

Acting as Agricultural Innovation brokerage in Italy: experiences from the Rural Development Programmes 2007-2013

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Abstract: The European Rural Development Policy (RDP) 2014-2020 establishes the European Innovation Partnership (EIP) for agricultural productivity and sustainability to bridge the existing gap between science and practice and to allow the achievement of better and faster results compared to existing innovation approaches. The aim of the EIP is to apply the interactive multi-actor model of knowledge exchange in order to generate new insights and ideas and mould tacit knowledge into focused solutions that are quickly put into practice.

In this context, the innovation brokers should play an important role as knowledge suppliers, through connecting different actors of the innovation system, establishing the link between the research and the entrepreneurship worlds and arranging the collaborative networks. The concept of innovation broker is quite new in Italy since its Agricultural Knowledge and Innovation System (AKIS) has been based on public advisory systems for a long time. However, in the context of the implementation of measure 124 of Rural Development Programmes (RDPs) 2007-2013 the function of innovation brokerage has been played by different AKIS actors, such as farmers, producer's organizations, research and innovation centers, the Extension and Advisory Services and the LAGs.

Accordingly, this study analyses the different types of intermediations and functions applied by the AKIS actors, in view of profiling the innovation brokerage model applied in Italy, and proposing insight, tips and comments on how to face the challenge of facilitating the sharing and creation of knowledge.

Keywords: innovation brokerage, AKIS actors, innovation, EIP, RDP, advisors.

Introduction

The Commission's proposal for a post-2013 rural development policy establishes the European Innovation Partnership (EIP) with the aim of building bridge and achieving synergies through fostering exchange between research and practice. Its implementation will be channeled through the operational groups, as key acting entities involving different actors, such as farmers, advisors, researchers, NGOs, enterprises, etc. (ENRD, 2013b). The agricultural EIP adopts the interactive multi-actor model of knowledge exchange (European Commission, 2013; World Bank, 2006; Hall et al., 2006; Knickel et. Al., 2009; Mosley, 2000; Labarthe & Laurent, 2013; Latruffe, 2010), in order to promote end user focused solutions or developing new opportunities (ENRD, 2013a).

To support this innovation pathways new competences in mediating knowledge are required in order to overcome possible gaps in terms of cognitive, normative and value systems (Klerkx and Leeuwis, 2009), which can hinder effective communication. This will be the role of the innovation broker.

In the context of the agricultural EIP, the main task of the innovation broker is to help the setting up of operational groups around concrete innovation projects through collecting information, an-

inating bottom-up initiatives, helping to refine innovative ideas, providing support for finding partners and funding, as well as for preparing the project proposal work plan.

These functions are not exhaustive of the possible activities that the innovation broker can play in view of smoothing the innovation process. In fact, the literature describes a variety of functions performed by innovation brokers.

In Italy, the use of interactive innovation models based on co-operation, sharing of knowledge and intermediating advisory methods is quite new, and the concept and role of innovation broker are almost unknown. However, in the programming period 2007-2013, the Italian Regions proposed a certain step towards a more interactive innovation process, through Measure 124 “Cooperation for development of new products, processes and technologies in the agriculture and food sectors” of Rural Development Programmes, which has been applied in 18 out of 21 RDPs. The implemented intervention strategy was mainly based on fostering innovative systems of cooperation between research and agricultural businesses (European Commission, 2011), thus requiring to connect actors from different sectors. Even though Managing Authorities (MAs) did not explicitly call for intermediating actors to encourage innovation initiatives and connect different partners, nor provide any support for coordination and organisational activities, measure 124 of RDPs demonstrated that these intermediary functions were performed spontaneously by its beneficiaries through fostering interaction among different actors and stimulating bottom-up approaches around innovative projects.

The research questions of this study are whether in Italy actors playing brokering functions already exist and operate, or if it is necessary to create a new professionalism for the purpose of implementing the EIP, what the intrinsic and contextual characteristics of these actors are and, eventually, the extent to which these latter adhere both to the model proposed by the European Commission and to those described in literature.

Finally, this paper put in evidence the results of a research conducted by the authors through exploring the innovation brokering process applied in the context of the implementation of measure 124 of RDPs 2007-2013 in Italy. The result of the research comes out with insight, tips and comments on how to face off the challenge of acting as a go-between innovation actors.

Theoretical framework

According to Klerkx and Leeuwis (2009) the formation and functioning of innovation networks and systems can be problematic due to the existence of several gaps between actors. In this context, there is the need for subjects whose main function is to fill these gaps by connecting different players so as to facilitate knowledge exchange across the boundaries between them. This task will be performed by the “innovation broker” (Herman et al., 2012; Perèz et al., 2010; EU SCAR, 2012), meaning “an agent or broker in any aspect of the innovation process between two or more parties”, whose activities include helping to provide information about potential collaborators, brokering a transaction between two or more parties, acting as a mediator or go-between bodies or organizations that are already collaborating, helping find advice, funding and support for the innovation outcomes of such collaborations (Howell, 2006). As Howell observes, organizations can provide intermediary functions as their primary or exclusive role, but also as jointly activities of research and technical services.

The role of the innovation broker is very usual in the Netherlands, since it has emerged following the privatization of the research and extension system and a paradigmatic shift in the agricultural and rural fields, as well as in innovation pathways. Klerkx and Leeuwis (2009) give examples of the seven distinct types of agricultural innovation brokers that can currently operate in the Netherlands:

- innovation consultants are organizations focused either on the individual farmer (type 1), or on a collective of farmers (type 2) with a common interest, who wish to jointly develop or implement an innovation;
- peer network brokers (type 3) are organizations involved in the setting up of peer networks (generally with a sub-sectorial focus) concerned with informal knowledge exchange amongst farmers;
- systemic brokers (type 4) go beyond individual firms, or networks of firms, addressing higher level innovation architectures that involve complex constellations of business, government and societal actors, dealing with complex problems and radical innovations;
- internet portals (type 5) connect farmers with relevant information sources;
- research councils with innovation agency (type 6) are aimed at connecting relevant actors in the agriculture value chain in order to facilitate farmer-driven research planning mechanisms;
- education brokers (type 7) link education establishments with the aim of positioning the agricultural schools in view of responding to innovation queries from the agricultural sector.

Howell (2006) describes a detailed set of functions concerning innovation brokerage that are primarily targeted at assisting individual firms in innovation processes, through articulating their innovation needs and composing the network (e.g. knowledge processing, selection of collaborative partners and network brokerage, gate-keeping and knowledge brokering, etc.). Besides, Smits and Kuhlmann (2004) describe other functions with a more systemic focus, aimed at interfacing with different actors and animating groups, such management of interfaces, building and organizing (innovation) systems, stimulating demand articulation, and so on. Klerkx and Leeuwis (2009) summarize the last functions as innovation process management, which includes a host of facilitation tasks that ensure that networks are sustained and become productive, e.g. through the building of trust, establishing working procedures, fostering learning, managing conflict and intellectual property management (Leeuwis, 2004).

In the context of the agricultural EIP innovation process management is not an expected function, as the broker's core objective is to help the group in the elaboration of a well-designed project plan. However, in case the project gets funded, the innovation broker could also be involved in its implementation, as a facilitator, and even in the dissemination of results.

Despite the potential role of innovation brokers in facilitating partnerships and linkage among different innovation players, several risks have been identified with particular regard to their neutral position and possible function ambiguity, as well as, to funding problems (Klerkx et al., 2009).

Concerning neutrality, innovation brokers can reveal possible dependence from shareholders, who may exercise pressure to compose and manage network in order to satisfy their own interests. Therefore, there is a concrete risk that innovation intermediaries may be used as a vehicle for realising other parties' objectives and expectations. Neutrality issues seem to be particularly relevant with regard to network brokerage roles performed by traditional research and extension providers. In these cases, it is possible that the articulation of needs and the selection of cooperation partners may be influenced in favour of the needs of the provider rather than those of the client.

Besides, function ambiguity tensions may arise as a consequence both of a new, and not completely clear, mission of innovation brokers and of an overlap with intermediary functions from research and extension services. Innovation brokers acting with insufficiently differentiation from the role of advisory and research providers may be seen by these latter as direct competitors. At the same time, farmers who are not aware of what they can expect from the innovation broker,

cannot have the indispensable confidence in her/his functions. Moreover, farmers' representatives can see the innovation broker as a threat due to a possible role of opinion leader in performing 'animation' functions.

According to Klerkx et al. (2009), specialized innovation brokers may be an option to prevent neutrality tension and to act as innovation catalysts more freely, but, on the other hand, they bear their own tensions with regard to neutrality, function overlap and funding.

A further drawback can be related to the difficulty of recognizing the value of intermediating role among the variety of tasks performed by a multi-actor network. This may lead innovation brokerage activities to be economically non-self-sufficient and, thus, impossible to exist without public funding schemes.

Neutrality, function ambiguity and funding issues represent an inspiring theoretical background to the innovation brokerage analysis in Italy, as they specifically refer to concrete challenge that MAs will face (specialized / non-specialized brokers and funding schemes) in view of providing for brokerage activities within the EIP context.

Then, another threat which MAs will have to deal with could be related to the risk that innovation brokers might become mere producer of projects that do not necessarily address the real needs of change of the farmers or the group (ENRD, 2013b).

The research methodology

The study is part of a wider analysis concerning the implementation of Measure 124 of RDPs in Italy. Due to the complexity of the interventions the study is supported by the use of a mix of methods approach (Brannen, 2005; Birner, et al., 2006; Greene et al., 1989), based on different strategies (opinion, empirical, analytical, documental), domains (individual, group, field, case, secondary) and techniques (semi-structured interviews, focus groups, philosophical argument).

In particular, the desk research was used to review the policy/projects design and implementation, while the work on the field helped on the assessment of roles and functions, projects implementation, brokering process and relational dynamics among partners, through the direct perception of all the stakeholders. As it was defined, this strategy permitted to gather a good range of qualitative, quantitative and relational information⁷⁷.

Information concerning the brokering functions played by different actors is analyzed against a framework which takes into account both the functions outlined by the European Commission and the ones described in the literature, which constitute to a great extent the subcategories of the above, except for those that take the form of transfer and development of innovation.

In particular, the framework is defined by synthesizing all these functions in eight tasks:

- Discovering innovative ideas, identifying and articulating farmers' needs;
- Connecting partners, identifying suitable partners from different knowledge fields;
- Supporting partners to refine the idea, articulating their demands and expectations;
- Identifying funding;
- Preparing the project proposal;
- Coordinating/ facilitating, leading the dialogue and the learning process;
- Running innovation, playing a role in initiating, developing and testing an innovation;
- Communicating results, carrying out effective dissemination activities addressed to transfer knowledge on the innovations.

⁷⁷ A further discussion on the methodological approach is in Cristiano C. and Proietti P., 2013

The study takes into consideration all the Italian projects funded under measure 124. This allowed to identify several types of actors acting as innovation brokers. The findings were further analyzed and confirmed through seven case studies. These case studies are maximally representative of the whole projects inventory analyzed through the survey.

The underlying table provides an overview of the functions performed by the actors involved as innovation brokers in each case study.

Type of actors involved in the brokering process	Tasks of innovation brokering process							
	Discovering innovative ideas	Connecting partners	Supporting partners to refine the idea	Identifying funding	Preparing the project proposal	Coordinating/ facilitating	Running innovation	Communicating results
Innovation center	X	X	X	X	X	X	X	X
University/ Research centre	X	X	X	X	X	X	X	X
Farmer	X	X					X	
LAG	X	X	X	X				X
PO / coop/ consortium	X	X	X	X			X	X
Local administration	X	X		X				

A close look at the brokering process in Italy

In general, the analysis shows that the implementation of measure 124 of RDPs in Italy has driven a variety of actors to self-organize themselves and establish partnerships for the specific purpose of developing, through cooperation, innovation projects. These experiences have led to activate what Klerkx and Leeuwis identified as innovation consultancies and do not have the specific aim to foster a longer exchange of knowledge nor the setting up of long-term relations between the actors.

Also, no need for setting up new and specialised innovation brokers has emerged. Overall, the eight tasks (in the table) defined by the framework are performed in different ways by the different already existing actors.

Generally, the Innovation centers and the Universities/Research Institutes are able to cover all of the tasks. This is likely due to their experience in promoting and coordinating complex multi-actorial research projects. On the other side, the farmer-based bodies (individuals and associated) play the innovation broker role to the limited extent of the project proposal, through demonstrating a minor interest/ability to perform other on-going activities apart from the implementation of the innovations. A role in the dissemination of the implemented innovations has been observed just for associative bodies, who, indeed, played a role of resonator. Besides, a strong role of the farmers-based bodies as innovation brokers is ascribable to the partnership which managed the integrated supply chain projects. Here the cooperative innovation is intended as part of these larger common projects, without raising up any need for specific innovation brokering actions. It also emerges that this latter type of projects strengthen the scale of the innovation and establish

stable cooperation across the supply chains, due to the long-term collaboration between the partners (Cristiano and Proietti, 2013).

In some cases, even public (municipalities) and private-public entities (LAGs) play intermediating functions, as members of the cooperation partnership or as indirect stakeholders, playing brokering functions only as mean to achieve common interests and with a limited role during the ongoing implementation of the innovations.

The analysis does not show any particular problem regarding the matter of neutrality and credibility of the innovation brokers. This can be explained in several ways: in some cases, the brokering functions were performed by actors who enjoyed great credibility and confidence within the cooperation group, both for their role into the entrepreneurship arena (i.e. producer groups) and because they were locally recognized as leader farmers; in other cases, the role of innovation broker was sustained by a partner who enjoyed the confidence of local stakeholders (i.e. a local administrations).

The role of Universities, Research and Innovation agencies.

The Universities and research centers are the most involved in brokering functions, proving to be a key player in the implementation of measure 124. This is partially due to the interest towards new approaches to innovation in agriculture and rural development, to the capacity to coordinate and administrate complex projects, and also to the need to find alternative funding channels, than the traditional ones (ministerial funds for research), which are now exposed to a strict process of spending review. Anyhow, the Universities and research centers demonstrate a wide self-acknowledgement on their roles into the innovation projects as well as a timely responsiveness in fine-tuning the research results for addressing the farmers' specific needs (Cristiano and Proietti, 2013).

As innovation brokers, they are able to play all functions, even though they may have problems in connecting the partners, especially with regard to farmers. In fact, the latter do not have, by default, familiarity with the research, in respect of which often they harbor mistrust and skepticism. Taking this into account, the connection with the ground level is generally played in collaboration with local/ sectorial actors, such as local administration, cooperatives/ consortia/ producers' associations, advisors or professional organizations, who enjoy the confidence of farmers and, therefore, are able to foster their cooperation.

Despite their dominant role in brokering partners around the cooperation project, the quality analysis reveals that the innovations have been effectively tailored to farmers' needs, and their expectations have been addressed.

A more impartial actor and also stronger in connecting the partners is represented by technological poles/Innovation Centers/Agencies, that are technical bodies of the regional administration aimed at delivering a wide range of services (e.g. research and innovation, training, extension). In some cases, their participation to the innovation project is specifically required by the MA as an eligibility criterion for applying to the measure (e.g. in Umbria region). This arrangement is instrumental in guiding the farmers to local centre of research and innovation, through making it a catalyzer of the different partners and playing innovation brokering functions. These kind of actors are able to play all the tasks of an innovation broker: in one of the case studies, the Innovation Centre plays a key role as broker, through aggregating the relevant partners around the project idea, assessing the market feasibility and the economic sustainability of the innovation, helping its implementation across the producers and coordinating the wider dissemination of the project results (farm visits, final congress, press release). Generally, both University/research and

Innovation Centers are also lead-partner and have an important role in coordinating and spreading information during the implementation of the innovation project.

The role of local actors

Local actors are generally involved in the first functions of brokerage (discovering innovative ideas and connecting partners), as their good knowledge of the local context and specific problems and their relationships and their closeness to the farmers are important in achieving the consensus, even of the most reluctant ones, on investing in innovations, getting the partnership starting and building mutual trust among the partners (Cristiano and Proietti, 2013). However, they do not reveal abilities neither in designing projects, especially those related to innovation and knowledge transfer, nor in coordinating and communicating results. The degree of involvement of these subjects in the innovation brokering varies depending on the type of actors and on the contexts. For instance, local administrations are interested in starting projects (articulating demand, facilitating linkages among actors and so on), since they are intermediate organisms of RDPs, but do not have any interest in the other phases (coordinating, communicating, etc.).

LAGs run brokerage functions too, by virtue of their natural role of animator. Particularly, they promote the cooperation for innovation projects trying to balance the public design and the private interests in the economic sector, while considering the social and cultural issues of the local population. They play a role in discovering innovative ideas and connecting actors, both from public and private sector, as well as from the wider society, who have the capacity, the characteristics and the sustainability for introducing innovations concerning common issues of the Leader territory. LAGs can also act in supporting partners to refine the idea, identifying funding and organizing the communication of results.

The role of sectorial actors

In some cases, producers associations, cooperatives and consortia play a role, even not so proactive, in representing/aggregating specific needs of regional/local supply chains for innovation, facilitating the dialogue with the research and informing the potential beneficiaries on the opportunities to invest in innovation. This is due to their representativeness, the local consensus and trustiness achieved among the farmers. Their direct participation to the projects as beneficiaries can facilitate the wider dissemination of the projects results among the farmers and the spread of innovation across the local supply chains.

Also, the farmers who have leader positions into the supply chains or in the territory, act as innovation brokers through collecting the minor farmers and Universities around a project idea for innovation.

Also, the big sized farmers, with a strong technical, administrative and commercial organization, in terms of both human and physical assets, have a particular attitude to develop innovation and play a significant role in coordinating and facilitating the implementation of the innovation. Sometimes, their leadership into the partnership is specifically required by the MAs as an eligibility criterion for applying to the measure (e.g. in Tuscany region).

Surprisingly, the professional organizations in very few cases get involved into the cooperative innovation projects and, almost never played the role of innovation brokers.

The role of the vocational trainers and the advisors

The study shows that vocational trainers and advisors hardly play a role as innovation broker. Moreover, a turnover with the research/innovation centers, which took the first steps in proposing the project idea, through by-passing the advisors in approaching and assisting the farmers has been observed. Such a situation is made possible thanks to: (1) a general lack of self-acknowledgement of the advisors on their role in fostering innovation at farm level; (2) their gap in knowledge and innovation delivery; (3) the rapid rate of obsolescence of their expertise, by

comparison with continuous and highly differentiated needs of the farmers; (4) their increasing involvement in bureaucratic tasks concerning the application procedures to obtain national and European funds, quality schemes procedures and so on.

Conclusive remarks and ways forward

The study allows to remark some points and foresee some ways forward for meliorating the innovation functions being played by the AKIS actors in the context of the forthcoming operational groups:

- in Italy, even in the absence of bodies who are appointed as professional innovation brokers, the respective functions are played spontaneously by other AKIS' actors, without needing further intermediation. Remarkably, these functions do not necessarily belong to a specific subject as well as no precise subject best fits the role of innovation broker.
- The innovation intermediaries that have been observed during the study do not adhere explicitly to any specific model, but enter into partnership carrying out different functions depending on their typology (research centers, local administrations, etc.).
- Indeed, a context of cooperation, such as that of measure 124 of RDPs, lets emerge that the most influent pre-conditions for playing spontaneously the role of innovation broker is to have a wide self-acknowledgment of ones' own role into the innovation process and a specific interest in public contribution and in delivering the research outcomes. Furthermore, the multitasking feature of some organizations seems to be an asset.
- As for the public administration, the study puts in evidence that its function as innovation broker is very oriented to set projects which very often respond to general matters of public interests and, thus, are likely not to target effectively the farmers' needs. However, the PA certainly play a significant role in offering, and informing on, access and opportunities to the AKIS actors for applying innovation projects, by defining processes and criteria which foster equal interaction and reduce the risks of dominant positions.
- The good knowledge of the local context and specific problems, the previous existing relationships and the closeness to the farmers, certainly represent required conditions for playing the role of innovation brokers. However, these conditions are not crucial, as it is demonstrated by the evidence on the private advisors, whose lack of multitasking and of self-acknowledgment of the role into the innovation process have been surely a deterrent for innovation brokering.
- In most cases, the subjects who acted as a go-between are usually the lead-partner and play also a key role in coordinating and spreading information during the implementation of the innovation project.
- Some type of actors, such as the technological poles and the local centers of applied research and innovation, demonstrate a certain capacity to go beyond the project targets through developing enduring relations with the farmers and connecting them with other AKIS actors. This is due to their multitasking ability (including ordinary technical assistance), through which they support farmers during the implementation of the innovation and afterwards. This is very helpful in view of supporting the farmers' empowerment and enhancing their capacities on technical take-up and their adaptive and innovative attitudes.

These evidences suggest that the involvement, as innovation brokers, of actors who are already part of the system and who also play a role in the implementation of the project, lets the innova-

tion process be more sustainable, avoiding the risk of projects that do not necessarily address the real needs of change of the farmers or the group, and promotes a collaborative learning environment.

In this contest, a main question comes up:

Do we really need to create new professional subjects within the RDPs or is it better that the policy/delivery framework and the context let them emerge spontaneously?

To this point we think that, in view of implementing the Operational Groups (OGs) of the EIP in Italy, MAs should establish the general rules of the game by providing, for instance, that intermediating functions are played exclusively by OG partners, who carry out other activities under the investment plan of the GO, and leaving different stakeholders free to arrange themselves. The project sharing and the need to achieve a common goal should prevent particular problems of neutrality and credibility from materializing, as the study shows.

With regards to the possible problem that brokerage role may cease to exist after the end of the project (Klerkx et al., 2009), several cases in Italy indicates that, due to an increasing trustiness among the stakeholders involved in the projects, brokerage skills and social capital were effectively used to set up other partnership and projects afterwards. However, it would be also possible to capitalize these factors through using other instruments, such cluster and networks, for establishing long term relationships aimed to exchange of knowledge and expertise, and as a consequence, to give life to new projects.

Other questions come up from the study regarding the role of advisors. Particularly, what could be the turning point for the advisors? What hinders the ability of advisors or their organizations to provide innovation brokering services? An in-deep study is still on going to respond to these open points.

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