

Stimulating Innovations: Building Bridges And Generating Spaces

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Abstract

This paper aims to summarise the main features of the AgriSpin project. The project is being financed by the *Horizon 2020* research program of the European Commission aiming at contributing to system-oriented innovation research in agriculture and as complementary to the policy instrument EIP AGRI. The idea behind EIP AGRI is that innovation emerges from interaction between stakeholders. Following this idea, the focus of attention shifts from diffusion of innovations to ways for creating space in which interaction might lead to innovation as a co-creative process. The AgriSpin project (“Space for Innovations in Agriculture”) comprises 15 organisations in 12 EU countries cooperating for a period of 2½ years (March 2015 – October 2017) to address questions pertaining advisory work in relation to the stimulation of innovations at farm level. This paper aims to describe the main features of the project focusing on its conceptual background and methodological challenges while also pointing to some remarkable results (pearls and puzzles) that can be observed so far.

Introduction

Currently there is concern about a number of issues/ bottlenecks pertaining the generation, dissemination and use of innovation in agriculture such as (see, EU SCAR 2012, 2014; World Bank 2012):

- a) Research is insufficiently related to practice, science-driven innovations remain on the shelf due to no/little dissemination activities
- b) Farmers’ needs are not sufficiently addressed during innovation generation, and hence innovations are not relevant (enough)
- c) Innovative ideas from practice are not captured and spread, i.e. local or practiced generated innovations with strong potential for dissemination are not recognized or diffused
- d) A shift from science-driven to innovation-driven research has not yet taken place, the institutional, methodological and behavioural changes that are required for such a shift are not yet comprehensively explored, findings and experiences are not systematically documented and assessed.

¹ The authors are part of the science team of the AgriSpin project.

Such tasks were included in the mandate of state/public funded bodies aiming at bridging the gap between agronomy-science and farming practice, i.e. mainstream or 'conventional' extension.

However, as since the 80s, public extension has been found to suffer from a number of shortcomings, many countries started implementing and experimenting with different processes (decentralisation; contracting/outsourcing; public-private partnerships; privatisation; etc.) in the provision of extension services resulting in pluralistic advisory services (see: Alexopoulos et al. 2009; Cristóvão *et al.* 2012). Recently though, in their exploration of current developments in extension, Cristóvão *et al.* (2012) highlight the importance of a "new extension approach aiming at participatory, group learning and networking with extension agents acting as facilitators" (p. 214); nonetheless, facilitation is "largely underdeveloped especially on the part of European extension organizations" (p. 219). Furthermore, European Agricultural Knowledge and Information Systems (AKIS) show a high diversity (Knickel et al. 2009; Hermans et al. 2015; Knierim et al. 2015). Thus, the provision and performance of extension varies considerably.

Given such issues pertaining agricultural innovation enhancement within the EU, the EU innovation policy for rural development currently pursues the establishment of the European Innovation Partnership AGRI (EIP). This policy instrument relies on partnerships and 'bottom up initiatives', mainly through 'Operational Groups', in order to bridge the gap between actors across the value chain (especially between research and practice) and facilitate the co-generation of innovations through the employment of facilitators/ innovation brokers (Regulation (EC) No. 1305/2013; see also EU-SCAR 2012, 2014; Hermans *et al.* 2015). The next section elaborates on the theories and concepts backing the authors' understanding of the 'facilitating the co-generation of innovations' through building bridges and creating spaces.

Discourse on innovation support: an overview of literature

During the last decades, a number of new systems of innovations (Sol) approaches have emerged in the non-agricultural literature which see innovation in a systemic and interactive way, i.e. that innovation emerges from networks of actors as a social (and institutional) as well as a technical process, a nonlinear process, and a process of interactive learning (Koutsouris 2014). These approaches build on networks, as social processes encouraging the sharing of knowledge and, notably, as preconditions for innovation. Communities of Practice (CoPs), for instance, are described as people engaged in a process of collective learning in a shared domain of interest (Wenger et al., 2002). Such concepts and approaches, therefore, focus on processes instead of the emphasis on structures. Knowledge is conceived as being constructed through social interaction – i.e., not transferred but instead continuously created and recreated. Thus, particular attention is given to (social) co-ordination and networking. Moreover, in order to avoid or to overcome gaps (cognitive, information, managerial or system) resulting in network and institutional failures (for a review see: Klerkx et al. 2012) growing attention is given to various types of (process) 'intermediaries or facilitators'. For example, Van Lente et al. (2003) distinguish 'systemic intermediaries' as actors working mainly at the system or network level to facilitate actor interactions; Haga (2009) argues for the need to orchestrate networking enablers and thus for 'mediators' or 'brokers' as 'independent players' in networks aiming at: a) acting as points of

passage to external actors outside the network, bringing in experience and expertise; and, b) building internal network resources and network structure - upon which network governance and processes depend; and Shea (2011), cites Gagnon according to whom "...knowledge brokers, networks, and communities of practice are innovative ways to disseminate and facilitate the application of knowledge. Integrated exchange, involving active collaboration between researchers and knowledge users, built on trust and frequent interactions, holds particular promise." Finally, Howells (2006: 207) in his well-known working definition prefers to employ the term 'innovation intermediary' for *"[A]n organization or body that acts as an agent or broker in any aspect of the innovation process between two or more parties. Such intermediary activities include: helping to provide information about potential collaborators; brokering a transaction between two or more parties; acting as a mediator, or go-between, bodies or organizations that are already collaborating; and helping find advice, funding and support for the innovation outcomes of such collaborations."*

In agriculture, based on Sol approaches there has been a conceptual shift from the TOT model to network and systems approaches such as the agricultural knowledge and information systems (AKIS; see: Röling and Engel 1991; Rivera and Zijp, 2002) and, more recently, towards agricultural innovation systems (AIS; see: Klerkx and Leeuwis 2008a; Klerkx et al. 2010; Leeuwis, 2004). Contra Rogers (1962, 2004), these approaches claim that the process of innovation is messy and complex; new ideas are developed and implemented by people who engage in networks and make adjustments in order to achieve desired outcomes (see: Van de Ven et al., 1999). Nowadays, innovation studies increasingly focus on learning itself, with emphasis on facilitation and the processes of human interaction from which learning emerges (LEARN Group, 2000; Röling and Wagemakers, 1988).

In this respect, intermediaries aim to assist agricultural/ rural entrepreneurs in coping with challenges such as articulating their innovation needs and contracting appropriate services to support their innovation projects and successfully execute these projects. A typical AIS is constantly evolving towards adopting a multi-stakeholder learning approach to withstand global challenges and includes a wide range of actors such as scientists, farm advisory services, services, farmers/farmers' groups as well as innovation support services. Intermediaries thus aim at enhancing the interaction between such varieties of actors. Such intermediaries are thus seen to act as a bridge between the demand and supply side of agricultural knowledge infrastructure (Klerkx and Leeuwis 2008a, 2008b); they focus on 'exploration', i.e. sharing and synthesising, and thus the creation of new knowledge (see: Levinthal and March, 1993; Murray and Blackman, 2006). Their major role is that of the co-learning facilitator (usually found in literature as 'facilitators' or 'innovation brokers') aiming at the development of shared meaning and language between dialogue partners in order to stimulate change and develop solutions and innovation. The engagement of stakeholders in dialogue, despite its difficulties and its time consuming nature (since (social) learning and change are gradual), is necessary so that critical self-inquiry and collaboration will be achieved. Summarising, Klerkx and Leeuwis (op. cit.) identify three major functions of an innovation broker: a) demand articulation, b) network formation and c) innovation process management (see, Kilelu et al., 2011).

Nevertheless, despite Hekkert et al.'s (2007) argument on the important contribution of innovation brokers in innovation systems the topic has not been extensively embraced by the agricultural academic and research community with the notable exception of the Dutch agricultural sector (e.g. Hermans et al. 2013; Klerkx and Leeuwis 2008b, 2009a, 2009b; Klerkx and Nettle 2013; Klerkx et al. 2010; Klerkx and Jansen 2010, Wielinga and Vrolijk 2009). For example, in his study on the changing role of government in the Dutch agricultural sector, Wielinga (2001) recognised the crucial role of networks and intermediate actors who fuelled those networks in the decades in which the sector became extremely innovative, and warned that in the neoliberal market conditions this function got lost and should be rehabilitated. He thus underlines that innovation emerges from networks, and no network can function well without a "Free Actor" who has space to do whatever is necessary to keep key actors in the network connected. Additionally, a large scale experiment with over 120 networks of farmers in animal production showed that such networks could very well become innovative, provided that the initiative was their own, and they were facilitated in a way that was appropriate for such networks. Such facilitation requires tools that differ from what is common in project management (Wielinga et al: 2008, 2009).

Furthermore, Wellbrock and Knierim (2014) have shown that collaborations start with informal get-togethers of motivated individuals interested in a certain development trajectory in their specific area. Through these informal get-togethers, different stakeholders are given the opportunity to exchange their ideas, share their knowledge and together develop new ideas and projects. This process of joint reflexivity is arguably a crucial component of learning; it is joint reflexivity that leads to shared understanding as people learn to work together to address their development goals. The informality of the initial meetings seems important in providing a non-threatening space in which to exchange ideas and learn about each other. Such encounters can be considered to have occurred initially in an institutional void (see, Hajer, 2003). One could further argue that institutional voids are necessary for innovation (see, Wellbrock *et al.*, 2013a, 2013b), because they allow stakeholders to negotiate new, joint ways of working together and to formulate new institutions that can be agreed upon by all partners in the collaboration (Wellbrock *et al.*, 2013b; Wellbrock and Roep, 2015).

The AgriSpin project aims at relating concepts to practice and to enrich theory from practice through the in-depth exploration of a series of innovations at farm level with special focus on what support service providers actually do to stimulate such innovations.

The AgriSpin project

In the AgriSpin project 15 organisations in 12 EU countries cooperate for a period of 2½ years (March 2015 – October 2017). 12 partners in the consortium are farmer's organisations and farm advisory services, with an intermediate role between farmers, researchers and other stakeholders; the remaining three partners are scientific institutes with a focus on knowledge systems in agriculture. The project is funded by the Horizon 2020 program of the European Commission. The project will be half-way when the IFSA conference takes place. This paper aims to summarise the main features of the project, as well as some first pearls and puzzles collected so far from the perspective of science-related members of the project consortium. With this paper,

we present 'work in progress' and various aspects (for example, the cross-visit methodology) are continuously reviewed and improved.

Rationale

The idea behind the approach of the AgriSpin project is that all partners have their own experiences, ideas and approaches for supporting innovations at farm level, which are worth sharing with others; a silver bullet for stimulating innovations does not exist. Every partner is working in a context that has been historically grown and that has its cultural particularities. But there is a lot to learn from studying these different innovation systems, and that is what the project intends to facilitate.

The focus is on regional innovation systems. This is because in many countries there are considerable differences in cultures, organisational structures and, even policies between different regions. The institutional environment has considerable influence on the capacity of a region to find new answers to emerging challenges. When we assume that good initiatives for innovations are everywhere, the thresholds for taking the necessary actions for bringing such initiatives into practice vary a lot in different regions throughout Europe. Stimulating policies such as subsidies for experiments or mitigating risks can lower such thresholds, while restrictive rules and lack of civil acceptance make them higher. Dialogue with the 'enabling environment' about its role and possible measures is therefore an important component of the project as well.

The main project activities

The project consists of three steps:

A) First, all partners were asked to deliver a story that would illustrate a typical innovation process in which they were involved. This would provide a baseline for comparison later on: how did partners describe innovation, and what –in their opinion– did matter most during the innovation process? It will be interesting to follow if, and in what way, these views change in the course of the project, due to the intensive interactions taking place.

B) The second and major step is the organisation of cross visits. Most partners are hosting one cross visit. During 3-5 days a visiting team, composed of colleagues from other partner organisations, studies a number of innovation cases, presented by the host. This team visits farmers and other key actors, and tries to understand the process that has taken place. In a wrap-up meeting the visitors give feedback about what they have observed.

C) In the last part of the project period all partners are required to participate in cross-cutting reflections and to enter into dialogue with their regional authorities and other major actors related to innovation in agriculture, to explore possibilities to profit from what has been learned during the cross visits. Furthermore, the methodology will be offered to other interested parties.

The Book: Stories From All Corners, To Start With

As aforementioned, for this initial book, the partners were asked to write a story of an innovation process in which they were involved. Partners were strongly stimulated to frame it as a story telling how it started, what happened after the first initiative, and how far the initiative has come. Additionally, the authors were asked to include their own analysis of what made the difference in this story. The kind of examples the

partners came up with, the terminology they used, the concepts and the assumptions beyond these stories: all of these tell something about what the partners think about what matters most in innovation processes. Following we summarise the pearls and the puzzles as they appear in the stories.

Summary of pearls

- *Innovations can be technical, organisational and social:* all angles are valid and interesting.
- *Initiators can be anywhere:* the initiative for an innovation process can come from an entrepreneur, an advisor, a researcher, a politician or anyone else. It does not seem to matter where the first idea came from, as long as the partners in the process embrace it and make it their own.
- *Innovation support is about building bridges:* connecting partners who carry the initiative with those who can support the process in one way or the other: this appears to be the recurrent role in practically all stories.

Summary of the puzzles

- *Reflection on the dynamics is needed.* How do support agents make a difference? It appears hard for the authors (mostly these support agents themselves) to clarify this question. If a new structure has been installed to connect major actors: when does this structure become effective? If soft skills are important for the backpack with which support agents approach their partners: what skills do they need and what tools can they apply?
- *What can be done if bridge builders are lacking?* Some stories show that intermediate structures are lacking. This does not necessarily mean that bridge builders are not there, but the threshold for doing what needs to be done is high. The puzzle is: how to lower this threshold?
- *The underlying assumptions are to be clarified.* It will be most helpful for the joint learning process to dig deeper for the assumptions partners make about innovation processes. This first exercise of the project makes clear that it is not so easy for the partners to make this type of reflection. It will be most interesting to follow what all the intensive interactions that are foreseen in the AgriSpin project will do to the way partners think and act.

Examples of cross-visits

While finalising this paper (early April 2016) out of 13, 7 cross-visits have taken place. According to the AGRISPIN methodology during each cross-visit a number of cases (3-5) are explored in-depth focusing on: (a) innovation process; (b) actors and networks; (c) environment; and (d) characterization of innovation. For such an in-depth exploration a methodological approach for peer-to-peer cross visits, aimed at exploring innovations at farm level, deriving lessons from successes and failures, inspiring each other and initiating improvements in the existing support system is constantly developed/ improved.

The exploration is based on semi-structured interviews with the farmers as well as other actors (notably, support services) involved in the innovation at hand. Interviews are carried out based on a number of questions addressing the four aforementioned

elements (a) to (d). Following the cross-visitors discuss the innovation case with the help of a number of tools (notably time-lines and the innovation spiral) in order to (re)construct the innovation trajectory.

Based on such exploration of each innovation case, the cross-visit team concludes with an overall assessment of the cross-visit (i.e. of all the innovation cases examined) in terms of (x) Pearls; (y) Puzzles; and (z) Proposals, presented and discussed with local stakeholders during a symposium organised in the last day of the cross-visit. Following the preliminary results of two of the cross-visits, i.e. Guadeloupe (France) and Tuscany (Italy) are outlined.

Synopsis of the Guadeloupe Cross Visit

In Guadeloupe a policy-induced set of innovation processes was studied. Hence, there was a two-level innovation case setting: a) the RITA («*Réseaux d'Innovation et de Transfert Agricole*» - agricultural innovation and dissemination networks) program as such; and b) 3 cases of innovative agricultural diversification measures (in citrus, yams and bee production) enhanced by the RITA.

The RITA program has enhanced the cooperation of various agricultural organisations at both the regional institutional level, so that the decision makers know better about each other, and the farm level where a concrete cooperation among the technical staff takes place. Particularly the agents of the agricultural chambers are more aware of further actors operating for the sake of farmers. Equally a better knowledge of the work of CIRAD and INRA has been gained. A further gain is the involvement of political decision makers comprising both the representatives of the national ministry of agriculture and of the regional department council. Currently a very important shift of responsibility is to be realized through which the RITA programme will be transformed from a national top-down and ministry governed intervention into a regionally anchored, EU funded instrument. So far, RITA was successful in building bridges among the various actors so that there is mutual knowledge about agency possibilities and limits with a specific focus on science-practice interfaces. Also, RITA has created new spaces for actors like specific farmers' organization to formulate their research interests and needs (e.g. in livestock production). However, given the relatively short time of the program's existence no concrete results can be assessed at this level of innovation process.

With regard to the problem of the Citrus Greening disease three innovative strategies were explored: an individual one, a science-practice cooperation and a governmentally supported business approach. Meaningful bridges among various actors, such as the Chamber of Agriculture, a producers' organization and the research body CIRAD, were observed in the second case. However there was obviously no fast and satisfying answer to the problem. So, individual actors who once relied on the Citrus production looked for either new fruits and crops or alternative livelihood strategies. The scientifically promoted idea of eliminating the affected citrus trees was not at all supportive for the creation of spaces for innovation - rather in the contrary!

The production of Yams is important in Guadeloupe as part of the population's staple food. Although confronted with severe challenges from both ecological and market

aspects there is an on-going interest of farmers to produce yams despite the fact that productive and resistant plant material is missing. A long-standing research line on yams from INRA has failed to bring the expected breakthrough. Supported by RITA a new network has been created linking a farmers' organization with CIRAD and supporting especially one farmer in making field trials with interesting plant material (building bridges). Around these field trials a field day was organized that successfully created spaces for the meeting and the exchange of various actors in the sector and also attracted new farmers, interested to get engaged in a commercial yams production.

The case that revealed the widest and most concrete impact is the beekeeping and queen-breeding one of the beekeepers organization. Here, the organization was almost at the level of job creation through the production and sales of a variety of locally bred bee-queens. Moreover, the organization had lobbied successfully within municipalities for the maintenance and the reestablishment of hedges and other naturally flourishing sites in order to provide bees with fodder sources and hereby building bridges among various actors within a regional, landscape level. Also, through the establishment of a shop for beekeeper equipment and for honey and honey related products and through offering training courses for beekeeping, the organization creates spaces for innovative practices.

The Cross Visit aroused the attention of the local decision makers. They participated in the discussions. After the visit it was decided that the second phase of RITA should be approved.

Synopsis of the Tuscany CV

In Tuscany a number of innovation cases were visited and studied. In the same vein with the case of Guadeloupe innovation a two-level innovation setting was observed: on the one hand the work of ARSIA/Tuscany Region and, on the other hand, the specific innovative cases visited. ARSIA (The Regional Agency for Development and Innovation in Agriculture and Forestry) has been a technical and scientific agency for the region of Tuscany which from January 1, 2011 ARSIA was abolished and all activities were transferred under the responsibility of the Tuscany Region. ARSIA and the Region played/play a significant role in terms of a) actively promoting policies at the regional level b) encouraging links between stakeholders notably between on the one hand scientists and researchers and, on the other hand farmers and rural communities, mainly through the setting up of round tables, c) participating in international projects and putting together relevant regional projects, and d) funding specific farmers' investments. These points were verified at least as far as the case studies visited in Tuscany are concerned (see below). The Agency/Region were/are involved in a wide range of activities including social farming, agritourism, biodiversity, forestry, phytosanitary services, animal production, artisanal production, (typical) local products and products of geographical indications, marketing, training, etc.

However, the lack of advisory service and of coordination of the regional AKIS is profound after the abolishment of ARSIA. This, in turn, nowadays seems to result in the lack of structured links between actors - thus the increased importance of personal relationships, the lack of a clear vision on the part of the Region (for example, who to

support: large or small-scale farmers; what to support and which innovations are appropriate for each of farmers' categories, and so on) as well as, sometimes, the lack of recognition of the Region's contribution into innovatory projects and the understanding of its role as merely a funding provider.

The cases visited in Tuscany concerned: a) the Floriddia farm (the rediscovery and cultivation of ancient wheat varieties and the production of organic bread and pasta); b) the Maremma cooperative (production of the Pecorino Toscano PDO cheese with nutraceutical properties implying the restructuring of the whole animal farming management system); c) a winery producing high quality wine and engaged in activities in order to valorise local varieties, control inputs and allow for traceability; and d) the University of Pisa actively involved and driving a social farming project.

Interesting points drawn from the case studies are as follows.

- a) The role of ideology (organic farmers/ Floriddia), ethical commitment (organic farmers; social farming) or local identity and fame/branding (wines) in the initiation/triggering of innovations;
- b) The commitment of the initiators to their innovation, despite in some cases of problems (economic viability of the projects, personal time and expenditure, etc.);
- c) The involvement of university staff in these projects, although on a personal basis (except in the social farming case in which the university is the heart of the innovation);
- d) The attempts in all cases to establish networks with relevant actors during innovation initiation and nowadays to expand them. Notably: d1) in the organic farming network (related to the Floriddia case) the role of such networks in dissemination (local farmers network to cultivate the ancient cultivars; wide network comprising farmers, scientists, bakers, processors, consumers, marketeers-/distributors, doctors and other medical and health specialists, etc. to support the case) and policy making (national law on biodiversity for which a national network played an important role and the refutation of the EU Commission proposal on seeds based on the resistance of a pan-European network) should be stressed; and d2) in the case of social farming case efforts that led to the national law for social farming should be also underlined.
- e) The need for innovations as responses to market demand (high quality wines, Pecorino cheese with nutraceutical properties), social demand and sensitization (social farming, organic farming) or scientific progress (cheese with nutraceutical properties and the related new animal production management systems, biodiversity and the preservation of local seeds and breeds, new technologies allowing for soil, inputs and overall production management and traceability in viticulture and wine-making);
- f) The step-by-step introduction of innovations in cases of complex changes (new animal farming management for the production of cheese with nutraceutical properties; from quality related concerns to environmental-friendly cultivation techniques to high-tech precision farming and traceability system in wine production) and the adoption of the changes from younger farmers eager to experiment with the assistance of the university staff in the first case.
- g) The need to secure the economic viability of the businesses in all cases, the equitable distribution of costs and benefits (between the members - animal breeders, and the cheese producing cooperative), and the contribution to local, sustainable development (for example, less working hours in order to increase employment in

Floriddia; the environmental, social and economic role of animal farming in Maremma; and, the low prices of the organic social farming products in the local market).

Reflections half way

The aim of AgriSpin is to learn from each other and with each other about ways to support innovations at farm level. In this respect, thus far, our work within the AGRISPIN project has revealed a number of interesting points worth of further exploration.

In the first place, many examples confirm that successful innovations are often the result of synergy among three dimensions: technical, organizational and institutional; innovations are a combination of implementation of new technologies and practices (hardware), new knowledges and way of thinking (software) and new institutions or organization (orgware).

Additionally, it has been shown that the first spark for an innovation can arise anywhere in a knowledge system. Clearly, our stories do not support the idea that was common for quite some time that innovation flows from the source (research) to the end users (farmers), and that the job of innovation support consists of transferring knowledge. The multiple triggers of change (ideological, technical, market, scientific, policy, etc.) should also be underlined, along with the fact that new ideas come about when actors are in a reflexive stance towards their own situation. Reflexivity implies challenging conventional thinking, problematizing aspects and developing novel interpretations.

Furthermore, networking has been shown to be an effective way of coordinating a shared activity and crossing boundaries, disciplines, organisations, hierarchies, and scales. It can increase the number of actors (individuals and groups) who share an innovative idea and directly contribute to the formulation of projects and policies. Networks are thus spaces which bring together those involved in purpose-driven learning and knowing processes, allow for the creation of synergies and encourage (social) learning and innovation.

Therefore, the need for facilitation becomes more than obvious. Facilitation organizes the learning environment and learning processes. It allows for critical discussion among participants around an activity or experience they share and by the time, deeper levels of understanding, inquiry, and innovation can be created within the participant network; it thus produces more effective learning in participants' domains of existence.

Clearly there is work to do for further studying and clarifying and main issues to be further explored within the AgriSpin project are: a) why some innovations become successful while others get stuck, b) what the support service providers actually did to help farmers realising an innovation, and c) can particular phases of an innovation process be identified and what is needed and helpful in each phase. It is also interesting to explore partners' theories-in-use and where the interaction in the project will lead to in terms of concepts and approaches.

Furthermore, based on the detailed analysis of all the 13 cross-visits, the project collects best practices and will make them available to a wider public; the aim is to

enable local, regional, national and European actors involved in supporting innovations at farm level to improve their practices and support services and thus to create space for innovations. Additionally, the project shall develop a toolkit of best-fit innovation practices and support services across Europe which can be used by stakeholders to strengthen their innovation capacity; it will provide new insights and ideas on how to improve innovation and demand driven research in the agrifood chain. In this respect, in the second phase of the project partner organisations will organise relevant seminars with authorities and other key actors in their region.

Finally, colleagues who meet each other several times in intensive cross visits build up relationships which can lead to new joint activities. The start has been made, but it is still too early to predict how this will evolve. The space for a professional network that lasts after the project has ended has been created.

References

- Alexopoulos, G., Koutsouris, A. & Tzouramani, E. (2009): *The financing of extension services: A survey among rural youth in Greece*. The Journal of Agricultural Education & Extension, 15(2): 175-188.
- Cristóvão, A., Koutsouris, A. & Kügler, M. (2012): *Extension Systems and Change Facilitation for Agricultural and Rural Development*. In I. Darnhofer, D. Gibbon and B. Dedieu (eds.) *Farming Systems Research into the 21st Century: The New Dynamic*, pp. 201-227. Dordrecht: Springer Science.
- EU-SCAR (2014): *Agricultural knowledge and innovation systems towards 2020*. Standing Committee on Agricultural Research (SCAR); Collaborative Working Group AKIS-2. Brussels.
- EU-SCAR (2012): *Agricultural Knowledge and Innovation Systems in Transition - a reflection paper*. Standing Committee on Agricultural Research (SCAR); Collaborative Working Group AKIS. Brussels.
- Haga, T. (2005): *Action research and innovation in networks, dilemmas and challenges: two cases*. Artificial Intelligence & Society 19, 362-383.
- Haga, T. (2009): *Orchestration of network instruments: a way to de-emphasize the partition between incremental change and innovation?* Artificial Intelligence & Society 23: 17–31.
- Hajer, M. (2003): *Policy without polity? Policy analysis and the institutional void*. Policy Sciences 36: 175-195.
- Hermans, F., Stuiver, M., Beers, P.J. & Kok, K. (2013): *The distribution of roles and functions for upscaling and outscaling innovations in agricultural innovation systems*. Agricultural Systems 115: 117-128.
- Hermans, F., Klerkx, L. & Roep, D. (2015): *Structural conditions for collaboration and learning in innovation networks: Using an innovation system performance lens to analyse Agricultural Knowledge Systems*. The Journal of Agricultural Education and Extension 21(1): 35-54
- Hekkert, M.P., Suurs, R.A.A., Negro, S.O., Kuhlmann, S. & Smits, R.E.H.M. (2007): *Functions of innovation systems: a new approach for analysing technological change*. Technological Forecast & Social Change 74: 413–432.
- Howells, J. (2006): *Intermediation and the role of intermediaries in innovation*. Research Policy 35, 715–728.

- Kilelu, K., Klerkx, L., Leeuwis, C. & Hall, A. (2011): *Beyond knowledge brokerage: An exploratory study of innovation intermediaries in an evolving smallholder agricultural system in Kenya*. RIU Discussion Paper 13. London: DFID.
- Klerkx, L. & Leeuwis, C. (2008a): *Balancing multiple interests: Embedding innovation intermediation in the agricultural knowledge infrastructure*. *Technovation* 28: 364-378.
- Klerkx, L. & Leeuwis, C. (2008b): *Matching demand and supply in the agricultural knowledge infrastructure: Experiences with innovation intermediaries*. *Food Policy* 33: 260-276.
- Klerkx, L. & Leeuwis, C. (2009a): *Establishment and embedding of innovation brokers at different innovation system levels: Insights from the Dutch agricultural sector*. *Technological Forecasting and Social Change* 76: 849-860.
- Klerkx, L. & Leeuwis, C. (2009b): *Shaping Collective Functions in Privatized Agricultural Knowledge and Information Systems: The Positioning and Embedding of a Network Broker in the Dutch Dairy Sector*. *The Journal of Agricultural Education and Extension* 15: 81-105.
- Klerkx, L. & Nettle, R. (2013): *Achievements and challenges of innovation co-production support initiatives in the Australian and Dutch dairy sectors: A comparative study*. *Food Policy* 40: 74–89.
- Klerkx, L., Aarts, N. & Leeuwis, C. (2010): *Adaptive management in agricultural innovation systems: The interactions between innovation networks and their environment*. *Agricultural Systems* 103: 390–400.
- Klerkx, L. & Jansen, J. (2010): *Building knowledge systems for sustainable agriculture: supporting private advisors to adequately address sustainable farm management in regular service contacts*. *International Journal of Agricultural Sustainability* 8(3): 148-163.
- Klerkx, L., Van Mierlo, B. & Leeuwis, C. (2012): *Evolution of system approaches to agricultural innovations: concepts, analysis and interventions*. In I. Darnhofer, D. Gibbon and B. Dedieu (eds.) *Farming Systems Research into the 21st Century: The New Dynamic*, pp. 457-483. Dordrecht: Springer Science.
- Knickel, K., Brunori, G., Rand, S. & Proost, J. (2009): *Towards a Better Conceptual Framework for Innovation Processes in Agriculture and Rural Development: From Linear Models to Systemic Approaches*. *Journal of Agricultural Education and Extension* 15(2): 131-146
- Knierim, A.; Boenning, K.; Caggiano, M.; Cristóvão, A.; Dirimanova, V.; Koehnen, T. et al. (2015): *The AKIS concept and its relevance in selected EU member states*. In: ooa 44 (1), S. 29–36. DOI: 10.5367/oa.2015.0194.
- Koutsouris, A. (2014): *Exploring the emerging intermediation roles (facilitation and brokerage) in agricultural extension education*. *International Journal of Agricultural Extension (Special Issue)*, February 2014: 21-37.
- LEARN Group (2000): *Cow up a Tree: Learning and Knowing Processes for Change in Agriculture; Case Studies from Industrialised Countries*. Paris, INRA Editions.
- Leeuwis, C. (2004): *Communication for Rural Innovation: Rethinking Agricultural Extension*. Oxford, Blackwell Science.
- Leeuwis, C. & Aarts, N (2011): *Rethinking communication in innovation process: creating space for change in complex systems*. *The Journal of Agricultural Extension & Education* 17: 21-36.

- Levinthal, D. & March, J. (1993): *The myopia of learning*. Strategic Management Journal 14: 95-112.
- Murray, P. & Blackman, D. (2006): *Managing innovation through social architecture, learning, and competencies: A new conceptual approach*. Knowledge and Process Management 13: 132–143.
- Rivera, W. & Zijp, W. (2002): *Contracting for agricultural extension. International case studies and emerging practices*. Washington D.C., CABI Publishing.
- Rogers, E.M (1962, 2004): *Diffusion of Innovations*. New York, Free Press.
- Röling, N. & Engel, P. (1991): *The development of the concept of agricultural knowledge and information systems (AKIS): implications for extension*. In W. Rivera and D. Gustafson (eds.) *Agricultural Extension: Worldwide Institutional Evolution and Forces for Change*, pp. 125-139. Amsterdam: Elsevier.
- Röling, N. & Wagemakers, M.A.E. (eds.) (1998): *Facilitating Sustainable Agriculture: Participatory learning and adaptive management in times of environmental uncertainty*. Cambridge, Cambridge University Press.
- Shea, B. (2011): *A decade of knowledge translation research - what has changed?* Journal of Clinical Epidemiology 64: 3-5.
- Van de Ven, A.H., Polley, D.E., Garud, R. & Venkataraman, S. (1999): *The Innovation Journey*. Oxford, Oxford University Press.
- Van Lente, H., Hekkert, M., Smits, R. & Van Waveren, B. (2003): *Roles of systemic intermediaries in transition processes*. International Journal of Innovation Management 7: 1-33.
- Wellbrock, W. & Knierim, A. (2014): *Unravelling group dynamics in institutional learning processes*. Outlook on Agriculture 43(3): 187-191
- Wellbrock, W. & Roep, D. (2015): *The Learning Rural Area Framework: A Heuristic Tool to Investigate Institutional Arrangements Supporting Collaboration in Rural Areas*. Sociologia Ruralis 55(1):106-124.
- Wellbrock, W., Nienaber, B., Kriszan, M., Nadler, R., Roep, D. & Frys, W. (2013a). *Arranging support of collective learning and innovation in German rural regions*. In *Regional Resilience, Economy and Society*. C. Tamasy and J. Revilla Diez (eds.). Surrey, Ashgate. pp. 41-58.
- Wellbrock, W., Roep, D., Mahon, M., Kairyte, E., Nienaber, B., Dominguez Garcia, L., Kriszan, M. & Farrell, M. (2013b): *Arranging public support to unfold collaborative modes of governance in rural areas*. Journal of Rural Studies 32: 420-429. DOI 10.1016/j.jrusstud.2013.10.002.
- Wenger, E., McDermott, R. & Snyder, W. (2002): *Cultivating Communities of Practice*. Cambridge, MA., Harvard Business School Press.
- Wielinga, H.E. (2001): *Networks as Living Tissue: A Study on Knowledge, Leadership and the Role of Government in Dutch Agriculture since 1945* (PhD Thesis Wageningen University). Uilenreef Publishers Hertogenbosch.
- Wielinga, H.E., Zaalmink, B.W., Bergevoet, R.H.M., Geerling-Eiff, F.A., Holster, H, Hoogerwerf, L. & Vrolijk, M. (2008): *Networks with free actors: encouraging sustainable innovations in animal husbandry by using the FAN approach*. Wageningen, Wageningen University and Research.
- Wielinga, E. & Vrolijk, M. (2009): *Language and tools for networkers*. Journal of Agricultural Education & Extension 15: 205–217.
- World Bank (2012): *Agricultural Innovation Systems: An investment source book*. Washington, World Bank.