

## 4. SOCIAL AND INSTITUTIONAL INNOVATIONS

### 4.1. Framing of this theme

#### *The starting point*

HNV-Link project regards **Social and Institutional innovations** as initiatives and activities that improve the social sustainability and economic viability of HNV farms and communities. Social and Institutional innovations might both be outcomes of such new initiatives but also be necessary pre-conditions for other innovations, such as development of new markets or application of new technologies. That is, social and institutional innovations can both be a means as well as a goal broadly speaking (see definitions of the terms below).

The focus areas (sub-themes) and key words of the Social and Institutional innovation review are based on the project description and the experts experience in the theme. They were reviewed, discussed and validated during Skype-meetings by all participants in the review process (EFNCP; STEP; UASVM Cluj-Napoca; University of Volos; ICAAM/UEvora; SLU; IT Sligo).

In order to understand the choices and delimitations made in this specific literature review it is necessary to say something about the perspective which has guided the work.

#### *A background to our understanding of social and institutional innovation*

It is increasingly recognised that in order to manage complex socio-ecological challenges society requires learning processes for systemic governance transformation (Leeuwis, 2002, Pelling and High, 2005, Wals, 2007, Ison et al, 2007, Hounkonnou et al, 2012). At the core of these transformations lies social and institutional innovation. But although it has been argued for many years that new approaches for sustainable governance is needed it still remains poorly understood. There is undoubtedly an emerging praxis, but still little is known about how policy makers, practitioners and researchers together can learn their way out of social and ecological dilemmas (Tschakert and Dietrich, 2010; Ison et al, 2011; Powell et al, 2014). This is also true for HNV farming: The need for social and institutional innovations has been defined, but less is empirically documented as successful cases in the literature although there is a lot of experimentation on local and regional level going on.

Many authors claim that optimizing current systems by means of incremental innovations of system components is not enough. Instead they argue that fundamentally changing current unsustainable systems calls for system redesign and radical innovations of different kinds (technical, organizational, social) throughout the agricultural production systems and supply chains (Grin et al., 2004; Bos et al., 2009; Elzen and Wieczorek, 2005). A multi-stakeholder approach is called upon to support such system (re-)design and radical innovation processes. Shared visions and new concepts can have a guiding, binding, convincing, and uncertainty mitigating function in radical innovation processes (Berkhout, 2006; Beers et al., 2010). What is emerging is a re-configuration of existing knowledge and innovation systems within agriculture (see f.i. Pro-AKIS). Röling and Jiggins (2000, pp 242-246) describe a knowledge system as a mental construct, which may be described as an actor network which support (or not) agricultural innovation and learning, and comprising all actors having a stake

in the issue. At the very core of such agricultural knowledge and innovation systems (AKIS) lies new social processes and institutional structures. *Consequently, one might argue that we need social and institutional innovations (eg., new knowledge systems, including multi-stakeholder approaches and local, social organization) in order to enable future social and institutional innovations as well as market, product and technological innovations.*

In the EIP Focus Group on HNV-farming several dimensions of successful social and institutional innovation was identified and described. A terminology used to capture much what was identified as success factors was to talk about “networking and cooperation”. This covers many different potential actions and initiatives at farm, household and community level; “actions ranging from informal, ad hoc collaboration between individual farmers, through various forms of networking, to formally-constituted partnerships with legally defined structures and mandates. All of which might exist for a broad range of purposes, including coordinating access to information, sharing skills, experience and resources (including addressing workforce issues), buying inputs, branding, processing and marketing products, cooperation for nature stewardship, lobbying national/regional authorities etc.” The focus group also concluded that even though the forms often varies between contexts, there still are some common characteristics, such as the establishment and building of solidarity (i.e. acting together in pursuit of a common objective for mutual support and/or benefit).

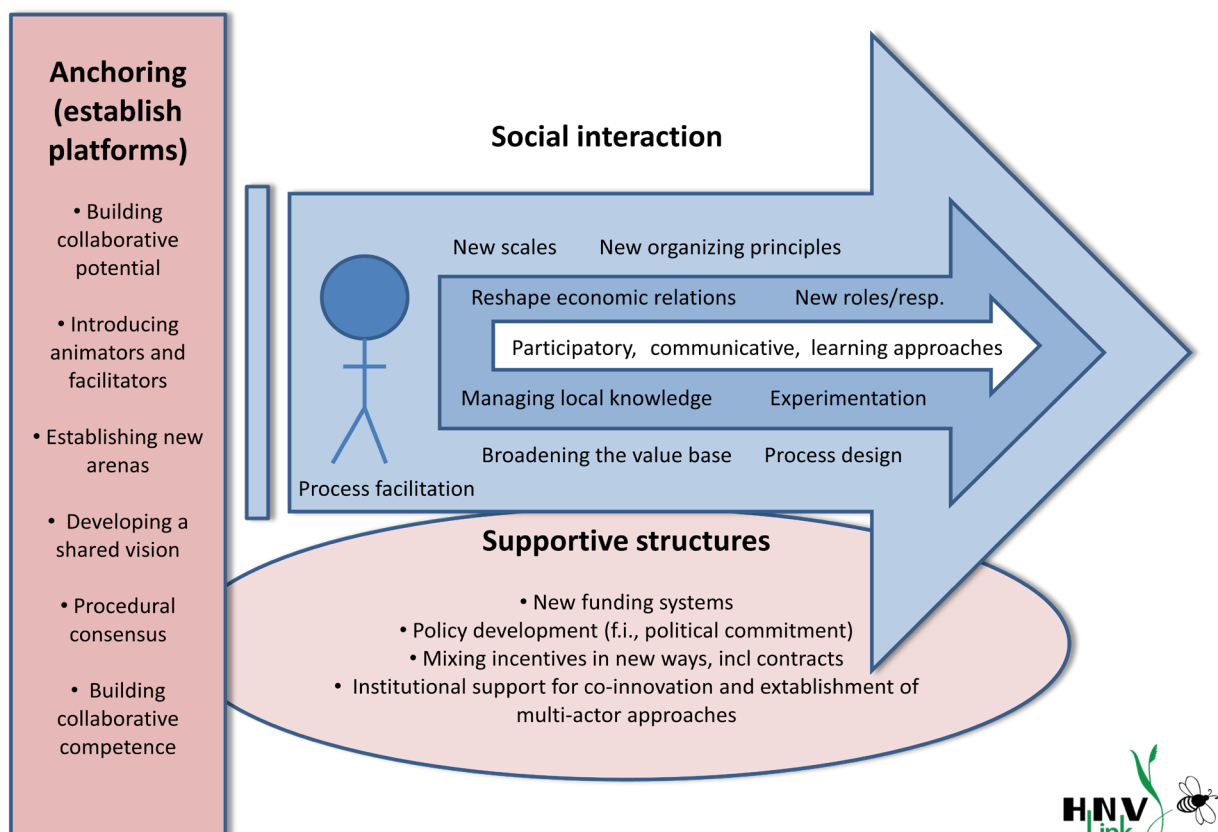
Furthermore it has been stressed that there is a need for both horizontal and vertical collaboration/co-operation (Ljung, 2001; Murray et al, 2010). In practice this means that collaborative initiatives are taken a) horizontally on local level (such as farming communities) or regional level (between stakeholders acting on the regional arena to create better pre-conditions for HNV-farming), as well as b) vertically between systems levels, that is more broadly between for instance farmers and other partners such as citizens, consumers, policy makers, and professionals/agencies all with an interest in HNV sustainability. Of course, successful development of cooperation amongst HNV farmers as well as in multi-stakeholder groups depends upon factors like the quality of communication, level of participation, degree of learning, how relations and trust are developed, etc. This is all necessary for collective action. This (usually) does not happen by itself. What is needed is process support, conducive policy environments, good enough pre-conditions, etc. This means that other actors must be involved that can facilitate the work in order to create real improvements of complex situations, which also involves multiple goals and different interests. The EIP Focus Group on HNV-farming concluded that external support could be essential for promoting cooperation, as well as overcoming the various fail factors that limit the development of HNV farms.

This field of HNV-farming involves existing and potential social and institutional innovations of many forms. If handled correctly social and institutional innovations have a potential to incentivise the delivery of high levels of social and ecological values and services from HNV-farming. Examples include co-operation between farmers, co-operation of farmers with other local actors, catalyzing farmer groups, role of facilitators, institutions and institutional structures that favor innovation, including co-innovation across different institutional levels (local-national-EU). Institutional support and economic/legal incentives for these kind of processes include voluntary contracts, payment for environmental services, land stewardship, environmental compensation, etc. or support for institutional innovations such as locally led programs, monitoring, national and local partnerships,

etc. And as said, these are also required to enable wider adoption of other innovation processes. Here we see an overlap between what could be labeled as institutional innovation and what could be defined as innovations on the regulatory framework as well as market innovations.

Ljung and Nordström Källström (2013) have summarized some of the most important social and institutional factors in social/collaborative learning processes for sustainable management of natural resources (figure 1). The model shows that both external and internal pre-conditions for collaborative work as well as specific process qualities and activities must be taken into account. The analysis of empirical cases has shown that there is a threshold for each factor to reach final success (Ljung and Nordström Källström, 2013).

## Social and institutional innovations



**Figure 1.** Social and institutional factors influencing the outcome of collaborative processes in natural resource management and in HNV farming systems (from Ljung and Nordström Källström, 2013).

### Defining social innovation

The European Commission (2014) defines social innovation as “innovations that are both social in their ends and in their means”. They cite the Open Book of Social Innovation explaining that “Social innovations are new ideas (products, services and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations” (Murray, et al 2010, p. 3). Bosworth et al (2016) compare possible social innovations with the Schumpeterian approach to innovation (table 1). In this perspective social innovations overlap with other categories of innovation, but is also described as a precondition for innovations in general (Moulaert et al, 2013).

**Table 1.** Applying a Schumpeterian approach to social innovation (Bosworth et al, 2016).

<i>Schumpeterian innovation</i>	<i>Social innovation</i>
Product	New outcomes: new businesses, organizations, services or products
Process/methods of production	New approaches to value creation and policy/service delivery, new people involved and shifting control of processes
Exploitation of new markets	Serving the breadth of society; responding to social needs (local demand)
Inputs	Maximizing the use of local resources, including human and social capital
Organizational innovations	Network approaches and innovative partnerships

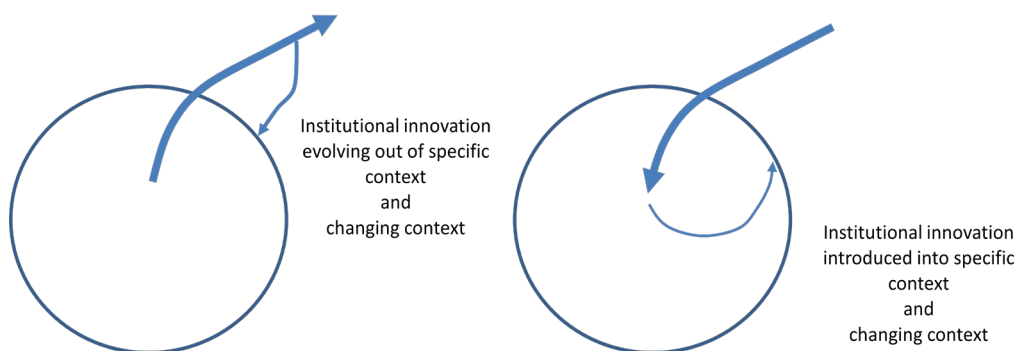
Social innovation is a modern ‘buzz word’, but not without reason: Social innovation is a critical type of innovation and a condensed definition of social innovation would be “new concepts and measures that are embraced by concerned groups of society and used to meet social challenges” (ZSI, 2008). Therefore the concept could be used to refer to innovations both with a specific social purpose, as well as simply new ways of organizing social activities.

#### *Definition of institutional innovations*

The concept of institutional innovations is, as for social innovation, not strictly defined in the literature. Woodhill (2004) argues that a) institutional innovations are at the heart of what most stakeholder processes tries to tackle, b) success of social innovations, including process design and facilitation, is dependent of understanding of the institutional context, and c) institutional constraints for effective multi-stakeholder processes is crucial to understand. This also implies that some institutional change may be necessary to bring about wider institutional innovation.

Within agricultural production systems institutional innovations can be a response to most problems of sustainability, ranging from local networks and agencies to new regimes for international trade. Clearly, the distinctions between the different kinds of innovations cannot be very sharp. As argued before, different kinds of innovation go hand-in-hand or, using the terminology of Norgaard, they co-evolve (Norgaard, 1984).

One example would be technological innovations that can change action situations by changing roles and rights of actors related to the use of technology. Local technological innovations can therefore be seen as being evolved from specific local institutional contexts or be developed elsewhere and introduced into specific local institutional contexts. Remembering that externally developed technologies are not necessarily less sustainable than technologies developed from grassroots actors themselves, especially when the potential users of the technology have been part of the innovation process in innovation systems (Nyikahadzoi et al. 2012) (see figure2).



**Figure 2.** Institutional innovations evolving from local processes or introduced from outside, but which both change existing context (Gatzweiler, 2016).

Institutions are the sets of rules which emerge from the attempt to structure social interactions. Social interactions, in turn, are shaped by institutions. There is therefore an inherent dynamic between social and institutional innovations, while institutions enable and constrain actions but are also changed by social actions. The boundaries of the action situation itself are defined by institutions, as well as membership, authority, and a variety of other rules which specify the scope of outcomes, the information available, or how costs and benefits are allocated (Ostrom 2005). Desired behavior is motivated by institutions, while undesired behavior is sanctioned. While some institutions have emerged spontaneously, without purposeful design, and have eventually become habits or traditions, others are the result of purposeful design.

In short, institutional innovations mean new responsibility sharing or role distribution arrangement among stakeholders within the agricultural/farming sector. The challenge is that in some cases there are key institutions exhibiting a total lack of such basic perspective and thus innovation. Examples would be environmental and agricultural authorities that fail to integrate policy delivery, which do not communicate constructively with each other, or do not work with an integrated approach to implementing e.g. Natura 2000 and the CAP. The result being that they leave it to farmers and other local stakeholders to sort out the inherent tensions between policies. Another example could be environmental authorities that do not collaborate with farmers, just impose regulations on them. What this tells us is that without some basic values and communicative skills in key institutions social and institutional innovation will not take place.

#### **4.2. Particular features of the literature review methodology, how it was implemented/ adapted in the case of this theme**

A detailed procedure for the research under this theme was developed (presented in Annex 2 to this document) and followed by the project partner working on it. Since the main interest of the project are the HNV farming systems, each of the key words identified for the Social and Institutional innovation theme was combined with each of the four HNV farming systems.

##### *Perspectives guiding the literature review*

The main perspectives and terminologies guiding the search for literature in the review on Social and Institutional innovation have been collected from:

1. Institutional innovations (supporting HNV-farming and/or social innovation)
  - a. Institutional modes of operation that support HNV farming (e.g. integrated decision-making, communication)
  - b. Conducive policy environments (for social innovation, overlapping with regulatory framework)
  - c. Institutional framework (favoring further innovation, incl processes that lead up to new schemes)
  - d. New institutions and governance models evolving to manage specific societal challenges (incl outcomes of social innovations).
2. Social/institutional innovation (structural aspects)
  - a. Building collaborative potential (structured processes that create better preconditions, f.i., social and relational capital, trust)
  - b. Horizontal collaboration (incl different kind of farmer groups, farmer-local actor collaborations, and other kind of co-operation on a specific system level)
  - c. Vertical collaboration (incl policy chain and value chains, across system levels)
3. Social/institutional innovation (categories and forms, procedural and communicative aspects, incl relational issues)
  - a. Categories and forms of social and institutional innovations
  - b. Process facilitation (incl new role of animators)
  - c. Process design (incl the art of combining different methods over time to create change and/or impact)
  - d. Building competence in communication, learning and change (incl applying modern pedagogic in new contexts, training stakeholders in communication, etc)
  - e. Learning systems – feed-back loops (incl new systems for participatory learning and action)
4. Institutional innovations in scaling up/out and evaluation

- a. Approaches to scaling up and out of innovations
- b. New methods in evaluation of institutional and social innovation (incl formative approaches to continuous improvement, both for practice and policy)

#### **4.3. Summary of main results of the literature review for this theme**

1. There are very few scientifically reviewed studies which directly focus on the challenges in HNV farming systems. In general social and institutional innovations are well described and analysed in the literature, but not in the specific context of HNV farming. This is not a problem while a majority of social and institutional innovations in agriculture are relevant for most contexts.
2. There are some research environments and countries that seem to dominate the scientific literature. Although these developments take place all over European agriculture, it is clear that the more of the theoretical development of this field of research are done at some specific centres, especially in the field of farming and learning systems and innovation systems.
3. In many of the publications, where we had a search match between “HNV farming systems” and social and institutional innovations (and linked key words), we found strong arguments and a need for such innovations in order to enable more sustainable farming systems. As a consequence a big share of the literature just mentioned social and/or institutional innovations but did not elaborate on it further. We know what is needed, but not how to do it.
4. There is an overlap between the innovation themes – in the discussion of social and institutional innovation the purpose is sometimes to develop new markets, products, technologies or even to change the context (f.i. the regulatory framework). Furthermore some of the social and institutional innovations are argued to enable further social and institutional innovations (or each other – social innovations enable institutional innovations and vice versa).
5. There is a strong theoretical foundation when discussing social and institutional innovations in agriculture today. Many of the social scientists in this field belong to the research community in “farming systems”, where a need to transform the governance principles for agriculture has been identified in order to create a sustainable knowledge system. The approach is often characterised by a collaborative perspective on learning, change and innovation, emphasising not only a bottom-up approach but rather a multi-stakeholder approach for sustained change to take place.

6. It is important to realise that the most of our understanding of social and institutional innovations are described in general terms, often presenting factors that need to be taken into account (although being grounded in empirical work). This might be seen as a problem for the development of guidelines for assessment or concrete initiatives in a specific HNV-farming context. But the argument here is that it is not.

When it comes to social and institutional innovations most important is to have certain functions of a social system in place. Take the example of facilitators; the literature clearly argues for the need of trained facilitators to support the development and implementation of social innovations. But exactly how these facilitators will work (together with and in front of people) is an open question. A facilitator can chose the level of participation, can use different methods and tools to manage specific situations (the tool box) and are of course different when it comes to their communicative style. This result in individual variations, but where some guiding and general principles for what make facilitation successful is described. This is general conclusions, but still highly relevant for the future development of HNV-farming.



### 1.3. Examples of existing innovations description and practical examples

**SUB-THEME:**

**MULTI-ACTOR PLATFORM FOR SOCIAL LEARNING**

**Short description of the innovation:** Creating a multi-actor platform for dialogue, deliberation and decision-making (social learning) for sustainable development of a watershed area

**Related themes/concepts/key words:** Multi-actor approach, collaborative learning, stakeholder participation

**Examples of innovative use of [multi-actor platforms]:**

***HNV system concerned:*** Potentially all HNV farming systems

***What is the innovation:*** Organizing platforms for actors to learn together on complex issues (and to take joint action)

***Stage of development:*** Not fully development

Social learning was put into practice in a multi-actor negotiation platform in the Dutch Drentsche Aa area in Holland. Social learning arises “out of interaction (engaging in issue formulation and monitoring, negotiation, conflict resolution, learning, agreement, creating and maintaining public goods, concertation of action) among multiple, inter-dependent, stakeholders” (Blackmore et al., 2007, p 500). Social learning is therefore focused on placing a set of multiple, interdependent stakeholders in an intersubjective situation in which they will collectively learn to gain insight into the causes of, and/or the means and methods. This was also the purpose of this initiative.

***Who initiated and who joined/followed?***

Given the resistance and opposition to a procedure declaring the area as national park by the provincial authorities in 1992, it was felt that a hierarchical declaration of a National Park would deliver few results. To avoid further escalation of the conflict, an experiment with multi-actor negotiation on a regional scale was set up in the late 1990’s to discuss the installation of ‘a National Park with extended objectives’ under the authority of the elected provincial government.

***Identified enabling conditions or success factors***

The theoretical and empirical understanding of social learning.

***Identified gaps and/or limiting factors***

The case study show that, although the multi-stakeholder platform aimed for open dialogue and at first sight appeared to meet the conditions, social learning was not achieved and the dialogue and deliberation stagnated because of disagreement, frustration and distrust. The process was characterized from the beginning by unequal power relations, which enabled a dominant coalition to impose its problem definition and limit possible solutions. This shows the importance of avoiding putting constraints on the space for deliberation, for example, by imposing a problem definition and restricting possible solutions. This might be seen as a strategy to reduce complexity and achieve

order, but does in reality creates a rich picture necessary for avoiding pseudo-solutions.

**Benefits to HNV farming systems, farmers and communities:**

*Describe explicitly how this is beneficial to HNV systems according to literature; if such info is not presented; explain how and when it will be beneficial to HNV farming.*

If managed according to the principles of social and collaborative learning a multi-stakeholder platform can enable sustainable change when relevant actors and stakeholders agree on a joint way forward to manage complexity and inherent conflicts.

**Sources:**

Blackmore, C. et al., 2007. Social learning: an alternative policy instrument for managing in the context of Europe's water. *Environmental Science and Policy* 10:493–586.

van Bommel, S. et al., 2009. Social learning for solving complex problems: A promising solution or wishful thinking? A case study of multi-actor negotiation for the integrated management and sustainable use of the Drentsche Aa Area in the Netherlands. *Environmental Policy and Governance*, 19, 400–412.

**SUB-THEME: ORGANIC FARMER NETWORKS**

**Short description of the innovation:** Organising learning networks among farmers

**Related themes/concepts/key words:** Study groups, study circles, farmer groups, communities of practice, learning communities, participatory action research

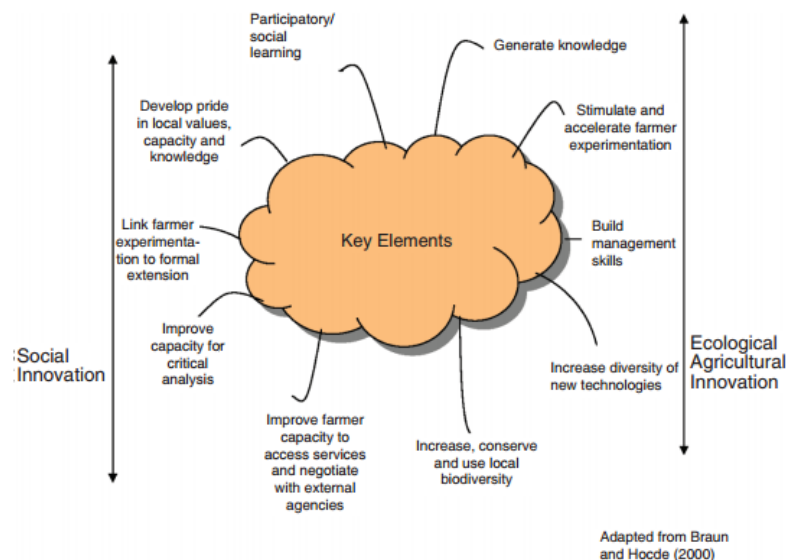
**Examples of innovative use of [farmer networks]:**

***HNV system concerned:*** Potentially all HNV farming systems

***What is the innovation:*** Organising, designing and facilitating farmer networks

***What stage of the process is it in:*** Full development

The figure describes some of the focus areas which guides the establishment of organic farmer networks and their work for a multifunctional and sustainable agriculture (Kroma, 2006):



### ***Who initiated and who joined/followed?***

In the Finger Lakes region of New York, US, a group of organic farmers had emerged whose practices and modes of interaction reflected a strong orientations towards learning and innovative management. Beyond experimenting with innovative technologies, the organic farmers had developed creative ways of sharing and learning based on so called farmer networks. The questions asked in the study were: What are the dimensions of the agro-ecological innovations/knowledge produced by network members? In what ways do such farmer-based networks approximate a learning community? What are the relationships and implications for extension practice relating to farmer-based networks in the region?

### ***Identified enabling conditions or success factors***

One out of many examples of farmers' collaborative learning efforts was related to their following strategies. These efforts clearly showed that their management decisions were not always grounded exclusively within the context of their own local knowledge; they also draw critical insights and knowledge from scientific agricultural science. Röling (1996) has argued that alternative management decisions need to be understood as a function of an interplay of scientific and local/experiential knowledge. For Somers (1998), sustainable agriculture is best served by intensive interaction between scientific knowledge and the knowledge generated by farmers in their own local contexts. This was an important factor for success in this case. But perhaps more important was the social relations developed within the network, which in itself enabled innovations. The findings showed that, when successful, the networks were both flexible and inclusive, often including a small number of researchers and extension agents; and through these social networks, innovative practices were being compared, analyzed and shared among farmers.

### ***Identified gaps and/or limiting factors:***

The main limiting factor for the farmer network to be sustained and to continuously being developed is rather on the margin of the network. Specific individuals within the extension system have been instrumental in supporting and facilitating the networks. But too few individuals, as well as an organizational culture, within the extension organizations becomes a limiting factor. This involves many dimensions: Linking extension practice to a broader, multidisciplinary knowledge base can

contribute to improving extension’s relevance and reach among a growing and increasingly diverse constituency of stakeholders in the agricultural and food systems. Extension could also better address the challenge of effective communication, facilitating decision making that minimizes the risks inherent in complex agricultural systems. Extension can work closely with farmers to test and validate resource-conserving agricultural technologies that fit particular farming systems while playing a major role in developing local leadership capacities among organic farmers. The study conclude that among the challenges for an engaged extension system – one that responds to the needs of this growing community of producers is – how to shift from a narrow focus on technology supply and behavior change of the individual farmer to one of facilitation of group processes of learning, supporting innovative capacity.

**Benefits to HNV farming systems, farmers and communities:**

*Describe explicitly how this is beneficial to HNV systems according to literature; if such info is not presented; explain how and when it will be beneficial to HNV farming.*

By developing the competence among important actors involved in local/regional agricultural development, in this case the extension agents and advisory services, local farmers and their networks can be supported and facilitated so that they can make use of hidden potentials for innovation through joint learning and experimentation. To be beneficial for HNV farming systems, this approach would need to target these systems specifically.

**Source:**

Kroma, M., 2006. Organic farmer networks: Facilitating learning and innovation for sustainable agriculture. *Journal of Sustainable Agriculture*, 28:4, 5-28.

**SUB-THEME: TRANSFORMING LOCAL ACTION GROUPS (LAG/LEADER) TO REGIONAL DEVELOPMENT CENTRES**

**Short description of the innovation:** Developing externally, project funded new institutions into more sustainable institutions for regional development

**Related themes/concepts/key words:** Regional innovation systems, clusters, multi-stakeholder platforms

**Examples of innovative use of [transformed institutions]:**

***HNV system concerned:*** Potentially relevant for all HNV farming systems

***What is the innovation:*** Being able to take advantage of an externally funded project in order to create long-term, sustainable structures for

regional development

***What stage of the process is it in:***

In progress (South Tyrol)

Research on community-led local development (CLLD) initiatives in rural areas of Europe have emphasised its importance for rural social innovation. These social innovations, within rural development programs, are grounded in social processes and outcomes which in turn creates social value for the local community. This study is both an overview of the research in this field, as well as a case study from South Tyrol.

***Who initiated and who joined/followed?***

A bottom-up culture in rural development programs (LEADER) has been shaped through the Tyrollean LAGs (Local Action Groups), which have developed local programming, and an environment of discussion among the different sectors. LEADER has also brought creativeness; the origins of initiatives such as the Christmas markets, “yoghurt week” and the canederli [typical South Tyrolean dish] festival, each emerged directly or indirectly from the LEADER initiative. LEADER has helped to improve the economic, social and cultural fabric for all citizens of these district communities.

***Identified enabling conditions or success factors***

In this case and during the LEADER period 2007–2013, the LAGs have been transformed into centres of regional development. This means that the LAGs do not deal only with LEADER funding, but also with INTERREG, the European Social Fund and other Community funding. In sum, the LAGs have become pivotal in stimulating rural development planning beyond the remit of LEADER. As agents of innovation themselves, LAGs have thus been able to learn, become empowered and build social capital through their networks. As a result of this, LAGs have been able to evolve and develop distinctive approaches to suit their localities. This have been possible due to a basic and relative long term funding, successful work with coordinators and animators, as well as a broad and engaged network of stakeholders.

***Identified gaps and/or limiting factors***

A lack of experience of collaboration was identified as a limiting factor in South Tyrol, as in many regions of Europe, but on the other hand one also identified that institutional innovation increased engagement among rural agents, in particular among municipalities, associations, and between municipalities and associations (e.g. the increasing cooperation between agriculture and tourism). The permeating and dominating tradition of top-down politics, and a rigid administrative system, hindered in the beginning alternative ways of working, especially the important delegation of responsibility to the various local communities.

**Benefits to HNV farming systems, farmers and communities:**

Creating institutional structures, avoiding a short-term project culture, is important for sustaining local and regional initiatives dependent on external funding and high competence. The institutional innovation described in this case is thus an example of what might be possible in HNV-farming areas in general, where HNV farming systems could be targeted.

***Source:***

Bosworth, G., Rizzo, F., Marquardt, D., Strijker, D., Haartsen, T., and Aagaard Thuesen, A.. 2016.

Identifying social innovations in European local rural development initiatives. *Innovation: The European Journal of Social Science Research*, 29:4, 442-461.

**SUB-THEME: FROM EXPERT TO FACILITATOR – THE CHANGING ROLE OF CIVIL SERVANTS**

**Short description of the innovation:** Development of organisational role and individual competence when trying to manage complex and controversial natural resource issues (oak management in cultural landscape, East Sweden)

**Related themes/concepts/key words:** Process designer, animator, catalyst, coach

**Examples of innovative use of [professional facilitators in public authorities]:**

***HNV system concerned:*** HNV mixed and mosaic systems

***What is the innovation:*** Identifying and implementing a completely new role and competence in relation to external processes in order to manage a contested habitat in modern agricultural systems

***What stage of the process is it in:*** Fully developed

Existing oak woodlands and oak environments are of international standard in terms of natural and cultural values. The County Administrative Board has developed a regional landscape strategy called “Live Oak Woodland Östergötland 2008-2015” in order to secure future management of these oak environments. This work partly begun before the government commission to develop regional landscape strategies in 2006. Initially focus was on getting different units of the County Administration, the Swedish Forest Agency and municipalities to learn each other's instruments and increase their knowledge. An integrated approach was asked for combing competences in agricultural economics, forestry, natural and cultural heritage, etc. Key institutions realised early that successful internal collaboration was necessary for successful external collaboration. Evaluations shows that increased communication and collaboration between departments within authorities, both at local and regional level, as well as between authorities, has been a critical success factor.

***Who initiated and who joined/followed?***

The origin was a LIFE-project funded by the EU. The County Administration continued the work, but changed the approach in order to be able to reach the goals.

***Identified enabling conditions or success factors***

A conscious strive to work for increased responsibility sharing and changed role distribution arrangement among stakeholders. Communicative skills och and process facilitation was important, as well as giving enough time for developing a procedural consensus among key actors.

***Identified gaps and/or limiting factors***

Lack of resources and a negative perception of the County Administration among many land-owners and active farmers had to be overcome.

**Benefits to HNV farming systems, farmers and communities:**

*Describe explicitly how this is beneficial to HNV systems according to literature; if such info is not presented; explain how and when it will be beneficial to HNV farming.*

Shepherding, which is central to HNV livestock systems, has declined drastically over the last decades. This initiative raises the awareness of people on the need to preserve the biodiversity related to shepherding and the shepherds themselves.

**Source:**

Ljung, M. and Nordström Källström, H. 2013. *Miljöåtgärder i samverkan – strategier för att inspirera till miljöåtagande* [Collaborative environmental measures: Strategies motivating environmental commitment]. Report 2013:31. Jönköping: Board of Agriculture. [In Swedish]

**SUB-THEME:**

**LANDSCAPE OBSERVATORIES (EUROPEAN LANDSCAPE CONVENTION)**

**Short description of the innovation:**

One of the key instruments of the implementation of the ELC are landscape observatories. The number of landscape observatories has increased over the years. The southern European countries have had landscape observatories since years back on both local, regional and national level. Most of these landscape observatories are functioning as a focal point for landscape education. [Catalanya]

**Related themes/concepts/key words:**

Learning networks, social learning platforms, communities of practice

**Examples of innovative use of [landscape observatories]:**

***HNV system concerned:***

Almost all HNV farming systems

***What is the innovation:***

Establishing a new institution which facilitates and support the implementation of a landscape perspective and a landscape approach to spatial/physical planning in society

***Stage of development:***

In parts of Europe full development, while in other parts in progress

The Catalan Parliament joined the European Landscape Convention (ELC) in December 2000. The first and most visible result of the Landscape Act was the creation of the Landscape Observatory of Catalonia ([www.catpaisatge.net](http://www.catpaisatge.net)), which has been operative since 2005. The Landscape Observatory has been conceived as an advisory body to the Government of Catalonia and for awakening society to matters of landscape. The Observatory has become a meeting place between the administration (at all levels), universities, professional groups and the whole of society regarding everything related to landscape. The main functions are collaborating with the Catalan administration for the implementation of the ELC; making Catalan society aware of the importance of landscape and the right to enjoy it; and acting as a centre for research, documentation, thought and action on landscape.

One good example developed is Wikipedra. Wikipedra (<http://wikipedra.catpaisatge.net/>) is an interactive 2.0 version of a Geographical Information System to introduce, visualise and consult data regarding dry stone huts and shelters in Catalonia. This online application enable, on the one hand, carrying out intuitive and interesting consultations (with maps, photos, files and searches) and, on the other, it will allow people to introduce and modify data regarding dry-stone constructions in Catalonia. It is therefore an example of public science. The objective is to gather and update data regarding as many as possible dry-stone constructions. In the first six months of existence, Wikipedra made an inventory of more than 5.000 dry stone huts and shelters all over Catalonia, mainly by the public. In this project the Observatory is merely an umbrella organisation for promoting and developing the Wikipedra database. The information comes in from members of the public and associations, for use in landscape policies.

#### ***Who initiated and who joined/followed?***

In Catalonia the establishment of a Landscape Observatory came from the regional Government. It became a platform for competence development and participation in issues related to landscapes. A Governing Board, consisting of app thirty public and private institutions, participate in discussions regarding priorities and projects.

#### ***Identified enabling conditions or success factors***

The Observatory's structure and organisation are important for fostering a spirit of co-operation and participation. Three aspects can be mentioned in this respect. Firstly, the Landscape Observatory is a public consortium, with its own legal personality. This gives the Observatory an open-ended character, and makes it very flexible in its functions and its activities. Secondly, the composition of the Observatory, which is made up of over thirty public and private institutions gathered in the Governing Board ([www.catpaisatge.net/eng/observatori\\_organigrama.php](http://www.catpaisatge.net/eng/observatori_organigrama.php)). The Observatory also has an Advisory Council made up of several economic, business and social groups, as well as academics involved in the subject. This composition allows for a dynamic dialogue between members of the Governing and Advisory Councils, with voices coming in from different places and often with opposing interests. Finally, the Observatory lies halfway between civil society and the administration. This is interesting insofar as it can advise the administration on drawing up landscape policies for the territory, while at the same time communicating concerns felt by society

#### ***Identified gaps and/or limiting factors***

One of the main challenges of the ELC is the integration of landscape into policies. This challenge probably requires the greatest amount of co-ordination among the different sectors involved. Another challenge is related to public education and awareness-raising which is costly and time-consuming if to have any real impact. Here is a need for methodological development.



### **Benefits to HNV farming systems, farmers and communities:**

*Describe explicitly how this is beneficial to HNV systems according to literature; if such info is not presented; explain how and when it will be beneficial to HNV farming.*

Landscape Observatories have different structure, purpose and working methods in different regions of Europe. What is in common is the overall aim of the European Landscape Convention, focusing on knowledge and participation. During last 10 years many institutional, and social, innovations have been developed within the context of Landscape Observatories. This is something HNV farming might learn from.

#### **Source:**

Ellorieta, B and Sanchés-Aguilera, D. 2011. Landscape regulation in regional territorial planning: A view from Spain. In Jones, M and Stenseke, M. (Eds.) *The European Landscape Convention: Challenges of Participation*. Springer, pp 99-120.

Sala, P. 2012. Regional and local participation and co-operation in implementing the European Landscape Convention – the experience of the landscape observatory of Catalonia. In Raasakka, N and Sivonen, S. (Eds.) *Northern Landscapes: Implementation of the European Landscape Convention in the North Calotte Area Municipalities*. Conference Proceedings from Inari, Finland 7-9th of September 2011. Report 48. Centre for Economic Development, Transport and the Environment for Lapland, Finland.

## **4.4. Key findings from the review on HNV social and institutional innovations**

When reading the following texts it must be clear that most of the findings regarding social and institutional innovations (incl conclusions and recommendations) are not country- or context-specific. Of course, how for instance a network of HNV-farmers is constituted and how they chose to work in more detail will always be a consequence of context and culture, but the phenomenon as such is not. We have farmer networks all over Europe, and there are some general factors which enable or hinder success. In this part of literature review we have chosen to work on this universal level.

### **Introduction**

Many of the challenges that HNV farming systems are facing are only possible to manage through social and institutional innovation. Such innovations are often required at different policy or decisions levels simultaneously - from interdepartmental agency cooperation to local cooperation between private landowners (horizontal collaboration), but also between the systems levels in existing governance structure - for example, between regional authorities and individual landowners (vertical collaboration). On all levels there is a potential or even a need for social and institutional innovation (eg., Conley and Moote, 2001; Franks and McGloin, 2007). It is about changing the governance structure to support HNV farming systems in new ways.

At the very core of social and institutional innovation lies the somewhat problematic divide between expert and lay knowledge (eg., Fischer, 2000; Bohman, 2000). Daniels and Walker (2001) describe this as a fundamental dilemma in all participatory decision making – using best available knowledge as well as creating opportunities for the public to have a say and real influence of the outcome. The management response being a need to find ways to work across traditional systems boundaries and to create new social institutions (Berkes and Folke, 1998; Habron, 2000; Murray et al, 2010). In the more general academic literature on natural resource management and sustainable land use it is becoming increasingly recognized that learning for systemic governance transformation is often lacking but needed (Meppem and Gill, 1998; Leeuwis, 2002; Pelling and High, 2005; Wals, 2007; Ison et al, 2007; Hounkonnou et al, 2012). As part of this endeavor arguments have been made that we need a better understanding of the relation between ‘social capital’, and ‘scale, space and place’ when enabling collective action based on collaborative processes aiming for social and institutional innovation (eg., Meppem, 2000; Gibson, 2001). No doubt, today there is an immense source of theoretical frameworks to build from when designing, facilitating and evaluating social and institutional innovations in natural resource management. But very few of them focus specifically on HNV farming systems and almost none has strong empirical foundation were the long-term success of social and institutional innovations in a HNV context is described. Little empirical evidence is still at hand on how policy makers, practitioners and researchers successfully can learn and act together to manage complexity and conflicts (Tschakert and Dietrich, 2010; Ison et al, 2011; Powell et al, 2014), why there is a need for both further experimentation and scientific studies.

Social and institutional innovation in HNV farming systems is in each case a unique process of cooperation and joint learning. Challenges, issues and pre-conditions will differ from case to case. But there are a number of guiding principles helping stakeholder to design and manage their unique processes. The literature review has revealed a number of common features of social and institutional innovations. These can be seen as success factors. We have chosen to structure them under four headings:

- 1. External pre-conditions to enable social and institutional innovation*
- 2. Social and institutional innovations to create better pre-conditions for other types of innovation (i.e., farming techniques, management, products and markets)*
- 3. The organizational forms of social and institutional innovation and the nature of the activities in social and institutional innovation processes*
- 4. Capacity building, new relationships and changes in communication through social and institutional innovation (creating a positive development spiral)*

Several of the scientifically described social and institutional innovations can illustrate the common features (eg., Uphoff, 2001; Muessner, 2005b; Walker and Senecah, 2006; Murray et al, 2010; Sonnino, 2010; Klerkx et al, 2010; Otsuki, 2011; Darnhofer et al, 2012; Ljung and Nordström Källström, 2013; Ernesto Mendez et al, 2013; de Sainte Marie, 2014; Sutherland et al, 2014; Höll, 2014; Ferraz-de-Oliveira et al, 2016). The references given above should be seen as illustrative examples. It is also important to remember that in social processes, such as multi-stakeholder

approaches and other institutional innovations, success is depending on its weakest link. That is why many different aspects must be met in order to create long-term sustainability.

### **External pre-conditions to enable social and institutional innovation**

To achieve a sustainable development of HNV farming systems social and institutional innovations are not enough, they are dependent on other means to be able to contribute with their full potential. It is about - as in other contexts - to create a suitable mix of incentives and regulatory frameworks, such as advisory services, educational programs, economic incentives, market support, etc (eg., Rollett et al, 2008; Wynn et al, 2001; van Woerkum, 2000). In the same line talk Muessner (2005a) about "integrative strategies" which reflect a political will to integrate many different concerns in sectorial policies, like agriculture and forestry. This is in line with an understanding of conservation (Hulme and Murphree, 1999) characterized by, among other dimensions, a move away from state centric to community level focus, and an incorporation of neo-liberal ideas, and market forces "to make conservation pay" (Brown 2003). In this perspective integration of environmental matters is only one facet amongst others in a much broader process. From a policy perspective it is therefore today important to support social and institutional innovation by creating enabling pre-conditions for new initiatives.

The regional (or national) government often take the formal role of coordinating the efforts of different actors and push them to work inter-sectorial (eg. Ljung and Nordström Källström, 2013; Bohnet and Konold, 2015). If not, there is a risk that the common challenges fall "between the chairs". Everyone's responsibility often ends up being nobody's responsibility. To enable social and institutional innovation it is beneficial if there already exist a consensus among key actors on common challenges, a shared vision, and a belief and trust in that social interaction and institutional change is important and a possible way forward (eg., Ljung, 2001). If each stakeholder acts according to its mandate, but still towards a common vision each effort work will be more clearly integrated and an overall effect more pronounced (eg., Daniels and Walker, 2001). The result being a form of multi-level governance (eg., the French case described in Farmpath, 2014; Süß et al, 2011).

A common experience made is that the local/regional capacity for social and institutional innovation is important (eg., Farmpath, 2014; Bohnet and Konold, 2015). If there is a local/regional mandate and capacity to coordinate between different stakeholders (farmer organizations, rural entrepreneurs, nature conservationists, industry, authorities, etc) it will facilitates such a collaboration that makes social and institutional innovation possible (a good example is the PLENUM-approach in Germany, as described by Landesanstalt für Umwelt, Messungen und Naturschutz Baden-Württemberg, 2011). Such enabling and/or bridging institutions are simply perceived as professional and credible (eg., Hahn et al, 2006). Furthermore, a long-term commitment and a continuity of support from initiating actors are of central importance (eg., Roth et al, 2008). The temporal scale of supportive policy measures should not be underestimated (eg., Rollett et al, 2008). Most social and institutional innovation takes time - it is about social relationships and to build trust, which cannot be done in quickly. That is why it is important to establish supportive structures that enable those who want to work together. Such support may involve providing administrative support in the form of simplifications and shortcuts into the administrative system and/or giving more possibilities for self-

regulation (eg., Schrijver and Uetake, 2015; Termeer et al, 2013). Another dimension of the supporting structures is of course financing. For authorities, it is sometimes about having the courage to prioritize, to target resources where they are most useful but where one might perceive to lose administrative control (eg., van Bommel et al, 2012). Another aspect is to help coordinate of landowners, owners and other players, that is, to take responsibility for process design (eg., Ljung and Nordström Källström, 2013). If managed successfully the above mentioned examples of external support also have the positive effect of better compliance among farmers, because they perceive the interventions as appropriate, fair, equitable, effective, proportionate, relevant and even necessary (eg., Winter and May, 2001).

Who is given the opportunity to participate in a joint multi-stakeholder process is obviously of importance. An important starting point is that there are those who have the power to implement change that should be included, what often is referred to as actors. It could be land owners, funders, or it may be policy- and decision-makers - all having a mandate in various forms. In HNV farming systems, it is primarily those who can implement concrete measures on the ground, particularly land- and livestock owners (eg., Ljung and Nordström Källström, 2013). Involving relevant stakeholders at the right time (timing) is a success factor in social and institutional innovation in natural resource management in general (eg., Cox, 2006).

### **Social and institutional innovations to create better pre-conditions for other types of innovation**

Social and institutional innovations can take many forms. Within HNV farming system one example would be new governance structures for adaptive management (Chapin et al. 2009), which has been described as a core component of resilient HNV farmland management (Plieninger and Bieling, 2013). Adaptive management is dependent on the daily involvement of people living in and using the ecosystems (eg., Rescia et al, 2010). Kenward et al (2011) shows that biodiversity and ecosystem services are most effectively safeguarded when starting from the perspectives of the local ecosystem stewards, which are individuals or groups that exert influence on ecosystems and their goods and services at the local scale (Chapin et al. 2009). This is not necessarily only farmers, but also other stakeholders monitoring, stewarding or supporting the HNV farming system (eg., Schultz et al, 2007). Social and institutional innovations in HNV farming is often connected to such cross-scale coordination of ecosystem stewardship, where land-owners and other stakeholders work together to manage landscapes (eg., Olsson et al. 2007). So called bridging organizations, for instance land care groups or rural NGO's, could be essential for providing leadership and vision, supporting knowledge networks, and maintaining the link between culture and management at landscape scales (eg., Hahn et al, 2006; Olsson et al, 2007; Crona and Parker, 2012; Mikulcak, 2013). These are all examples of social and institutional innovation within the HNV farming systems.

From an organizational point of view we might talk about different levels of formalization – from loose networks to formalized public-private partnerships or even new companies. Much of the literature on social and institutional innovations focus on the organizational forms, but what is important to keep in mind is that the organizational forms often is a means to reach specific goals. It could be to develop and implement new technologies, new products or markets. In this sense social and

institutional innovations aim to create better pre-conditions for other types of innovation to be developed.

In its simplest form an institutional innovation can be a new platform or venue for collaboration/joint learning, initiated by any actor and from which a new network is built (eg., Muessner and Suosa-Pinto, 2005; Kroma, 2006). On another level we can talk about thematic groups, such as farmer study groups (eg., Paine et al, 1998; Bager and Proost, 1997) or study circles (eg., Ljung et al, 2000). The degree of formalization of social interaction is, when compared to open networks, slowly increasing. Regarding more formalised co-operation between actors, it could be through formal agreements that regulate interaction or even partnerships (eg., Ljung and Nordström Källström, 2013). Also, financial associations might emerge or new companies (eg., Gehrlein et al, 2013; Murray et al, 2010). In these latter forms the interdependence between the participating actors is very strong.

The geographic scale that you choose to work on is of importance (eg., Woodhill, 2012; Wyborn and Bixler, 2013). On the one hand, it seems to be important not to have too large scale in order for the participants to feel connected and to have something in common (also linked to identification, trust and confidence). On the other hand, it should not be too limited in scale either, because the interaction and especially the learning dimension benefit from a sufficient breadth of perspectives, different experiences and a broad resource base for the practical work (eg., Jellinek, 2006).

Social and institutional innovations are very much about organizing your work, perhaps more than the organization itself (eg., Bohnet and Konold, 2015). Part of organizing is to have a conscious process design which creates good conditions for successful work (Daniels & Walker, 2001). The design process starts with getting a good understanding of what is supposed to be achieved and the collaborative potential in a given context (eg., Ljung, 2001). Having the overall aim and an understanding of the pre-conditions it is possible to choose or design an approach and overall methodology (strategy) which leads the participants to their shared goals. When implementing activities and selected tools, the support of a professional process facilitator is often required (at least in domain critical activities). Process design is about a number of guiding principles and central questions to help stakeholders to make conscious and strategic choices at an early stage of the process (eg., Ljung, 2001).

An important piece of the puzzle is often to be innovative in creating new arenas for high-quality meetings and collaboration resulting in new innovations (eg., Conley and Moote, 2000). Many traditional meetings are often too traditional in both its form and content, which does not create either the security (safe place) or the creativity (open space) that usually are the very core of social and institutional innovations. If not, it will be hard to manage the complexity and sometimes controversial issues characterizing changes in natural resource management, including HNV farming systems (eg., Daniels and Walker, 2001). As with creating external pre-conditions for social and institutional innovations one must be able to create internal conditions that meet the basic requirements for stability, longevity and continuity.

Trying to implement social and institutional innovations (scaling up and out; see for instance Wigboldus and Leeuwis, 2013), means entering a situation where stakeholders already their schedules and days full of obligations and activities. This result in that new initiative easily is forgotten or not prioritized. Social and institutional innovations are, as mentioned earlier, a shared

responsibility and therefore easily becomes nobody's responsibility. Furthermore, there is a tendency to shift responsibility where the actor taking the initiative, the coordinator or the process facilitator need to take a disproportionate responsibility for implementing measures (especially in the beginning of the process). Such tendencies have been shown to be important to counteract (Ljung, 2001; Ljung and Nordström Källström, 2013). When the internal conditions for collaboration are formulated, it is therefore important to take into account both the long-term nature of the process, but at the same time designing the work so that there is a sufficient intensity at work (at least in the critical phases). Otherwise stakeholders' engagement might be hard to maintain.

In the literature the link between farm/business economics and socio-ecological sustainability has clearly been put forward (eg., Pinto-Correia and Kristensen, 2013). As an example, conservation of certain ecological values can only be achieved through active and traditional cultivation (eg., Horcea-Milcu, 2015). This is to say a holistic development perspective of rural areas (eg., Ribeiro et al, 2014), where entrepreneurship and the local economy is in focus (eg., Klegg and Akrigg, 2014). Of course, this have to be combined educating people about the individual's response to the desired and shared state to be created (eg., "landscape visions" as described by Muessner, 2005b). In many social and institutional innovations in HNV farming the abovementioned inter- and trans-disciplinary approaches are an integrated part.

### **The organizational forms of social and institutional innovation and the nature of the activities in social and institutional innovation processes**

The core of social and institutional innovations is a creative involvement and participation of relevant stakeholders. One key element is the need to put the local or traditional knowledge to the fore, which has shown to be instrumental for sustainable land use of HNV farming systems (eg., Gomez-Baggethun et al, 2012). However, how such participatory processes are enabled looks different and there is often an element of methodological experimentation (eg., Luz, 2000; Murray et al, 2010). Even the perception of the target audience may vary. The stakeholder analysis can reveal that specific groups needs to be involved, such as young people (eg., Farmpath, 2014), or in other contexts that as many as possible of the local ecosystem stewards should be invited (eg., Schultz et al, 2007).

Social and institutional innovation means doing things in a new way to manage existing or new challenges. Murray et al (2010) present an ambitious overview of the categories and many organizational forms that social and institutional innovations can take. They structure the complex map under headings which relate to the innovation process, from the phase of generating ideas and proposals to sustaining emerging institutions. They look at the main focus or aim of initiatives taken; participation, facilitation or new institutions, and secondly they discuss different organization forms, ranging from loose networks to the development of new associations, and what is needed to scale up and out, sustainable finance and how to support initiatives by new competence. (Murray et al, 2010). In table 2 some examples of these organizational forms of social and institutional innovations are given.

**Table 2.** Examples of social and institutional innovations at different phases of the innovation process (adapted from Murray et al, 2010). In addition some ‘innovations’ that we already see within the farming system.

Organizational form	Short description
<i>To enable participation in an early phase</i>	
Platforms and venues to engage citizens	Could be both physical and virtual, and is both about letting people have a say and to mobilize them
Wiki-approaches	Similar to Delphi-approaches but with the public, one example being Wikipedra in Catalonia (Sala, 2012)
Participatory planning methods	Within physical planning a lot of new methods have been developed to involve and learn from stakeholders
Citizen juries and panels	Often a larger group of randomly sampled people that are asked to give opinions on ideas and policies
Multi-stakeholder platforms	Establishing new arenas where different stakeholders can meet to learn more about issues and find common solutions
<i>To facilitate participation</i>	
Events for networking and learning	Creating new forum for sharing and spreading information, like workshops and speed-dating, etc.
New forms of virtual meetings	New methods in which individuals have a virtual version of themselves (an avatar) and engage in dialogues over long distances, but also examples of ‘serious games’
Webinars	More traditional methods of organizing seminars over the web, but enabling participation without travelling
Dialogue cafés, open space, future search, round tables, etc.	There is today a great number of more or less pre-designed formats which facilitate participation and learning, many of which are copyrighted
New seating arrangements on traditional workshops	One should realize that just by changing the physical form for interaction another kind of dialogue and learning happens, like small-groups, bee-hives, etc.
<i>Establishing new institutions to enable new learning processes</i>	
Think tanks	Can have a role in generating new ideas, often focusing on policy innovation and being a catalyst

Design Labs	Putting people together to test how design can be used to tackle complex challenges in society
Challenge Labs	Putting different competences together giving them the challenge to find new solutions to systemic problems in society
Landscape Observatories	Enabling stakeholders to get involved in questions which is inter-sectorial and inter-disciplinary by focusing on all aspects of a specific landscape
Prototyping and pilots	Supporting stakeholders and given them the time and space to test new ideas in a safe environment
Incubators	When new ideas have been developed into potential business models it will need professional support and a safe environment to become an innovation on the market
<i>Ownership and organizational forms</i>	
Private companies	For some social innovations and ventures the private company is the most suitable model, with a social entrepreneurship focus
Limited liability partnerships	A form of legal ownership that gives the benefits of limited liability, but allows the members a flexibility to organize their internal structure as a partnership
Co-ops and associations	Clubs, NGO's, co-operatives, etc, all have an associative form, and usually build on a community of practice, could be both consumer or farmer driven
Partnerships	A formally agreed will to co-operate when it might be impossible to form a legally binding agreement, one example being public-private partnerships
Charities	A legal form that puts the organization's mission first in order to provide public benefits
Intermediaries, bounding or bridging organizations	New organizations emerging in the interface between existing institutions to manage knowledge gaps or implementation problems, etc.
Social enterprise mutuals	Providers of joint service for their members
Consumer co-ops	Organize themselves to give the members access to the products or services they ask for



<i>Innovative ways to grow as a social innovation</i>	
Growth through collaboration	Collaboration can increase capacity, reduce risk, facilitate adoption or manage complexity and by that make initiatives grow
Distributed organizations	Lining many small nodes enable diffusion of innovations more effectively, while keeping the advantages of being small, local and flexible
The consortium model	SME's can create a consortia to provide collective services where scale is important, often related to marketing or market intelligence
Federations	Dependent on enthusiast and given them the autonomy to lead a federation of members, especially in an early development phase
Social franchising	Enable distribution of risk and financing, but can only work if operations follow enforceable rules to ensure quality and continuity
<i>Championing and supporting innovations</i>	
Innovation scouts	Responsible for discovering (potential) innovations which can be adapted, adopted or replicated
Innovation champions	Individuals (often consultants) who produce ideas, networks and build new coalitions, by embedding processes in existing institutional infrastructure
Social intrapreneurs	People who work inside larger organizations to develop and promote practical solutions to social, technical or environmental challenges (often an insider-outsider approach, eg., boundary worker)
In-house innovation teams	Created within larger organizations (private or public) to bring together different competences under one roof to promote user-centred innovation (like Challenge Labs)
Local innovation teams	Usually linking local authorities with other local stakeholders, to find solutions on pressing issues
Specialist innovation units	Putting an interdisciplinary team of experts to find solutions on societal challenges
Innovation hubs and parks	Specific work spaces (physical) designed to promote collaboration and innovation (one contemporary example is science parks connected to universities)

Innovation networks and platforms	Networks can serve as alternative to formal organizational structures, they are flexible, can expand rapidly, information can be spread quickly, and they give 'pathways' from one individual to another. As a platform they also give participants the tools and resources they need to organize themselves more sustainable.
<i>Learning communities and learning systems in agriculture</i>	
Farmer Networks	Networking help farmers identify mutually beneficial partnerships, to collaborate with other businesses, and to engage in technology transfer and knowledge sharing (eg., Huggins and Hindle, 2010)
Farmer Study Groups/Clubs	Groups enhancing collective learning, by providing space for members to follow their own rhythm and dynamics in learning (Guijt and Proost, 2002)
Farmer Study Circles	A form of non-formal adult education, and is a way to develop competence within a certain field, but also to meet other people and be social discussing issues of common interest (Ljung, 2001)
Benchmarking Groups	In order to help farmer's learn "best practice" from each other groups focusing on benchmarking can be established, connecting farmers having similar pre-conditions and challenges (not always place-based)
Networking of Pilot Farms and Knowledge Transfer Centres	Linking pilot farmers and existing KTC's across regions or borders, providing a forum to generate an inventory of tools, techniques, and transferable expertise within a specific field of interest (see EuroDairy, 2016)
Farmer Business Co-operations	Examples of farm business co-operation are machinery sharing, contracting operations, splitting of harvesting operations (hay or silage harvesting), lending out of breeding sires and straw for manure swops. Less frequent is marketing arrangements (Wilson et al, 2014)
Agricultural Marketing Co-operatives	Co-operatives display a wide variation in structure, management and goals, but have a dual purpose, i.e. to deal with competitive markets and to satisfy the needs of its members (Soboh et al, 2009)
New Generation Co-operatives	New Generation co-operatives in agriculture focus on valueadded characteristics and processing rather than raw commodities (Downing et al, 2005)

Community Agriculture	Supported	A CSA can refer to a particular network, or association of individuals, who support one or more local farms, by making producers and consumers to share the risks and benefits of food production
Farmer-Consumer Associations		Increased interest in food makes consumers look for more direct ways to access high quality food, passing existing intermediaries within the distribution system, and creating associative agreements with farmers (CSA is one form of these associations, but more exists)
Participatory Research Groups		Research and development projects which could involve both farmers, advisors, industry and researchers
Operational Groups (EIP-Agri)		A new inter- and trans-disciplinary form of collaboration for innovation supported by CAP

Enabling a social or collaborative learning process lays the foundation for innovation (Klerkx et al, 2010). This is why, by focusing on learning and participation, other benefits emerge such as new solutions to old problems (sometimes called the “progress triangle”, Daniels & Walker, 2001). Through approaches such as civic science these phenomena further reinforced (eg., Walker and Daniels, 2004). By applying new decision support tools, complex relationships and systems features can more easily be understood and provide the basis for learning conversations (eg., visualization technologies, Klerkx et al, 2012; Ljung, 2001). There are also many examples where local knowledge consciously have been put to the fore, resulting in local capacity building and which in the next step have made it possible to attract external resources (eg., Ljung and Nordström Källström, 2013) or that this local capacity managed to attract targeted external investments that support the future, local work.

A common feature of many social and institutional innovations is the strategy to "pick the low-hanging fruit first", that is, to start working with those who are interested and where there is a commitment from the start and to identify win-win-situations. Identifying where you see immediate effects (eg., Lundgren, 1999) might create a positive development spiral. Such quick and positive developments can be both internally and externally reinforced by consciously telling success stories, also in the media (eg., story-telling of the benefits of social and institutional innovations).

Another trait of successful activities in social and institutional innovations is that they start from the real-life situation of landowners / users / managers. Taking practical challenges serious, and addressing the daily challenges as well as long-term sustainability issues. The bottom line of HNV farming systems is making a living, running a viable farming business. The ambitions to support landowners to manage whole landscapes (for instance by co-operative rewards, as suggested by Goldman et al, 2007), must be combined with a focus on the development needs of single farms/farm families (eg., Bryden, 2002). It is about consciously valuing each individual's needs (“the realities of farming”), but within a framework of a common objective (eg., Dilworth et al, 2000). In addition, there is often a need to create a richer picture of the current situation in order to create a basis for further talks and additional innovations (eg., Knickel and Kok, 2003; Albert et al, 2012;

Plieninger et al, 2013). With rich pictures we can provide a thicker description that capture the actors' collective knowledge of, for example, a specific place or a given situation (eg., Checkland, 2000; Mitchley et al, 2006; Bügli et al, 2016).

As a consequence of the above mentioned changes, people in public authorities and advisory services experience that their role is changing (eg., Leeuwis and van den Ban, 2004). It's about being a mediator (eg., Wondolleck and Yaffee, 2000), catalysator (eg., Bohnet and Konold, 2015), process manager (eg., Daniels and Walker, 2001), coach or coordinator, not only an expert. The demand for increased flexibility in our approaches and focus on life-long learning means that there is a need for organizations to build a new, in-house expertise on facilitation skills (Ljung, 2001). Furthermore, the organizers of innovation networks should support individuals to perform multiple roles within an innovation network (eg., Hermans et al, 2013). The need for expert knowledge does not diminish, but it is integrated into the learning and development process in new ways, for example, making the mediation of specific subject knowledge more demand-driven (see also Molnár et al, 2016, for the description of "conservation herders" as a new profession, or similarly by Leeuwis, 2000, as "social agronomists"). These changes take place when learning become more self-directed, as it is in a participatory context (eg., Ljung, 2001). The facilitator helps the participants identify when specific expertise is important to ask for.

What becomes important for those who lead the work in social and institutional innovations are that they a) demonstrates the progress and provides feedback to the participants, b) act to keep participants motivated, c) attach great importance on agreements on procedural matters, d) clarify the scope of the work and thereby avoid the feeling of insecurity despite large degrees of freedom, e) see the participants themselves as the most important knowledge resource, and f) constantly tries to optimize the learning outcomes in a participatory process.

### **Capacity building, new relationships and changes in communication through social and institutional innovation**

"It takes two to tango" is a saying that fits well when working with social and institutional innovations. One cannot interact on one's own; there must be an interest and honest intentions of other actors. There is always a risk that initiatives that are taken to involve stakeholders end up being a reflection of pseudo-democracy.

The social and institutional innovations that we have identified in this literature review are all more or less successful. Very little is written about "failed results", but this is part of the story while innovations per se are when something becomes successful. Nevertheless, guiding principles of increased awareness and enhanced participation must be translated into concrete activities. This is done when the focus moves from quick results and towards deepen relations and renewed working approaches. Stronger relationships allow constructive learning and communication, which in turn strengthens the knowledge of each other and trust between the participants. Trust in each other is increasing (thereby reducing the risk of conflicts). In such a situation, the participants are equally

willing to share the risks of taking action, as much as their willingness to share the benefits of collaboration (eg., Ljung and Nordström Källström, 2013).

### **Concluding reflections on innovative collaboration ventures**

In figure 1, we summarized the most important lessons regarding social and institutional innovations from an empirical study in Sweden (Ljung and Nordström Källström, 2013). The result of the literature review supports most of these findings. Lessons learned might be understood as success factors in the HNV farming context. A central theme concerns the initiative and the establishment of new platforms for interaction. Someone has to take the initiative and has thus has an important role to play even before the innovation happened. Facilitation skills are needed from the very beginning of the process.

Another central theme is about the external and supportive structures which have to be in place already at the start and throughout the process. Social and institutional innovations are dependent on process management, of a conscious process design and suitable forms of organization. In addition, it is important to consider the choice of scale (usually geographic scale), the core values of work, how local knowledge is taken advantage of, roles and responsibilities of the partners, the ability to experiment in terms of form and content, etc. What keep interaction continues over time is, however, the level of participation and the quality of communication as well as the actual learning that takes place. The result will then not only have positive effects on the socio-ecological environment and economy (impact) but also deepen relationships and change communicative patterns among stakeholders, as well as the establishment of new working methods.

Process facilitation turns out to be a key success factor in social and institutional innovations. Facilitation is about supporting others to communicate, interact, learn and act together. A definition of facilitation which we might be used in HNV farming systems is "to enable people to express their power to act in situations characterized by complexity and uncertainty" (Hallgren and Ljung, 2005). A process facilitator thus has the task of creating conditions that enable participants to make progress, despite the uncertainties about the consequences of their actions (what Flood, 1999, calls "managing the unmanageable"). This distinguishes the role of a facilitator from that of a traditional project manager whose primary task is to ensure that the joint work is within the pre-specified limits, for example in the form of objectives, budget and time. However, there is always an element of process facilitation to project management, as well as elements of project management for facilitators. However, what is important to remember is that the roles are different in terms of focus and accountability. A facilitator focuses on relationships, interaction, pedagogy, methodology, etc., and have above all the overall responsibility for process design and that the participants are heard, respected and have real influence.

The literature review of social and institutional innovations shows that they can be correlated to an increased propensity to take action or to translate good ideas into action. First, it reduces social uncertainty, meaning that each member of the liaison group will feel safer on what to do in relation to others in the group (eg., Vella, 1994). Secondly, it strengthens the social norms among involved actors, that is, it becomes clearer what others think you should do, something that can be developed into personal norms on what is right or wrong (resulting in less societal costs for formal control,

regulations, etc., eg., Gillberg, 1999). Such moral standards are not seldom activated by a perceived need for change or a desire for justice (eg., Ljung and Nordström Källström, 2013). Third, trust and confidence ideally increase, both between participants in the group and between involved people and society at large / formal actors in the policy system (eg., Polman, 2002). It enhances your own efforts work if you can visualize how others know and appreciate what is happening, creating a self-reinforcing process.

The amount of specific case studies related to social and institutional innovations in HNV farming system is limited. Remaining challenges are related to, among other things scale and spillover effects. We have analyzed several successful social learning processes in other contexts, highly relevant for HNV farming systems, but it is not yet clear how these, as well as, contextualized case studies, can be scaled up and out to other areas. The dilemma is that there are no shortcuts when it comes to building strong relationship, mutual learning and action. Such processes require dialogue and social time.

**Which are the limiting factors from full realization of the innovation's potential – lack of interest in the wider community or the authorities, the wrong timing, lack of support, etc.**

### **Five pitfalls in social and institutional initiatives and innovations**

There is of course a great many pitfalls that can arise when trying to develop and implement social and institutional innovations. It is not possible within the scope of this literature review to present all possible situations that may arise. But there are still a number of aspects that are possible to generalize about and where there is reason to be prepared. We highlight five general challenges. We have already mentioned the importance of basic values and attitudes from key actors, having the willingness to initiate collaborative processes possibly resulting in social and institutional innovations. Furthermore, specific competences are needed among initiators, enabling and supporting other stakeholders to start acting in a new direction. But there are some specific pitfalls that are worth mentioning.

An important pre-condition is the access to venues or arenas where actors can interact, learn from each other and innovate. Such “communities of practice” must be adapted to the relevant decision level (decision power), but also have the potential to bridge between levels (eg., Blackmore, 2010). Especially is the lack of vertical integration between decision levels in the governance structure resulting in a slow implementation and weak feedback between the local and (inter)national level. Several of the successful social and institutional innovations in this assessment proves to be proficient in both horizontal and vertical integration and collaboration.

Secondly, the initiatives taken have to be durable enough, project time and resources not too limited. Political persistence and courage is often needed to allocate the necessary resources for a long term commitment. Innovation for sustainable land use and socio-ecological sustainability is not a project it is a continuous endeavor, which requires ongoing interventions as well as external

support. Several successful examples of social and institutional innovations in this review have worked systematically and for a long time, which in itself proved to be a success.

Thirdly, some form of process facilitation is required. We traditionally attach great importance to having an experienced project manager and to have the best expertise in decision-making processes, but sometimes lack a process designer and communicator. Such competence is particularly important from an implementation perspective. It is easy to be reverting to those activities that you recognize, such as informing specific target groups or arranging public hearings. Social and institutional innovations are to move beyond these approaches.

Fourth, we focus too much on quick fixes and too little on the process that makes future improvements possible of even complex and contentious issue. Our desire to achieve quick results and show that the actions taken have effect means that we downplay the importance of building stable relationships and working to create what are called "procedural consensus" among participating actors (Daniels and Walker, 2001). Although the cost may be perceived as higher in the short term, as more work must be done on process issues initially, the experience shows that long-term profit and cost efficiency often is higher if you do just that.

Finally and fifthly so is the challenges of true and long-term participation sometimes underestimated (eg., Bawa et al, 2004; Mascia et al, 2003). Participation is neither the same as to have the right to decide, nor the same as only being physically present at a meeting. Real participation is something that occurs when a) participants can be heard, b) are respected for their perspective and c) has a real opportunity to influence the outcome of the joint discussions (Senecah, 2004). Specifically, this means that as a process facilitator you must create arenas and meeting places where actors can be heard, and when so, they have to be respected for their point of views (i.e., knowledge, experience and values). Finally, it should not stop at friendly gatherings, participation should result in concrete measures. The dilemma with expert-oriented decision-making is that it sometimes lack mandate. There are experts who are heard and their views will be respected and they have more power to influence the outcome of the discussion. This is not wrong per se, but if so it is important that the decision-making process, claiming to be participatory, makes the framework conditions clear and specify the desired level of participation from the very beginning (from informed consent and consulting to involvement in goal discussions, eg., Pretty, 1994). In the social and institutional innovations we have identified it seems that a common feature is that they have taken real participation very seriously and in many respects, been based on local actors' needs and perspectives.

**What are their recommendations based on their experience if there are any.**

### **External pre-conditions for social and institutional innovation**

1. Ensure that there is a long term commitment and engagement of key stakeholders, not least those who initially have a funding responsibility.

2. Set reasonable time frames for cooperation, taking into account the social processes take time and that there are few shortcuts when relationships and trust should be created.
3. Ensure that those who participate in or captures the result of collaboration has the mandate to manage this in a credible way, that is, make sure that there is a receiver with the power to change (note that this may be a landowner).
4. Complement collaborative and social learning processes with directed incentives and / or support structures that help to target specific goals.
5. Progress and timing - do not wait for the perfect conditions before starting the process, it is about making progress, but make simultaneously sure that you have an ability to take opportunities when they arise (pre-planning as a key part of the process design).

#### **Internally created conditions for increased cooperation and joint action**

1. Ensure that the process facilitators have the right skills, the resources and the necessary mandate to take initiatives and carry out concrete activities.
2. Develop a comprehensive process design that describes the phases that will be included and aim to reach procedural consensus on key stakeholders for such a design.
3. Select the stakeholders and the appropriate actors, but be aware that in a social learning process a key competence is to be able to constantly re-organize activities, ie, do not let the forms of organization take control over its working methods.
4. Invite missing perspectives in the process, which should be seen as a way to critically question the knowledge-power-structures always emerging in collaborative efforts.
5. Ensure sustainability, accessibility and continuity of process and project management.

#### **Activities and Processes**

1. Work with a conscious process design that allows for an open agenda and possibilities to work iterative and experiential. Important phases are, in particular, the description of the situation you are in (rich picture), vision of what you want to accomplish, concrete proposals for action, domain critical situations, as well as responsibility and resource allocation.
2. Focus on learning between participants by involving them in different ways. Everyone can contribute to problems understanding, vision, action proposals, fair discussions, etc.
3. As the coordinator/facilitator, it is important to meet people where they are, to take the starting point from their perspectives, needs and circumstances. Once the process has started, you can set higher demands on reciprocity.
4. Vary the methods and techniques used since different actors / participants have different preferences and abilities.



5. Ensure that each activity contributes to progress and make you move closer to the shared goal. Make clear for the participants what and how progress is made.
6. Create success stories (story-telling) in order to reinforce a positive development and a sense of accomplishment and pride.

### **Results and effects**

1. Catch all the current results of the collaboration, including that which has not to do with the formal attainment. The benefits of collaboration are often wider than the objectives set up from the beginning.
2. Involve participants in monitoring and to make management decisions, that is, develop together the system for performance monitoring (including hardware, software and orgware issues).
3. Ensure that there is financial scope for external and preferably formative evaluation throughout the project.

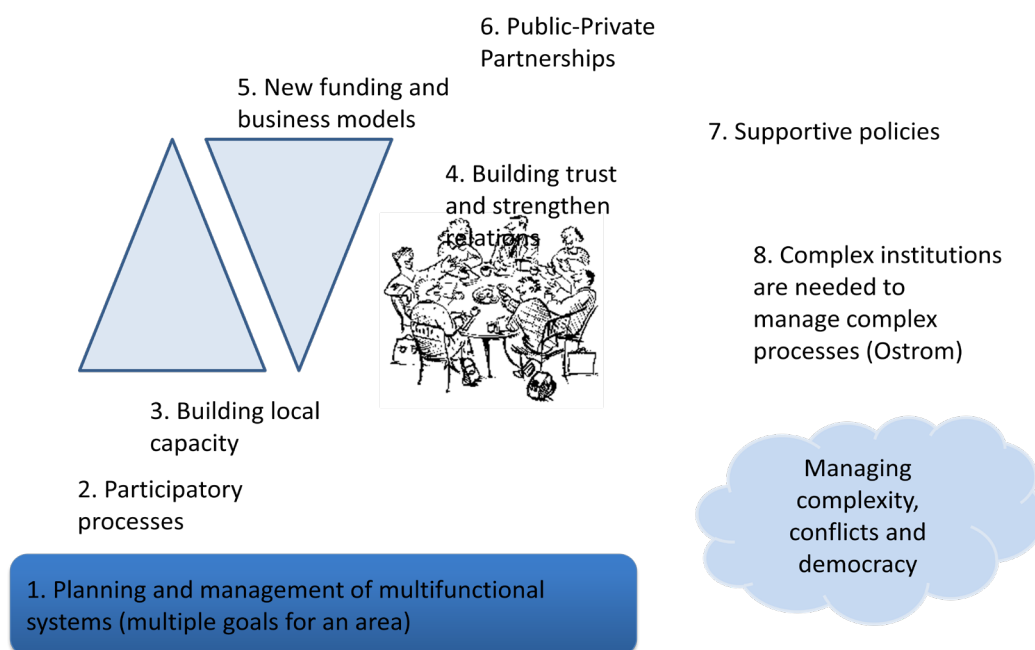
#### **4.5. Our recommendations for the identification and description of social and institutional innovations**

The description of the HNV innovations in the LAs should follow the template provided to ensure coherence and comparability between them. The recommendations provided in this section reflect the findings of the literature review and aim to help the narrative of the innovation vis-à-vis the analysis carried out in WP1 and assessment of effects of the innovation to the socio-economic status of HNV farming, farms and communities. Therefore, they should be treated as having an orientation and guidance function as opposed to a step-by-step instructive role.

One argument made in the case studies as well as in theoretical contributions regarding social and institutional innovations is that a process perspective is necessary. This does not mean to work ad hoc or without plans, rather the contrary. Someone once said that ‘nothing is as planned as an open and participatory process’, meaning that one has to have a process design and a preparedness for what is supposed as well as what might happen over time. Flood (1999) describe the entrance point to social, complex processes as “balancing *mystery* with *mastery* means living somewhere between the hopelessness of the belief that we are unable to understand anything and, at the other extreme, the naivety of the belief that we can know everything”. Social and institutional innovations are very much about balancing between a similar and perpetual dilemma of implementing best available knowledge (contextual and de-contextualized) while at the same time letting people’s values and ideas influence the outcome (social acceptance and sustainability). To be able to manage and facilitate such processes one has to be ethical alert, systems- and self-critical, entrepreneurial and constantly focus on experiential learning and concrete measures for making progress.

In figure 3 we describe how a general process design might look like. It starts with creating as good pre-conditions as possible by planning activities. The challenge being that one has to work with complexity and conflicts due to multiple goals. Participatory approaches are necessary to find common ground and procedural consensus. Initially one often has to build local capacity, both through public education and by experiential learning, while it is also about a better understanding of the landscape in which you live and work. By these activities, if facilitated in a good way, stakeholders will build trust and stronger relations. This will enable them to develop their co-operation and together innovate, developing products, markets, techniques, etc. Central to this is funding and developing new business models. Being successful it might result in an increased interest from public and regional/(inter)national authorities, resulting in public-private partnerships and supportive policies enabling scaling up and out of the innovations made. As a potential outcome (or innovation in itself) this process has resulted in new institutions which are better prepared to manage and sustain HNV farming systems, or as the Nobelprize-winner Elinor Ostrom put it ‘it takes complex institutions to manage complex processes’. This and similar process designs will probably have a better possibility to improve the social sustainability and economic viability of HNV farms and communities, compared to existing activities and incentives.

### A process design



**Figure 3.** Social and institutional innovations can both be a whole process design or part of an overall process. The figure illustrates a general process perspective on social and institutional innovations which can be recognised in many case studies all of Europe.

## **Recommendations: Basic innovation behaviour to be identified**

### *The relational dimensions*

While HNV farming systems are overtly about substantive matters, progress on them often hinges on the quality of the relationships that exist among actors and stakeholders. Consequently, although assessment can begin at any part of socio-ecological systems, in many cases examining who the stakeholders are and the relationship between them may be insightful. The relational dimensions include stakeholders involved and their history with one another. It also includes the “intangibles” of any complex social situation, such as trust, respect and legitimacy. The following questions may help in the assessment of the relational dimensions of a policy conflict.

1. Who are the stakeholders?
2. Do any stakeholder have unique status (e.g., traditional rights)?
3. What are the stakeholders’:
  - Stated positions?
  - Interests (concerns, fears, goals)?
  - Worldviews and values?
4. What are the stakeholders’ relational histories?
5. What are the stakeholders’ incentives to:
  - Change existing situation?
  - Collaborate?
  - Compete?
  - Learn?
6. What are the stakeholders’ best alternative to enter a collaborative process (do they reach their goals easier by not collaborating)?
7. Is trust sufficient? Can it be built?
8. Can representatives/individuals among the stakeholder groups work together?
  - Are representatives available for the long-term or likely to change?
  - Are representatives restricted by constituents?
9. Do the stakeholders have adequate knowledge and skills?
  - To process information and develop a systemic thinking?
  - To communicate constructively and work through potential disagreements?
  - To interact with acknowledgement and respect?

### *The procedural dimension*

Procedural dimensions include those elements that pertain to the ways in which social and institutional innovations are managed and how decisions are made. It also includes the rules, both regulative and generative, that stakeholders adhere to in working through complex issues. Just as progress on the substance relies in part on relational factors, so too does it depend on that procedures are regarded as appropriate and fair by stakeholders. The following questions can guide assessment of the procedural dimensions.

1. At what stage is the social or institutional innovation?
2. Which legal constraints impact the innovativeness of the process?
3. Who has jurisdiction to enable real change?
4. What management approaches have been used in the past (procedural history)?
5. Is mutual learning desired by key actors?
6. What is the decision space, that is, how can participant influence final decisions?
7. Are resources sufficient (e.g., time, funding, competence)?
8. What are the procedural alternatives? How accessible are they? How inclusive?
9. Are there needs for an impartial party to take responsibility for process design and facilitation?

#### *The substantive dimensions*

Substantive items are the “tangible” aspects of social and institutional innovations, such as the issues about which stakeholders have a common interest in. Substance, though, also includes issues that stakeholders may consider “symbolic,” such as changing power asymmetries. The following set of questions offers a framework for assessing substance.

1. What are the issues?
  - What are the tangible issues?
  - What are the symbolic issues?
2. What are the likely sources of tension over these issues (e.g., facts, culture, history, jurisdiction, values, interests, people)?
3. Are issues complex (technical, expert dependent, experiential, etc)?
4. Is information needed? Is it available?
5. Are meanings, interpretations, and understandings quite varied among stakeholders?
6. What are the mutual gain options (opportunities for mutually beneficial improvements)?

#### *The importance of social capital for social innovation*

Social capital has a potential of enabling cooperation based on mutual trust and shared norms and values in a LA. Social and institutional innovations come into being through social interaction and learning processes consisting of identifying social needs, creating new solutions and their implementation. This is why many development processes involve social capital and learning. The more traditional modes are based on personal contacts between different stakeholders. In newer ones, communicative skills and a will to learn to manage complexity plays a much more important role. Assessing new forms, roles and interlinkages of social capital and knowledge, and their contribution to innovative solutions might therefore be relevant. Question to consider is:

1. What are the local/regional relationship between social capital and social innovation?
2. What examples of traditional and new patterns of social innovation exist?
3. Can social capital be strengthened to sustain new solutions to the existing challenges?
4. What learning modes and knowledge sources does stakeholder use; in particular, what is the role of local, tacit, informal knowledge and social learning in the LA?

5. How are social innovations, social organisation and knowledge and learning processes interlinked with the dominating agricultural and rural governance and knowledge structures?

**(How to) define/describe HNV social and institutional innovations at LA level? (How to) define/describe the innovation initiators and participants/ stakeholders/ followers? (How to) describe the life stage of the innovation (process)? How HNV social and institutional innovations have developed – current changes and state of the art in the LA? (Which) drivers or obstacles to look for in HNV social and institutional innovations? (How to) define/describe the impact of the HNV social and institutional innovations at LA level?**

#### *Existing social and institutional innovations*

An important part of the LA assessment of social and institutional innovations is of course to identify and describe existing social innovations in the area. Table 2 gave an overview of the many different organisational forms that might exist. This can be used as a way to direct the focus of assessment to the many different forms that social and institutional innovation can take.

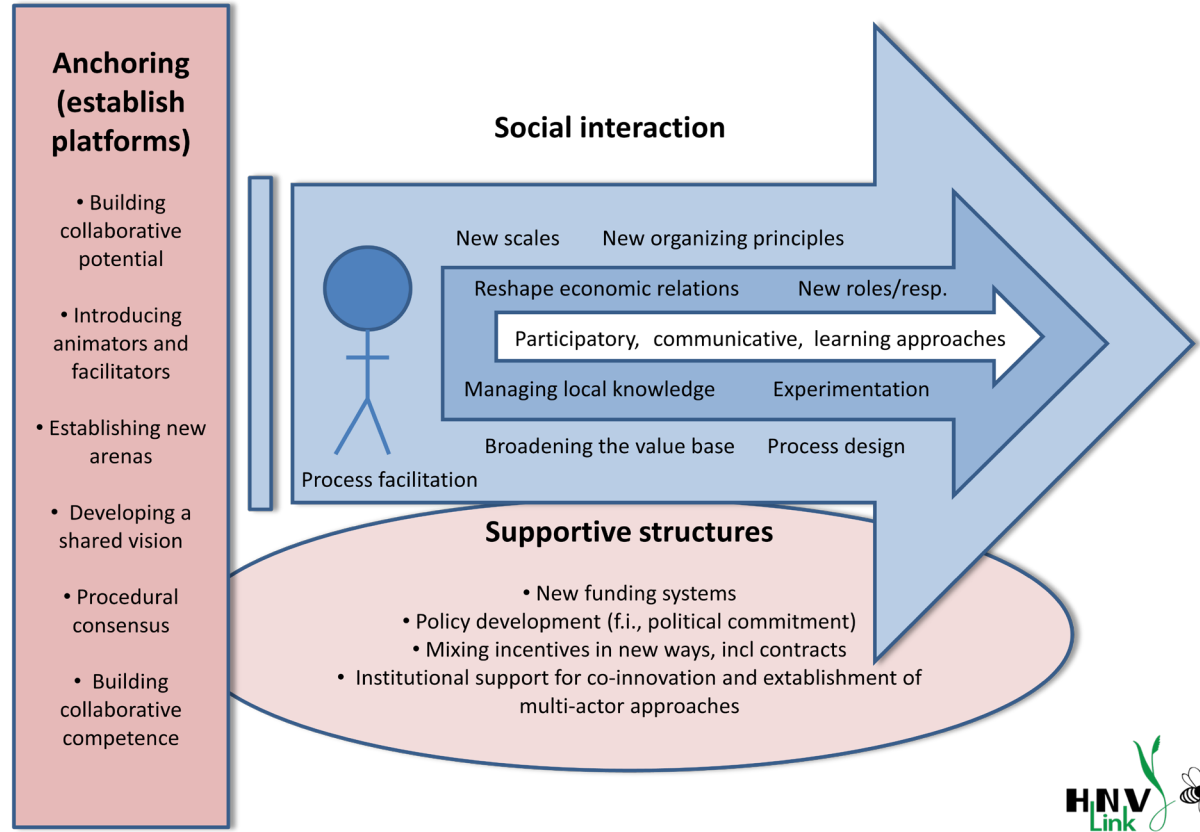
It could be relevant to make an historical description of how the innovation was initiated, who were involved, and what the overall aims were. One could use figure 1 as a checklist and try to describe the social and institutional structure and activities accordingly. We believe it is important to have a process perspective when describing these innovations because it tend to have high explanatory value. The headlines in figure 1 can be transformed into “windows” from which each innovation could be described.

#### *Development, drivers, obstacles and impact*

The best way to do a broader analysis of the social and institutional innovation is actually to use some of the existing tools often used in process facilitation or participatory research. This could be stakeholder analysis methodology, historical time lines, rich picturing, etc. One important aspect is to do these analytic activities together with (some of) the actors involved. A much thicker description of the situation is then possible, compared if one do it yourself or by interviews.

All the earlier suggested questions, relating to the softer side of social and institutional innovations, are preferably asked in workshops with the stakeholders within the LA. What is important is what stakeholders’ perceive because that will guide their actions. It is also important to talk about the different systems level of social and institutional innovations, not only the historical development. This would then include external pre-conditions for innovation, internally created conditions for innovation, activities and processes that support or hinder innovation, and feedback loops in the system/outcomes/domino effects/changes due to innovations that have taken place, etc. These aspects are partly captured in figure 1 (repeated below).

## Social and institutional innovations



**Figure 1.** Social and institutional factors influencing the outcome of collaborative processes in natural resource management and in HNV farming systems (from Ljung and Nordström Källström, 2013).