



Innovation and networks in rural areas. An analysis from European innovative projects



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A B S T R A C T

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Innovation is a central factor for the development of rural areas, both in terms of diversification and increased competitiveness, also related to new structures of governance. The creation, adoption or adaptation of innovations is particularly complex, requiring the right combination of local knowledge (often tacit and implicit) with expert knowledge (often more explicit and formalised), as well as the support of extensive networks.

This paper analyses a number of innovation projects in several European rural areas, through the data collected via in-depth interviews. It examines the projects' contributions and the role played by stakeholders in each stage of the projects. On the one hand, some findings suggest that innovation is particularly common in food production, as well as in the environmental and energy sectors. On the other hand, these projects tend to rely more heavily on large networks, in which the presence of public actors is often critical.

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1. Introduction and main aims

The present work aims at examining the role played by different actors (public and private) in the launching, implementation and development of innovative projects in rural areas through the analysis of a number of case studies selected with a cross-European approach. In order to do this we will study which internal features of the projects, analysed in terms of actors, organisations and processes, explain the success of innovative projects. Particular attention is paid to the conditions responsible for the eventual success or failure of the prevalent innovation system (as shown by the case studies).

Innovative projects in rural areas are not isolated initiatives. They are part of the wider global processes involved in economic and social development (Ward and Brown, 2009). Development depends on the combination of a number of factors. Following Marshall, factors such as 'organisation' and 'knowledge' are often considered more relevant than traditional production factors such as land, labour and capital. These factors are at the base of the local external economies which, in turn, define the socio-economic dynamics of local systems, to a large extent through the creation, adoption, development or introduction of innovations in local

productive – and innovative – systems (Lundvall, 1992; Lundvall et al., 2009).

Other factors are equally important for the dynamics of local systems, for example geographical and environmental considerations, available resources (especially those with a strategic character, both physical and institutional), social capital (networks of social, economic and/or institutional actors and their strategies, networks of relationships both within the region and with the outside), and the organisational structures created by the socio-economic actors for regional development (Hermans et al., 2002).

Social, economic and institutional actors play a key strategic role in the dynamics of local systems by prompting and articulating development processes or by combining available resources in one way or another. In addition, they determine the framework for development policies and institutional systems, the mechanisms to improve the transfer of knowledge and the implementation of innovation towards territorial development (for example, through the implementation of their own projects) (Kangasharju and Nijkamp, 2001; Bruckmeier and Tovey, 2008; Dargan and Shucksmith, 2008; Buciega et al., 2010).

Socio-economic actors play a crucial role in economic and social development. This is particularly true for rural areas, because the socio-economic context is often characterised by a very limited access to resources (physical, human and financial). In addition, the performance of local networks depends to an extent on the degree of articulation between their territories and their wider region. Finally, networks of local actors also play a key role in mobilising

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resources (local or external) for the development, adoption and implementation of different types of innovation in the productive system of rural areas. In order to make this possible, the system set by actors must in itself be innovative. In other words, it is often necessary that actors start-up an innovative system for mutual interaction, but this in itself is not sufficient enough to push towards the creation of innovative productive systems capable of generating employment and wealth.

The main aim of this paper is to address the role played by actors in rural areas, by providing an initial overview of innovative projects arising from local innovation systems and the importance of networks. The key elements for our theoretical framework are presented in Section 2, with special regard to the creation, development and consolidation of actors' networks, and their integration into local innovation systems. As we shall see, these local innovation systems are the optimum framework for efficient development and the best performance of the actors' networks in the promotion of innovation in rural areas. We also introduce some key concepts, such as the importance of knowledge transfer through these actors' networks.

Section 3 briefly presents the methodology followed for the analysis of the case studies. We shall present some ideas which, arising from the analysis of social networks, will guide us in the study of the actors' role. In spite of the difficulties, as we shall see in Section 4, it has been possible to collect sufficient useful information to gain a global insight into the structure of the actors' systems in several case studies. Section 4 presents the main results and their discussion, including the characterisation of case studies in terms of activity's type; the time-scale of projects; the role of individual factors and knowledge transfer in the development of projects; as well as the role played by funding and other non-economic factors, including their impact in aspects such as job creation, job quality, knowledge transfer and so on.

Section 5 presents the analysis and discussion of the role played by actors in these innovative initiatives (stressing the key role played by the public actors and their support during the initial stages of developing innovative projects), a characterisation of actors' networks through the analysis of their growth during the implementation and development of the project, the interaction and interdependence between actors, and the impact of the project on them. We also include an example of an innovative project. Section 6 summarises the main conclusions.

2. Theoretical framework: from local innovation systems to actors' networks

2.1. Innovation systems, knowledge, actors and networks

We define an 'innovation system' as the group of elements which, by themselves and via mutual interaction, have an effect on the introduction, the adoption and the development of different types of innovation at a given spatial scale (local, regional, national or international). The production and transference of knowledge, along with the position and strategies followed by the actors participating in the innovation system, play a central role (Mothe and Paquet, 1998; Cowan, 2005; Asheim et al., 2011). In fact, actors appear as a crucial element in the four pillars on which innovation rests, i.e. firms, framework (including new governance models based on the cooperation between private and public actors), technological and educational institutions.

Local context is an essential factor in innovation; this includes geographical proximity (which seems to be increasingly less significant) and institutional proximity (always bearing in mind all the actors involved in the process), which is becoming increasingly critical for innovation at the local scale (Tremblay et al., 2003;

Keune et al., 2004; Young, 2006). In this sense, the need of a successful combination of innovation, organisation and territory has already been pointed out (Storper, 1995, 1996; Dargan and Shucksmith, 2008). Because putting actors together in a given geographical space is not enough (Markusen, 2000), the creation, development and/or consolidation of networks for their interaction become crucial. These networks, which must act as the foundations of innovation systems, should combine local and non-local scales, and private and public organisations. In this regard, innovation systems tend to be territorially based, collective learning systems in which innovation and knowledge networks play a fundamental role (Asheim et al., 2011).

Innovation at the local level partly refers to the dynamics of local knowledge and to the ways in which non-local knowledge is transferred to local systems: 'Innovations occur if actors combine knowledge they have at their disposal or if they use knowledge they gather from other resources' (Dammers, 1999). Innovation, however, is not a linear process arising from formal knowledge, but a social process involving a multitude of actors and their formal and informal relationships (Camagni, 1991), in which the role played by each of them depends on social, institutional and even personal variables. Thus it is not enough to detect some level of innovation in an area or case study without also understanding the social process associated with local innovation systems (Waters-Bayer et al., 2006). In this social process the role of actors at the local level is very important since they tend to impose their notions of, for example, rurality (Murdoch and Pratt, 1993), which could involve a different balance of power in the management of the processes of change (Lawrence, 1997). Local elites, as key actors for the local economy, also possess some degree of control over knowledge (Ward and Jones, 1999); their influence in decision making has already been analysed in certain Spanish rural areas (Esparcia, 2010). In general, we may say that local (and regional) actors are not a passive, but a very active element in the governance of territorial innovation systems (Guillaume and Doloreux, 2011).

The competitiveness of a region could be directly influenced by the local actors' ability to generate, access, understand and transform knowledge and information based on collective and interactive learning (Maillat and Kébir, 1998; Camagni and Capello, 2002; Asheim and Gertler, 2005; Niosi, 2010). This involves internal as well as external social networks. The role of local actors has been analysed in several works, which also explain the relationship between innovation processes and the dissemination of knowledge as the innovative 'milieu' (Camagni, 1991, 2003; Crevoisier, 2004), systems of innovation at the national and regional scales (Cooke, 1998; Lundvall et al., 2002; Malerba, 2002, 2010), and the Triple Helix (Leydesdorff, 2000; Leydesdorff and Etzkowitz, 2000; Leydesdorff, 2005; Viale, and Pozzali, 2010). Two key elements stand out in all these models: networking and multilevel governance (control of the processes of generation and dissemination of knowledge), whose close relationship is determinant for the evolution of innovation systems. In this context, the crucial importance of the actors' network capacity to build a local system permeable to innovations becomes clear (Cappellin, 1998, 2000, 2007). At the same time different actors at different scales are responsible for developing those critical interactive processes of promoting, creating and/or managing the formal and tacit knowledge needed for the good performance of local systems and especially by processes involving innovations in the local economy (Rubenson and Schuetze, 2000; Gertler, 2003). Trust, friendship, solidarity, leadership and so on, are key elements for a solid social capital supporting networking processes and territorial governance, the two critical components for the creation and/or adoption of innovations by the local system (Dargan and Shucksmith, 2008).

2.2. Actors and networks in development processes

The role of actors in the development of rural areas should be seen in the light of the combination of three elements. The first one is the increasing involvement of social, economic and public actors in the socio-economic processes of change. The second one is the emergence of new economic activities, which act as the foundations of new development strategies, with an increasingly important weight falling on non-farming activities. And the last one is the presence of strategic factors towards competitiveness in relation to these new activities, such as knowledge, innovation and networking (Young, 2010). Regarding patterns of resilience, some regions and local actors respond to these challenges with cost-reduction strategies, thereby increasing the scale of production and technological development (Esparcia, 2012); the presence of leadership could be one of these determinant strategic factors (O'Brien et al., 1998). On the other hand, some strategies (for example in the context of LEADER) stress the promotion of a wide range of productive activities including rural leisure and tourism, and activities related to the preservation of the environment and to its rational and sustainable exploitation (Dammers, 1999). We also have very good examples of these close relations of knowledge, actors, networks and innovation systems, related to some specific issues such as local food (Tovey, 2009) and agro-food networks (Goodman, 2004), in different contexts such as rural areas in developed (Doloreux et al., 2007) and developing countries (Spielman et al., 2011).

The most common element in all these activities, however, is the presence of novel forms of knowledge and/or different types of innovation: new products (agro-tourism and other rural activities connected with the protection of the environment), technological innovations (technologies for irrigation, pollution control, waste treatment, treatment of agricultural produce, etc.), innovative processes (projects based on the cooperation of stakeholders), organisational innovations (new structures for cooperation between local actors, such as LEADER Local Actions Groups), and attitudinal innovations (promotion of cooperation, development of more resilient models to face new challenges, etc.).

In view of this, three factors stand out for their importance to new innovation systems: the involvement of actors, the generation of new activities and the introduction or adaptation of innovations. This is based on the creation, adoption or adaptation of new knowledge by the actors, combining their initial stock of implicit tacit knowledge with other explicit knowledge (offered or contributed by advisors, consultants, development actors, etc.). This process can materialise in the form of innovative projects (as are presently analysed in this study) but also in the form of structures that go beyond the previously mentioned projects. Therefore this is a process in which local economies and stakeholders develop, learn and adapt to new environmental conditions (Hermans, 2008; Dargan and Shucksmith, 2008).

In relation to rural development, learning processes depend on several factors, such as the individual perspective, set of values and attitude of each agent (whether they are more or less ambitious, whether they take sustainability into account in decision making processes, whether they favour participatory strategies, etc.). The complexity, uncertainty and potential conflict which may arise as a result of an increasing number of involved players is a different issue, whose solution lies in negotiation, commitment and agreement during the implementation and development of projects (Shortall, 2004; Collier and Scott, 2009; Muniz, 2009). It is also important to have a dynamic perspective on the position of actors since they may change as the different stages of projects unfold. Several methodologies are useful in representing these 'negotiation landscapes', for example the introduction of 'what-if' simulations,

maps charting the influence and interdependence between actors and analyses of the degree of convergence and divergence between actors, the distribution of power and the level of centrality in decision making processes (Bendahan et al., 2005; Derkzen et al., 2008). In this context, the identification of potential conflicts and the assessment of the feasibility of different policies may also be critical (Hermans, 2008).

2.3. From networks to learning regions and rural web

Innovative initiatives in rural areas do not arise in isolation. They are part of a territorial dynamic in which different actors, often coming from different sectors and levels of governance, designs and set-up well established partnerships. Within these partnerships effective commitment of stakeholders and knowledge sharing are guaranteed. The results are development initiatives embedded in the territory as the fruit of that cooperation.

As it has been previously highlighted (Wellbrock et al., 2012), however, the analysis of innovation processes has been approached from a sectoral perspective, which makes it difficult to recognise potential conflicts of interest between actors or groups of actors. It is also noted that even in peripheral rural areas with low density of enterprise networks and business, innovation processes are often not adequately incorporated into the standard approaches, and much less so in those analyses addressing territories over sectors (Dargan and Shucksmith, 2008). An approach which focuses on the places (in the territory) rather than on the sectors, is the one required for the analysis of the processes of development and change in rural areas (OECD, 2006a, 2006b).

It is thus necessary to advance and integrate the analysis of these processes into more comprehensive perspectives. A comprehensive analytical framework, in which to put not only these innovation processes but also the processes of rural development in general, is referred to as the rural web (Ploeg et al., 2008). It is defined as "a complex of internally and externally generated interrelationships that shape the relative attractiveness of rural spaces, economically, socially, culturally and environmentally" (Ploeg et al., 2008, p. vii). Therefore "the web interlinks activities, processes, people and resources and, simultaneously, it shapes the ways in which they unfold" (Ploeg et al., 2008, p. 2). As a result, the web is a conglomerate of multi-actor (including institutions, companies, state agencies, civil society, etc.) dynamic networks – the denser, the higher number of relationships, connections and combinations (Moschitz and Feldmann, 2010) – of a multilevel character (local and regional, which also influence the relations in other levels).

From theoretical point of view the six dimensions of the rural web constitute a useful framework in which to insert the analysis of innovation processes (endogeneity, novelty production, sustainability, social capital, institutional arrangements and governance of markets). As we shall see in the analysed case studies, these theoretical dimensions are present to a greater or lesser extent in relation to products, markets into which the supported institutional frameworks are inserted, the social bases that arise, or the sustainability of innovation processes. When these dimensions interact properly, the result is multifunctionality and intra-sectoral intertwinement, all contributing to the competitiveness of rural development processes (Ventura et al., 2008; van der Ploeg, 2009; Messely et al., 2013).

Another interesting approach which should be pointed out is derived from the review of the triple helix and learning region model (Wellbrock et al., 2012). In this model, there are three large structures (Fig. 1), in each of which there are a number of mechanisms or processes. In the first of these structures we have the region (rural territory), and as a result of the different actors' activity

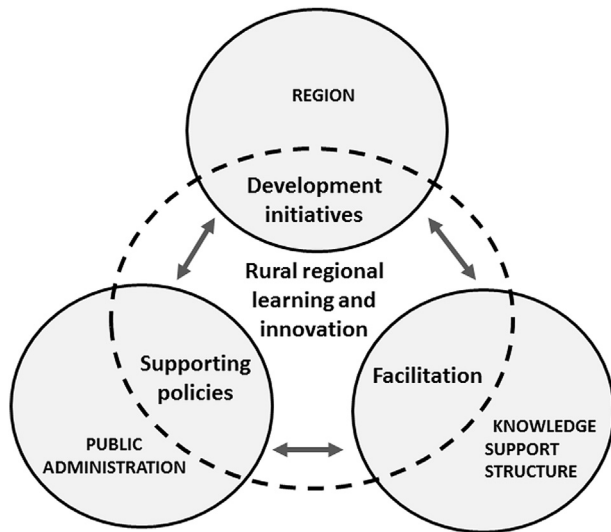


Fig. 1. Integrated conceptual framework of rural regional learning. Source: Wellbrock et al., 2012.

and their capabilities, we have emerging development actions. A second structure is composed of the system of knowledge and innovation support (involving academia, but also private and public institutes, training facilities, consultants, etc.). This system provides a facilitating agent for the innovation processes.

Finally, the public sector (which includes a whole range of actors in the different public administrations; local, regional, national and European), in which a set of public policies and initiatives is planned, organised, directed, implemented and controlled, often essential to rural innovation processes. Such innovation processes are the result not only of mechanisms and actions in each of the three main systems, but above all, the result of the interaction between systems and the various actors operating in each of them. This interaction is what facilitates knowledge transfer, financial support, market studies, valorisation of products, etc., which then result in those rural innovation processes.

The research conducted does not directly apply the rural web approaches (Ploeg et al., 2008) or the adaptation of triple helix and learning regions (Wellbrock et al., 2012). However, there is no doubt that these are very useful reference frameworks, and therefore this research on innovative projects utilises elements of these approaches. At the same time, the case studies are all examples of how different rural areas deal with globalisation (Woods, 2007, 2009), taking into account the diversity of interests in each of the different locations (Massey, 1991).

3. Methodological framework and data collection

From a methodological point of view, the analysis of actors falls into the wide but relatively new field of game theory and social network analysis, which provide a clear and an in-depth analytical perspective (Wasserman and Faust, 1994; Murdoch, 2000; Wilkinson, 2006). In some way this methodological approach attempts to apply concepts drawn from natural sciences to social sciences. Scenarios, prospective analysis, strategic analysis, actors' analysis, network analysis, etc., are concepts developed by this approach that can be of application in many fields (Bendahan et al., 2003; Soliva et al., 2008).

In innovative projects carried out in rural areas, the most interesting aspects are the identification of the key actors in each project, the inference of the position of each agent in relation to the projects' main targets, the detection of relationships between

actors (type of relationship and level of intensity) and identification of the position taken by each agent in the network, which will depend on these relationships. That is to say, this is social network analysis, in which the nodes (actors) and the connections between them (different types of relationships) are the starting point.

The social network analysis approach (Mizruchi, 1994; Caniels and Romijn, 2008) will facilitate the detection of the key actors, their relative position and their relationships and, as a consequence, their role in the system; from here, better ways for improving strategies towards a more efficient performance can also be identified. The relationships between actors (i.e., individuals, groups, and organisations) can take many forms, but those connected with the exchange of resources – information, knowledge (Kesidou and Romijn, 2008), cooperation, etc – are particularly relevant. Various studies show that regular information exchange patterns function, in fact, as social networks in which the actors act as nodes (Haythornthwaite, 1996). But according to social network analysis, the actors' exposure to, and control over information, has also an impact on the probabilities of acquiring new knowledge (Doak and Karadimitriou, 2007). After gaining awareness of existing routes for the exchange of information and knowledge, information suppliers can modify these routes in order to improve the delivery of information. This, in turn, has also an impact on development processes, for example by stimulating a faster introduction of innovations in rural environments. These processes are also very well described from the rural web perspective, when the importance of the novelty production and its association to the contextual knowledge is highlighted (Oostindie and Broekhuizen, 2008), through the socialisation (sharing tacit knowledge), externalisation (transforming tacit into codified knowledge), recombination (reusing tacit and codified knowledge and create a new one through inter-firm networks or other linkages) or internalisation (transforming and adapting external into tacit knowledge).

In our study, and due to the difficulty of implementing demanding quantitative methods (such as MACTOR, Godet, 2006) drawn from a large sample of innovative initiatives in rural areas across Europe, we decided to retain a set of 9 case studies with which to gain a global overview of the issue. We worked with qualitative information drawn from 29 semi-structured personal interviews with qualified informants, mainly actors involved in the design, implementation and operation of the projects.¹ The interviews addressed a set of key questions. First, characterisation of the project according to the internal actors involved (the project idea and main aim, targets, level of achievement, grants awarded, etc.). Second, actors involved and their mutual interaction (in relation to the different phases of the project, relationships with other institutions, companies and actors, and matrix of mutual direct influences). Third, difficulties for the development of the project (whose most important obstacles, and to what extent they affect the project's performance, from the point of view of internal and external actors). And finally, impact of the project (what is the project's contribution, what influence meeting the targets would have on the various actors involved, etc.).

The nine case studies of innovative projects selected and the main target of each one is as follows²:

- Eco Fruct (Bulgaria), dealing with innovation in irrigation systems and ecological peach tree cultivation.

¹ Interviews were conducted in 2008. Some of them (Spanish case studies) have been updated in 2012. The remainder case studies have been updated through secondary documentation.

² Additional information about the projects can be accessed from the web references, listed after the bibliographical references.

■ AlpEnergyWood (France, Austria, Slovenia, Italy, Germany, and Switzerland), devoted to the exchange of knowledge about the use of wood for bio-energy among different countries.

■ 3N (Germany), which seeks to build a network for the promotion of renewable energy-related enterprises through a set of specific projects.

■ REDi – European Rural Economy Diversification Initiative (Germany and partners in other European countries), attempting to promote transference of information towards the diversification of rural economies.³

■ Organic Food Valley (Poland), which has as its main objective to build a network for cooperation in the field of organic farming, food processing and marketing.

■ Eco-compatible Agriculture (Italy), dealing with good practices in agricultural techniques; improvement of water quality.

■ La Ribera Energy Agency (Spain), dedicated to the promotion of renewable energy and energy saving awareness.

■ Eco-experimental farm La Peira (Spain), dealing with experimentation with ecological agriculture and animal husbandry.

■ CEAMA-Centre for Environment and Agro-Ecology (Spain), focused on experimentation and demonstration on ecological local plant seeds, local breeds, bioclimatic houses and cultural-scientific tourism.

4. Towards a characterisation of case studies

Following the interviews, a set of key aspects could be highlighted. The first one will have to be the predominance of projects related to energy (renewable energy, energy efficiency, energy saving, etc.) and agricultural production (organic farming, good practices, food industry, etc.), despite that innovation affects a diversity of sectors. A second important characteristic is that innovation tends to be connected to young projects. Certainly the introduction, adoption and implementation of innovations are often easier with projects of recent creation, rather than in situations when they involve the transformation of previously existing economic activities. Most of our examples involve projects aimed at making a significant difference with regard to 'traditional' activities, in which many of these actors had been involved. A third aspect to highlight is that these projects often rest on the personal motivation and personal – tacit – knowledge of the actors involved. The initial idea was often provided by owners and/or managers, while in other cases public agencies and NGOs contributed with key notions (explicit knowledge), and even participated in the implementation of the project. Therefore, to a large degree innovative projects take off through the action of people who firmly believe in their potential for innovation. The main factors in initiating this sort of project are thus commitment, previous experience, and knowledge. In contrast, financial assistance or subsidies, which are often invoked to explain the setting up of a project, do not in fact appear as major factors for the early stages (with just one exception among our case studies).

The support of innovative projects is a final aspect to be highlighted. We should distinguish funding (mainly public) from non-economic support. Public funding is crucial in the start-up, implementation and development stages. In fact, there is a trend characterised by an inverse relationship between the evolution of the project (from the start-up until its consolidation) and the need for or importance of external funding (this tends to have a more critical role in the initial phases; less so when the projects are in

the implementation or development and consolidation phases). Although external funding is less strategic in the advanced or mature stages in all the analysed projects, it is interesting to note that several projects with greater private sector involvement often require less external funding in those stages (which implies significant progress towards their self-sustainability). Nevertheless, there are exceptions in projects of a highly private nature but a long consolidation phase, or projects with greater trade uncertainty, which are often forced to turn to private external finance (bank credits, such as in Eco Fruct). On the other hand, external funding is in some cases considered highly important for daily operation, usually because there are no other funding schemes and the project depends mainly on public funding (AlpEnergyWood, CEAMA).

Therefore the public or private character of projects introduces another difference in terms of the need for external funding. Thus, for example, for some mainly non-public projects (e.g. Organic Food Valley), external funding has been fundamental in the conception phase, prior to the implementation and development of the project. On other occasions, and despite public participation, the small scale at which the project developers operate, and their financing difficulties, have meant that external funding has also been necessary for this phase (e.g. La Ribera Energy Agency).

EU programmes (such as INTERREG, LEADER and SAPARD) were the most prominent sources of public funding, although national and regional governments also provided substantial assistance, either directly or indirectly (through organisations for the support of entrepreneurial initiatives). For example one of the analysed projects, AlpEnergyWood (led by the *Institut Technique Européen du Bois Energie*) had about 10 public institutions as partners (combining administrations and research centres). Out of the two million Euros invested, 42% came from European Regional Development Fund (ERDF), but most of the remainder came from national and regional public institutions, due to the scarcity of private co-funding (Alpine Space Programme, 2008). Organic Food Valley, although addressing and involving private actors (producers), was conceived and initiated by public institutions (regional authorities), with the support of the University of Lublin, Poland, the public funding for which came from the European Social Fund (75%) and from the national budget (25%).

In smaller and more modest projects, a strong public presence in funding has also been demonstrated at both the start-up and development stages of the innovative projects, as for example in CEAMA (with LEADER as main source of funding), or the Energy Agency of *La Ribera* (created in the framework of SAVE II-2000 EU Programme and co-funded by the municipalities of the county). These and other data show that the goals of demonstration effects for other projects (with greater private involvement) and, above all, of being sustainable without public aid, are often far from being achieved in large scale projects as well as in modest projects (at least, in the latter case, in the start-up phase).

Being funding crucial for these projects, they also have a diversity of 'non-economic' support, most importantly in the implementation and development stages. This kind of support refers to the diverse productive, corporate, institutional and even social environment. Due to this diversity, from the gathered data there is not a clear pattern which can be regarded as a characteristic. Some projects combine a variety of these forms of assistance, each of which will be useful for different stages of the project. Thus, that is the case of scientific support for the initial phases:

“At the beginning of the project it was essential the scientific support obtained from universities”.

³ REDi Initiative failed due to the lack of support from the European Commission. It was in the design phase.

Expert, Department of Systems and Economics of Crop Production, National Research Institute, Organic Food Valley, Poland

“For the implementation of the CEAMA the University has been fundamental. Although we were highly receptive and supported it since the beginning, in fact we can say it is a project initiated by the University, or at least by the network of Agro-Ecology, which is closely associated with professors from the Faculty of Biology”.

LEADER Manager, NW Murcia, Spain

Likewise, there is technical support for management consultancy, provided by agricultural and environmental organisations, or other expert external consultants:

“Without the external consultant [expert knowledge] it would not have been possible to carry out the project”.

Farm's owner with 20 full time employees and 400 ha, participating in the project Eco-Compatible Agriculture, Italy

“The project is very closely linked with external consultants, whose advice has been instrumental”.

Economist, Eco Fruct, Bulgaria

“We maintain close relationships with fruit growers association, which help us with marketing, but they also advise us on important issues related to the production process”.

Agronomist, Eco Fruct, Bulgaria

“Our Association obtains support from universities, ecological and agricultural organisations”.

Office Manager, EkoLubelske Association, Organic Food Valley, Poland

Organisation advice and access to relevant information and knowledge in the implementation stages is also present, provided by agricultural and environmental organisations, producers, etc., as promotional support: *“we received organisational support from our region in France, for workshops and fairs to increase dimension of the events”* (ITEBE AlpeEnergyWood Project Manager, France). Additionally advice for the development and consolidation of the project is usually very important (mostly from public organisations, such as the Regional Agency for the Prevention and Environmental Protection, leading the Eco-Compatible Agriculture project), skilled labour under temporary assignment (European Rural Economy Diversification Network, Germany), or family cooperation, offering cheap labour and strong commitment to the success of the project: *“My daughter does not just work on the farm, but she is very involved in its operation and success”* (Owner, Experimental Farm La Peira, Spain), *“As we are an association which functions as a voluntary organisation, family cooperation is also very important”* (Office Manager, EkoLubelske Association, Organic Food Valley, Poland). And some of the case studies are very good examples of the optimal combination of various such sources of support:

“We obtained many other kinds of support from universities, ecological and agricultural organisations, and from the certifying body. These were mainly scientific, organisational and technical support, access to the relevant databases and entrepreneurial advice. The importance of the [non-economic] support was, and is still by now, crucial. At the beginning of the project the most important aspect was the scientific support obtained from universities. Then, in the phase of implementation, the most important aspect was the organisational and technical support, as well as access to the databases and entrepreneurial advices”.

Certifying body of Organic Food Valley, Poland

“The most important [non-economic] aspect for us is the promotional support as well as access to knowledge and entrepreneurial advice”.

Owner, Organic Farm in Wola Skromowska, Organic Food Valley, Poland).

Innovative projects also have to face specific difficulties (Fig. 2). After the initial stages, connected with the generation of the idea, one of the most common problems is a lack of adequate funding for the consolidation and development of these ideas; in fact managers are often compelled to approach more than one institution for economic support. The lack of physical infrastructure is another of these difficulties, although from certain angles this also is a funding-related problem.

In their initial stages, these innovative projects also face bureaucracy related problems, both in connection with funding and with the required permits. Sometimes, the innovative nature of the projects only adds difficulty to this, especially if the enterprise is of a private nature.

In close connection with these obstacles, these projects also have the difficulty of finding qualified personnel at different levels (both with regard to specific technical positions and to management and general administrative tasks). In some cases they also faced a widespread mistrust among local communities (Eco Fruct in Bulgaria and AlpeEnergyWood in France), and even downright opposition by certain actors (Organic Food Valley, Poland). However, this has not crystallised in any major conflict. These problems were in some isolated cases caused by an inadequate application of ICT (Organic Food Valley and Eco Fruct). Other difficulties were the introduction of innovations, the increase in agricultural prices (Eco-compatible Agriculture Programme, Italy) and delays in receiving the funding awarded by the European Commission (REDI, Germany).

Despite these difficulties, two of the most outstanding contributions of these projects (Fig. 3) are the transfer of knowledge (with a different combination of tacit and explicit knowledge depending on the field and the specific project), and the generation and stability of employment (it is particularly remarkable that some of the projects tend to generate comparatively highly skilled jobs compared to non-innovative projects in a similar field).

A final aspect on the characterisation of the analysed initiatives is the position that each of them has in relation to the rural web (Ploeg et al., 2008). From the primary information (questionnaires) as well as the secondary information available about the different projects it could be carried out a qualitative analysis, assessing the importance of each of the six dimensions of the rural web in each project (Table 1). From this analysis several conclusions emerge. First, the most present dimension tends to be the novelty production. We must remember that it is conceived as the ability to improve production processes and products, integrate different activities, or improve the ways of cooperation between actors and/or sources of knowledge. This result seems logical considering that they are projects characterised by their innovativeness. Second, other significant components are the sustainability (although based on public funding), the institutional arrangements (understood as involvement of institutions in the conception and development of projects, as basic elements for the development of the local community), and endogeneity (understood as material and social and intangible resources, such as the ability to launch initiatives). Third, analysing individually the projects, the six components are especially present in Organic Food Valley, which is the result of the broad mobilisation of public and private actors around the project, its roots with the territorial capital, including social capital and

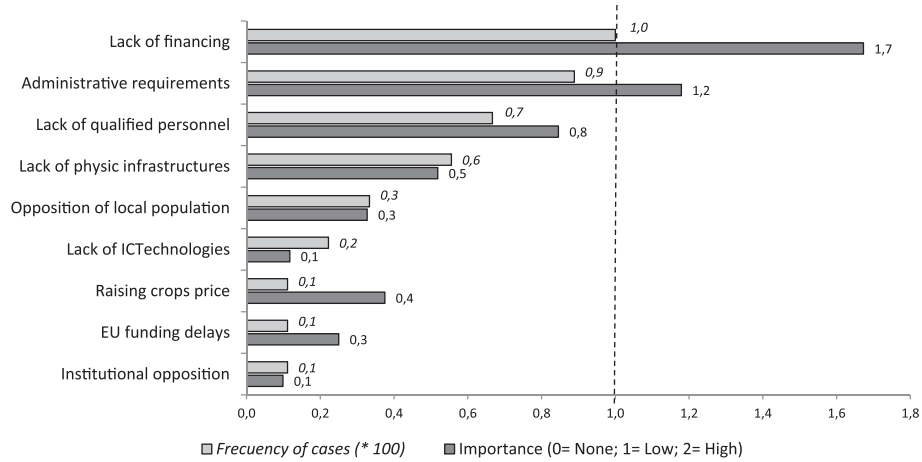


Fig. 2. Main difficulties faced by innovative projects.
Source: Elaborated from survey data coming from the case studies.

local resources, and the effort from different actors making it as a sustainable project. This is an example of the efforts of local communities to effectively combine top-down and bottom-up forces, to explore the material and social neo-endogenous resources (Ray, 2006), and to improve positioning from peripheral positions in domestic and global markets, i.e., responding better to the challenges arising from globalisation (Woods, 2009).

5. The role of actors in innovative projects

5.1. The actors and their roles: the importance of public actors in the project's initial stages

The diverse nature of the initiatives under study is also reflected in the diversity of actors and in the degree of their involvement. The

most common case is that of an individual trying to implement an innovative idea with his or her own scarce resources (for example, this is the case with the experimental farm *La Peira* in Spain). Another common case is that of innovative projects – innovative by design, structure or activity – being carried out as a result of the cooperation of several actors, such as local and/or regional government organisations, research institutes, local development agencies, farmers' associations, etc. Organic Food Valley (Poland) is a good example of this; the most innovative element is the creation of a network of actors (in charge of funding, monitoring, certifying, processing produce, advising, etc.) for the adoption of a joint comprehensive strategy in an increasingly competitive sector.

Public actors may intervene at different stages, regardless of the nature of the project. In some cases the actions of public actors affect all stages of a project, such as Energy Agency of La Ribera

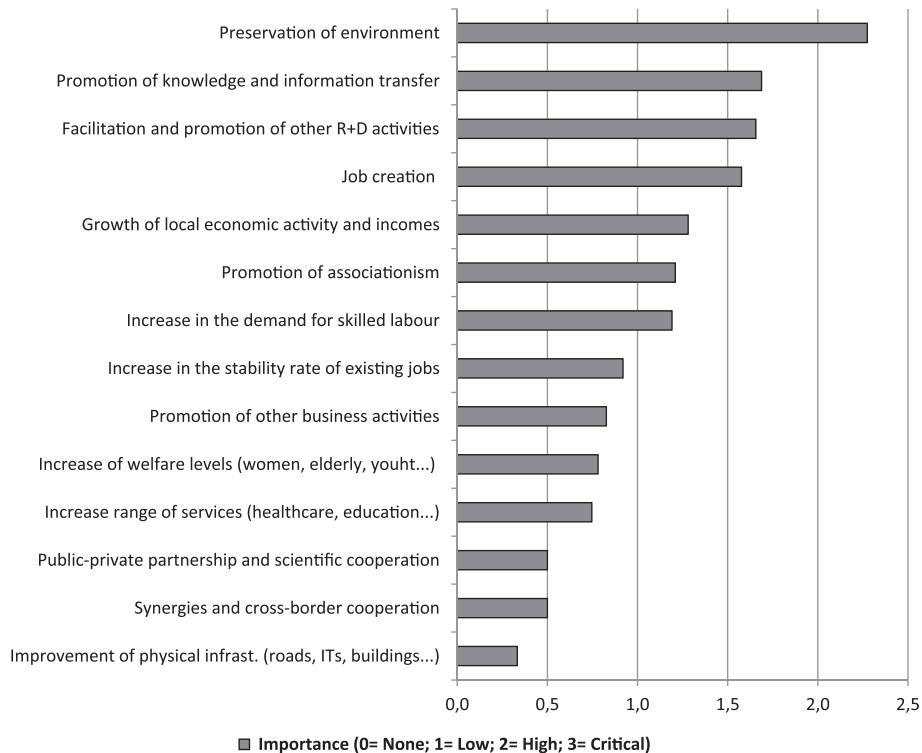


Fig. 3. Main contributions of innovative projects (level of importance).
Source: Elaborated from survey data coming from the case studies.

Table 1
Presence of the six dimensions of the rural web in the innovative projects.

	Dimensions of rural web						Global assessment
	1. Endogen.	2. Novelty Product.	3. Sustain.	4. Social Capital	5. Instit. Arrang.	6. Market Govern.	
Eco Fruct (Bulgaria)	High	High	High	Low	Low	Low	Medium
AlpEnergyWood (France)	High	High	Medium	Low	Low	Low	Medium
3N (Germany)	Medium	High	High	Medium	High	Medium	Medium-High
REDi (Germany) ^a	Low	Medium	Low	Low	Low	Low	Low
Organic Food Valley (Poland)	High	High	High	High	High	Low	High
Eco-compatible Agric. (Italy)	Low	Medium	High	Medium	High	Medium	Medium
La Ribera Energy A. (Spain)	Low	Medium	Medium	Medium	High	Low	Medium
Eco Farm La Peira (Spain)	Medium	High	Medium	Low	Low	Low	Medium
CEAMA (Spain)	Medium	High	Medium	Medium	High	Low	Medium
Global assessment in the sample	Medium	Medium-High	Medium	Medium	Medium	Low	

^a Since the project failed and could not be implemented, this assessment is only related to the design state. Source: Elaborated from questionnaires and secondary data about the case studies.

(Spain) which, although autonomous to a degree, is the result of cooperation between two clusters of municipalities with the capacity to strongly influence financial and strategic decisions. In the case of Organic Food Valley the main agent (regional government) is equally present in all stages of the project (from the generation of the original idea to its implementation, development and daily operation). This does not guarantee the feasibility of the project. In opposition to the previous case, and generally speaking, the role of public actors is limited to supporting the generation of the idea and, in some cases, the start-up in the initial stages. Sometimes we find local public actors working in cooperation with other private or public ones (such as Eco Fruct in Bulgaria or CEAMA in Spain). In such cases, the idea is largely the result of public-private cooperation, although its implementation and development are left in the hands of private partners. Thus, local public actors encourage the emergence of ideas and, where appropriate, stimulate their implementation by smoothing out bureaucratic and administrative issues.

Sometimes regional public actors also play the role of ‘initiator’. This is the case for 3N – Network of Renewable Resources (Germany), in which both public – the local agricultural chamber and a

research centre in an advisory role – and private actors cooperated in the generation of the original idea. Sometimes a public agent (i.e. regional government) sets forth the idea for an innovative project (for example the Eco-Compatible Agriculture Programme, Italy) following the advice of external consultants, but its implementation is left to a private agent with the cooperation of NGOs. Some projects are set at a very large scale and incorporate a large number of partners throughout Europe (AlpEnergyWood, present in France, Austria, Slovenia and Italy).

The analysis of the relationships between actors, and their contributions (Fig. 4), in these projects reveals a broad pattern. As noted above, the actors necessary for the setting-off, implementation and development of innovative projects in rural areas, and the sort of support such actors provide, fall into five major categories, scientific and technical support (provided by research centres, technical staff in government offices, certifying agencies, etc.), knowledge and information (both on specific and technical and on more generic issues, provided by a wide variety of public bodies), the physical infrastructure (needed for the everyday operation of the project, provided by public bodies, mostly local but, to a lesser extent, also national governments), organisation

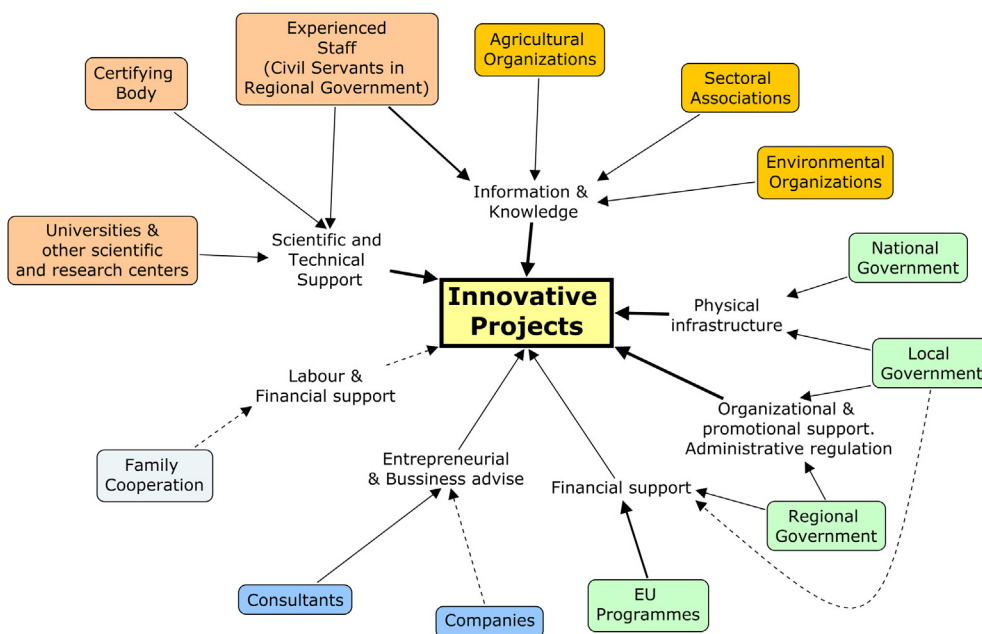


Fig. 4. Main actors and their contribution to the development of innovative projects in rural areas. Source: Elaborated from survey data coming from the case studies.

and marketing (provided by a variety of actors, including public bodies – mainly local governments – private organisations and NGOs), and finally implementation of regulatory standards (provided mainly by local and regional governments). In some cases, the participation of other types of actors can also be of great importance, for example business advice, provided by external consultants or even by other companies or organisations similar to the one that runs the project.

5.2. An example of innovative project in rural areas: Centre for Environment and Agro-Ecology – CEAMA (Murcia, Spain)

CEAMA is an interesting example of how innovative projects can be carried out in rural areas (Fig. 5). This project was born thanks to the personal drive and motivation of the manager of LEADER Local Action Group in the north-west region of Murcia (Spain). To be precise, the project is an integrated cluster of micro-projects (among which, the sub-projects on bioclimatic housing, the recovery of local animal and seed breeds, and scientific and cultural tourism must be highlighted).

The first element that must be highlighted is the interest shown for the implementation of an innovative management policy. From the point of view of this Local Action Group the LEADER Programme has exhibited some administrative problems, fundamentally a lack of flexibility which becomes particularly apparent in this type of project. For this reason, the members of the Local Action Group created the Foundation 'Tierra Integral' (a

non-profit organisation whose aims to facilitate cooperation between private and public actors around LEADER), with which to manage different initiatives with much more flexibility and with LEADER's financial support. The initial idea for the creation of this Centre for Environment and Agro-ecology (CEAMA) was set forth by the manager of the Local Action Group (who also manages the Foundation), while other actors contributed to the subsequent definition of the project down to its implementation and first stage of development. The degree of cooperation achieved between different actors (from national to local scale) has been instrumental for the success of the initiative, the LEADER Local Action Group being the most important (with the participation of local governments from the area, in addition to other private and social organisations), who is funding the Foundation's project with CEAMA.

The second important element is the municipality of Bullas (Murcia), which provided the land for building CEAMA's headquarters and some funding. Third, the Regional Institute for Research and Agricultural and Food Development (dependent on the Regional Government), which plays an advisory role and monitors the recovery of traditional plants and animal species. Fourth, the project's architect, who is very involved being directly responsible for the subproject on bioclimatic houses, and still continuing monitoring the results. And finally, the University of Murcia, through its Faculty of Biology, that plays an advisory role on the use of traditional seeds and the exploitation of traditional crops, but in some way also leads the project since a member of the university's research group

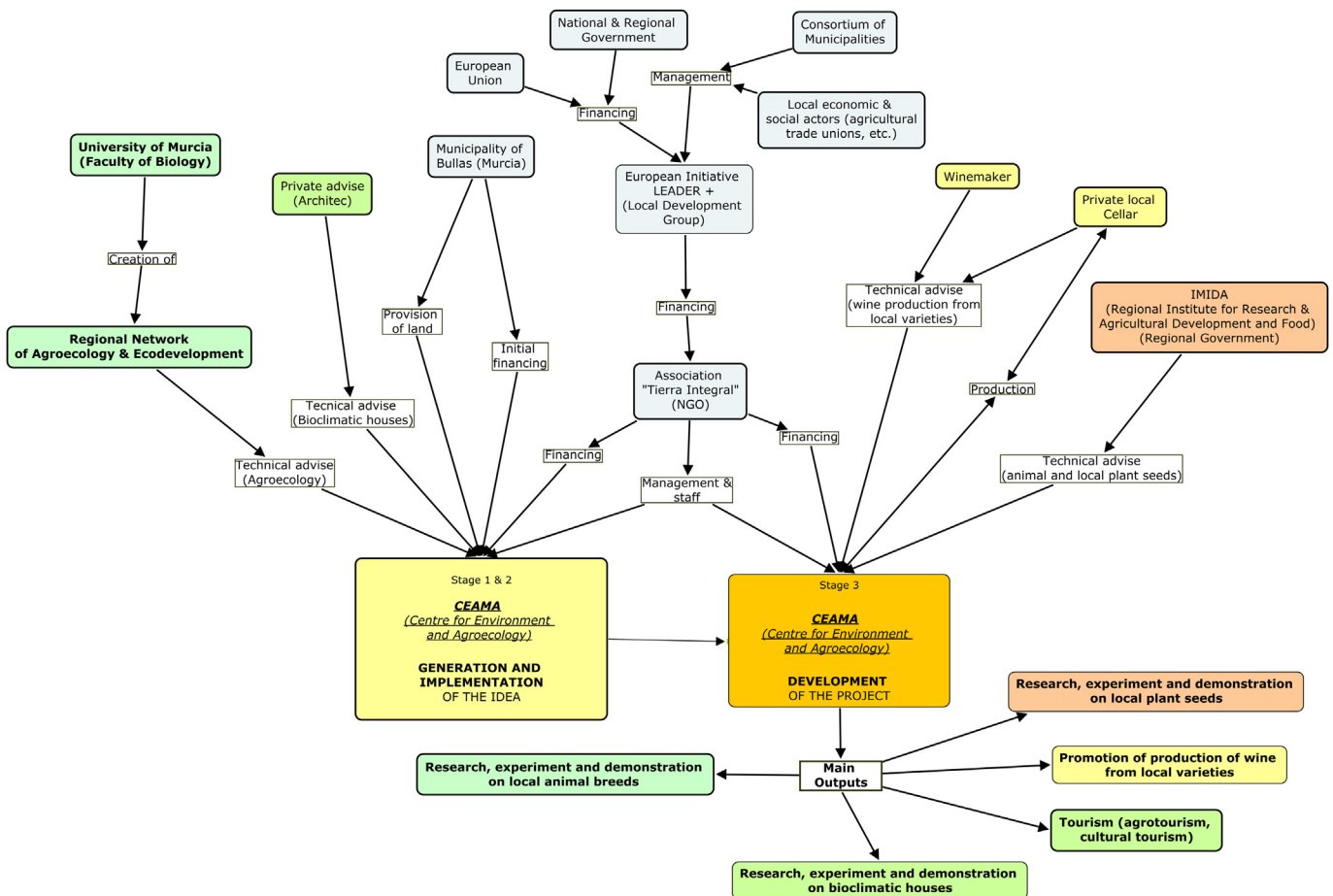


Fig. 5. Main actors and their contribution to the generation, implementation and development of the project CEAMA (Murcia, Spain). Source: Elaborated from interviews with person in charge of CEAMA and manager of LEADER Programme NW of Murcia (Spain).

belongs to the Regional Network of Agricultural and Eco-Development and was one of the key promoters:

“Formally the CEAMA is proposed [to the Foundation ‘Tierra Integral’] from the Regional Network of Agricultural and Eco-Development –Agro Ecology Network–, with the official support of the Biodiversity Foundation (belonging to the Ministry of Environment). But funding for the startup and maintenance of it has come from Foundation ‘Tierra Integral’, which in turn obtained the necessary funding from the LEADER Local Action Group”. (Biologist and professor at the University of Murcia, Agro-Ecology Network in the province of Murcia and link between CEAMA and the University of Murcia, Spain).

This is a clear example of the complex network of actors and relationships that contribute to a project, but two key elements stand out above all others, the personal involvement and leadership (in this case working together those bringing scientific and managerial knowledge) and funding (coming here from the LEADER Local Action Group).

CEAMA provides a good example of a project implemented by a small number of people (some of whom were personal acquaintances of the LEADER manager and also promoter of the idea) which has managed to grow and gain strength over the years. This growth is not only reflected in the number of sub-projects or activities linked to the main project, but also in the network of actors built around them. In this particular case, this network is the result of the LEADER manager’s personal efforts, who has efficiently managed the opportunities offered by external actors, and the scientific leadership of the person in charge at the Regional Network of Agro-Ecology. All these efforts are organised in a work programme under the coordination of the manager and the Foundation ‘Tierra Integral’.

Apart from coordinating all these efforts, CEAMA’s contribution is present in different fields, although mainly those on research, testing and promotion of traditional local animal and plant species and bioclimatic housing, cultural and scientific tourism, and in a lesser extend the promotion of wine production using local varieties.

5.3. Towards a characterisation of actors’ networks

After analysing the sample to detect general characteristics and trends, and a first examination of the role played by actors in the implementation of the projects, we should turn our attention to three main issues: the mechanisms behind the creation of networks, the main features in the relationships and dependencies between such actors and the impact on the projects, and finally, the agent’s perception of the project’s impact.

5.3.1. Creation of networks

The relationship between actors can vary depending on the type and the scale of each project. A common feature, however, is that actors are part of extensive networks and draw strong relationships with other actors (individual, collective, public, private or associative). One model of a network is relatively simple in structure but also solid; it often includes economic actors working in the same sector (both individuals and groups)⁴ and external consultants in

advisory roles. The role of the latter is to assess the former on their reaction to market changes, to obtain external support and to take strategic decisions to improve their performance, etc. (Eco Fruct, Bulgaria).

Another model (Eco Experimental farm *La Peira*, Spain) emphasises networking with consumers and potential consumers, research bodies, and officials working for the regional government. Due to these networks the project has become a reference point for researchers and public bodies regarding different aspects of organic farming. In a similar way, Organic Food Valley (Poland) depends on a dense and extensive network involving a variety of actors, including the association of affiliated producers, research centres (Lublin University of Technology, College of Enterprise and Administration), certifying agencies, etc.

When cooperation between partners is a central issue the network tends to be organised by the promoting partner (AlpEnergyWood). In this case, the project aims at the implementation of what is in essence the same innovation in the geographical area in which each partner operates, through the intervention of the national or regional network. A final model is fundamentally concerned with public initiatives and social aims (Energy Agency La Ribera, Spain), for example, spreading awareness and promoting a more rational use of energy. The main network is based on the municipalities which created the agency but this network extends further links to business networks and customers (mainly farmers’ associations, public schools and small and medium-sized companies).

5.3.2. Influence and dependence between actors

The implementation of innovative projects requires a relatively large relational network. We analysed the influence that different actors had on the design and implementation of projects. This takes place within networks with the participation of actors who have an active role in the managerial structure of projects. It should be noted, first, that for many interviewees, the major actors are those participating in one or more of the project’s stages in close collaboration with themselves. We may consider these as forming the internal actors’ network (Table 2). For this reason it may be said that, at least in our sample, one of the most important features of innovative projects is the closeness of actors and their interaction within a relatively robust and wide network (internal).

Beside this, the interviewees inquired about the direct role played by public (local, regional and national), private (other projects or companies), and collective actors (producer associations, NGOs, trade unions, etc.). The results show that the intervention of public actors is particularly significant, most especially in relation to the normative, promotion policies, and funding. By unifying many of these functions, regional governments are perceived to be the most influential external actors. The role played by other external actors is much less significant for innovative projects, for example with collective associations, private companies and even other similar ventures. These results find confirmation in the significance of external influences as perceived by stakeholders, both internal and external (Table 2). In relation to that some aspects need to be highlighted. First, that significance of the role of internal actors (project partners) is mostly rated as high and very high. Second, that the role of regional governments (as external actors) is, in general, medium, but in some cases the relationship with the project managers is viewed as very important. Third, the influence of local governments varies considerably, depending on the case, but for almost half of the interviewees their role is rated as moderately to highly significant. On the other hand, for most projects national government has little or no influence. Finally, although non-public actors do not pursue the imposition of a significant influence on projects, they are present in most of them.

⁴ An extensive study on Business Networks has been conducted in rural areas in the region of Valencia (Spain), showing that vertical networks (backward and forward networks, with providers and clients respectively) are specially strong since they are necessary for the daily operation of business, meanwhile horizontal –territorial networks with other companies and institutions tend to be still too weak (Esparcia, 2012).

Table 2
Significance of actors' influence on projects.

	Average influence ^a	Frequency by level of influence				
		No influence	Low influence	Medium influence	High influence	Very high influence
Project (internal)	3.3	0%	13%	0%	38%	50%
Regional Government	2.4	0%	22%	44%	0%	33%
Local Government	1.8	22%	33%	11%	11%	22%
National Government	1.1	67%	0%	0%	22%	11%
Other projects	0.8	44%	33%	22%	0%	0%
Other Companies	1.1	22%	56%	11%	11%	0%
Associations. – Trade Unions	1.4	11%	56%	22%	0%	11%

^a 0 = No influence; 1 = Low Infl.; 2 = Medium Infl.; 3 = High Infl.; 4 = Very High Influence. Source: Elaborated from survey data coming from the case studies.

The above conclusions also reflect the factors upon which projects depend. It seems logical that projects primarily depend on the internal actors' network (including partners), which the project's operations rely upon. External dependencies mostly point towards public actors, because of administrative links, public funding and other public policies for the support of projects. Sometimes, this support depends on the innovation introduced by projects in terms of processes, products, organisation, etc.

5.3.3. Impacts of projects on actors

But relationships between actors and projects can also work in the other direction, and the project can have an impact on actors and stakeholders. In other words, the project creates relationships while having an impact on the actors involved. The assumption is that the achievement of the project's targets will have a highly positive and beneficial impact on those most directly involved with it, but it can also have a significant multiplier effects on other 'external' actors.

Table 3 summarises the interviewees' perception of the impact caused by the achievement of the project's targets. For obvious reasons, the most significant impact is on local and internal actors directly involved with the project (those in managerial positions or staff). Here again the results show that there is an initial network of actors whereby the relationships of mutual influence are very strong. The benefits and impacts are also perceived as very high as a result of these networks.

The perception of impact-benefit, when external actors are considered, is also equally higher in the case of closer public actors (regional and local governments), which would constitute a secondary actors' network. It is worth pointing out that the impact or benefits of projects on actors are valued and perceived above that of actors on projects. Although the information gathered in this regard is qualitative and based on personal interviews, there is enough evidence to corroborate this trend; it must be interpreted as proof that some projects have a high 'return' ratio for public (and other) actors involved, understood as a high 'profit' ratio (in general terms, including political 'profit').

Table 3
Impact from innovative projects to the actors.

	Average impact ^a	Frequency by level of impact				
		No impact	Low impact	Medium impact	High impact	Very high impact
Project (internal)	3.9	0%	0%	0%	13%	88%
Regional Government	2.4	0%	11%	56%	11%	22%
Local Government	2.4	11%	22%	11%	22%	33%
National Government	1.2	56%	11%	0%	22%	11%
Other projects	1.0	44%	22%	22%	11%	0%
Other Companies	1.2	22%	56%	0%	22%	0%
Associations. – Trade Unions	1.3	11%	56%	22%	11%	0%

^a 0 = No Impact; 1 = Low Impact; 2 = Medium Impact; 3 = High Impact; 4 = Very High Impact. Source: Elaborated from survey data coming from the case studies.

Finally, there is a third group of external actors with less intense links and also less influence; this includes collective associations and NGOs, other projects – with which intense relationships may be maintained – and even private companies – with which business transactions may be negotiated.

6. Discussion and key conclusions

Originally, our research pursued two main targets: the identification of the key factors facilitating the success of innovative projects in rural areas – along with the major barriers and restrictions – and the analysis of the role played by different actors in the promotion and implementation of the projects.

Indeed, the in-depth analysis of various case studies confirms that the conception, design, implementation and development of innovative initiatives in rural areas depend, above all, on the presence of an innovative environment which facilitates the various processes leading to the success of the initiative. This innovative environment involves a network of actors linked to the project who also show a high degree of commitment with the territory in which the project is being carried out. At the same time, part of this network of actors constitutes a system of institutional support, in which local public institutions take the largest role (Metcalfe and Richards, 1990). Finally, the innovative environment implies the presence of 'knowledge capital' and knowledge exchange between actors. This is what makes the introduction and implementation of innovations possible, transforming the initial ideas into successful, healthy and sustainable ventures.

Therefore, one of the most relevant factors towards success in the development and implementation of projects and innovative initiatives in rural areas is precisely the existence of this kind of innovative environment, characterised (among other factors), by a network of economic, institutional and social actors. Fig. 6 shows a model reflecting the importance of actors' networks in relation to the different stages of projects. Regarding the early stages (generation of ideas), we can find two major types of projects. On the one hand, we can find those in which actors' networks are

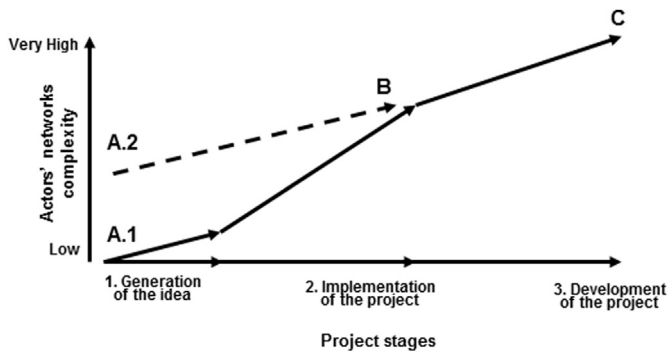


Fig. 6. Relative importance actors' networks at different stages of the project. A1: Individuals and weak actors' networks; A2: Intermediate actors' networks; B: Developing actors' networks; C: Developed and powerful actors' networks. Source: Elaborated from survey data coming from the case studies.

comparatively weak, are poorly developed, or almost non-existent (Fig. 6 A1); in these cases the adoption of the network's role by one or more individuals (often, one of these will take the role of manager) will become the key factor. On the other hand, and this is the most common case, we have projects in which the generation of the foundational idea is already the result of the cooperation of several actors, who now interact within a more developed network (Fig. 6 A2).

After the idea has been set forth, however, its implementation and shaping into a project tends to coincide with the significant growth of the actors' network involved (Fig. 6 B). As shown by the case studies, this is one of the most critical phases and requires commitment from all those actors. Later, once the project has reached the implementation stage, it is possible for newly arrived actors to contribute, but the growth of networks will be comparatively low (Fig. 6 C). At this stage the key is no longer the growth of the network but its consolidation, similarly the case for the project at large, which will be searching for ways to ensure sustainability.

Our second key target was to analyse the role of different actors in the promotion and implementation of innovative initiatives. As shown by this analysis, the presence of different actors varies depending on the stage of development the project is going through.

In the early stages the key actors tend to be individuals or managers experienced in the productive environments involved in the implementation of innovative projects. In addition, knowledge transfer, networking, and general ability to face changes are also key features. In other words, connections with other – mainly, but not exclusively local – actors, and general proficiency at networking, could be essential factors in explaining knowledge transference, with potentially determinant effects on the final decision regarding the development of an innovative project. Decision makers tend to rely on local actors, local governments (which typically provide logistical support, infrastructure, equipment and, less often, funding for the initial stages), producers' associations (which are strongly significant networks at the local level), and in some cases also local private firms.

However, at the point of 'transition', when the idea needs to be implemented, the key support may be provided by external actors (who may also participate in the initial stage in an advisory role regarding the feasibility of the idea). These external actors tend to fall into three main types: independent consultants, external experts, and external organisations. Independent consultants and experts provide business management and technical advice, and may eventually even join the project. External experts act as advisers, but are also often connected to public research institutions,

or are employed as technical or professional staff by regional governments. They often offer their expertise, knowledge and advice on the feasibility and implementation of innovative projects.

External organisations tend to be involved in the implementation stage, as well as participating in the 'transition' to the development stage. This is the case for various types of organisations, environmental groups, farming associations, and also sector-related organisations (tourism, wood sector, energy, etc.). In general, these actors contribute with information and knowledge. For example, they provide information regarding changes in the different economic sectors at different levels. Equally, they offer information and knowledge about innovations and their technical, economic and commercial viability. Finally, these actors also contribute with technical and scientific support, especially when they belong to public universities or research centres attached to regional governments.

Finally, financial support is crucial for the success of innovative projects. An important conclusion is that most innovative projects in rural areas are not self-sustainable. All projects have been partially or completely funded by outside sources of funding. This funding can be public, including direct, indirect, and supplementary funding attached to EU programmes, and other sources of public funding, fundamentally regional governments. Financial actors are a key element in the development and implementation of innovative projects, and this explains the dependence of many projects on public support even during and after the final stages of development. This is the case for projects that are not only innovative in themselves but also operate within innovative sectors, which are usually not capable of generating sufficient resources to be self-sustainable (this is particularly common with certain kinds of environmental ventures).

However, it can also be noted that once innovative projects are developed and consolidated they tend to offer a series of external services which clearly contribute to their sustainability. This is the case both for ventures whose services are oriented towards the private sector (for example marketing and sale of agricultural products) and for those which operate on the basis of mixed public-private partnerships (for example, offering advice on energy issues to public bodies, producers' organisations, and even private companies). Thus, in spite of the need for external, mainly public support, strong efforts towards self-sustainability (this is especially common in projects working at the local or at the regional levels) can be detected. In other cases, especially for NGO-based projects with the participation of multiple partners, self-sustainability appears to be a more complicated goal, at least in the midterm.

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