning agenda. This framework aimed at producing project results that were meaningful in four different fields of implementation: policy, science, practice, and education of innovation brokers.

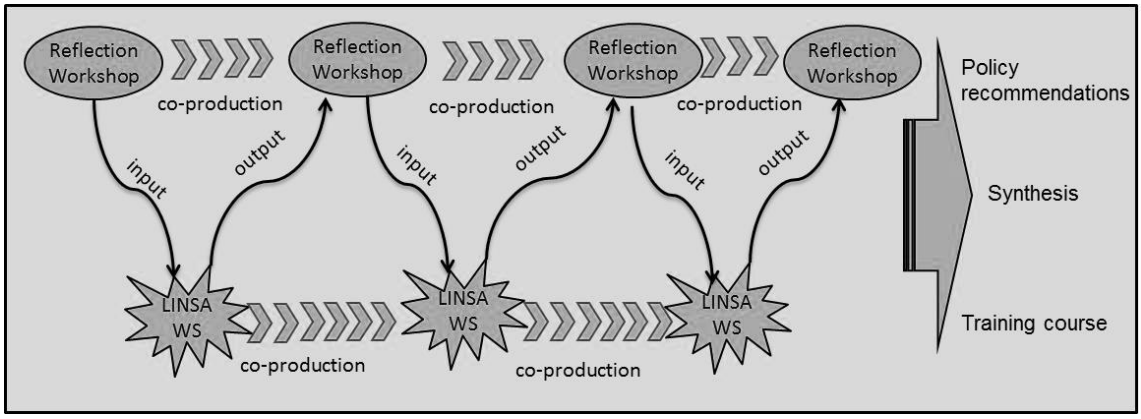

Figure 1: Reflective Learning Methodology
(Moschitz and Home, under revision)

To draw conclusions and to make recommendations as to practical and useful tools and their application in transdisciplinary research an evaluation was carried out, involving both an evaluation of the methods that were implemented in the field work with LINSA, and an assessment of the overall methodology. The final evaluation of the project's methodology was conducted in three stages: each partner completed a methods reflection template after each field workshop; completed an evaluation instrument form after the final field workshop to enable comparable reflection on the whole process; and took part in the final CBW, which was devoted to evaluation.

In summary, the outcome of the evaluation is as follows: It remains the role of the researcher to manage collaboration, and it is crucial to not attempt to impose methodologies. In one case, a

LINSA refusal to be involved might have been avoided if the researchers had been more flexible with the interaction methods. Early interactions with the key LINSA representatives could be used to define the interactions and a clear result of this evaluation is that the research must be adapted to the LINSA needs. For example, if workshops are found to be ineffective in enabling co-creation of knowledge, the researchers may choose to conduct complementary interviews or observations and find ways to ensure that all voices are heard. Playful exercises, visualisations, small group discussions, facilitated discussions, and methodologies with a special interest, such as participatory video, were found to be effective during collaboration but have to be appropriate to context and seen as useful and desirable by the specific LINSA. Although the objectives of the research have to be made clear from the beginning, the different steps, including the methods and the time frame, need to stay flexible. The researchers then have to possess a sufficient skill set to be able to offer the appropriate methodology. The approach taken by SOLINSA to include capacity building workshops was deemed successful in enabling partners to gain the necessary skills.

LINSA case study results

This section presents a synthesis of analysis of the following analytical characteristics for all 17 LINSA: origin and function, scale, network integration, level of innovation, level of learning and governance. It particularly focuses on:

- Perspectives on sustainable agriculture of the LINSA
- Mechanisms of network development, learning and innovation processes and connections with the formal AKS systems
- Learning approaches, methods and tools used in LINSA
- Evaluation criteria for assessing the effectiveness and cost efficiency of support measures
- Tasks, roles and emerging quality needs for the knowledge and skills of actors and institutions
- Support measures which are most effective and cost efficient
- Constraints and opportunities for LINSA within their particular context and the support needs for successful LINSA
- Fostering LINSA development

Perspectives on sustainable agriculture of the LINSA

Sustainable agriculture and sustainable rural development are contested concepts that hold different meanings to different people depending on the specific context they find themselves in. In order to investigate the different perspectives on the concept of sustainable agriculture within the SOLINSA project and place them within a comparative framework, Q-methodology was used.

Six different perspectives have been identified: Alternative Advocates, Sustainable Food Production, Autonomous Rural Development, Latvian Fruit, Care Farmers, Farmer Survival First. The six different perspectives are united in their opposition to the utilitarian rurality discourse that emphasises competition on global markets, but they differ on issues like entrepreneurship, personal responsibility for sustainability, the role of the government, and technology as a potential solution (see Table 3, next page).

Table 3: Overview of differences and overlap between LINSA perspectives on sustainability

Alternative Advocates	Sustainable Food Production	Autonomous Rural Development	Latvian Fruit	Care Farmers	Farmer Survival First
Regional scale central to view on sustainability Multifunctional agriculture Critical about technology as solution Active role for government	No clear preference for regional or global Countryside as place f. agricultural production Neutral about technology as solution Active role for government	Regional scale central to view on sustainability Multifunctional agriculture Neutral about technology as solution Emphasis on entrepreneurship	Regional as preferred scale of production Multifunctional agriculture Critical about technology as solution Emphasis on entrepreneurship	Regional as preferred scale of production Multifunctional agriculture Critical about technology as solution Emphasis on entrepreneurship	Regional as preferred scale of production Countryside as place f. agricultural production Slightly positive about technology as solution Active role for government

From the six perspectives, the Alternative Advocates represent the widest range of LINSA respondents: there are respondents from 10 of the 12 investigated LINSAs who subscribe to this view. This is also the perspective that is the most radical in its rejection of the productivist, technological discourse of mainstream agriculture. The perspectives of Care Farmers, Latvian Fruit growers and Autonomous Rural Developers offer slightly alternative sustainability perspectives that are based on a different emphasis of the importance of multifunctional countryside and the potential role of technology.

The perspective of the Sustainable Food Producers and the Farmer Survival First are more in line with the conventional agricultural mainstream in the sense that they still value the countryside for agricultural production and do not reject technological intensification of that production. Their sustainability perspective can be characterised by a focus on efficiently producing food and at the same time reducing the negative environmental pressures associated with that production.

Mechanisms of network development, learning and innovation processes and AKS-LINSA interactions

There is great diversity across LINSA; however they all share the commonality of coming into being as a result of a perceived need for change and an intention to improve the sustainability of food supply chains in some way. The nature and strength of the relationship with the Agricultural Knowledge System (AKS) varies. Some LINSA work closely with AKS actors or parts of the AKS, at the other extreme, LINSA have grown out of a perceived deficiency in the traditional AKS in terms of good practice, knowledge and values, and have emerged at the margins in the wider AKIS. Some operate between these two extremes.

LINSA grow and develop in different ways. A common pattern of development is to begin in a small way, often under the enthusiasm of individual personalities and the willingness to share knowledge and cooperate. Through growth this co-operation gives way to regulation, ‘professionalization’ and bureaucracy. In terms’ of structure, the extent of top down and bottom up management varies. The majority remain closed LINSA, by invitation only and growth is achieved here through co-option. Others, structurally, are open, with people joining and leaving the freely. Innovation is both context and time dependent. In terms of context, LINSA innovations can be radical at the local level but only incremental at a European Level. In terms of time, innovation often begins as radical but becomes more incremental as it is more widely accepted.

Learning approaches, methods and tools used in LINSA

The approach to learning is related to the nature of LINSA, to the extent of its development and to its relationship with the AKS. As LINSA develop and expand, learning tends to become more institutionalized. LINSA with uncoordinated and informal approaches to learning are associated with diffuse networks, few links with AKS, and low priority given to learning. LINSA which are more developed tend to have some formalised learning concerning specific topics or using localised group activity, but overall coordination is limited. LINSA with a high level of coordinated learning are associated with well-developed networks often linked to the AKS where expansion, accreditation, changing structures, possible extension of the brand and newcomers to the LINSA has necessitated a more coordinated and formalised approach.

Tasks, roles and emerging quality needs for the knowledge and skills of actors and institutes

Tasks and roles of actors and institutes are diverse for LINSA and related to their overall aims. In some LINSA roles are more traditional and well defined while in other LINSA new roles have emerged to meet varying needs. Although many producers articulate the need for technical and scientific skills, a number also express the need for economic and market knowledge, and for learning in management, IT, and administrative skills. For those responsible for supplying knowledge the challenge is often keeping up to date and coping with the diverse knowledge demands of producers. Advisory services also have to be able to combine generalist and specialist knowledge and to develop skills as motivators and knowledge brokers. Emerging knowledge needs for organisations include managing relationships with government and consumers, as well as improving organisational structures which includes enhancing ability to organise, coordinate and administer networks. As LINSA develop their knowledge needs change; learning requirements evolve according to new research, legislations, new social/consumer expectations and emerging technologies.

Support measures which are most effective and cost efficient

In general terms, support across the 17 LINSA can be categorised as either external or internal support. External support measures typically involve some type of financial input in the form of grants from national and regional funding streams often linked to EU policy programmes. Internal support measures comprise membership fees and other internal revenue sources such as sales, events. A significant proportion of internal support also comes through soft support including volunteering, animation, facilitation, knowledge exchange and brokerage, political and social/ethical support. Typically LINSA combine external and internal support in both strategic and opportunistic ways. A number comment on the difficulty and continual struggle of identifying funding support. There is no ‘one size fits all’ model for providing effective support to LINSA.

‘Effectiveness’ and ‘cost efficiency’ are terms not widely used in LINSA vocabulary. However there are examples where support has helped to develop LINSA and to contribute towards a broader aim of sustainable agriculture. External financial and political support is important and can benefit LINSA at certain stages in their development. Support funds can be effective in initiating and consolidating networks, either through one off projects, individual facilitators or EU collaborative support instruments. A distinction is made between effectiveness and cost efficiency with respect to the funders’ and the beneficiaries’ perspectives.

Evaluation criteria for assessing the effectiveness and cost efficiency of support measures

Determining suitable evaluation criteria for initiatives such as LINSA is not straight forward and few LINSA use specific evaluation criteria and do not specifically evaluate effectiveness and cost efficiency. In this respect, a number of the LINSA are focused on ‘soft’ outcomes, such as developing the capacities of individuals and organisations concerned with changing values; outcomes which are notoriously difficult to measure and evaluate – especially in terms of effectiveness and cost efficiency. While some LINSA do have established monitoring and evaluation more usually evaluations of LINSA are *implicit* in nature, reliant on the personal

reflections of those involved rather than being based on specific evaluation criteria that are examined by external bodies. Formal evaluations tend to be undertaken from the funders' perspectives, implicit evaluations from the beneficiaries' perspectives.

Constraints and opportunities for LINSA within their particular context and the support needs for successful LINSA

Constraints and opportunities can be grouped into the following sets: Organisation, Skills, Knowledge and Communication, Resources, Attitudes and Values. The largest single constraint was considered to be a lack of finance. However organisational capacity and status, itself linked to skills and resources, was also highlighted as a key constraint. Opportunities were more diversely expressed. The most commonly articulated opportunities were good relationships with the state, with the public, and with the AKS and a good volunteer and sustainability ethos. With respect to support needs, general requests for more funding were the most commonly expressed although the following were also highlighted: technical and market branding areas; improved governance or management; better internal communication; better external political support, and skills development through mentoring.

Fostering LINSA development

It is clear from the analysis that there is no 'one size fits all' approach to supporting LINSA. This is due to the diversity of LINSA drivers, aims, contexts, actors, structures and stage of development. There is however some commonality in terms of the expressed needs, as follows.

- The need for support to improve organisational capacity (governance, project management, leadership, decision making and coordination) in LINSA was widely articulated. The LINSA which operate outside of the AKS structures and are loose networks are more likely to require this sort of support. Facilitation, training and mentoring can be used to strengthen capacity.
- Broader recognition and acceptance from policy makers and AKS as well as visibility is regarded as desirable in a number of LINSA. Enhancing networking and cooperation has also been identified as a crucial factor in LINSA development, particularly for consumer oriented LINSA which operate with new sets of actors at the margins of the AKS.
- Support of learning, technical support, research and dissemination are common areas in need of support in food/energy production oriented LINSA where traditional training and dissemination support is more appropriate. Additionally cooperation in research through partnerships and collaboration can be effective for learning.

With respect to mechanisms for support LINSA, providing smaller grants or seed funds, and reducing the time and administrative burden of the application process, would enable that LINSA with limited capacity to access support. Changing eligibility requirements for some support measures would make some funds accessible to a wider set of LINSA particularly those that fall between sectors or outside mainstream agricultural sectors.

Recommendations for supporting LINSA, for AKS actors, policy actors and transition partners

Against the background of baseline studies on the national AKS, the existing national and European support policies as well as of the analysis of 17 LINSA, the interactions of the researchers and the dissemination activities in the project, the consortium reflected on a number of challenges and the required need of change in perspective that concerns all actors of the AKS: advisory services, education and training, research; as well as policy. In particular, these challenges include:

- Acknowledge the diversity of LINSA
- Consider and accept LINSA as drivers of transition towards sustainability
- Assist LINSA in strengthening their organisation, and in building capacity and skills for developing over the long term.
- Assist LINSA in accessing funding: As LINSA evolve, their support needs, and relevant activities to address those needs, change.
- Carefully develop and manage the links between LINSA and AKS, acknowledge and use different ways of collaboration with LINSA
- Acknowledge the new realities of knowledge co-creation, as opposed to linear top-down approach
- Acknowledge the variety of existing knowledge; knowledge needs and sources involved in creation and dissemination of innovation in agriculture
- Foster needs-based, diverse, participatory learning forms; mutuality and diversity of interactions with actors in agricultural innovation systems
- Shift self-perception and attitude from an expert knowledge provider to transition partner

Addressing these challenges led to recommendations for education and training, advisory services and extension, and researchers and research policy; all taking into account the current EU research and innovation policy context.

Within the “Innovation Union”, the European Union has adopted a wide range of innovation policies. The European Innovation Partnership (EIP) is one of the main instruments, and the EIP on Agricultural Productivity and Sustainability is one of the first that has been put in place. At its core are so-called Operational Groups (OG) in which different actors from rural areas (e.g. farmers, researchers, advisors, business) collaborate to jointly develop socio-technical innovations. Funding is provided through the European Agricultural Fund for Rural Development (EAFRD). The EIP therefore follows an interactive innovation model with an emphasis on partnerships. Similarly, the new research framework programme, Horizon 2020, promotes multi-actor research. LINSA can be seen as a prototype for multi-actor innovation groups (e.g. OG), and the SOLINSA project provides insight into how they can be supported.

<u>Recommendations for the AKS to support social learning in innovation networks</u>

The practical implications from our study for the support of grassroots innovation, collaboration, and social learning can help to assist the organisation of the new EIP and their Operational Groups as a policy tool to improve innovative efforts across the EU. Collaboration and social learning can be used to solve a number of different problems, and it is important to start the implementation of a policy, such as the EIP, with a critical reflection on the problems that it wishes to address in a specific national agricultural innovation system with its specific AKS.

The comparative analysis showed a great diversity in the organisation of AKS (see Table 2, p.13). Support therefore needs to be adapted to the respective situation, but as overall, we concluded that effective support needs to incorporate a strong focus on process, thus going beyond technical/content support. Table 4 provides a list of measures that may go in this direction. All of these measures can be activated through the instruments of the next planning Rural Development Plans (RDP) period, provided that RDP set the appropriate criteria for participation.

Table 4: Measures to let AKS develop social learning

Level of support	Support measures	Access to existing RDP measures
1 Direct support of LINSA – support the collaboration and performance of LINSA	1-1: Soft skills development 1-2: Reflection periods and process monitoring 1-3: Boundary object development 1-4: Travel costs / expense allowances 1-5: Operational / running costs 1-6: Training / Educational offers 1-7: Restructuring of funding schemes	**Article 36**: cooperation **Article 15**: Knowledge transfer and information actions **Article 16**: Advisory services
2 Transition partners - support of actors working with LINSA	2-1: Transition partner training 2-2: Transition partner networks 2-3: Cross-sectoral activities – intermediary persons 2-4: Training for participatory research 2-5: Incentives for practice-research co-operation	**Article 15**: Knowledge transfer and information actions **Article 28**: Setting up of producer groups **Article 36**: cooperation

Supporting LINSA to foster institutional innovation

LINSA develop innovations without being constrained by hierarchies and agendas existing within traditional AKS. Being placed at the margins of traditional AKS; they enjoy more freedom of movement. The AKS can learn from successful LINSA and embody achievements into their routines. This implies that LINSA can be seen as drivers of institutional change, if the link between LINSA and AKS is appropriately managed.

Table 5 provides a list of possible support measures aimed at improving the interaction between LINSA and AKS. They can be activated through the RDP measures of the next planning period, provided that national Rural Development Plans identify appropriate criteria for participation.

Table 5: Policy measures that may foster interaction between LINSA and AKS

Level of support	Support measures	Access to existing RDP measures
3 LINSA and AKS – recognition, collaboration and mutual acceptance	2-1: Recognition of LINSA 2-2: Consulting LINSA knowledge 2-3: Research funding 2-4: LINSA and AKS co-operation	**Article 36**: Cooperation **Article 15**: Knowledge transfer and information actions
4 LINSA-LINSA networks, EIP and Operational Groups (OG) – developing multi-actor perspectives	4-1: LINSA-LINSA networks 4-2: LINSA operating as OG 4-3: Using a participatory approach in OG	**Article 36**: Cooperation **Article 62**: Operational groups

Through enabling frameworks for exchange, LINSA will be more visible in the Agricultural Knowledge and Innovation System (AKIS) and gain credibility. AKIS actors can learn from LINSA as they become accepted opinion leaders and experts for specific niches. This will help AKIS in reaching the goal of a more sustainable agriculture and one that accepts the high level of diversity of farms and logics of farm development. By passing their knowledge through formal AKIS channels, LINSA will gain credibility and legitimisation. Together, co-creation of innovation and knowledge can happen.

Projects to support cooperation and mutual learning of LINSA and AKS

Specific projects could help an efficient and effective co-operation between AKS and LINSA and result in both LINSA development and a shift of the AKS towards more sustainability:

- **Facilitate the animation of bottom-up initiatives**, help to refine innovative ideas, provide support for finding partners, provide support for finding funding / other assistance
- **Facilitate partnerships of learning**: facilitate the analysis of existing learning processes and the stimulation of an open process of reflection
- **Document processes of learning and innovation** and make them available for the broader public, facilitate knowledge exchange.

Transition Partners for supporting LINSA

Changing the perspective of the different roles and functions of AKS actors, and the focus on supporting a process of social learning that leads to transition to a more sustainable agriculture and rural development, brought us to the introduction of a new concept of AKS actors: **transition partners**. Transition partners support social learning and the related group dynamic processes; especially through a methodological approach, and can fulfil different roles and functions: 1. internal strengthening and advancement of the LINSA – as a facilitator; 2. participatory data collection and analysis – as a participatory researcher; 3. methodological support in the development and establishment of boundary objects – as a boundary person; 4. technical support in the development and establishment of boundary objects – as an expert, lecturer or trainer; 5. support in improving the recognition of LINSA in the AKS and in increasing networking activities – as an intermediary person; 6. support to developing European Innovation Partnerships and Operational Groups – as an EU innovation broker.

The concept of transition partners allows a differentiation of professional intervention in the work of AKS. The new requirements for transition partners need particular support, which is not granted so far within the traditional AKS as they transcend the functions and roles of traditional extension workers. In particular, they require methodological competence for accompanying innovation and learning processes and a network of transition partners that enables to gain clarity about the tasks; collegial advice helps clarifying complex problems and finding inner distance to ongoing working processes. By introducing this new concept, we want to emphasize a new understanding and approach of how to support innovation for sustainable agriculture.

Conclusion

From the three-year-long engagement in collaboration and research with LINSA, we have distilled five main insights that may inspire and inform future research in this field:

1. LINSA are networks of producers, consumers, experts, NGOs, SMEs, local administrations as well as official researchers and extensionists, that are engaged in sustainable agriculture and rural development - cooperating, sharing resources and co-producing new knowledge by creating conditions for communication.
2. There are different forms of LINSA. LINSA can have a strong relationship with the AKS or not be connected to the AKS at all, or a relationship that lies between these extremes. In all these forms, LINSA provide mechanisms, such as structure and governance, that allow learning and innovation.
3. There is a need for opening spaces and creating an environment in which LINSA can develop their full potential to contribute to innovation for sustainable agriculture. These spaces can go beyond the established AKS. Such an environment should also enable continuous reflection about innovation processes and outcomes; as sustainable development can only be achieved in the long run in such a reflective process.
4. Despite fragmentation and criticism of the AKS, many AKS actors already collaborate with LINSA and jointly produce sustainable innovations. This AKS role as LINSA partners has to be strengthened. LINSA can take an active position in inspiring change in AKS, policies, industry and civil society to activate their learning and innovation practices. These LINSA – AKS – Policy – civil society links need to be strengthened; especially by developing forms of collaboration between the actors.
5. In this situation, transition partners emerge as new kind of actors, with particular roles and functions. These are various kinds of networkers, facilitators, participatory researchers, boundary persons, or experts who engage with LINSA in joint learning and innovation for sustainability. Partly, LINSA actors can themselves fill the different roles, or they purposefully approach external actors (including civil society and policy actors). Transition partners assist LINSA in developing their potential and support them in acquiring the knowledge and networks they need to achieve their goals. Transition partners' ethos and practices need to be recognised and accepted in the official AKS structures, which would help to activate positive changes within AKS itself.

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Potential impact (including the socio-economic impact and the wider societal implications of the project so far) and the main dissemination activities and exploitation of results

General Impact of the project

The SOLINSA project will have a significant positive impact as follows:

1. An improved understanding of the actual and potential capacity of AKS to meet the new agricultural and rural policy challenges in Europe;

There are calls for academia, including the AKS, to 'renegotiate its social contract with the people'. The change to a paradigm of sustainability demands new ways of collective thinking and evaluation, and new and inclusive ways of achieving and evaluating the outcomes of change. In this climate of participation and reflection, there is a need for researchers to engage with the non-academic world and not just study it, work for it or extend out to it. SOLINSA has responded to the emerging need of new approaches to agricultural innovation policies. In particular, it has contributed in a significant way to consolidate the shift from a linear approach to innovation to a network approach.

Concretely, SOLINSA used a systems approach to examining the AKS in eight European countries, and the potential positioning of the AKS within the agricultural and rural policy system. The understanding that was gained enabled identification of enabling and hindering factors, and this understanding can readily be converted into action. Key players in the AKS in each of the countries were informed of the outcomes. Furthermore, the outcomes from the individual countries were collated so that European level conclusions could be drawn. The results of the collation have been published and distributed in the form of public reports and as academic publications (see list of publications).

Researchers involved in SOLINSA have been asked to contribute to several SCAR activities focusing on innovation policies. In particular they have contributed to the discussions and publications of the Collaborative Working Group CWG on AKIS, namely: *EU SCAR (2013). Agricultural knowledge and innovation systems towards 2020 – an orientation paper on linking innovation and research. Brussels.*

2. A significant contribution to capacity building of actors involved in learning and innovation networks, including advisory services, at the regional/local level;

Collaborations between SOLINSA partners and case study LINSA networks applied participatory methods that were developed, adapted, and trained within the methodological framework of SOLINSA. The collaborative application of the methods has encouraged belief by LINSA members in the value of reflection and provided them with the tools for reflection. In addition to provision of tools to LINSA members at the organisational level, it has also given less engaged members of the LINSA direct experience in participation in the application of these methods. Both measures have empowered LINSA to engage in the SOLINSA way of reflection after the official end of the SOLINSA project. Furthermore, collaboration with LINSA at national level has given LINSA high visibility both in the policy environment and in the scientific national environments. They are now considered examples of good practices.

An additional measure that has been taken to enhance the impact of SOLINSA by enabling the SOLINSA approach to network support by participative reflection is the development, during the project, of a training course for transition partners. The training course has already trained a dozen of innovation brokers who in turn will be able to train future generations of innovation brokers at national level. The teaching materials produced by SOLINSA will be able to multiply the dissemination power to a broader audience.

3. Improved innovation support policies and a significant contribution to capacity building at the European, member states and regional levels;

The network approach to innovation is now clearly visible in the new European regulation on Rural Development policies, where cooperation measure is significantly strengthened (art. 36). As this approach will need implementation at regional level, lessons learned with SOLINSA will be helpful to design support schemes.

The lessons learned have been expressed in the form of policy recommendations for the European, member state, and local level support of LINSA in practice. The policy recommendations deal with such issues as encouraging links between LINSA and the formal AKS; empowering transition partners, including support of actors working with LINSA; intra-LINSA networking; and direct support of LINSA. Direct support of LINSA includes recommendations for soft skills development, enabling of reflection periods, establishment and development of boundary objects, financial support for expenses and operational costs, and the establishment of educational programs and offers.

The development of policies also included recommendations about the implementation of the suggested policy changes at the European, member states, and regional levels. The idea behind the implementation recommendations is to contribute to the capacity of key actors to implement policy to support LINSA.

4. Providing insights into gender aspects with respect to innovation networks;

One LINSA (G Women) was exclusively composed of women. The outcome of the collaboration in the project was a reflection on the gender relations in farming that had been accepted without reflection for many years. The innovations relate to issues of social security, self-determination and the representation of women on the specialist and decision-making committees of the Farmers' Union and in agricultural policy.

5. The identification of relevant research gaps, and of promising lines of future research.

One of the most relevant outcomes of SOLINSA is the focus on learning processes. This opens a new way to identification of a new generation of success criteria for innovation policies and to establish a new evaluation approach focusing on processes rather than on outcomes.

The concept of boundary object as a key to LINSA activities opens a research avenue to measure the impact of learning and innovation processes. However, it needs to be analysed in different agricultural sectors and in different rural contexts.

Dissemination activities and their socio-economic impact and the wider societal implications

The project disseminated its results continuously throughout the project at different geographical levels: local/regional, national, European, worldwide, and to different target groups: LINSA members, policy makers, advisory services, researchers; using a diversity of communication and dissemination channels and approaches. Table 6 provides an overview, while the impact of these activities is explained below, arranged according to the different target groups.

Table 6: Overview of dissemination and knowledge sharing activities and their impact

Means/ Channels	Level of dissemination				Main target groups			
	Local/regional	National	European	Worldwide	LINSA members	Advisory services	Policy makers	Researchers
AKS workshops	x	x				x	x	x
LINSA workshops	x		x		x			
Expert Board			x			x	x	x
International Dissemination Workshops	x	x	x			x	x	x
Final Conference		x	x			x	x	x
Presentations at scientific conferences (ESRS, IRSA, IFSA)			x					x
Scientific papers; including a special issue on SOLINSA (JAEE)				x				x
Articles in journals for the wider audience	x	x	x			x	x	
Presentations to a professional audience	x	x	x			x	x	
Three Project Newsletters			x	x			x	x
Project Website and Flyer				x	x	x	x	x

Target group: Members of Learning and Innovation Networks (LINSA) involved in the project

In SOLINSA we applied a participatory action research approach, which means that potential users of the research results are integrated into the research process from the beginning. For this reason, research and dissemination activities cannot be strictly separated. This accounts in particular for the case study LINSA, with which several workshops were conducted throughout the project. An evaluation of the applied methodology was built into the project, so the assessment of the project's impact on the LINSA members and beyond that is presented here rests on a robust data basis.

On the one hand, the members of the LINSA were highly involved in the research process, and had a direct chance from profiting from preliminary research results, as well as giving feedback on them. Such an interaction between research and practice supports a quick and direct dissemination of results, while at the same time improving the research process by focussing it on the relevant

questions (from the perspective of end users). The project's progress was reflected upon jointly, and the LINSA members evaluated this joint reflection as follows:

- It stimulated further the mainly voluntary engagement of LINSA members in the networks.
- It enabled rethinking of the network's positioning in its wider political, social, and economic context.
- On this basis, it contributed to further develop the LINSA's strategy.
- During the reflection process, concrete outputs were created that help the LINSA to show their work, and disseminate their experience and knowledge, such as films, flyers, codes of conduct.
- The participation in the reflection process served to encourage commitment to the LINSA by individuals while improving relationships within the LINSA.

In sum, in directly engaging in action research with LINSA, the project supported LINSA development, and strengthened its potential for continued engagement in innovation for sustainable agriculture. Over the course of the project, in total about 600 LINSA members in eight countries plus in one Europe wide LINSA were directly involved in the participatory research processes.

In addition to researcher-LINSA interactions at the local/regional level, the project results (of the analysis of LINSA and the show cases) were discussed in depth at the 2nd international dissemination workshop with, with representatives from the LINSA and the expert board. The LINSA members evaluated as very positive that they could exchange directly between peers, and the workshop proved to be an effective way of multiplying the results and disseminating the findings of the project to people who can effectively use them in their day-to-day work.

Besides the directly interacting with the research project, LINSA members act as multipliers. In most cases, the LINSA members who participated in the workshops were only a selection of people from the larger LINSA or organisation of which the LINSA itself is a member. While not all information and experience of the collaboration with the project will be disseminated among this larger membership group, there is a good chance that some results will have travelled and still travel through to the larger audience. In total, we can estimate that around 10.000 people can be potentially reached if the core LINSA members act as multipliers for the project results.

<u>Target group: Advisory services and other professionals working on innovation and advice in the agricultural sector</u>

Advisory services and other professionals working on innovation in the agricultural sector were addressed by the project at different times, and they were present in the Expert board. In the beginning, national level experts were invited to a workshop to analyse the governance structures of the AKIS in the partner countries. In this way, the national stakeholders were brought together to reflect on the current system and discuss strengths and weaknesses. This had implications for their further work in the countries. It increased their understanding of the AKIS' capacity to meet the new agricultural and rural policy challenges in Europe, expressed among others in the EIP. Relationships between researchers and national stakeholders were established, and could be used to disseminate further project results (e.g. by inviting them to the final project conference). In addition, the established contact between researchers and the AKIS actors in some cases led to researchers being invited to presentations in front of a professional audience to present and discuss SOLINSA results. They can be regarded as inputs and impulses to national innovation policy debates.

At the beginning of the second year, the 1st international dissemination workshop was organised to disseminate and discuss the project's analysis of the national AKIS and a comparison between the participating countries. This workshop was jointly organised with the SCAR CWG on AKIS, and attracted national experts of AKIS of several countries in Europe, as well as EU level experts. In this way, the project's results were widely spread beyond the participating countries, and the results could feed into the ongoing work of the SCAR CWG. The invited national AKIS experts profited from a broad overview of the situation of the AKIS in other European countries, which can support the discussions on AKIS development in their countries.

At the end of the project, both the SCAR CWG on AKIS and the national experts were invited to the final conference of the project, were the above described process could be deepened.

On particular event was organised towards the end of the project: a test training course targeted at experts who accompany actors working for a transition towards more sustainable agriculture and rural development, so-called transition partners (a term developed throughout the project). The training course builds on the results of the project, in particular of the analysis of support needs of the LINSA, and the European innovation policy context. It is designed for professional and experienced rural extension officers, rural development managers, researchers, experts and advisors aiming to acquire knowledge, skills and attitudes that will enable them to contribute in the emergence and development of LINSA. The training course concept has been tested through webinars and a physical test training week with 13 invited experts. These experts act as multipliers for the training and learning approach developed in SOLINSA. The training material is publicly available for further use by project and non-project trainers. It has already been reported that it will be applied in a training for advisory services experts in France, and as the course has been evaluated positively by the participants, further applications and development can be expected.

Target group: Policy makers

The SOLINSA project is linked to the current debates on implementation of the European Innovation Partnership (EIP) on Agricultural Productivity and Sustainability. Therefore, it was taken care that the project's results were made available to the policy makers involved in that discussion process. As described above, the 1st international dissemination workshop was jointly organised with the SCAR CWG on AKIS, and attracted national experts of AKIS as well as policy makers of several countries in Europe. Participants in the workshop could then subscribe to the project's newsletter so they kept informed about its results.

The project furthermore contributes to the EIP 'Agricultural productivity and sustainability' in that it started from the beginning to look at its research agenda from a policy perspective. The analytical questions also include policy relevant questions, which have been derived from linking outcomes of the study of governance structures with the analysis of the learning and innovation networks. Linking policy context with practical experience will help to close the knowledge gap regarding targeted support for innovation and learning for sustainable agriculture.

A set of policy recommendations has been elaborated on the basis of the analysis of LINSA throughout the project. They were presented and discussed at the final conference with around 100 participants, among which many national and EU level policy makers; and refined thereafter to be well tuned to the needs of the current policy debates at EU and national level.

The recommendations were also discussed with the EIP Service Point of the EIP Network in a small group in order to enable close exchange about experiences and concepts and insights of the EIP and the SOLINSA project.

Furthermore, the project consortium wrote a joint article for the journal EuroChoices, which is widely read by policy makers (and researchers) interested in Europe wide policy issues. A number of project partners have published articles in national professional journals that are read by policy makers in those countries so that the impact of the project on policy making can potentially meet both the national and the European level.

Target group: Researchers

The usual way of reaching the researcher target group is by publishing scientific papers, and presenting them on scientific conferences. Both was done in the project, and is described below in more detail. However, being a participatory action research project, SOLINSA undertook another path to achieve an impact on the scientific society.

The participatory action research approach that was applied in SOLINSA (see above) not only meant that the potential users of the research results were integrated into the research process from the beginning, but also that the involved researchers had to adapt their understanding of the role of researchers in the process. Basically, participatory action research requires shifting from an understanding of research as only source of knowledge to the idea of knowledge sharing between researchers and the involved LINSA members. For most researchers this was a new challenge, so the impact of having engaged in such a participatory action research on the scientists is the insight into this new perspective, along with the possibilities of experimenting with such a new understanding of roles.

To support this change in perspectives and understanding, and ensure a high quality of the process six capacity building workshops (CBW) were conducted, in which consortium members reflected on their experience with participatory action research, developed and refined their skills in facilitating such processes and tested concrete methods to be used in the work with LINSA. The effect of these CBW was evaluated at the end of the project, and it could be seen that the researchers' understanding of roles has actually changed and they were satisfied with having acquired new skills. The researchers can use these skills in further participatory research projects, which will be, among others, of particular importance in the planned multi-actor research projects of the Horizon 2020 framework programme.

In addition to building capacity of the whole consortium on action research methods, the project empowered in particular junior researchers. With the course of the project, the project meetings were increasingly organised in workshop format instead of a classical meeting style (i.e. presentations and discussion in plenary). By applying various workshop methods and tools, the whole consortium participated actively in the discussions. This new approach to project meetings especially supported participation of junior researchers. The meeting workshops included a number of small group methods; and such small groups are characterized by a more equal contribution to the discussions between junior and senior researchers in comparison to large plenary discussions. In some cases, young researchers even facilitated the workshops, which again was a way to empower them and increase identification with the project. SOLINSA provided them with a field for experimentation of workshop methods and scientific debate, which they can further use in their career.

Impacts on the wider scientific community (beyond the research consortium) were achieved by presenting the project results at various national and international conferences (such as the XXIV Congress of the European Society of Rural Sociology (ESRS) in Chania 2011; the World Congress of the International Rural Sociology Association (IRSA) in Lisbon 2012, and the European Symposium of the International Farming Systems Association (IFSA) in Berlin 2014. Presentations on project results were spread across different working groups of the conferences, which increases the overall number of researchers reached. A targeted session to present the project results was organised jointly with the related research project FarmPath (GA Nr. 265394) at the XXV Congress of the European Society of Rural Sociology (ESRS) in Florence from 29 July-1 August 2013.

In addition to presentations at conferences, a special issue assembling key findings from the project will be published in the Journal of Agricultural Education and Extension JAEE. Further scientific papers have been published and will still be published in national and international scientific journals. In this way, the results will spread beyond the research institutions directly involved in the project.

General dissemination activities and their impact

In addition to the above described dissemination activities that had an impact on a particular target group, the project involved several activities that aimed at disseminating results to the wider public.

The website www.solinsa.net presents the SOLINSA project and is used for information and dissemination about the project. Classical pages and videos realized by the project partners are presenting the results of the project. In order to provide more detailed information on the results, reports, deliverables, scientific publications, newsletters, posters, factsheets and conference documentations on the two international dissemination workshops and final conference are available for download.

A flyer presenting the project was finalised in in first year, and made available in print and as pdf that was circulated per email. 500 Flyers were printed and distributed by the project partners. At the end of the project, a Prezi presentation showing the results of the project was created, sent out to 450 persons, and is available also as a pdf version.

The final conference of the project was organised together with the FarmPath project (GA Nr. 265394) in order to widen the audience and profit from synergies between the two projects. Around one hundred people participated in the conference, including EU level and national level policy makers, researchers active in extension research, extension service organisations, and others.

Overview of main dissemination activities

For a detailed description of the dissemination activities and exploitation of results, please consider the next section on Use and dissemination of foreground. Table 7 gives a summary overview of activities and size of the audience.

Table 7: Overview of main dissemination activities

Means/ Channels	Number	Size of target audience
AKS workshops in partner countries	6	125
International Dissemination Workshops at EU level	2	150 (in total)
Final Conference at EU level	1	100
Presentations at international scientific conferences (ESRS, IRSA, IFSA)	54	Very large (conference audiecnes)
Presentations at national scientific conferences	16	large
Scientific papers; including a special issue on SOLINSA (JAEE)	7 plus 9 forthcoming	large
Articles in journals for the wider audience	5	large
Presentations to a professional audience	various	different
Project Newsletters	3	450
Project Website and Flyer	1	large

Address of the project public website, and contact details

Project website address: www.solinsa.net

Contact details of the project coordinator:

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2 Use and dissemination of foreground

Section A (public)

A1: List of all scientific (peer reviewed) publications relating to the foreground of the project

For already published scientific publications, please also see entries in SESAM. Here is an overview of all published and forthcoming scientific publications (in alphabetical order).

Published peer-reviewed journal articles

Brunori, G., Barjolle, D., Dockes, A., Helmle, S., Ingram, J., Klerkx, L., Moschitz, H., Nemes, G., Tisenkopfs, T. (2013). CAP reform and innovation: the role of learning and innovation networks. Eurochoices (201), Vol.12, Issue 2

Curry, N., Ingram J., Kirwan, J. and Maye, D. (2012). Knowledge networks for sustainable agriculture in England. Outlook on Agriculture 41 (4), 243–248

Home, R., Jawtusch, J., Moschitz, H. (2013). Das landwirtschaftliche Wissenssystem in der Schweiz: Herausforderungen einer nachhaltigen Entwicklung. Yearbook of Socioeconomics in Agriculture, pp. 33-58

Ingram J., Maye, D Kirwan, J Curry, N, Kubinakova, K. (2014) Learning in the Permaculture Community of Practice in England: an analysis of the relationship between core practices and boundary processes. Journal of Agricultural Education and Extension, Vol 20 (3): 275-290

Moschitz, Heidrun (2013) From Project Management to Process Management - Effectively Organising Transdisciplinary Projects. GAIA - Ecological Perspectives for Science and Society, 22 (3), S. 211-213.

Nemes, G. High, C. (2013). Old institutions, new challenges: the agricultural knowledge system in Hungary. Studies in Agricultural Economics 115, 76-84. http://dx.doi.org/10.7896/j.1303

Tisenkopfs, T., S. Sumane and I. Kunda (2014) Learning as issue framing in agricultural innovation networks, The Journal of Agricultural Education and Extension, Vol 20 (3): 309-326.

Forthcoming peer-reviewed journal articles

Curry, N. And Kirwan, J. (in press). The role of tacit knowledge in developing networks for sustainable agriculture. Sociologia Ruralis

Helmle, S. (forthcoming) Process of social learning and transition – steps of a participative transition process within the Bavarian Rural Women's Association, the LINSA "G Women" in Germany. Submitted to the Journal of Agriculture, Education and Extension

Hermans, F., Klerkx, L. and Roep, D. (forthcoming) Structural conditions for the support of learning and innovation networks: using an innovation systems performance lens to analyze eight European Agricultural Knowledge Systems. Submitted to the Journal of Agricultural Education and Extension

Home, R., Rump, N. (forthcoming) Evaluation of a participatory action research project: The case of SOLINSA. Submitted to the Journal of Agriculture, Education and Extension

Ingram J., Maye, D Kirwan, J Curry, N, Kubinakova, K. (forthcoming) Interactions between niche and regime: an analysis of Learning and Innovation Networks for Sustainable Agriculture across Europe. Submitted to the Journal of Agriculture

Lamprinopoulou, C., Renwick, A. Hermans, F. Roep, D. Klerkx, L. (forthcoming) Application of an integrated systemic framework for informing innovation policy: comparing the Scottish and Dutch agrifood innovation systems. Submitted to Agricultural Systems

Moschitz, H. and Home, R. (under revision), The challenges of innovation for sustainable agriculture and rural development: testing a participatory action research approach to integrating local actions into European policies, Action Research, accepted with minor revisions, March 2014.

Rossi A., Favilli E., Nemes G. (forthcoming) Governance of Learning and Innovation networks – between and across boundaries. Submitted to the Journal of Agriculture, Education and Extension

Tisenkopfs, T., I. Kunda, S. Sumane, G. Brunori, L. Klerkx, H. Moschitz and G. Berti (forthcoming) New perspectives to understand learning and innovation in agriculture and rural development: the use of the concepts of boundary work and boundary objects. Submitted to The Journal of Agricultural Education and Extension.

A2: LIST OF DISSEMINATION ACTIVITIES

Authors	Type (poster or presentation)	Title	WP n°	Title, place	Date	Type of audience	Size of audience	Countries addressed
International conferences and seminars								
Heidrun Moschitz, Robert Home	Presentation	Evaluation and Monitoring of a Transdisciplinary Learning Process – The Approach of SOLINSA	WP5	TD-conference 2011, Evaluation of Inter- and Transdisciplinary Research	14-16 Sept. 2011	Scientific Community	100	Switzerland, International
Gianluca Brunori	Presentation	Innovation in agriculture: what is it all about and what possible roles for policies at the EU level?	WP 5	Workshop on Innovation, EU commission	16 Sept. 2011	Policy		EU Commission
Talis Tisenkopfs	Poster	Latvia Fruit growing network	WP6	The future of Agricultural Knowledge and Innovation Systems in Europe. A joint conference by SCAR and Solinsa, Brussels	5 March 2012	Scientific Community, Policy	100	Europe
Heidrun Moschitz	Poster	SOLINSA – linking innovation networks and knowledge systems						
Anne-Charlotte Dockès, Delphine Neumeister	Poster	World café on AKIS in France						
Anne-Charlotte Dockès, Delphine Neumeister	Poster	Ecophyto network in France						
Gianluca Brunori, Adanella Rossi, Elena Favilli	Poster	Building innovation around food: LINSA Crisoperla						

Authors	Type (poster or presentation)	Title	WP n°	Title, place	Date	Type of audience	Size of audience	Countries addressed
Julie Ingram, James Kirwan, Damian Maye, Nigel Curry	Poster	LINSA "Land" in the UK						
Frans Hermans, Laurens Klerkx, Dirk Roep	Conference Paper+ Presentation	Comparative analysis of the Agricultural Knowledge System in 8 European countries	WP3	Agriculture in an urbanizing world, international conference, Wageningen, Netherlands	1-4 April 2012	Scientific Community	10 – 20 people per presentation: 40-80	Europe
Gianluca Brunori, Adanella Rossi, Elena Favilli	Conference Paper + Presentation	Co-producing alternative system of knowledge and practices around food. The case of Crisoperla, a learning network	WP4					
Heidrun Moschitz, Robert Home	Conference Paper + Presentation	Studying learning and innovation networks – a conceptual and methodological framework	WP2/5					
Talis Tisenkopfs, Sandra Šūmane, Ilona Kunda	Conference Paper + Presentation	Frames of learning in multifunctional and hybrid networks	WP4					
Talis Tisenkopfs, Sandra Šūmane, Ilona Kunda	Presentation	Learning and Innovation in the Latvian Biogas Network	WP4	International Scientific Conference "Renewable Energy and Energy Efficiency", Jelgava, Latvia University of Agriculture	28-30 May 2012			
Frans Hermans, Laurens Klerkx, Dirk Roep	Conference Paper + Presentation	Investigating the potential of agricultural knowledge systems to support learning innovation networks in eight European countries	WP3	European IFSA Conference, Aarhus, Denmark	1-4 July 2012	Scientific Community		Europe

Authors	Type (poster or presentation)	Title	WP n°	Title, place	Date	Type of audience	Size of audience	Countries addressed
Gianluca Brunori, Adanella Rossi, Elena Favilli	Conference Paper + Presentation	About building alternative food networks. The case of Crisoperla: co-producing food, identity, citizenship	WP4/2	XIII World Congress of Rural Sociology. The New Rural World: From Crises to Opportunities International Rural Sociology Association (IRSA) – Lisbona, Portugal	29 July – 4 August 2012	Scientific Community	30	International
Robert Home, Heidrun Moschitz	Presentation	Studying learning and innovation networks– the approach of SOLINSA	WP5					
Talis Tisenkopfs, Sandra Šūmane, Ilona Kunda	Conference Paper + presentation	Frames of learning in multifunctional and hybrid networks	WP4/8					
James Kirwan, Julie Ingram, Damian Maye, Nigel Curry	Presentation	Core practices and boundary processes in Permaculture Communities in England	WP4					
Gusztav Nemes, Heidrun Moschitz, Robert Home	Presentation	Is there added value in transdisciplinary research?	WP4/5					
Gianluca Brunori	Presentation	The transition to sustainable agriculture: the role of LINSAs (Learning and Innovation Networks for Sustainable Agriculture)	WP2/4	131th seminar European Association of Agricultural Economists, Prague, Czech Republic	18–19 Sept. 2012	Scientific Community		Europe
Lamprinopoulou-Kranis, C., Renwick, A.W, Klerkx, L.; Hermans, F.L.P., Islam, M.M., Roep, D	Presentation and Conference Paper	A Systemic Innovation Policy Framework: The Cases of Scottish and Dutch Agrifood Innovation Systems	WP 3					

Authors	Type (poster or presentation)	Title	WP n°	Title, place	Date	Type of audience	Size of audience	Countries addressed
Simone Helmle	Workshop and Presentation	The social and human perspective of sustainable rural development – the role of innovation networks	WP4, WP5, WP7	Autumn Academy: “Ecology and Sustainable Rural Development”, University of Hohenheim	10-11 Oct. 2012	Scientific Community	30 / 150	Eastern Europe
Gianluca Brunori	Poster Presentation	The SOLINSA project	WP6	The European Innovation Partnership on "Agricultural Productivity and Sustainability" – Priorities and delivery mechanism, Brussels,	19 November 2012			Europe
Talis Tisenkopfs	Seminar and Presentation	SOLINSA Project: Researching learning and innovation networks	WP6	KAJAK Seminar, Centre for Environmental History, Institute of History, Tallinn University, Tallinn	17 January 2013			
Dockes, A-C., Neumeister, D.	Presentation	Support Of LINSA : Learning and Innovation Networks for Sustainable Agriculture	WP6	New advisor – Workshop on European projects and initiatives	24 May 2013	Scientific Community		Europe
Talis Tisenkopfs, Bálint Balázs, Gusztáv Nemes	Presentation and Conference Paper	Urban food strategies in Central and Eastern Europe: what’s specific and what’s at stake?	WP4/6	XXV ESRS Congress, Florence, Italy	29 July- 1 August 2013	Scientific Community	30	Europe/ International
Annie McKee, Julie Ingram, Heidrun Moschitz, Lee-Ann Sutherland	Convening of a working group	WG 7 – Sustainability Transitions in Agricultural Systems and Rural Development: Learning for Innovation	all					
Helmle, S.	Presentation and Conference Paper	Practice-research cooperation for a more conscious development? The example of an accompanying process of an agricultural women network in Germany as a part of the EU SOLINSA project. http://www.florenceesrs2013.com/wp-content/uploads/2012/07/ESRS2013_eProceedings.pdf	WP4/5					

Authors	Type (poster or presentation)	Title	WP n°	Title, place	Date	Type of audience	Size of audience	Countries addressed
Helmle, S.	Presentation and Conference Paper	Social Innovation „Women Perspectives in Agriculture“: Insights from the company of a farm women's network in Germany as part of the EU project SOLINSA. http://www.florenceesrs2013.com/wp-content/uploads/2012/07/ESRS2013_eProceedings.pdf						
Favilli E., Rossi A., Montanari C., Brunori G.	Presentation and Conference Paper	Innovation for sustainable agriculture:perspective and potential of learning processes in two case studies in Italy	WP4					
Neumeister, D., Dockès, A-C., Frappat, B.	Presentation and Conference Paper	The role of participatory methods in accompanying Learning and Innovation Networks for Sustainable Agriculture (LINSAs):The example of two networks in France	WP4/5					
Ingram, J., Maye, D., Kirwan, J., Curry, N., Kubinakova, K		Exploring boundaries between Knowledge & Innovation Systems	WP4					
Schmitt, E., Sorg, L., Barjolle, D.	Presentation and Conference Paper	The Emergence and Development of Organic Agriculture in a Rural Region of Switzerland	WP5					
Gusztáv Nemes, Anna Augustyn	Conference Paper and Presentation	Networking Community-Engaged Scholarship: The European Experience						
Sorg, L.	Presentation and Discussion	Les produits de qualité - Étude de cas: natürli®	WP4	BAF Conférence 2013, Saignelégier, Switzerland	2 September 2013	Scientific Community	~40	Europe

Authors	Type (poster or presentation)	Title	WP n°	Title, place	Date	Type of audience	Size of audience	Countries addressed
Gusztáv Nemes, Anna Augustyn	Conference Paper and Presentation	NETWORKING RURAL DEVELOPMENT IN THE POST-SOCIALIST SPACE: Between Grass-Roots & Policy Learning Networks	WP5/6	Social & Economic Transformations Affecting Rural People & Communities in Central & Eastern Europe Since 1990, University of Nitra, Slovakia	2-3 Sept. 2013	Scientific Community	100	Europe, Canada, US, Russia
Barjolle, D., Heidger, W., Sorg, L.	Workshop Guidance	Kooperation zwischen Landwirtschaft und Tourismus zur Stärkung lokaler Wertschöpfungsketten	WP4/5	SGA-ÖGA-Jahrestagung, Zürich, Switzerland	12 -14 Sept. 2013	Scientific and Professional Community	~20	Switzerland, Austria and Germany
Tisenkopfs Talis	Presentation	Agricultural learning and innovation networks	WP4	8th International Scientific Conference „Social Sciences for Regional Development 2013", Daugavpils	10-11 October 2013	Scientific Community		
Dockès, A-C.	Presentation	Practical approach and issues from a "boundary worker" point of view	WP4/6	ENDURE Seminar	28-29 Oct. 2013	Scientific Community		Europe
Gusztáv Nemes	Conference Paper and Presentation	Support of Learning and Innovation Networks for Sustainable Agriculture An FP7 supported qualitative action research	WP5/6	Transition in Agriculture - Agricultural Economics in Transition IX	6-7 Nov.2013	Scientific Community	25	Hungary, Germany, Poland, Slovenia, Check, Slovakia, Romania, UK
Neumeister, D.	Presentation	Experiences with Learning and Innovation Networks for Sustainable Agriculture	WP4	ENDURE Seminar	20-21 Nov. 2013	Scientific Community		Europe
Tisenkopfs Talis	Invited Speech	The European Innovation Partnership: New Opportunities for Agricultural Science		Sixth International Scientific Conference Rural Development 2013 'Innovations and Sustainability", Kaunas, Aleksandras Stulginskis University	28-29 November 2013	Scientific Community		

Authors	Type (poster or presentation)	Title	WP n°	Title, place	Date	Type of audience	Size of audience	Countries addressed
Neumeister, D. Klerkx, L., Roep, D., Barjolle, D., Dockès, A-C.,	Poster	How are LINSAs linked to AKS? How can AKS support LINSAs?	WP4	Final SOLINSA Conference, Brussels,	3 Dec 2013	Scientific Community Policy Makers	100	Europe
Klerkx, L., Roep, D., Hermans, F., Neumeister, D. Dockès, A-C.,	Poster	What learning experiences do LINSA have with innovation brokers ?	WP6					
Curry, N., Ingram, J., Kirwan, J., Maye, D., Kubinakova, Brunori G., Rossi A., Favilli E.	Poster	What are the most important mechanisms for the development of learning and innovation in LINSA and how can these be supported?	WP4					
Ingram, J., Curry, N., Kirwan, J., Maye, D., Kubinakova, K	Presentation	How to effectively support learning and innovation networks	WP4					
Moschitz, H.	Presentation	Overview of the SOLINSA project	WP1-8					

Authors	Type (poster or presentation)	Title	WP n°	Title, place	Date	Type of audience	Size of audience	Countries addressed
Ingram, J., Curry, N., Kirwan, J., Maye, D., Kubinakova, K	Presentation and Conference Paper	Linkage processes between niche and regime: an analysis of Learning and Innovation Networks for Sustainable Agriculture across Europe	WP4	11th European IFSA symposium, April 1-4-2014, Berlin, Germany	1-4 April 2014	Scientific Community		Europe
Frans Hermans, Dirk Roep, Laurens Klerkx	Presentation and Conference Paper	Upscaling grassroot innovation for sustainable agriculture: experiences from the Dutch dairy sector	WP4					
Neumeister, D., Helmle, S., Dockès, A-C.	Presentation and Conference Paper	An operational approach to Support Learning and Innovation Networks for Sustainable Agriculture	WP6					
Gusztáv Nemes, Anna Augustyn	Presentation and Conference Paper	Engaging researchers with Learning and Innovation Networks in Sustainable Agriculture (LINSAs)	WP5					
Rossi A., Dvortsin L. and Malandrin V.	Presentation and Conference Paper	The co-production of sustainability by learning networks. The case of reconstruction of knowledge and practices around bread production	WP4/8					
Ingram J and Maye D	Presentation and Conference Paper (submitted)	The boundary between knowledge systems in alternative innovative networks and the regime's Agricultural Knowledge System: an analysis of the Permaculture network in England.	WP4	Submitted to International workshop on System Innovation Towards Sustainable Agriculture, Paris	May 22-23 2014	Scientific Community		International
Maye, D., Ingram J. and Kirwan, J	Presentation and Conference Paper	Examining innovation processes from the bottom up. a case study of the permaculture network in England	WP4	International Conference of Rural Geography 2014, Nantes,	2-6 June 2014	Scientific Community		International

National conferences and seminars								
Authors	Type (poster or presentation)	Title	WP n°	Title, place	Date	Type of audience	Size of audience	Countries addressed
Helmle Simone, Bauer Vinzenz	Presentation	SOLINSA Wissens- und Innovationsnetzwerke für nachhaltige Landwirtschaft		Landreflexionen, Symposium der Sektion Land- und Agrarsoziologie, Bonn / Germany	7-8 Oct. 2011	Scientific Community	25	Germany
Heidrun Moschitz	Presentation	Landwirtschaftliche Wissenssyteme und Lern- und Innovationsnetzwerke für eine nachhaltige Landwirtschaft	WP3	AGRIDEA Forum „Landwirtschaftliches Wissenssystem in der Schweiz“	13 Nov. 2012	Directors of the main AKS organisations	26	Switzerland
David Bourdin	Presentation	An example of LINSA: the association for the development of fodder production	WP4					
Gusztav Nemes	Presentation and Workshop	An FP7 supported qualitative action research	WP4	Sustainable Agricultural – Seminar Series at Corvinus University of Budapest	15 Nov. 2012			
Frans Hermans (+Krijn Poppe)	Presentation	Reflection on Dutch AKIS	WP3	Ministry of Economic Affairs, Den Haag, The Netherlands	15 January 2013	Civil Servants and policy makers	10-20 people	Netherlands
Talis Tisenkopfs, Sandra Šūmane, Ilona Kunda	Presentation	Frames of learning in multifunctional and hybrid networks: what sociologists can learn from other networks	WP6	71 scientific conference of University of Latvia	15 January 2013			
Loredana Sorg, Dominique Barjolle	Presentation and Workshop	Diversification of a LINSA – Regional Branding in Zürcher Oberland	WP5	Workshop with stakeholders, Hinwil, Switzerland	22 January 2013	Citizens, experts	25	Switzerland
Helmle, Simone	Presentation and Workshop	Wie zukunftsfähig ist LandFrauenarbeit und LandFrauenengagement? / Reflection on strategic orientation of rural women groups; 9:00-15:00	WP6	Conference “Frauen im ländlichen Raum 14./15. 03.2013, Bad Waldsee, 60 participants	15 March 2013	citizens	60	Germany

M. Piquet, B. Frappat and al.	Presentation and Article	S'adapter ensemble (éleveurs, conseillers, chercheurs) aux changements climatiques :enjeux et exemple du rami fourrager	WP4	AFPF congress (Association Française pour la Production Fourragère) 2013	26-27 March 2013	Scientific Community		France
Sorg, L., Barjolle, D.	Presentation in Seminar	Natürli –a case study in the frame of the SOLINSA project	WP4	Agrifood Marketing, ETH Zürich, Switzerland	23 April 2013	Students	30	Mainly Switzerland
Home, R. and Moschitz, H.	Presentation	The challenges of innovation for sustainable agriculture: The reflective learning methodology in SOLINSA	WP5	Swiss inter- and transdisciplinary day	21 October 2013	Scientific Community, Civil society	80	Switzerland
Gusztav Nemes, Agnes Varga	e-poster and Workshop	A Learning and Innovation Network for Sustainable Agriculture in Hungary - how to give support through action research	WP6	Annual Conference of the Hungarian Sociological Association	26 October 2013	Scientific Community + innovation brokers	50	Hungary
Helmle, S.	Presentation	Partizipative Forschung in lernenden Netzwerken, Fallbeispiel „Landfrauen“	WP4 WP5	Application for a professorship at the Justus-Liebig University of Giessen / Germany	31 October 2013	Scientific Community	40	Germany
A. Varga, G. Nemes	Presentation	Characteristics of the Hungarian agricultural knowledge system	WP6	The new European Cohesion Policy – Conference of Hungarian Regional Science Association	22 November 2013	Scientific Community	200	Hungary
Helmle, S.	Presentation	Support of Learning and Innovation Networks for Sustainable Agriculture. Findings and recommendations from the SOLINSA Project	WP7	Meeting in the Ministry of Rural Areas / Baden Württemberg / Germany	16 December 2013	Administration, policy makers	4	Germany
Favilli E., Rossi A., Brunori G.	Presentation	The importance of innovation networks in local development. Organic farming as a cohesive force.	WP4	Rirab (Italian research network on organic farming) Congress and IX Conference of the Italian Association of organic and biodynamic zootechnic in Rome (IT)	11–13 June 2014			Italy

Films and Video								
Authors	Type (poster or presentation)	Title	WP n°	Title, place	Date	Type of audience	Size of audience	Countries addressed
Gusztáv Nemes, János Ladányi	Film	Smart tours - Rural development in tourism (festival winner), published on internet	WP6	http://www.youtube.com/watch?v=3mfUUbGK6M0	July 2013	Practitioners and Scientific Community	500-1000	Europe
Gusztáv Nemes, János Ladányi	Film	The world opens up – transnational co-operation in rural development, published on internet	WP6	http://www.youtube.com/watch?v=XnAnH594WU0				
Gusztáv Nemes, János Ladányi	Film	Together is easier – domestic co-operation in rural development, published on internet	WP6	http://www.youtube.com/watch?v=wlDdN_bBucU				
Neumeister, D., Dockes, A-C.	Video	The Forage Rami, a game to build forage systems.	WP4	Training for technicians in charge of advice services See the video on: http://idele.fr/recherche/publication/idelesolr/recommends/jeu-du-rami-fourrager.html http://idele.fr/recherche/publication/idelesolr/recommends/formation-un-jeu-pour-construire-des-systemes-fourragers-1.html http://www6.inra.fr/psdr-midi-pyrenees/Fil-Actus/Multimedias/Film-le-Rami-Fourrager-R	26-28 Nov. 2013	Medias		France

Articles in journals for the wider public

Helmle, Simone (2012). Im Fokus die Landfrauen. Forschungsprojekt SOLINSA zur Entwicklung nachhaltiger Landwirtschaft. Bayerisches Landwirtschaftliches Wochenblatt, Issue 27, pp.55-56. 6 July 2012

Helmle, Simone (2014). Herausfordernde Bilanz. Bayerisches Landwirtschaftliches Wochenblatt, Issue 6, pp.62-63. 7 Februar 2014

Moschitz, H. and Brunori, G. (2012). Agro-Innovation Networks. Project co-ordinator Dr. Heidrun Moschitz on SOLINSA, a research project that challenges the role of researchers, administration and practitioners for innovating sustainable agriculture. Pan European Networks (ed.) Science & Technology 03. June 2012

Moschitz, H. (2013). Contribution to the article on “Innovation policy for rural development:from the bottom-up”. EU Rural Review, No. 16, p. 14

Sorg, L. (2012). Oberländer Käser treffen Kollegen aus Bayern. Article in the Regional Newspaper „Der Zürcher Oberländer“ on the first SOLINSA Workshop. 10 March 2012. Switzerland

Section B (Confidential[1] or public: confidential information to be marked clearly)
Part B1

No patents, trademarks, registered designs, etc. were applied for during the project.

3 Report on societal implications

See data submitted in SESAM

[1] Note to be confused with the "EU CONFIDENTIAL" classification for some security research projects.