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INFORMATION FOR AUTHORS

Manuscripts should be prepared in English and sent via e-mail to the
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Foreword

For the third year running, the first issue of this volume of *Studies in Agricultural Economics* has been produced by AKI in cooperation with the European Rural Development Network (ERDN, www.erdn.eu). By contrast, for the first time since number 88 appeared in 1996, this issue has been compiled by a Guest Editor-in-Chief. Dr. Katonáné Kovács Judit is a member of the *Studies in Agricultural Economics* Editorial Board, a longstanding active participant in ERDN and has carried out extensive research on the topic of human and social capital in rural areas.

Scoones (1998)¹ was an early adopter of the concept of ‘sustainable rural livelihoods’ which, he argued, are achieved through access to a range of livelihood resources including human and social capital. The former can be defined as ‘the skills, knowledge, ability to labour and good health and physical capability important for the successful pursuit of different livelihood strategies’ and the latter as ‘the social resources (networks, social claims, social relations, affiliations, associations) upon which people draw when pursuing different livelihood strategies requiring coordinated actions’.

Despite the passing of almost 20 years, these topics remain high on the agricultural and rural development agendas. This thematic issue of *Studies in Agricultural Economics* brings together seven papers that address different aspects of human and social capital development across the European Union (EU).

The first two papers explore the state of rural and agricultural development in Poland. Czapiewski, Janc, Owsiniński and Śleszyński model future social and intellectual capital development in the municipalities of Mazowieckie *voivodeship*. The increases in both capitals are expected to be, in relative terms, often more pronounced in rural areas than in the urban space, although the existing gap shall frequently remain. Interventions will continue to be needed to overcome the still persisting, and sometimes sharpening, differences.

Nowak and Kijek assess the role of human capital on farms across Poland. They show that both the flexibility of production in relation to the labour factor and the average and marginal productivity were in many instances higher for farms managed by farmers with higher-level education. The results highlight the importance of addressing the educational needs of farmers in post-socialist EU Member States.

Research by Katonáné Kovács, Varga and Nemes clearly demonstrates that social innovation has a role in rural development in Hungary. The context in which social innovation is developed has a strong effect on the likelihood of success, while initiators or ‘agentic engines’ also have a fundamental role. Institutionalisation, possibly through some kind of social enterprise, is crucial to ensuring the sustainability of social innovation.

In the first of three papers in this issue that investigate the LEADER approach, Dax and Oedl-Wieser use the experience of its implementation in Austria to argue that LEADER is losing its innovative character. Future LEADER and local development actions need to reinvigorate long-established core principles, most notably the notion of social innovation, and to concentrate on local and regional assets and deliver at that level.

Despite the high share of Common Agricultural Policy Pillar 2 funding allocated to LEADER in Puglia, Italy in the period 2007-2013, Labianca, De Rubertis, Belliggiano and Salento report that Local Action Groups in the region were severely limited in the aims that they could pursue. The programme interpreted innovation an industrial and technological issue rather than seeing it in social and cultural terms.

A similarly pessimistic assessment of LEADER in Andalucía, Spain is made by Navarro, Cejudo and Maroto. Entrepreneurs and ‘town halls’ benefitted most from LEADER investments, while there is evidence of inadequate participation by disadvantaged groups such as women and young people. Farmers were not adequately engaged by the programme. Several ‘*deep rural*’ municipalities failed to secure any LEADER funding during the 2002-2008 period.

Pocol and Moldovan Teselios analyse the perception of support, either given or anticipated, by members of two groups of women in Romania: entrepreneurs and potential entrepreneurs. Future women entrepreneurs tend to overstate, in anticipation, the help they will receive from local institutions, but place themselves in relatively similar positions with women entrepreneurs regarding the help expected to be received from family and friends.

It has been a pleasure for me to work with Judit to produce this issue of *Studies in Agricultural Economics* and am confident that you will find its contents of interest.

Andrew Fieldsend
Budapest, March 2016

¹ Scoones, I. (1998): Sustainable rural livelihoods: a framework for analysis. Working Paper 72. Brighton: Institute of Development Studies.

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Introduction

KATONÁNÉ KOVÁCS Judit*, Francisco NAVARRO** and Marilena LABIANCA***

Human and social capital in rural areas

* Debreceni Egyetem, 4032 Debrecen, Böszörményi út 138. Hungary. Corresponding author: katonaj@agr.unideb.hu

** Universidad de Granada, Granada, Spain

*** Università del Salento, Lecce, Italy

This thematic issue of *Studies in Agricultural Economics* is composed of papers that examine human and social capital in rural development. The idea behind this choice of topic is to get a picture of the kind of research currently being undertaken in this field, how this research covers the important issue of rural development, in a world where there is “a shift toward a service orientated and knowledge-based economy based on individuals creativity in using accessible information to benefit and create values for themselves and others” (Salenbacher, 2015, p46), where there are “changes brought by technology, connectivity” (ibid. p.44), and an added challenge: climate change. Luthans *et al.* (2004) also underline that “The rising recognition of human resources as a competitive advantage in today’s global economy, human capital and, more recently, social capital are being touted in both theory, research, and practice” (p.45).

There are many different definitions of human and social capitals, concepts that are sometimes hard to measure but essential to success. Human capital is most often described by indicators such as age, gender, education and health, but there are other factors such as experience, different skills, knowledge and ideas which determine this capital. According to the World Economic Forum (2016), the top ten skills needed in 2020 will be: complex problem solving, critical thinking, creativity, people management, coordinating with others, emotional intelligence, judgement and decision making, service orientation, negotiation and cognitive flexibility. Social capital is defined as three strongly connected elements: trust, keeping norms and social relations built on transparency.

Why put human and social capitals in the focus of rural development?

According to the ‘Development Capitals’ approach, to reverse a process of socio-economic decline in a territory it is necessary firstly to strengthen the capacities of its inhabitants (human capital), and secondly to foster participation, collaboration and the organisation of citizenship according to their legitimate interests and priorities (Carnegie, 2009; Garcia *et al.*, 2015).

The value and the role of human and social capital in development are similar at different levels: they are of similar importance at individual, organisational, regional or higher levels. The more the potentials of these capitals are used, the higher the level of development that can be reached. The experience from the strategic management of

companies can be true for rural regions as well. “In the new economy, where value is increasingly derived from intangible sources, measurement has become more challenging it does seem consistent with the resource-based theory of the firm that human capital can provide a company with an asset that is valuable, rare, and difficult to replicate – and therefore a source of sustained competitive advantage” Luthans *et al.* (2004, p.46).

Scharmer and Kaufer (2013) define three ‘divides’ of the twenty-first century: what they call the ecological divide, the social divide and the spiritual-cultural divide. While the ecological divide is based on a disconnect between *self* and *nature*, the social divide on a disconnect between *self* and *other*, the spiritual-cultural divide reflects a disconnect between *self* and *Self*; this latter represents the growing gap between our actions and who we really are. Agreeing with Scharmer and Kaufer (2013, p.19), “we cannot transform the behaviour of systems unless we transform the quality of attention that people apply to their actions within those systems, both individually and collectively”.

“It is probably no exaggeration but said reality that the very survival of many species, ecosystems and perhaps the human race itself hinges on our ability to move to higher forms of consciousness, and from there collaborate in new ways to heal our relationship with the world and the damage we have caused. ... every time humanity has shifted to a new stage, it has invented a new way to collaborate, a new organisational model” (Laloux 2014, p.5). For example, organisations have evolved from having one single strong leader, to stable hierarchies, to then introduce meritocracy, values-driven culture and finally embracing self-organisation. One important concept is that no stage is better than another as every stage includes valuable ideas. Each stage is differently suited to different contexts, and also depends on the individuals within the organisation. However, the later stages have better capabilities to deal with increasing complexity or connectedness. Andersson and Nordenson (2015) call the fifth and final stage ‘Evolutionary’, which is emerging as people look for a more powerful, more soulful and more meaningful way of working together.

This organisational change at the micro level is also visible at the macro level. The quadruple helix model (Bótáné Horváth *et al.*, 2015) and also social innovation (Bock, 2012) – both topics that are addressed in this thematic issue – can be examples for macro level change. These could give the answer to the problem defined by Block (2008, p.2): “One aspect of our fragmentation is the gap between sectors ... Our communities are separated into silos; they are a collection of institutions and programmes operating near one another but

not overlapping or touching. This is important to understand because it is this dividedness that makes it so difficult to create a more positive or alternative future.”

How to address human and social capital in rural development?

In recent years, for the European territories, public policies governing agriculture have become more complex. At the local level, it is possible to observe different responses, generating a greater demand for participation, autonomy for collective groups and a gradual shift of responsibility away from the central authorities. On the other hand, urban and regional development studies have often focused their attention on urban centres, considered as the ‘driving forces’ to promote innovation and growth, while the surrounding rural areas play a passive and residual role. For this reason, both in the scientific debate and within the framework of public policies, rural and urban areas, and their complex flows and relationships, are rarely considered in an integrated and holistic way (Ward and Brown, 2009).

But at the same time rural areas have been undergoing profound changes. The transformation of their economies requires a review of sectoral policies that are becoming inadequate and ineffective in responding to the emerging needs (Ward and Brown, 2009), but also to overcome the limits of community governance (Murdoch and Abram, 1998), particularly of the most marginal and peripheral territories. In the ‘new rural paradigm’, the ‘Rural Renaissance’, the goals do not focus exclusively on agriculture but, following a territorial approach, involve different sectors (the tourism sector, information, communication technologies, and industry) and actors. Local specificities are seen to bring significant competitive advantages, but they require major innovations in terms of multi-level governance (Ward and Brown, 2009).

Innovation plays a key role in rural development and this has been explicitly recognised both in the last (2007-2013) and in the current (2014-2020) European Union (EU) programming cycles. Recent studies on innovation have emphasised that many innovations take place in the absence of scientific knowledge, they have recognised the role of a variety of different actors, thus attaching more importance to other forms of knowledge, including tacit knowledge, and social capital (Dargan and Schucksmith, 2008).

The focus shifts from the technical process to the territorial context which is no longer considered a passive holder, but an ‘active actor’ that must be analysed and supported with appropriate, tailored policies. In the latter case, the territorial context plays a central role, it must be analysed in its diversity and originality. This significant shift has taken an important meaning for rural areas.

In fact, considering innovation in rural development, there is important literature dealing with the theme (e.g. Murdoch, 2000; Dwyer *et al.*, 2007; Dargan and Schucksmith, 2008; Ward and Brown, 2009; Neumeier, 2012). Recent studies increasingly recognise the importance of the role played by a great variety of actors, by forms of uncoded knowledge and more generally by social capital in pro-

cesses of innovation. In fact, signs of the new orientations are also found in the literature about rural development that interprets innovation as a process of co-evolutionary learning in a network of actors (Shucksmith, 2000; Dargan and Schucksmith, 2008). Considering the positive interpretation, social capital represents a resource for individual and collective action. However, like other forms of capital, also social capital, under certain circumstances and contexts, can be detrimental or even lose its effectiveness. Owing to the dynamic and variable nature of social capital, not only in-depth analysis of the relationships between agents is required, but also the objectives and the contexts in which they operate (Piselli, 2001; Naughton, 2014).

Several papers in this thematic issue show that the EU’s LEADER programme is a framework which recognises the importance of human and social resources in rural development. In Europe, in the last twenty years territorial rural development has been mainly implemented through the LEADER programme and other programmes with the same approach. Bottom-up endogenous development practiced through local and public-private partnerships working as Local Action Groups, community empowerment and local decision-making, and finally, local and social networks of innovation have been the main principles and contributions of such programmes.

In this scenario, the LEADER approach can be considered a paradigm shift, being oriented to the social and cultural construction of the territories’ institutional capacities. As emerged in the ‘CORASON’ project that analysed several European cases, it is possible to note a fairly disappointing picture with respect to the interpretation of innovation on the part of local actors involved in the LEADER projects. Among the evidence, it emerges that innovation is often not a goal or a concept that is recognised by local actors, precisely because of the way in which the term is used in the dominant discourses of national policy. In fact, it is understood in terms that usually refer to the use of science and technology. Also, when innovation has been used it is considered as an ‘imported’ and ‘imposed’ concept, often following the financing rules laid down by the EU for the LEADER programme, and therefore had to be negotiated. But, there were cases where the concept of innovation was re-elaborated and ‘digested’ locally, in terms of social and cultural innovation, then significant results consistent with the goals of the LAGs were produced (Dargan and Schucksmith, 2008).

The LEADER approach has been defined as a ‘process of a fundamentally social nature’ (European Observatory LEADER, 1997), a ‘rural development laboratory’ for innovation (Ray, 2000; Dargan and Schucksmith, 2008). The LEADER approach and its implementation are based on partnership building and in general on social capital (Shucksmith, 2000). This has led to shift from predominantly agricultural sector policies to a multi-sectoral approach and place-based rural development. Then, innovation assumes with LEADER a wider meaning; in fact, it focuses less on short-term economic results than on the economic construction, social, cultural and institutional capacities of the territories as a basis for sustainable rural development (Dargan and Schucksmith, 2008).

In the LEADER experience, innovation is seen in social and cultural, rather than technological, terms, although the

rhetoric of national politics often appeals to the latter (Dargan and Shucksmith, 2008; Neumeier, 2012) and the networks of actors actually created locally prove to be the result of a reductive interpretation of the meaning and value assigned to them by the theory (Dax *et al.*, 2013; De Rubertis, 2013; De Rubertis *et al.*, 2014; Belliggiano and Salento, 2014; Navarro *et al.*, 2016). In short, despite the fact that social innovation (of the context) appears to be one of the factors in successful rural development, the dominant practice has underrated it. It is still not adequately supported in development programmes, its creation is still not well promoted by local, regional and national funding (Neumeier, 2012) and it is considered in a superficial way especially at the local scale. At the same time, the main challenges and efforts in social capital have to be focused on equity and social justice, particularly increasing the participation of those disadvantage collectives, such as young people, women or socioeconomic groups at risk of exclusion.

In addition, the literature dealing with the impact of LEADER in rural areas is rather limited and focuses especially on single areas, revealing their difficulties but also their potentialities.

We can therefore say that there are few comparative studies among the different European countries which start from a detailed analysis from within the territorial contexts. For this reason, several papers in this thematic issue investigate different European cases in the 2007-2013 programming cycle. The presence of various cases from different regions of Europe not only allows the reader to have a fuller picture of the situation but also to make comparisons. It is particularly applicative, each paper is characterised by a detailed analysis of the context, in many cases by starting from the empirical evidence. The goal is not only to share experiences and methods of research but also to draw lessons for the current EU programming cycle.

Our conclusion on the question is that development of human and social capital in rural regions must continue to be an important issue in the future. There are different ways to develop these forms of capital, the most common of which is the LEADER programme. Thus, the success of LEADER depends on the capacities of local actors to build local governance, social learning, culture of dialogue and trust, a real participation of all the social collectives of the rural area – not only social and economic lobbies – and even the practice and orientation of the top-down approach, implemented mainly by the regional administration.

Although we agree on the importance of LEADER, as presented in this thematic issue, it should be remembered that there are other ways of achieving development already in existence (Table 1), and that these originate in different sectors, such as the academic, civil and business sectors.

Table 1. Possibilities for development with the main initiators behind them.

Possibility	Main initiating sector			
	Government	Academic	Business	Civil
LEADER	✓			
Participatory Action Research (PAR)		✓		
Social Innovation	✓	✓	✓	✓

Source: own composition

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Konrad CZAPIEWSKI*, Krzysztof JANC**, Jan W. OWSIŃSKI*** and Przemysław ŚLESZYŃSKI*

A modelling project in Poland: the social and intellectual capital aspects

Several dozen simple forecasting models for a range of socio-economic indicators were developed for the NUTS 2 region of Mazowieckie *voivodeship*, the capital province of Poland, with 314 LAU 2 municipalities (*gminas*) being the basic units of modelling. Given that this set of municipalities encompasses the European-level agglomeration of Warszawa, several sub-regional centres, smaller towns and a multiplicity of small rural municipalities, the models reflect quite a selection of social, economic and resource situations, including rural areas of varied characteristics. In view of the broad range of the subject matter, the number of indicators modelled (around 70) and the orientation at the basic administrative units, the undertaking is unprecedented. Social and intellectual capital-related aspects were included among those modelled and the paper focuses on these from the methodological and substantive points of view, presenting some of the results and the conclusions drawn from them. We show that construction of such a varied and versatile model system is feasible, that it can be useful for pragmatic purposes, and that individual models of indicators (phenomena) can effectively represent the processes that are of importance at the local scale and, through aggregation, also regionally. In particular, the diverse courses of processes in the space of municipality types can be checked and verified.¹

Keywords: forecasting models, empirical modelling, municipality, social capital, intellectual capital, model system

* Instytut Geografii i Przestrzennego Zagospodarowania im. Stanisława Leszczyckiego PAN, Warszawa, Poland

** Instytut Geografii i Rozwoju Regionalnego Uniwersytet Wrocławski, Wrocław, Poland

*** Instytut Badań Systemowych PAN, Nowelska 6, 01-447 Warszawa, Poland. Corresponding author: jan.owsinski@ibspan.waw.pl

Introduction

The current socio-economic development brings about intensive changes in both sectoral and spatial aspects. Effective management of these changes should involve forecasting the developments likely to occur in various domains with the aim of designing, on this basis, adequate policies. This was exactly the purpose for which the self-governmental authorities of the NUTS 2 region of Mazowieckie *voivodeship*, the capital province of Poland, commissioned, through the intermediary of the Masovian Bureau of Regional Planning, the project 'Modelling of the social, economic and spatial transformations in Mazowieckie *voivodeship*'. This project constituted a component in a much wider undertaking 'Development Trends of Mazovia'.²

The primary objective of this project was to develop an integrated computer tool to support the analysis and decision making with respect to the socio-economic processes of the province in the spatial setting, with the time horizon of 2025. The project involved the development of (a) a set of models of the social, economic and spatial changes; (b) a database of indicator values to be used in the modelling, founded on the data for the years 2002-2009 (updated later on until 2011 whenever possible); (c) forecasts / projections obtained with the use of the models; and (d) computer application, serving to set the parameters of models, as well as to run the models and determine the forecasts and projections, along with the respective data sets for potential further processing.

Following a short discussion of the state of the art in the broad topic of this research, we present the model system in its entirety. We then go on to show in more detail the development and the content of models pertaining to the domains of social and intellectual capital. After a few comments on

the computer application, implementing the entire system, we close with some conclusions.

The place in the state of the art

At the level of the entire system of models and the respective computer application, one is dealing with an unprecedented undertaking. This is due, primarily, to (a) the multiplicity of domains and related indicators modelled (altogether close to 100 variables from various domains), and the wide diversity of the character of the indicators included and (b) the fact that the vast majority of models refer to the basic (LAU 2) administrative units as the proper objects of modelling, all this within a single, consistent system. Thus, the issue is not just in the sheer numbers (100 meaningful output variables for 314 municipalities (*gminas*) over 25 years) which, in fact, were much bigger (as some of the indicators were further broken down into more particular variables). The inhomogeneity of these dimensions constituted a challenge in itself. The indicator variables included such quantities as feminisation ratio, own revenues per capita of the municipal budget, investment propensity of the municipal authorities, an information society indicator, social exclusion, quality of the environment, technical infrastructure, transport accessibility, quality of life and degree of urbanisation. Furthermore, the municipalities, for which each model had to be implemented and run, varied between the capital city of Warszawa and peripheral rural communes with very weak commercial activity and population density of around 30 persons per km².³

This made it difficult to adopt the methodologies that offer relatively comprehensive modelling tools, and that with explicit spatial aspect. Such models do exist (see, for example, Capello, 2007 and Capello and Fratesi, 2012 for MASST; Gardiner and Kancs, 2011 and Brandsma *et al.*,

¹ The project was carried out in the years 2011-2013 by the Systems Research Institute and the Institute of Geography and Spatial Organisation, both of the Polish Academy of Sciences, by a team of 14 persons.

² See <http://www.trendyrozwojowemazowska.pl>

³ It must be emphasised that Mazowieckie voivodeship is in the socio-economic sense the most diversified in Poland.

2013 for RHOMOLO; Roeger and in't Veld, 1997 and Ratto *et al.*, 2008 for QUEST, and Varga and associates for the GMR family of models) and offer quite important capacities. Even though these models, or approaches, differ significantly, we quote them here because they have become quite justly highly popular in the literature. Some of them make the spatial aspect more explicit and some lean towards specific issues such as innovation or fiscal policies. Yet none of them are capable of representing the processes considered at the level of a small rural community within an approach that treats such a community similarly to a European-level agglomeration. For instance, Varga (2007) goes down only to the NUTS 3 level in Hungary, and that just for quite a narrow set of variables. None of these models can account for a serious proportion of the output variables (indicators) the project here presented was assumed to encompass.⁴

For several decades, attempts have been made to apply the classical form of the input-output (I/O) analysis, originated by Wassili Leontief, to regional and local systems. Since the 1960s, hundreds of studies have been performed and many tools have been elaborated, as witnessed, for instance, by Hastings and Brucker (1993), Maki (1997) – one of the leading figures in the domain – or Bess and Ambargis (2011). This appealing and well-equipped approach is still frequently cited (e.g. Rohman, 2013), but nowadays mainly for rather narrow purposes (such as the broader effects of a single project or event). The I/O approach was not an option for the project at hand because it would require elaboration of the I/O tables at least for 'representative' municipalities which, apart from being beyond the capacity the project, would be, for many of the municipalities or their types, both highly unstable and hard to establish.

Among the more recently developing paradigms which are used to represent spatial dynamics and which allow for modelling of quite complex structures are the cellular automata (CA). It was discovered early (Batty and Xie, 1994) that CA are a nice representation for the changes in space, with special emphasis on urban dynamics. With time, more complex processes started to be modelled (e.g. Ohgai *et al.*, 2001) and the methodology has reached maturity in terms of tools and applications (see e.g. González *et al.*, 2015). It is plausible to use municipalities as the granules of space in the CA models, but this methodology was not an option for us for two reasons. Firstly, the CA paradigm requires definite theories of spatial interrelations or influences which will have to be formulated and verified for the multiplicity of domains encompassed by the model system developed. Secondly, the number of these domains and indicators is practically prohibitive for the CA approach.

Numerous models and techniques exist that are meant to represent the processes in various separate domains at the local level, but they concern either quite narrow subject areas, with a small set of variables accounted for, or are just the methodological proposals or software tools (see, for example, Marsal-Llacuna and Boada-Oliveras, 2013 for a technical tool, Kloha *et al.*, 2005 for fiscal modelling, or

Beigl *et al.*, 2008 for waste management). The models developed within the project, and forming the coherent system, were all based on the domain-proper expertise while maintaining a definite level of standardisation and user-related simplicity. The use of existing techniques or even ready tools might amount to a formidable effort in standardising among the various domains and indicators modelled.

The set of forecasting models

Even though the primary purpose of the undertaking described here was to provide a tool for the provincial planning authority, there were several questions which were of interest for the developers of the system and of the individual models. The first one was the very possibility of constructing the model system as here presented. This question concerned the design of particular models, their connections, information flow and the feasibility of computer implementation using simple equipment. This turned out to be possible. Regarding individual models, the most frequent and most important issue was the course of respective processes in various types of municipalities and the conclusions therefrom. Of special interest was the distinction between the cores, associated areas, developing areas and peripheries. Verifying certain existing convictions with this respect was one of the essential goals of the models, even though not directly formulated.

The set of domains and the fundamental assumptions

The outline for the system of models, with the list of domains and information-related connections, is shown in Figure 1. The fundamental principle in the development of the models was to base them on the trends and interrelations identified with the use of the available data at least for the years 2002-2009 or, whenever possible, 1999-2011. The majority of the models were empirical models, as simple as possible, but accounting for the respective methodological and theoretical premises, proper for the individual domains or indicators, whenever it was possible and/or necessary. Thus, for each of the domains specified, models were developed separately, using different methodological prerequisites with domain-specific sets of variables and indicators. Yet the causal relationships and the assumptions made for other domains were also accounted for. In practice, this meant quite strong association, in many situations of truly stiff character, between the models of particular phenomena, often leading to feedback loops. Thus, for example, the demographic projections and the expected migratory inflows exerted an influence on the indicators related to the labour market absorption capacity and to the financial standing of the self-governmental authorities. An essential criterion of acceptance of models within the particular domains was their consistency, which can be understood as the possibility of using the results of some models in the others making up the system, both in substantive and technical terms.

Whereas Figure 1 emphasises the truly substantive influence of some indicators or variables on those from differ-

⁴ One should add that these models were often developed and used in order to reflect the effects of European or national policies, as expressed through definite variables, rather than to represent the broadly conceived multiaspect development of individual communities.

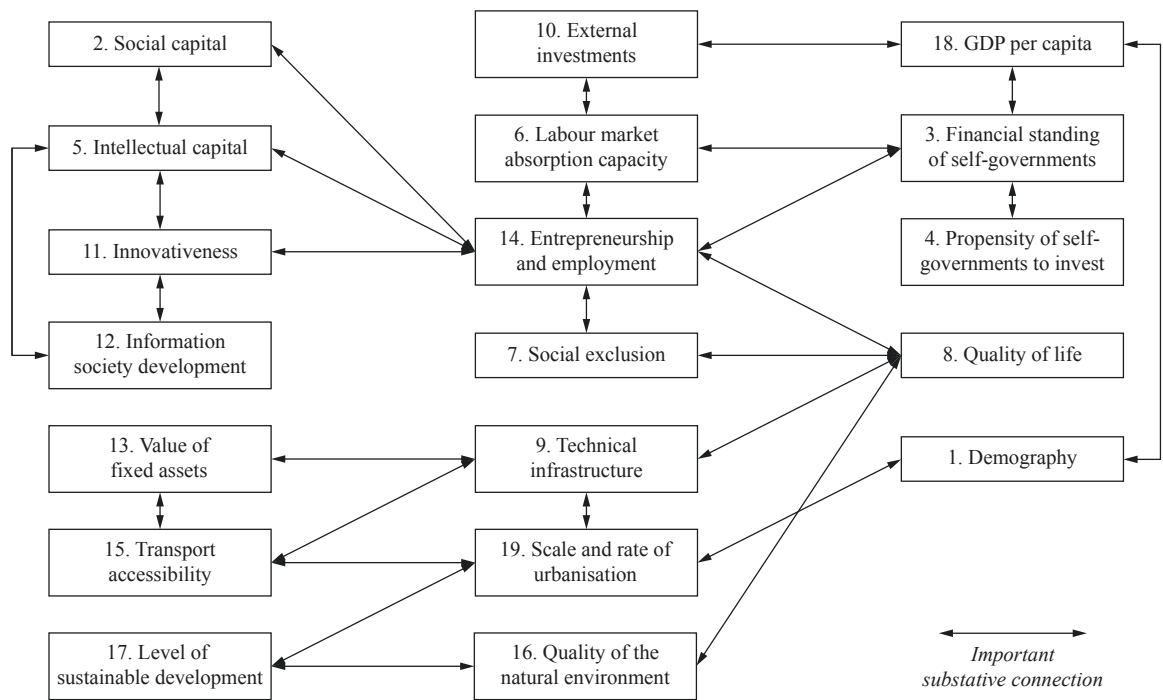


Figure 1: The most important connections among the modelled domains.

Source: own composition

ent domains, Figure 2 shows more connections, but some of them are purely ‘mechanical’, meaning that, for example, an indicator is a relative quantity, in which the nominator is calculated from a given model, and the denominator comes from a different domain.

The basic spatial units of reference for the models were municipalities or, whenever it was impossible to go down to the municipal level, LAU 1 level counties (*powiats*). For some domains or individual indicators, the models developed also concerned definite classes of spatial units, distinguished with respect to their functional features (model variants differing by definite parameters). Thus, for instance, distinction was made between the bigger towns, suburban zones and farming municipalities. This was meant to improve the fit of the projections, since there is a higher probability of adequate prevision of the processes considered within the so-defined relatively homogeneous classes, more so than for the individual municipalities. Hence, it was also possible to match better the results obtained to the needs of the conduct of policies and formulation of development strategies in the regional-functional and spatial perspectives.

Scenarios

Among the basic assumptions was recognising various options for the future course of events. For this purpose, individual models were endowed with the capacity for introducing some variants by the user, and the more general development scenarios were formulated. An individual model normally offered a choice of two or three options for future development.

The scenarios exerting the biggest influence on the results for most of the models were those related to demography and to the economic future. These latter scenarios were split into two parts: the economic situation in general (‘globally’)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	•	•	•	•			•			•	•		•	•		•	•		•
2																			
3			•					•		•	•			•					
4												•							
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Figure 2: Incidence matrix of the flow of data between the models from individual domains (from rows to columns).

See Figure 1 for the model domains; direction of flow is from the models in the rows to those in the columns

Source: own composition

and the future relationship of the economic development of Poland to that of the European Union, resulting in altogether six scenarios which could be further parameterised. Scenarios were also prepared for the demographic model, related to birth rates, mortality rates and migration. Here, three aggregate scenarios were: continuation of trends, worsening (further decline of the birth rate and slowdown of the life expectancy increase) and improvement (opposite to that for worsening).

Table 1: Typology of municipalities of Mazowieckie *voivodeship* used in the modelling project.

Type		Number	Population number		Area (km ²)	Population density (persons per km ²)
Description	Code		in thousand	% in towns		
Core of the national and provincial capital (Warszawa)	MS	1	1,714.4	100.0	517	3,315
Suburban zone of Warszawa	PSI	27	725.1	72.9	1,297	559
Outer suburban zone of Warszawa	PSE	31	393.0	33.6	2,897	136
Cores of the urban areas of subregional centres	MG	5	526.4	100.0	293	1,797
Suburban zones of subregional centres	PG	20	182.8	4.5	2,236	82
County seats	MP	22	433.9	82.7	1,871	232
Intensive development of non-agricultural functions	O	29	241.1	24.7	3,529	68
Intensive development of farming	R	112	615.1	4.9	13,912	44
Extensive development, mainly farming	E	67	390.3	4.2	9,006	43
Totals		314	5,222.2	64.6	35,558	147
Auxiliary divisions						
MS+PSI+PSE		28	2,439.6	91.9	1,814	1,345
MG+PG		25	709.2	75.4	2,529	280
M+P		75	3,582.7	87.5	6,214	577
O+R+E		208	1,246.5	8.5	26,448	47
Agglomeration of Warszawa in the Spatial Development Plan for Mazowieckie <i>voivodeship</i>		40	2,645.5	88.5	2,724	971

Data source: Polish Central Statistical Office

Alongside these general scenarios were several other kinds of scenarios which applied to just one, or only a very limited number of models. The choice of scenarios is left to the user, with ‘defaults’ being, as a rule, the ‘business as usual’ or ‘least of changes’ ones. In just a few cases no options were offered to the user, mainly in view of difficulty in calculations for these different options, and of the difficulty in formulating plausible ‘alternative futures’.

Source data, variables and indicators

The model calculations used some 250 kinds of source data. It was assumed in the project that these data shall possibly all originate from official, well-established and publicly available sources, in this case almost exclusively from the Local Data Base of the Polish Central Statistical Office (BDL GUS). This concerns, in particular, the annual data for all the 314 municipalities of Mazowieckie *voivodeship* for population (17 age groups for both genders, i.e. 34 numbers, deaths and births, as well as migration data). Given that the basis for the demographic models was constituted by the data for 12 consecutive years, we deal with close to half a million source data items.

Most of the 19 domains are represented by more than one indicator. There are altogether close to 70 such indicators being the proper subject of modelling. In addition, there are also a number of auxiliary, intermediate variables, also modelled, which are not formally treated as representing a given domain. Some of these intermediate variables are used in several models.

Thus, from the point of view of data processing we can speak of *input data* (mostly source data), *intermediate variables*, having various characters and resulting from very differentiated transformations, and the proper *indicators*. In many cases indicators from one domain are used to calculate the indicators in other domains, and so are treated as intermediate variables. These latter indicators might have a synthetic character (being an aggregate of several other indicators and/or intermediate variables), or might be a further transformation, based on the input indicator and other quantities.

The spatial typological distinctions

Owing to the specific ‘cross-sectional’ character of Mazowieckie *voivodeship*, almost all types of municipalities existing in Poland⁵ are represented, especially those that can be treated as rural according to diverse perspectives. The models developed in many instances were calibrated for municipality types. Table 1 shows the classification of municipalities adopted in the work and, at the same time, sheds light on the specific character of the province. The truly rural municipalities (i.e. excluding the urban and suburban ones) take a very important share in the province, and indeed very often parts of suburban municipalities also remain fully ‘rural’. Thus, in terms of numbers of units, 66 per cent of municipalities are rural; in terms of area they occupy 74.4 per cent of the province, and in terms of population either 35.6 per cent of the total (formally rural areas) or 23.9 per cent with the full exclusion mentioned. All this for a province with a European-scale agglomeration at its centre. There is a very wide range of municipality types, also among the rural ones, from highly developed and wealthy, down to peripheral, lagging and poor.

The models

Table 2 lists all the domains and summarises their content, with the indicators and the auxiliary variables produced by corresponding models. There were altogether close to 100 separate models designed, developed and verified, not counting their variants for particular classes of municipalities. The models featured quite diverse forms and degrees of difficulty, including from the computational point of view. In some situations, even quite advanced analyses led to very simple models (see Gadomski and Owiński, 2008 for a similar case).

In terms of numbers, the biggest and the most calculation-wise burdensome model was the demographic model, produc-

⁵ The missing ones are, for example, tourist communes of the type encountered at the seaside, on the lakes or in the mountains.

Table 2: The list of domains and indicators used in the modelling project.

No.	Domain name	Indicators	Comments
1	Demography	Population totals and according to age and sex groups, feminisation, share of post-productive population etc.	Models for municipality types; birth rate, mortality and migration scenarios.
2	Social capital	Numbers of NGOs, sports clubs members, cultural and art groups members; also a synthetic indicator.	Three variables, treated as proxies, and an 'artificial' synthetic measure.
3	Financial standing of self-governments	Own and total revenues of local self-governments per capita, expenditures, investment expenditures; auxiliary: jobs per business, expenditures to revenues ratio.	Model types for municipality types, see Owsński and Andrzejewski (2010).
4	Propensity of self-governments to invest	Investment-related expenditures, budget debt, current budget surplus, propensity to invest.	A model with assumed interaction with the user.
5	Intellectual capital	University graduates, university students, companies with foreign share, a synthetic indicator.	Three basic variables and an 'artificial' synthetic indicator.
6	Labour market absorption capacity	Demand for labour (from GDP and productivity), auxiliary: productivity.	Simple model based on variables from other domains.
7	Social exclusion	Synthetic indicator (share of the elderly, transport-wise accessibility, share of university educated persons, unemployment); Gini-like measure of income inequality.	Two entirely different indicators.
8	Quality of life	Synthetic indicator, based on variables from domains 3, 5, 7, 9, 15, 16 and 17.	Relative indicator based on seven variables, see Owsinski (2009).
9	Technical infrastructure	Shares of inhabitants served by water supply, sewage system, water treatment.	Models for municipality types and levels attained; no synthetic indicator.
10	External investments	Magnitude of external investments – value per capita.	Model based on variables from other domains.
11	Innovativeness	Two indicators, based on intellectual capital, magnitude structure of company population, municipal investments, and company investments.	
12	Information society development	Two indicators, based on innovativeness (domain 11) and Internet in schools.	Two indicators, differing by schools considered.
13	Value of fixed assets	Value of fixed assets owned by public bodies, by companies, total value per capita, auxiliary: investments in self-governmental and in private sectors.	Very rough assessment.
14	Entrepreneurship and employment	Number of businesses, employment per business, unemployment, total employment, employment in manufacturing and service, auxiliary: proxy for employment in farming.	Models for municipality types.
15	Transport accessibility	Expressed in numbers of people within a definite travel time outside and inside.	Based on road network and settlement system, see Komornicki <i>et al.</i> (2009).
16	Quality of the natural environment	Synthetic indicator (share of green areas and farmland, population density, car number, and overbuilt area share).	Model partly based on variables from the domains 17 and 19.
17	Level of sustainable development	Anthropogenic pressure (number of cars, population density); sustainable development level (protected areas, forests, grasslands, physical plans); additionally: number of cars, grasslands, physical plans, protected areas, forests.	Partial models (e.g. representing number of cars), contributing to the overall indicators; see Solon (2008a,b).
18	GDP per capita	Global GDP dynamics, and local dynamics, based on salary distribution.	A simple macroeconomic model with six scenarios.
19	Scale and rate of urbanisation	Population density, overbuilt areas, persons employed in manufacturing and services; auxiliary: areas under residential and non-residential structures.	Some variables taken from other domains (see Śleszyński, 2007).

Source: own composition

ing at each run several hundred thousand numbers, summing up to several basic indicators for each of the municipalities with, of course, the possibility of aggregation to counties and the province as a whole. The essential methodological difficulty in the development of this model consisted in the possibly precise identification of model parameters, given that the source data concerned five-year age groups, and not year-by-year cohorts (see Owsński and Katuszko, 1998, for a similar model). Various kinds of results from this model were used in quite an important proportion of other models (indicators).

Social capital

Since there is no magnitude to be measured directly as 'social capital', and the definitions, which are largely operational, differ widely, also in view of the availability of the data that can be used to represent the notion, some degree of arbitrariness is unavoidable. For the basic opinions, see

Coleman (1988), Putnam (1995), Fukuyama (1997, 2000), Cote (2001) and Bjørnskov (2006), and for those related to rural areas, especially in Poland, Heffner and Rosner (2002) and Kołodziejczyk (2003). The models developed by Janc (2009) and Czapiewski (2010) assumed, in the operational sense, that social capital was represented by the following magnitudes: NGO: the number of the non-governmental organisations per 10,000 inhabitants in a municipality; SPO: membership in the sports clubs and associations, also per 10,000 inhabitants of the municipality; and ART: membership of arts ensembles and associations and special interest groups (total number of members per 10,000 inhabitants of a municipality). As with many other models belonging to the system, the choice was guided by both the understanding of the meaning of 'social capital' and the availability of data, fulfilling the assumptions of the project.

In all these cases, models for the future development of the respective variables until 2025 were based on past

data with, possibly, allowance for some scenarios. It was also assumed that models would differ for particular types of municipalities. A synthetic indicator was also proposed, in view of the explicit demand from the commissioning agency.

The possibility of applying relatively simple tools to determine the form and the content of respective models is well illustrated by the matrix of the correlation coefficients for all the 314 municipalities for the NGO indicator values in consecutive years. Table 3 shows three essential characteristics that are decisive for the possibility of use of the simple econometric tools: (a) high correlation values; (b) gradual decay of correlation with time; and (c) systematic and uniform nature of this decay.

Non-governmental organisations (NGO)

The model of this variable (indicator) had the following form:

$$NGO_t = (FUND_t / LUDN_t) * 10,000$$

where $FUND_t$ represents the number of non-governmental organisations in a given municipality in the year t , and is modelled as:

$$FUND_t = FUND_{t-1} + (FUND_{baza} * SZT_{FUND}(\text{type of municipality}))$$

and $LUDN_t$ is the population number in the municipality in the same year, this value coming from the demographic model. The number of NGOs in the initial year of the forecast, 2011, appears in the above formula as $FUND_{baza}$. The increment parameter $SZT_{FUND}(\text{type of municipality})$ distinguishing between the types of municipalities, was determined on the basis of past annual data for the municipalities in the distinguished types. For future developments, two scenarios were assumed – the one of increase ('ew') and of stagnation ('es'). The fact that a decline scenario was not formulated resulted simply from the fact that at virtually no moment in time nor in any commune has a decline been noted. This may be to some extent due to a statistical artefact, namely the entities which have stopped functioning do not formally disappear, but this phenomenon is very difficult to check.

The historical developments having served to obtain the respective parameters and model form consisted, first of all, in an overall increase in the total number of NGOs from 9,200 in 2000 to 18,300 in 2011. The increase was approximately linear for all municipality types, but with different average rates of increase. After having tried out various forms of the models (including power models)⁶, the decision was made to use the simplest linear addition, with distinction of unit types and scenarios. In terms of predicted total changes over the entire period considered, the truly rural municipalities do not fare, in relative dynamics terms, worse than the urban ones (Table 4). Although it can hardly be hoped that they would catch up with the urban

⁶ Generally, various forms of models were tried out, even, like here, for very simple relationships. In the case of the GDP model (domain 18), more than ten forms were tested, including quite complex ones. The criteria used in the adoption of a particular form of a model were goodness of fit, but if models were comparable from this point of view, the simpler one was selected.

Table 3: Linear correlation coefficients for NGO values in consecutive years in all 314 municipalities of Mazowieckie *voivodeship*.

	NGO ₂₀₀₀	NGO ₂₀₀₁	NGO ₂₀₀₂	NGO ₂₀₀₃	NGO ₂₀₀₄	NGO ₂₀₀₅	NGO ₂₀₀₆	NGO ₂₀₀₇	NGO ₂₀₀₈	NGO ₂₀₀₉	NGO ₂₀₁₀	NGO ₂₀₁₁
NGO ₂₀₀₀	1.00											
NGO ₂₀₀₁	0.88	1.00										
NGO ₂₀₀₂	0.81	0.92	1.00									
NGO ₂₀₀₃	0.76	0.87	0.96	1.00								
NGO ₂₀₀₄	0.76	0.86	0.93	0.97	1.00							
NGO ₂₀₀₅	0.75	0.84	0.92	0.96	0.99	1.00						
NGO ₂₀₀₆	0.74	0.83	0.90	0.94	0.97	0.98	1.00					
NGO ₂₀₀₇	0.74	0.82	0.89	0.93	0.96	0.97	0.99	1.00				
NGO ₂₀₀₈	0.72	0.81	0.88	0.91	0.94	0.95	0.96	0.97	1.00			
NGO ₂₀₀₉	0.70	0.79	0.85	0.89	0.92	0.93	0.94	0.95	0.97	1.00		
NGO ₂₀₁₀	0.69	0.77	0.84	0.87	0.89	0.91	0.92	0.93	0.95	0.99	1.00	
NGO ₂₀₁₁	0.68	0.75	0.82	0.84	0.87	0.88	0.90	0.91	0.92	0.97	0.99	1.00

Source: own calculations

Table 4: Predicted changes in the numbers of NGOs in each type of municipality in Mazowieckie *voivodeship* in the period 2012-2025, depending upon the scenario adopted.

Type	Increase		Stagnation	
	Total (initial year = 1)	Average per annum (%)	Total (initial year = 1)	Average per annum (%)
MS	1.6	4.3	1.1	0.9
MG	1.4	3.1	1.1	0.4
MP	1.6	4.6	1.2	1.2
PSI	1.8	5.7	1.3	1.8
PSE	1.8	5.9	1.3	2.2
PG	1.9	6.3	1.4	3.0
O	1.6	4.6	1.2	1.4
R	1.6	4.4	1.2	1.6
E	1.7	4.7	1.2	1.6

For municipality types see Table 1
Source: own calculations

areas, they definitely will not lag behind, which is quite a positive statement in view of their handicapped situation. This is, indeed, quite important, given the role assigned the NGOs in shaping the rural social capital (Halamska, 2008; Kamiński, 2008).

Activity in sports clubs and associations (SPO)

The respective model had a very similar form⁷ to the previous one, namely:

$$SPO_t = (CZSP_t / LUDN_t) * 1,000$$

with the number of members of the clubs and associations, $CZSP_t$, modelled as:

$$CZSP_t = CZSP_{t-1} + (CZSP_{baza} * SZT_{CZSP}(\text{type of municipality}))$$

notations generally following the ones from the previous model. In this case three, not two, scenarios were envisaged for the future values of $SZT_{CZSP}(\text{type of municipality})$, the ones of increase ('ew'), of stagnation ('es'), and of decrease ('er').

⁷ It was deemed advantageous for the entire system to maintain a certain minimum standardisation in model forms.

Table 5: Predicted changes in the numbers of members of sports clubs and associations in each type of municipality in Mazowieckie *voivodeship* in the period 2012-2025, depending upon the scenario adopted.

Type	Increase		Stagnation		Decrease	
	Total (initial year = 1)	Average per annum (%)	Total (initial year = 1)	Average per annum (%)	Total (initial year = 1)	Average per annum (%)
MS	1.19	1.3	0.99	-0.1	0.79	-1.4
MG	1.12	0.8	0.92	-0.5	0.72	-1.9
MP	1.12	0.8	0.92	-0.5	0.72	-1.9
PSI	1.31	2.1	1.11	0.7	0.91	-0.6
PSE	1.23	1.5	1.03	0.2	0.83	-1.2
PG	1.17	1.1	0.97	-0.2	0.77	-1.5
O	1.10	0.7	0.90	-0.7	0.70	-2.0
R	1.06	0.4	0.86	-1.0	0.66	-2.3
E	1.11	0.7	0.91	-0.6	0.71	-1.9

For municipality types see Table 1
Source: own calculations

Table 6: Model forms tried out for various types of municipality in Mazowieckie *voivodeship* and predicted changes in the numbers of members of arts ensembles and associations and special interest groups in the period 2012-2025.

Type	Functional form	Value of <i>b</i>	Value of <i>a</i>	R ²	F	Predicted changes	
						Total (initial year = 1)	Average per annum (%)
MS	$y=x^a+b$	12,112.91	0.29	0.795	27.161	1.5	3.6
MG	$y=a^x+b$	10,667.87	-0.09	0.915	74.978	0.3	-4.9
MP	$y=\log_a x+b$	4,111.59	1,440.36	0.982	383.131	1.2	1.2
PSI	$y=\log_a x+b$	6,598.64	1,743.83	0.866	45.084	1.1	0.9
PSE	$y=ax+b$	2,065.67	381.40	0.989	646.044	1.9	6.8
PG	$y=ax+b$	285.65	139.13	0.987	529.341	2.2	8.8
O	$y=ax+b$	1,360.01	198.48	0.959	161.855	1.9	6.4
R	$y=ax+b$	3,212.38	92.83	0.825	32.980	1.3	1.8
E	$y=ax+b$	4,614.04	58.83	0.411	4.891	1.1	0.8

For municipality types see Table 1
Source: own calculations

Despite the importance of this variable (Seippel, 2006), the data needed for model development were the scarcest of the three components: data were available for the municipalities only for the years 2008 and 2010. The more aggregate data, those for NUTS 3 subregions (Mazowieckie *voivodeship* is composed of six subregions or *podregions*) show an increase at the beginning of the period 2002-2010, due to an increase in the number and intensity of different sports- and recreation-oriented events and initiatives, but also, on the other hand, to the demographic change (decrease in the number of children and teenagers, in the second part of the period). Altogether, these data suggest, firstly, rather variable dynamics, although quite consistent among the subregions and, in view of the similar consistency with the data for municipalities, a possibility of advancing rather reliable hypotheses concerning the further course of events. Yet, given the high degree of volatility, three scenarios were envisaged. The ultimately obtained coefficients used in the model were obtained from a study, performed in the framework of design of the model, relating the respective changes to the macroeconomic and demographic ones.

In this area the situation of rural municipalities is certainly worse than in the case of NGOs (Table 5). The envisaged dynamics are in almost all cases lower than for the more urbanised municipalities. This is largely due to the demographic shifts and means that the rural areas, which have been for decades the source of sportsmen and sports-women, shall soon cease to play such a role, irrespective of the significance for the social capital.

Membership of arts ensembles and associations (ART)

A similar model was proposed for this variable, whose introduction can be advocated by referring to, for instance, Daly (2005):

$$ART_t = (CZAZ_t / LUDN_t) * 10,000$$

with the number of members given as:

$$CZAZ_t = CZAZ_{t-1} + (CZAZ_{baza} * SZT_{CZAZ}(type\ of\ municipality)).$$

In this case, for the future values of $SZT_{CZAZ}(type\ of\ municipality)$ only the distinction between the municipality types was envisaged. The data have been collected in the two-year cycle and so were available for the years 2003, 2005, 2007, 2009 and 2011. For the majority of municipality types (including all of the rural ones) a quite monotonic, though rather slow, upward trend has been observed, but there were three quite important exceptions: Warszawa (MS), showing a distinct drop at the end of the historical period after a significant increase, and the suburban zone of Warszawa (PSI), which mimicked the same changes, though with much less pronounced dynamics. On the other hand, the cores of the urban zones of subregional centres (MG) have shown a distinct downward trend over the entire period 2003-2011.

This differentiation led to the necessity of trying out several model forms (altogether four model forms were tested for various municipality types) (Table 6). It can be

expected that the forces behind the dynamics shown were somewhat similar to those for SPO. Altogether, in view of the statistical results obtained, it was decided to propose only one future course of events for each of the municipality types.

Intellectual capital

Although it might be expected that intellectual capital can be measured with more objectivity than social capital (level of education, presence of – possibly local – high-tech companies, attraction for the intellectually intensive external companies etc.), it is clear that in this case, as well, all the potential contributing variables have to be treated as ‘better proxies’ or at most, rough, even if reasoned, approximations. Three variables were again proposed, with the distinction that the respective data do not always exist at the municipality level, and rightly so, since many phenomena related to intellectual capital cannot be perceived as proper for such small spatial and social units. These three variables are: SWM – a proxy for the educational level of the population of a municipality (percentage share of university graduates in the population of the municipality aged 13 and more); STU – number of students per 10,000 inhabitants of a subregion (*podregion*); and PKZ – number of companies with foreign capital share per 10,000 inhabitants of the municipality⁸.

Share of university graduates (SWM)

This model takes a very simple shape of:

$$SWM_t = SWM_0 + t * dSWM$$

with t being the number of years since the start of the projection, and $dSWM$ being the increment parameter, determined on the basis of the past data. It should be noted that most of the models here sketched are only weakly connected with the rest of the system, namely mainly through the population variables. The specification of this particular model required the analysis of both the ‘internal’ dynamics of the share of persons having graduated and the ‘external’ one of the respective population numbers. On the basis of such analyses, the differentiation of the municipality types with respect to the levels and changes in shares of university graduates in respective populations is shown (Table 7).

Thus, the overall trend towards the flattening of this distribution, to the advantage of the rural areas, not only has occurred in the past but is expected also to continue in the next ten years. This flattening, still far away from the evening out and shown here in purely relative terms (Table 8), has to be seen against the background of the very intensive process of increase in the numbers of university graduates in Poland and in Mazowieckie *voivodeship*. This aspect constitutes the subject of the next variable considered.

⁸ Anon. (2008) was an important source for this model development. In Polish conditions it was established that there exists a clear correlation between the characterisation of presence of companies with foreign capital share and various observable elements of intellectual capital on the local basis.

Table 7: Ratios of the shares of university graduates in the populations of each type of municipality in Mazowieckie *voivodeship* to the average for the entire province – historical and forecasted data.

Type	True ratios based on National Census data				Model-based ratios	
	1970	1978	1988	2002	2011	2025
MS	2.38	2.14	2.02	1.80	1.60	1.55
MG	0.61	0.78	0.89	1.01	1.05	1.05
MP	0.35	0.45	0.53	0.69	0.80	0.80
PSI	0.63	0.64	0.69	1.02	1.15	1.25
PSE	0.23	0.29	0.36	0.58	0.75	0.80
PG	0.06	0.11	0.15	0.33	0.45	0.55
O	0.12	0.17	0.22	0.31	0.35	0.40
R	0.06	0.10	0.14	0.24	0.35	0.40
E	0.18	0.18	0.20	0.25	0.30	0.30
Mazowieckie	1.00	1.00	1.00	1.00	1.00	1.00

For municipality types see Table 1

Source: own calculations

Table 8: Shares of the university educated population in the total population exceeding 13 years of age of each type of municipality and in Mazowieckie *voivodeship*, and the absolute average annual changes thereof.

Type	Share of university graduates among those aged at least 13 (%)			Absolute average annual change (%)	
	2002	2011	2025	2002-2011	2011-2025
MS	25.3	39.0	51.8	1.5	0.9
MG	14.3	25.6	35.1	1.3	0.7
MP	9.7	19.5	26.8	1.1	0.5
PSI	14.4	28.0	41.8	1.5	1.0
PSE	8.2	18.3	26.8	1.1	0.6
PG	4.7	11.0	18.4	0.7	0.5
O	4.3	8.5	13.4	0.5	0.3
R	3.4	8.5	13.4	0.6	0.3
E	3.5	7.3	10.0	0.4	0.2
Mazowieckie	14.2	24.4	33.4	1.1	0.6

For municipality types see Table 1

Source: own calculations

Share of university students in subregions (STU)

This simple model has a form similar to models related to social capital, that is:

$$STU_t = (LSTU_t / LUDN_t) * 10,000$$

with the number of students in a subregion, $LSTU_t$, determined through:

$$LSTU_t = LSTU_{t-1} + (LSTU_{baza} * SZT_{LSTU})$$

where $LSTU_{baza}$ is the value for the initial year of the forecast and SZT_{LSTU} is the coefficient, estimated from the past data. As mentioned already, this set of variables is heavily dependent upon the demographic characteristics and these are expected to change substantially in the period considered, meaning an important future decline in the numbers of young people in the 20-24 years age bracket. The change is actually faced by the tertiary education sector in Poland, especially the non-public tertiary education. Based on this premise and on the general trends in university enrolment (after a dramatic upward surge in the 1990s and a stabilisa-

tion in the 2000s, a slight decline followed), the respective data, essential for the determination of values of the model coefficients, were obtained after tests with two kinds of models for the particular subregions of Mazowieckie *voivodeship* (Table 9).

The number of companies with foreign capital (PKZ)

This model has an analogous form:

$$PKZ_t = (ZAGR_t / LUDN_t) * 10,000$$

with the number of companies in question given as:

$$ZAGR_t = ZAGR_{t-1} + (ZAGR_{baza} * SZT_{ZAGR})$$

$ZAGR_{baza}$ being the value for the base year of the forecast and SZT_{ZAGR} being the coefficient estimated from the past data. The dynamics of the number of companies with foreign capital share in the reference period, i.e. until 2011, in the particular types of municipalities, had been quite uniformly upward, with Warszawa again in the lead by almost an order of magnitude.

Based on these data, and on the test with two kinds of model forms (linear and power), the basis for the model coefficients was established as given in Table 10. No alternative scenarios were envisaged for this variable, both in view of the quite consistent and smooth course of events in the past, and in view of lack of prerequisites for such alternative futures. The potential increase for the ‘truly rural’ areas is somewhat lower than otherwise, although the rate of increase is distinctly higher for the municipalities with intensive agricultural activities, this phenomenon being not only quite understandable, but also already clearly visible.

Computer application

The project produced a computer application intended to provide the users with a hands-on tool for obtaining forecasts and projections of the particular indicators for the selected units or aggregates, and for the selected scenarios. The application is easily installed and functions in the Java environment, with special emphasis on the use with the Microsoft™ operational systems, but with a possibility of deploying with Linux as well. Although the models can be run for all the municipalities and/or for all the counties of the province, the application is not endowed with a mapping function, since an already existing mapping application was supposed to make use of the output from the respective models. The output from the model runs takes the form of graphics, as well as exportable tables of values. Some definite comparison functions are also available (comparison between selected units, or with the corresponding averages for the province). The development of the application was carried out in cooperation with the representatives of the commissioning body. A working relationship was established for this purpose, which added an important value to the final product.

Table 9: Predicted changes in the numbers of students in the subregions (*podregions*) of Mazowieckie *voivodeship* and the entire province in the years 2012-2025.

Subregion	Total (initial year = 1)	Average per annum (%)
Ciechanowsko-płocki	0.3	-5.4
Ostrołęcko-siedlecki	0.4	-4.3
Miasto Warszawa	0.9	-0.4
Radomski	0.3	-5.3
Warszawski-wschodni	1.1	0.9
Warszawski-zachodni	1.0	0.1
Mazowieckie	0.9	-1.0

Source: own calculations

Table 10: Predicted changes in the numbers of companies with a share of foreign capital in each type of municipality in Mazowieckie *voivodeship* in the period 2012-2025.

Type	Total (initial year = 1)	Average per annum (%)
MS	1.6	3.9
MG	1.3	2.1
MP	1.4	3.0
PSI	1.7	5.2
PSE	1.7	4.7
PG	1.5	3.7
O	1.2	1.2
R	1.4	3.2
E	1.2	1.6

For municipality types see Table 1
Source: own calculations

Conclusions

This paper provides an insight into aspects of a much bigger modelling project in Mazowieckie *voivodeship* which pertain to the issues of social and intellectual capital. The respective analyses and the models, as well as projections, were performed at the municipality level, and the municipalities were grouped according to their characteristics, including those of rural character, with definite distinctions. Owing to this, it was possible to show how the rural areas of varying features fare against the urbanising and urban ones. The general conclusion is that both the social capital and the intellectual capital, as defined in the operational sense for the purpose of this project, but on a much broader substantive basis, are expected to increase significantly in rural areas of Mazowieckie *voivodeship*. This increase is, in relative terms, often more pronounced than in the urban space, but in most cases the existing gap shall persist and, in absolute terms, may even, for some of the variables considered, grow. Thus, while, generally, the respective distributions would become flatter, further efforts must be made to overcome the still persisting, and sometimes sharpening, gradients in space. Another issue is that of the increasing divide between the more ‘advanced’ and more ‘backward’ rural areas. Although it appears only in some dimensions, attention has also to be turned towards this phenomenon. These exemplary conclusions not only illustrate the usefulness of the model system, but in themselves constitute a response to quite important cognitive and applied questions.

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Anna NOWAK* and Tomasz KIJEK*

The effect of human capital on labour productivity of farms in Poland

This study aims to determine the relationship between total, average and marginal human factor productivity and the level of education of a farm manager in Poland. The study was carried out based on unit empirical data from the monitoring of the Polish Farm Accountancy Data Network (FADN) and covered the four Polish FADN macro-regions: Pomorze & Mazury, Wielkopolska & Śląsk, Mazowsze & Podlasie and Małopolska & Pogórze. The study involved the Cobb-Douglas production function method. Using the relationship between total production (in PLN) of a farm and the aggregated production factors such as total labour input in AWU (Annual Work Unit), area of arable land (ha) and fixed assets (PLN), labour productivity was determined based on the level of education of the farm manager. The results indicate that the flexibility of production in relation to the labour factor was significantly higher in the group of farms managed by farmers with higher-level education in two out of four analysed macro-regions and on a national scale. In addition, human capital approximated by the level of education had a positive effect on the average and marginal productivity of the analysed farms.

Keywords: human capital, commercial farm, labour productivity, Cobb-Douglas production function, FADN macro-regions

* Uniwersytet Przyrodniczy w Lublinie, ul. Akademicka 13, 20-950 Lublin, Poland. Corresponding author: tomasz.kijek@up.lublin.pl

Introduction

Productivity is one of the most important aspects of economic life (Bayyurt and Yılmaz, 2012). It is most often defined as the ability of production factors to produce (Latruffe, 2010). Improvement in the productivity of agriculture, and in particular labour productivity, is a condition for permanent economic growth (O'Donnell, 2010). Contemporary economics significantly changed the way the labour factor is perceived. These changes are underpinned by abandoning the term 'labour' for the sake of the term 'human capital' (Kołoszko-Chomentowska, 2008).

The significance of the human factor and characteristics such as the level of education or having adequate knowledge resources is extremely important in the process of management. It is certainly a source of all changes, so at the same time it emanates innovation (Kołodziejczyk, 2002; Kijek, 2012). The significance of the human factor in management has increased due to the development of engineering and technology, information technology, the necessity for innovative management and globalisation of the economy (Narski, 2001). In the economy of the 21st century, education and continuing improvement of skills have become important drivers and generators of the development of the country and respective sectors of the economy (Berezka, 2012). In the case of agriculture, human capital has become important in terms of improving the results of management and, in particular, in the aspect of adequate management and organisation of other production factors, i.e. land and capital (Górecki, 2004). With regard to the growing complexity of the environment in which agricultural producers operate, attention should be paid both to quantity and quality objectives in evaluating human capital in agriculture. The lack of proper qualifications and insufficient access to information reduce the chances of achieving the intended purpose.

Of the characteristics defining human capital the most measurable is education, which is commonly believed to be the most important driver of civilisation and economic growth. Apart from education, human capital comprises creativity, learning ability and methods, flexibility and

many other characteristics due to which not only formal knowledge but also the capacity to continue development determine the economic success of humankind (Kołoszko-Chomentowska, 2008). In agriculture a relationship can be observed between the quality of human capital, defined by the characteristics of a farm manager, and the implementation of scientific and technological progress. A better educated farmer is more prone to introduce changes and innovation on the farm. This refers in particular to investment in biological and technical material, and changes in organisation and technology (Sikorska, 2011). The close relationship between the level of education and the inclination towards entrepreneurship, diffusion of innovation, changes in the nature of the farm or the intention to make use of information was also noted by Wawrzyniak (2001).

From the macroeconomic point of view, better quality of human resources facilitates development and implementation of technological innovations, increases capital earnings and promotes sustainable development of agriculture (Penda, 2012; Kijek and Kasztelan, 2013). Improvement in the quality of human capital leads to lower unit costs of production and decreases marginal cost of production, enabling firms to trade higher quality commodities at lower prices (Kleynhans, 2006).

These circumstances are the reason for undertaking studies into human capital in agriculture. Few papers exist concerning the role of human capital in the development of agriculture and its respective entities. This study evaluates the effectiveness of using the labour factor on commodity farms depending on the level of education of the farm manager. Education as a characteristic determining the level of human capital was recognised to be the growth driver increasing labour productivity and decreasing social inequalities and poverty (Amin and Awung, 2005). With regard to the aforementioned, and considering the strong internal diversification of agriculture in Poland demonstrated, among others, by Poczta and Bartkowiak (2012) and Kamińska and Nowak (2014), an analysis was carried out in the four macro-regions of the Polish Farm Accountancy Data Network (FADN): Pomorze & Mazury, Wielkopolska & Śląsk, Mazowsze & Podlasie and Małopolska & Pogórze.

ska & Śląsk, Mazowsze & Podlasie, and Małopolska & Pogórze¹. These macro-regions were separated on the basis of factors determining the production effects of farms. Each of them consists of four NUTS 2 regions or *voivodeships*. The analysis of the effect of education on productivity in the macro-regions allows an estimation of whether the quality of human resources determines labour productivity in agriculture in different economic and natural conditions and whether it can be the driving force behind the development of this sector, in particular in regions where agriculture is less competitive, such as the *voivodeships* that constitute the Małopolska & Pogórze macro-region and the Mazowsze & Podlasie macro-region (apart from Mazovian *voivodeship*) (Nowak *et al.*, 2015).

From the point of view of methodology, this paper is genuine in terms of using the production function and comparing the output elasticity of labour and average and marginal productivity of labour in groups of farms run by managers with and without higher education. Many empirical studies in this area are limited to comparative analyses according to average productivity indicators calculated based on collected empirical information. For instance, such analyses were carried out by Wenbiao and Pandey (2015). However, they did not refer to farms but to the agricultural and non-agricultural sectors. These studies indicate that labour productivity differences between agriculture and non-agriculture in European countries are not an indicator of resource misallocation but possibly an artefact of sectoral differences in human capital. It is worth noting that some authors decided to introduce an additional binary or ordinal variable describing the level of education of the farm manager into the production function. However, although such a solution makes it possible to draw conclusions about differences in average values of productivity for different categories of education, it provides no information regarding differences in elasticity or marginal productivity values.

Methodology

The research was carried out using accounting data from commodity farms participating in the Polish FADN in 2012. FADN data are collected according to uniform principles and the sample farms constitute a statistically representative sample of commodity farms operating in the European Union (EU).

The studies made use of the Cobb-Douglas (C-D) production function constituting the theoretical basis for explaining most regularities concerning effectiveness in the economics of agriculture (Bezat and Rembisz, 2011). Formally the Cobb-Douglas function is a special case of a translog function (Greene 2008). The model makes use of a resource-based approach, which, next to the labour factor (total labour input in Annual Work Units, AWU²) and capital (fixed assets in PLN) takes into account the land factor (area of arable land in ha). The C-D function was estimated using the ordinary least squares method. The utilisation of human

labour was estimated based on output elasticity of the labour factor, and total, average and marginal productivity. The production function is as follows:

$$Y = aX_1^\alpha X_2^\beta X_3^\delta \varepsilon \quad (1)$$

where: a – constant describing the level of technical and organisational progress;

Y – value of production in PLN;

X_1 – total labour input in AWU;

X_2 – area of arable land (UAA) in ha;

X_3 – fixed assets in PLN;

α, β, δ – regression coefficients (elasticity coefficients);

ε – random component.

In view of the fact that this work aims to evaluate the effect of human capital on the effectiveness of the operation of farms, the analysed sample was split into two groups of farms according to the criterion of education of the farm manager, at the same time taking into account the spatial division of the analysed units. Next, the production function parameters were estimated for each group of farms. In order to determine the significance of differences between the estimated parameters for respective production functions the Z test was performed according to the following formula (Clogg *et al.*, 1995):

$$Z = \frac{a_1 - a_2}{\sqrt{\frac{V_1(SEa_1^2) + V_2(SEa_2^2)}{V_1 + V_2}}} \quad (2)$$

where: a_1, a_2 – estimated parameters from model 1 and model 2; SEa_1^2, SEa_2^2 – variance of parameter estimations; V_1, V_2 – degrees of freedom.

Results

Table 1 presents data on the number of farms in the sample together with a statistical description of the variables taken into account in the analyses, comprising the resources of production factors (arable land in ha, labour resources in AWU, value of fixed assets in PLN) and the production effect expressed as the total value of production in PLN.

The total number of farms in each macro-region was as follows: Pomorze & Mazury: 1601; Wielkopolska & Śląsk: 3861; Mazowsze & Podlasie: 3644; and Małopolska & Pogórze: 1045. The share of farms where the manager completed higher education ranged from 8.54 per cent in Wielkopolska & Śląsk to 11.06 per cent in Mazowsze & Podlasie. In total, the study covered 10,151 farms, 9.7 per cent of which were managed by managers who had completed higher education.

The most variable characteristic was the total value of agricultural production, while the least variable was the total labour input expressed as the number of full-time employees. The analysed characteristics were more variable in the group of farms managed by farmers who had not completed higher education; here, the research sample was considerably larger.

Table 2 presents the estimated parameters of the Cobb-Douglas function for the four macro-regions in 2012 accord-

¹ See <http://fadn.pl/en/organisation/polish-fadn/schemat-ang/>

² AWU is the total human labour input in farm operations, 1 AWU is one full-time employee working 2,120 hours per year.

Table 1: Statistical characteristics of analysed variables in rural farms producing goods in 2012.

Feature name	Poland	Macro-region				
		Pomorze & Mazury	Wielkopolska & Śląsk	Mazowsze & Podlasie	Małopolska & Pogórze	
Farms run by managers with higher education						
Sample size	986	152	330	403	101	
Total production (Y)	A (PLN)	372,895	609,045	410,036	282,662	256,184
	B (PLN)	665,805	1,184,890	527,782	521,528	317,400
	C (%)	1.78	194.0	129.0	184.0	124.0
Total labour input (X ₁)	A (AWU)	2.18	2.29	2.15	2.21	2.06
	B (AWU)	2.04	2.26	1.86	2.24	1.31
	C (%)	0.93	98.0	86.0	101.0	64.0
Arable lands area (X ₂)	A (ha)	49.69	100.83	53.68	32.15	29.67
	B (ha)	70.61	126.72	62.69	35.76	33.36
	C (%)	1.42	126.0	117.0	111.0	112.0
Total fixed assets (X ₃)	A (PLN)	812,431	1,150,080	884,090	684,118	582,140
	B (PLN)	900,965	1,326,840	881,953	726,043	590,707
	C (%)	1.11	115.0	99.0	106.0	101.0
Farms run by managers without higher education						
Sample size	9165	1449	3531	3241	944	
Total production (Y)	A (PLN)	369,085	589,356	450,679	221,139	233,712
	B (PLN)	1,076,290	1,456,370	1,380,060	397,737	366,506
	C (%)	2.92	247.0	306.0	179.8	157.0
Total labour input (X ₁)	A (AWU)	2.35	2.71	2.51161	2.09	2.13
	B (AWU)	4.03	3.97	5.58	2.01	1.61
	C (%)	1.71	146.0	222.0	96.0	75.0
Arable lands area (X ₂)	A (ha)	51.03	98.66	57.25	28.94	30.51
	B (ha)	137.3	213.45	161.03	49.86	43.63
	C (%)	2.69	216.0	281.0	17.02	143.0
Total fixed assets (X ₃)	A (PLN)	738,987	1,011,870	830,126	569,227	562,046
	B (PLN)	1,300,380	1,740,140	1,599,730	672,169	612,373
	C (%)	1.76	172.0	193.0	118.0	109.0

Note: A: arithmetical mean; B: standard deviation; C: coefficient of variation
Data source: Polish FADN

Table 2: Estimation of production function parameters for the analysed macro-regions.

Variables	Model 1 (Poland)	Model 2 (Pomorze & Mazury)	Model 3 (Wielkopolska & Śląsk)	Model 4 (Mazowsze & Podlasie)	Model 5 (Małopolska & Pogórze)
Farms run by managers with higher education					
X ₁	0.465 (0.033)	0.454 (0.098)	0.469 (0.054)	0.497 (0.052)	0.542 (0.113)
X ₂	0.276 (0.023)	0.282 (0.063)	0.225 (0.040)	0.295 (0.041)	0.250 (0.062)
X ₃	0.568 (0.028)	0.592 (0.074)	0.535 (0.046)	0.542 (0.043)	0.659 (0.083)
R ²	0.762	0.767	0.752	0.754	0.770
F(n,k)	1,052.249	162.606	330.057	409.416	108.779
Farms run by managers without higher education					
X ₁	0.413 (0.012)	0.428 (0.028)	0.403 (0.017)	0.448 (0.022)	0.532 (0.045)
X ₂	0.333 (0.008)	0.442 (0.019)	0.256 (0.012)	0.331 (0.015)	0.323 (0.025)
X ₃	0.579 (0.008)	0.458 (0.019)	0.614 (0.013)	0.603 (0.014)	0.522 (0.028)
R ²	0.781	0.829	0.792	0.752	0.710
F(n,k)	10,909.490	2,343.400	4,476.949	3,271.387	768.845

Note: standard errors in parentheses
Data source: Polish FADN

ing to farms led by managers with higher education and by managers without higher education. The results indicate that the output elasticity of the labour factor, characterising average relative increases (Nieżgoda, 2009), is higher for all groups of farms whose managers completed higher education compared to the group of farms whose managers have not completed such education.

The Z statistics method was used in order to determine whether the differences between estimated parameters (elasticity) for respective production functions were statistically significant. According to the calculations in Table 3, an increase in the level of education leads to improvement in the output elasticity of the labour factor in model 1, which does not take into account the regional division of the

Table 3: Differences between production flexibility of the labour factor on farms led by managers with and without higher education, taking into account the regional diversification of the research sample.

Difference	Model 1 (Poland)	Model 2 (Pomorze & Mazury)	Model 3 (Wielkopolska & Śląsk)	Model 4 (Mazowsze & Podlasie)	Model 5 (Małopolska & Pogórze)
$a_1 - a_2$	0.05	0.03	0.07	0.05	0.01
Z-value	3.386**	0.645	2.912**	1.814*	0.180

* $p < 0.05$ (one-tailed), ** $p < 0.01$ (one-tailed)

Data source: Polish FADN

Table 4: Total, average and marginal productivity of labour in surveyed commercial farms in 2012.

Type of productivity	Poland	Macro-region			
		Pomorze & Mazury	Wielkopolska & Śląsk	Mazowsze & Podlasie	Małopolska & Pogórze
Farms run by managers with higher education					
Total productivity (PLN/farm)	327,847	496,115	380,648	241,549	236,729
Average productivity (PLN/AWU)	150,083	216,550	177,273	109,479	115,022
Marginal productivity (PLN)	79,425	120,826	89,636	63,634	67,490
Farms run by managers without higher education					
Total productivity (PLN/farm)	318,636	480,507	400,028	198,118	206,492
Average productivity (PLN/AWU)	135,274	177,015	159,272	94,758	96,976
Marginal productivity (PLN)	64,795	93,012	72,385	47,342	58,403

Data source: Polish FADN

analysed farms. The observed regularity is consistent with expectations formulated based on theoretical considerations according to which human capital approximated through the level of education has a positive effect on the productivity of farms. At the same time, it should be noted that different economic and natural conditions typical of respective regions in which the analysed entities operate have an influence on the analysed relationship since differences between the estimated parameters turned out to be insignificant in model 2 (Pomorze & Mazury) and model 5 (Małopolska & Pogórze).

We then evaluated labour productivity according to the level of education of the managers of the analysed farms. Labour productivity is generally the most important measure of productivity (Poczta, 2003). Its significance is due to the fact that the measure determines the income situation and options for internal accumulation (Poczta and Kołodziejczak, 2008). It determines both the economic force and the development prospects (Kowalski, 1998). Table 4 presents the indicators of total, average and marginal labour productivity of farms in the analysed macro-regions in 2012. In order to calculate the labour productivity, we estimated the production function with only one input, i.e. labour. This allows us to hold all the other inputs fixed. The estimated production functions were further used in the calculation of the indicators at the average values of the observed variables.

Total labour productivity (product) is diversified by regions and depending on the level of education of the farm manager. The highest total productivity of the analysed factor was characteristic of farms in Pomorze & Mazury, where farms led by managers with higher education predominated. The average difference amounted to PLN 15,608 per farm. Interestingly, in this region the coefficients of the output elasticity of the labour factor were not significantly different for the group of farms led by managers with higher education and for the group of farms whose managers did not claim to have completed such education. The existing situation can be explained by the fact that the level of education does not have an influence exclusively on the effects of the human factor use but also affects the utilisation of the other produc-

tion factors.

Also, in Mazowsze & Podlasie and Małopolska & Pogórze total labour productivity was higher among farmers with higher education. It is worth emphasising that the difference in the total labour productivity between the macro-region displaying the highest level of this indicator (Pomorze & Mazury) and that having the lowest level (Małopolska & Pogórze) amounted to PLN 259,386 in the first group of farms. On the other hand, in the second research group (farms with a manager without higher education), the difference between total labour productivity in Pomorze & Mazury (the highest) and in Mazowsze & Podlasie (the lowest) was PLN 282,389.

A higher level of labour productivity, both on a national scale and in all macro-regions, was achieved on farms managed by farmers who had completed higher education. In that group the highest effectiveness of utilisation of the labour factor was characteristic of entities in Pomorze & Mazury (PLN 216,550/AWU), where the average labour productivity was twice that of Mazowsze & Podlasie and nearly twice that of Małopolska & Pogórze. At the same time, this indicator was PLN 39,535/AWU higher than that recorded in the same macro-region but for farms managed by producers without higher education. It points to a clear relationship between the level of education of a farm manager and the economic results of the farm.

Marginal labour productivity of farms is also diversified depending both on the macro-region and on the level of education of the manager. In this case, higher productivity was also recorded for farms whose managers had completed higher education.

Discussion and conclusions

Our study aims to evaluate the effect of human capital on the production results of commodity farms using the Cobb-Douglas function. The results indicate that the output elasticity of the labour factor was significantly higher in the group of farms managed by farmers with higher-level education in

two out of four analysed macro-regions and on a national scale. In addition, human capital approximated by the level of education had a positive effect on the average and marginal productivity of the analysed farms.

The study makes a significant contribution to the literature related to agricultural economics since it is one of the few empirical studies focusing on the role of human capital in explaining the productivity of farms. Some researchers undertook surveys regarding the impact of education on the production and economic results of farms. However, according to our knowledge such surveys were not based on the production function and did not refer strictly to the productivity of labour. For example, Stawicka and Wołoszyn (2007) studied the impact of human capital on the production and economic results of farms in Poland and found that farmers who completed higher education in agriculture achieved the highest income. Marcysiak (2007) found that the highest level of income was recorded for farms run by men aged 46-55 with secondary or higher education. Gołębiowska and Klepacki (2001) demonstrated a clear impact of the level of education of farmers on the economic situation of their farms. Mathijs and Vranken (2000), in their analysis of family farms in Bulgaria and Hungary, showed that there was a significantly positive relationship between education and technical efficiency in family farms for both crop and dairy farming, where the farmer was measured as years spent in formal education.

Our results clearly indicate a need to upgrade the formal qualifications of farmers. Operating farms in an increasingly complex and variable market environment requires from the producers both specialist knowledge of agriculture and economic and social knowledge, the skill of establishing market contacts and the willingness to update one's knowledge. Improved quality of human capital can simultaneously provide a chance to increase the effectiveness of agriculture in regions where it is less developed, where the improvement of relationships between production factors is difficult due to the structural problems of this sector. From the point of view of agricultural and educational policy the key task is creating mechanisms facilitating an improvement in the level of education among the farming population. Such activities are particularly desirable in countries such as Poland and other countries with system transformation experience (e.g. Hungary, Czech Republic and Slovakia) where, as a result of long-term negligence, the educational needs of farmers were satisfied only to a very limited extent. An example of such means can be providing the inhabitants of rural areas with access to fast, broadband Internet and introduction of e-learning.

Our study is not free of weaknesses. The most serious limitation is the one-element set of quality indicators of the human capital. Despite education being the most frequently used measure of human capital, empirical studies should take into consideration that this approximant is not perfect. Hence, further studies regarding the human capital productivity of farms should take into account additional variables describing the experience and skills of farmers. In addition, it seems reasonable to continue research based on pooled cross-sectional data, which would make it possible to take into account the specific nature of respective units and periodic effects.

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KATONÁNÉ KOVÁCS Judit*, VARGA Eszter** and NEMES Gusztáv***

Understanding the process of social innovation in rural regions: some Hungarian case studies

In recent years, social innovation has been gaining more attention, not only in the scholarly literature and in public discourse but in rural development practice as well. An important reason for this is the greater involvement of civil society in this form of innovation. In this paper, building on definitions of social innovation found in the literature, we focus on the actual processes of social innovation in rural Hungary. The hypothesis behind our research was that a better understanding of how social innovation takes place in practice could increase its presence and efficiency in rural development. To explore these issues, we analysed four different cases of social innovation situated in rural Hungary. Our research shows that, despite common patterns, social innovation is highly dependent on its actual context and on the individual, the agentic engine, who initiates and carries out the innovation. For the capitalisation and the long-term sustainability of an innovative development project the institutionalisation of social networks gathering around it seems to be another crucial factor. Thus, creating an appropriate frame to drive the process all the way from the innovative idea through product development to institutionalisation, possibly in the form of a social enterprise, can be considered an essential circumstance for successful social innovation.

Keywords: rural development, LEADER, case study evaluation, why-how-what

* Debreceni Egyetem, Debrecen, Hungary

** Agrárgazdasági Kutató Intézet, Zsil utca 3-5, 1093 Budapest, Hungary. Corresponding author: varga.eszter@aki.gov.hu; <http://orcid.org/0000-0003-1615-8032>

*** Magyar Tudományos Akadémia, Közgazdaság-Tudományi Intézet, Budapest, Hungary

Introduction

In recent years, social innovation (SI) has been gaining more attention both in the scholarly literature and in public discourse. The objective of this paper is to examine the role of SI in rural development. Pue *et al.* (2015) defines five different research communities in the field of social innovation: (a) psychology of creativity; (b) territorial innovation and urban development; (c) social entrepreneurship; (d) innovation studies; and (e) psychology and innovation. Our paper explores social innovation in the context of European territorial innovation and rural development. In addition, building on the work of Bock (2012), Lawrence *et al.* (2013) and Pue *et al.* (2015), we aim to improve the general understanding of the subject.

We agree with Pue *et al.* (2015) that “social innovation follows logics and mechanisms that are distinct from market innovation, due to the system within which it is situated” (p.41). Rural regions normally have low capacity to develop genuine technological or market innovations, thus social dimensions, and within those social innovation, should receive more attention. Dargan and Shucksmith (2008) claim that innovation in LEADER (a programme aiming at local development of rural areas) is often understood rather as a social and cultural innovation, instead of a technical (and science interpreted) one by encouraging local linkages and collective learning, and improving the rural locality. Learning does not equal new technical and scientific discoveries but it can be “based on activities which recombine or adapt existing forms of knowledge” (Smith, 2000, p.10). LEADER Local Action Groups (LAGs) can themselves be considered as SI brokers – or agentic engines, using the term suggested by Pue *et al.* (2015) – in a given rural territory.

The logic behind social innovation prioritises community development over territorial development, which means it adds the “collective, inclusive and sustainable sense to development and the satisfaction of needs over only profitability and marketability” (Moulaert and Nussbaumer, 2005,

cited by Garcia, 2012, p.39). Answering the special problems and needs typical of rural areas normally requires increased cooperation between the four ‘spheres’ of rural stakeholders. In the old model of cooperation, the business, the governmental and the civil spheres were considered to operate as separate entities. The ‘civil sphere’ means the area outside the family, the state and the market where people join their forces to advance their common interests (Heinrich, 2001). However, according to the new model their roles and responsibilities are more and more overlapping (WEF, 2013).

LAGs, organised as tripartite (civil, governmental and business) rural development partnerships, are good examples of where different spheres can cooperate without major problems. According to Lukesh (2007), depending on the state of development or maturity of the rural area, as ‘instruments for change’ LAGs can play this role at various levels: starting from simply defining local needs, through acting as facilitators, creating platforms for negotiation, to becoming key players of local governance, enhancing practical development in many areas of rural life.

We agree with previous critiques claiming that defining SI simply as ‘... new technologies and products ... affecting social relations, behaviour and attitudes’, thus understanding social changes solely as the results of technical innovation, misses one of the most important elements, that is the *process* of social innovation (Phills *et al.*, 2008; Pol and Ville, 2009). Bock (2012) refers to social innovation as ‘the social mechanisms of innovation’ and ‘the social responsibility of innovation’, meaning that innovation is based in social processes and the results should not be harmful to society. ‘Social’ relates to the purpose of innovation when society itself is targeted for change. The focus here is on values, norms or social relations to be changed (Gibson-Graham and Roelvink, 2009). As a tool, ‘social’ refers to the application of certain methods such as social empowerment or participation in the innovation process. G. Fekete (2015) points out that in the case of a SI the novel idea originates at least partly from civil society or civil movements (*origin*), it is

led by social values (*purpose*), in its implementation new social cooperation forms are used (*implementation*), and it has positive social effects (*effects*).

Lawrence *et al.* (2013) identified four focal themes (based on Phillips *et al.*, 2008) of SI in the literature: social problems, novel solutions, organising models, and distribution of the benefits created. According to Phillips *et al.* (2008, p.36), SI means “a novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals”.

Pue *et al.* (2015) focus their definition on the process of social innovation, driven by its two interacting engines: an agentic engine and a structural engine. Social innovation is defined here as “... a process encompassing the emergence and adoption of socially creative strategies that reconfigure social relations in order to actualize a given social goal” (p.10). The paper interprets the most important aspects of SI in the context of rural development as follows:

- a purpose-driven novel solution to a social need or problem of a given society (social goal), in our case a local, rural community – PURPOSE (*motivation*)
- enables participation and cooperation of the different spheres/sectors such as economic, political and civil – IMPLEMENTATION (*process*)
- while creating positive social effects – BENEFICIARIES (*products*).

The two above-mentioned criteria – that the novel solution has to be better than the existing ones and it should benefit primarily society as a whole – are also considered to be important but at the same time are often more difficult to measure. This is one of the reasons why the work of Pue *et al.* (2015) puts the focus on the process.

Our paper interprets social innovation (Table 1) in the context of the ‘golden circle’ of questions by Sinek (2009): WHY (*the motivation*) – HOW (*the process*) – WHAT (*the product*). For this particular analysis one more element to the

HOW part of the framework was added, exploring *the effects* of social innovation on the main beneficiary social groups.

The *process* of SI (HOW, Table 1) has been the subject of scrutiny by various authors. Bock (2012) draws attention to the ‘social mechanism of innovation’. This refers to the fact that any development normally occurs within the context of society. Pue *et al.* (2015), by defining SI as the process, also underline the importance of the question how SI takes place. Lawrence *et al.* (2013) further refine the framework by adding two more aspects of the HOW question, completing the ‘organising models’. Elements of the ‘organising models’ are: (a) the role of individuals/agentic engine; (b) the impact of context/structural engine; (c) which sectors are likely to contribute; and (d) how groups and networks are involved/institution.

Methodology

The hypothesis behind our research was that concentrating on the process will improve our understanding of HOW social innovation takes place in practice. That, consequently, could greatly enhance interventions aimed at increasing the presence, efficiency and sustainability of social innovation in rural development practice. Focusing on the interpretation of HOW social innovation can be organised, we examined four Hungarian rural development projects (Figure 1) as case studies for social innovation (Table 2). The case studies have two aims. Firstly, to test the analytical framework offered by Lawrence *et al.* (2013) for the analysis of the SI process, the different aspects of HOW, namely (a) the role of individuals/agentic engine; (b) the impact of context/structural engine; (c) which sectors are likely to contribute; (d) how groups and networks are involved/institutionalisation; (e) the effects of SI in real rural cases in Hungary. Secondly, to identify appropriate questions for future research intended to collect more evidence on the topic.

Finally, we used the Internal and External Factor Evaluation Matrix (EFEM, Maxi-Pedia, 2015) to evaluate the SI process. The factors in the matrix were the parameters of the *process* of SI (i.e. HOW), namely the context, initiator, sectors involved, the way of involvement, and the effects and beneficiaries. The relative importance of each factor was indicated by assigning a weight ranging from 0.0 (not important) to 1.0 (very important). The sum of all assigned weights must equal 1.0. The next step was to rate the factors from 1 to 4 which captured whether the factor represented weakness (rating = 1) or strength (rating = 4). The results were then multiplied and summed. After multiplying each factor’s weight by its rating, the sum of the results showed the total weighted score for each SI. In the long run, by further developing the measurement of the relative importance of the factors and analysing data from a large number of case studies, a deeper understanding of SI and its parameters in rural development could be achieved.

Table 1: Interpretation of social innovations by three different authors.

	Bock (2012)	Lawrence <i>et al.</i> (2013)	Pue <i>et al.</i> (2015)
WHY	The innovation of society	Social problems as the starting point	Social problem
HOW	The social mechanism of innovation	Organising models	Agentic engine, structural engine
HOW – distribution	The social responsibility of innovations	Benefits distributed beyond the innovators	Emergence, adaptation
WHAT		Focus on novel solutions	Outcomes (social goal, social change)

Source: own compilation

Table 2: The case study research approach.

Description of cases	Research problem	Data Sources	Investigators	Output
Four social innovations	Understanding the HOW in social innovations	Interviews, archives	First step: single investigator, second step: research team	Underlying and developing the conceptual framework

Source: own description based Eisenhardt (1989)

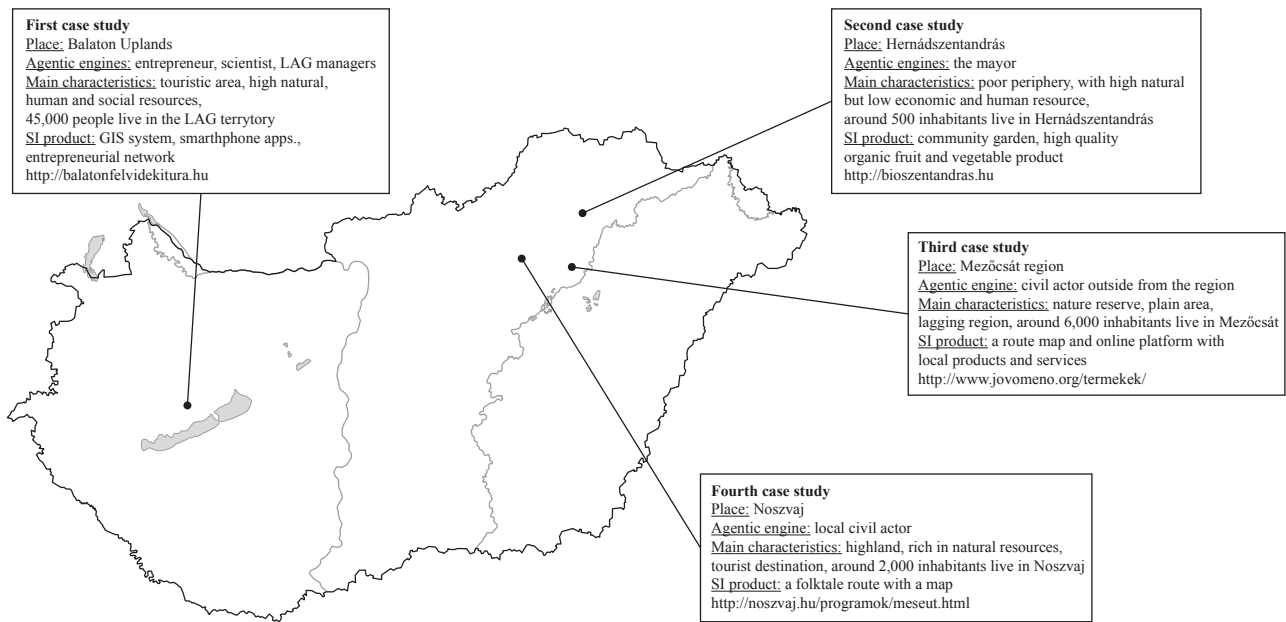


Figure 1: The four case studies used in the research.

Source: own composition

Results

Through the analysis of the case studies answers are given to the questions of Table 1, starting with *WHY* and *WHAT*, while different aspects of *HOW* social innovation takes place are also elaborated.

First case study - Balaton Uplands

WHY? The Balaton Uplands LEADER LAG (hereinafter 'Balaton Uplands') is rich in natural resources and has good potentials for sustainable tourism. At the same time, to capitalise on these potentials, there was an urgent need to connect both relevant local actors with each other and the region with the outside world, as a destination for rural tourism. A parallel demand was the social need for destinations offering possibility for 'alternative' (green, cultural, ecological, gastronomic, vine, adventure etc.) tourism. This project intended to meet these fundamental social needs through the community-based development of tourist trails, made available through an innovative GIS system and smartphone applications for the tourists.

WHAT? In Balaton Uplands the LAG organised local workshops in all the 60 settlements, during which local attractions were gathered, placed on a large printed map and organised into three trails (for walking, cycling and horse riding) designated in each village. This occasion also provided a neutral communicative space for discussions, finding possibilities, building networks and contacts for local entrepreneurs, local authorities, NGOs and local enthusiasts etc. (*community development tool*). It also provided appropriate space for the local development agency of the LAG to meet the population in their territory, to gain information, personal and institutional contacts (*rural development tool*). After the workshops a LAG employee accompanied by local people walked along the trails, recorded the GPS tracks, took photographs, collected stories etc. Then a GIS

database was built (*using new technologies*), smartphone applications were developed and innovative tools, including Google™ advertisements, Facebook™, printed leaflets and digital information boards were used for the marketing of the results (*marketing tool*).¹

HOW?

Context of the process? In Balaton Uplands the project was designed and delivered as one of the main local activities of the local LEADER LAG. As part of their 'green tourism' development it became one of the three legs of the local development strategy. Balaton Uplands provides favourable circumstances for such a project, with strong natural and human resources, reasonably developed services and many high-quality local products, all good resources for rural tourism development. Also, the local LAG is one of the best functioning ones in Hungary with a strong professional background, good networks, importing knowledge and best practices from domestic and international examples.

Who initiated the innovation? In Balaton Uplands the innovation initiated from three different sources: (1) a local entrepreneur; (2) a social scientist; and (3) the project managers of the LAG. The local entrepreneur was originally from Budapest, speaks various languages, and was working in rural tourism (accommodation, horse trails) and ICT at the same time. He had had and used GPS technology for several years and could develop the first version of the GIS database and coding. The social scientist, a rural development expert, was also an incomer, but has lived in the area for a long time, working closely with the LEADER LAG as a volunteer. Based on good practices seen in EU Member States and on the available resources (expertise of the above

¹ A community made video illustrating the process is available at: <https://www.youtube.com/watch?v=3mfUUbGK6M0&list=PLZdrIE4wSYjP341bW2d4pZJ-XJbfxDGln&index=3>. A parallel project, the development of the Balaton Uplands Territorial Quality Mark, was connected to the GPS project through including local producers and service providers in the map and the smartphone apps. Both the process of developing the GIS database and the result itself were very successful, nevertheless, the marketing of the project products could be very much improved.

entrepreneur, human resources available in the LAG etc.), he suggested to use the GIS/GPS project as an opportunity for community development and an interface for creating networks, packages and rural development work in general. He also suggested community planning as a complex method to be used. He is also quite resourceful, with wide international experience of rural development, relevant degrees, theoretical knowledge, practical skills etc. The local development agency of the LAG (project managers) participated in the development of the innovative features of the project from the very beginning. Even if ideas, impulses and methods were suggested by others, they very quickly internalised, improved and operationalised the initiatives and carried out the vast majority of the work. They were people with different resources/skills, often helping, complementing each other, and that was an essential success factor for the project.

Which sectors are involved? NGOs, local authorities and entrepreneurs were all involved, but schoolteachers, foresters, walkers, bikers (sometimes not only locals but also urban people who had fallen in love with the locality) also contributed. Local authorities took responsibility for cleaning the trails, putting up signs and so on. Service providers (accommodation, catering, programme organisers) and local producers of food and arts and crafts products all appear on the maps in addition to attractions.

How are different sectors involved? The involvement of groups, networks and individuals is semi-formal. There is no legal entity (association, foundation or business) created; however, there is an established network of people and organisations taking part in the project with a contract and a basic fee.

What are the effects, distribution? During the process of developing the GIS database, community mapping and so on, there were many tangible, positive effects of the project. Several new co-operations, joint strategic thinking, planning in the field of rural tourism were identified, and local networks were significantly developed. The process also provided a very efficient interface for the LAG development agency to meet local people, collect and spread information, innovation etc. At the same time, the actual outputs (GIS system, smartphone applications, connected homepage etc.) represent a huge potential for marketing and tourism development. Nevertheless, the introduction and marketing of the products has so far not been too successful.

Who benefits from the social innovation? The development of social networks and improved information flows have enhanced the development capacity of the whole region, thus benefitting everyone. However, the main beneficiaries of the project were those connected to rural tourism in some way (service providers, local producers, local authorities, tourists etc.).

Second case study - Hernádszentandrás

WHY? The second project, hereinafter ‘Hernádszentandrás’, intended to fight poverty and social exclusion through creating a community based, owned and cultivated organic vegetable garden and the associated processing, short supply chains and marketing environment. Through this it aimed to (a) achieve a significant cultural change,

transforming the passive poverty culture and overall hopelessness incumbent in the village to a more pro-active, self-care approach, based on the development of social networks, knowledge, skills and a working culture; (b) create both paid employment and self-subsistence (including the public kitchen), benefitting the whole local community in the long run; (c) exploit unused and deteriorating resources (good quality land within and around the village, traditional production culture of vegetables, closeness of markets) and, at the same time, use the available funding offered by social, employment and rural development programmes.

WHAT? A considerable amount of public aid (ca. EUR 100,000) was acquired with the aim of creating a community-based vegetable garden. The project call was for human resource development and capacity building to fight poverty and social exclusion. Using some land in the middle of the village owned by the local authority, a small organic vegetable garden was created. With the contribution of a university lecturer (a recognised expert in organic production and community supported agriculture, CSA) a training programme was designed and was delivered by a local agricultural engineer (after a ‘train the trainer’ programme) for the interested local people. Some 25 local people volunteered to take part in the project (training, working in the common garden and cultivating their own home gardens). The original 8000 m² of land was soon extended to 2.5 ha, together with a number of greenhouses and equipment for processing vegetables into high value added conserves etc. Following the first programme, several new funding sources opened, including a programme funding the employment of local unemployed people in social enterprises by the local authority and a call for building a small processing plant. During the first years the majority of the production was consumed by the volunteers themselves and supplied the local public kitchen. However, they now have their own webshop, and also deliver to five restaurants, some bio-shops, bakeries and some CSA networks; thus using innovative marketing strategies they started to turn the social enterprise into a real business. In 2013 Hernádszentandrás received the Europa Territorial Innovation Prize, shared with Wien in Austria, for creating innovative solutions for social problems at the municipality level.

HOW?

Context of the process? Hernádszentandrás is in one of the most disadvantaged villages in Hungary, with 40 per cent Roma ethnic minority population, a huge unemployment rate and a general feel of hopelessness: poor people normally waiting for external help instead of taking control of their own futures. Small-scale vegetable production, a traditional activity, became almost absent, even for self-consumption. Private gardens, courtyards and the land owned by the public authority became abandoned and production skills were forgotten. At the same time, the village has very good natural, economic and cultural resources (good soil, ground water, a river, the major markets of Miskolc and Košice close by, a long tradition/history of producing, processing and marketing vegetables etc.).

Who initiated the innovation? In Hernádszentandrás the clear source of the innovation is the mayor. He is a young, local man, with a university degree in politics, excellent

communication skills, a very strong commitment to the village and a clear vision of the future. He has used every opportunity to develop connections, and a reputation for the village and for the project, reaching well beyond the borders of Hungary. He became a deputy mayor in 2002 (at the age of 22) and mayor in 2006. As the mayor of a small village he has considerable power connected to local issues, including the use of resources, and can carry out his vision efficiently.

Which sectors are involved? The driving force in Hernádszentandrás is the local authority (and the mayor). However, the non-profit business and also the trading partners are actual legal businesses. Also, through providing input to the public food system, public institutions (school, kindergarten) are involved.

How are different sectors involved? In Hernádszentandrás the local authority is the sole owner of the non-profit business (limited), and both the activities and the income generated by the business are difficult to separate from the local authority. That represents an advantage, or rather leverage, for the business (cash flow, human resources etc.), but it can easily become a problem once the project really takes off as a business.

What are the effects, distribution? The project has had considerable effects in Hernádszentandrás. The local people involved started to develop a working culture, gained agricultural skills and can work towards both self-subsistence and the marketing of their products. The employment of 25-30 people in a small village is also a very significant factor. The appearance of the village has changed considerably (cultivated gardens, buildings, less rubbish etc.). *Bioszentandrás* has become an exemplar project in the region and in Hungary, and has already started to have some positive effects on local identity and self-respect as a step toward achieving long-term structural development in such a disadvantaged rural socio-economic context.

Who benefits from the social innovation? In Hernádszentandrás the project provides employment continuously to some 25-30 local people (a growing number) and has changed the shape of the village and the thinking of the local community considerably, thus in a way involves all local people. Through their products sold externally they have an effect on mainly middle class families in nearby cities.

Third case study - Mezőcsát

WHY? Mezőcsát and its region belong to the 30 most disadvantaged regions of Hungary. Traditionally the region's society and economy were determined by floodplain management including fishing, pasturage, fruit production, and processing reed and willow. Later, industrialised agriculture and heavy industry created jobs. After the change of the regime and the end of the heavy industry the region's economy collapsed. Unemployment and migration have become challenges in the region (Bodó, 2015). Mezőcsát is situated in a nature reserve, near to the river Tisza with a need for a sustainable local economy and active citizenship.

WHAT? *Szívlapát Alapítvány* (Szívlapát Foundation) from Budapest² selected this locality for the implementation of an exemplary project to enhance good practices and

show the potential for sustainable development. Hungarian Telecom, as a funder, and the Environmental Social Science Research Group (ESSRG) from St. István University (with longer participatory action research experience in the region), as an agent, took part in the project with the involvement of the local community. One of the outcomes was a cycling map indicating local products, food producers (e.g. honey, bakery) and services (e.g. accommodation), coupled with online tools providing further information on the region and local contacts of suppliers and service providers.³

HOW?

Context of the process? Mezőcsát, similarly to Hernádszentandrás, is a lagging region with a high unemployment rate. Local public institutions (LAG, local authorities, schools) and NGOs were involved in the process. However, there was a significant cultural gap between the external and the local actors working in the project, concerning democratic values, governance, communication etc.

Who initiated the innovation? *Szívlapát Alapítvány* was the initiator of this project. It aimed to help the most disadvantaged regions of Hungary by enhancing sustainable economic and social development through local participation, empowerment and unlocking local resources. Hungarian Telecom, ESSRG and the local LEADER LAG tried to enhance local participation. However, only the most active, entrepreneurial local actors got involved in the project. This could be due to a generally low level of trust among the local population, coupled with a lack of knowledge and understanding of rules, regulations and controlling external institutions connected to food products.

Which sectors are involved? All sectors were involved: *Szívlapát Alapítvány* came from the civil sector, Hungarian Telecom arrived from business, ESSRG represented research and development, and local government and the micro-regional development agency the governmental sector. Entrepreneurs and civil society actors from the region also worked in the project.

How are different sectors involved? During the project various programmes were organised, normally led by the external actors. These included Hungarian Telecom's 'Digital bridge' programme that introduced the use of IT for example in agriculture and administration; a 'Media school' for the local youth; and a workshop on renewable energy organised by ESSRG. An important element of the project from the perspective of sustainable economic development was the development of supply chains of local products. However, this remained an informal network and no formal institution was created that could maintain the activity after the end of the project.

What are the effects, distribution? In Mezőcsát the question arises as to whether there are latent processes which have been activated by the project. For example, a beekeeper producing honey and indicated on the map has a vision for the development of the region and has ideas about who could be those entrepreneurs in the region who are ready to join. The project initiated positive social processes (innovation, learning, network development) that through a wider participation of local people could result in significant development. Nevertheless, how to enhance such participation

² <http://szivlapatcsoport.hu/>

³ <http://www.jovomeno.org/termekek/>

Table 3: EFEM evaluation of the social innovation processes in the four case studies.

Case study		Context	Initiator	Sectors involved	Groups and networks involvement	Effects and beneficiaries	Total
Weight		0.4	0.3	0.1	0.1	0.1	1.0
Balaton Uplands	Rating	3	3	4	4	3	
	Weighted score	1.2	0.9	0.4	0.4	0.3	3.2
Hernádszentandrás	Rating	2	4	4	4	4	
	Weighted score	0.8	1.2	0.4	0.4	0.4	3.2
Mezőcsát	Rating	2	2	4	2	2	
	Weighted score	0.8	0.6	0.4	0.2	0.2	2.2
Noszvaj	Rating	3	4	4	4	3	
	Weighted score	1.2	1.2	0.4	0.4	0.3	3.5

Source: own calculations

successfully remains an unsolved question in this locality.

Who benefits from the social innovation? In Mezőcsát, those who were involved had the possibility to experience a new way of thinking, to use IT for further development, and to get to know actors from Budapest and from outside the Mezőcsát region with an openness for sustainable development. Those who were open to be included on the map and on the homepage benefited from the project as their presence is now more visible. However, one of these producers stated that he has not yet gained any new customers from this opportunity.

Fourth case study - Noszvaj

WHY? Despite being in a declining micro-region, threatened by population ageing and outmigration, Noszvaj has managed to maintain its population as a result of more and more young families moving to the village, which now account for approximately 50 per cent of its inhabitants. Newcomers are normally well educated, middle class people and many of them are entrepreneurs. They have good skills and are slowly taking over the running of the village. Noszvaj is rich in natural resources and has good tourism potential.

WHAT? Most people work in agriculture or in tourism. In Noszvaj a thematic ‘folktale route’⁴ was developed. The project has become a main driver of the local tourism business, enhancing continuous developments and the marketing of local products and services.

HOW?

Context of the process? Local society in Noszvaj is open and balanced. The Reformed Church has acted as an integrating institution for centuries. Positive traditions have contributed to a solid and consensual social, cultural value system. Other religious communities (Baptist and Roman Catholic) are also represented in the village and can co-operate without conflicts. Civil society is active, with a significant number of lively organisations. A good example is the Noszvaj Tourism Association which is more than 20 years old. There are also many active local individuals, colourful programmes and social events throughout the year which are signs of a well working local society. An enhanced culture of entrepreneurship is based on the long standing history of the village in rural tourism. During the communist regime Noszvaj used to be a favourite destination for political and economic leaders, creating a demand for local products and services. This

tradition gained a new momentum from the 1990s, providing many local people with considerable income from tourism. Local society is open and active. A good example is a well working women’s association, including the initiator of the examined SI.

Who initiated the innovation? The project was started by a young woman married into the village. She had an interest in ‘folktale therapy’ and, after taking a course on this topic, was looking for possibilities for being an entrepreneur based on her interest. She had the idea to collect the folktales of the (Palóc) region and on the basis of these tales create a Folktale Forest programme. Based on the success of this programme there was a demand for such programmes throughout the year. The initiator as a tale therapist was committed to attracting more families to experience folktales and this commitment resulted in the folktale route. She also managed to find other women who had an interest in such projects.

Which sectors are involved? In Noszvaj all sectors were involved and they were mainly from the village. Besides the initiator, the main actor of the project is the Noszvaj Tourism Association. The local government also supports the project and various business actors joined, for example, accommodation service providers.

How are different sectors involved? The Noszvaj Tourism Association became the formal implementing institution of the project. There is strong cooperation between all actors. For example there is a possibility for continuous professional consultation from the research side. The initiator is a member of an expert group of tale therapists too.

What are the effects, distribution? In Noszvaj there are many positive effects. Inhabitants have found many business opportunities connected to the folktale route. For example a ‘folktale accommodation’ brand was developed with special requirements for quality. Local values, such as folktales, are preserved and give added value at the personal, community and regional levels.

Who benefits from the social innovation? The whole village and its inhabitants benefitted from the project, as have the tourists arriving into the region.

Internal and external factor evaluation matrix

The social innovation processes in the four case studies were evaluated using the EFEM (Table 3). The subjectivity of the evaluation is high, but we make suggestions on how to increase the objectivity of the evaluation in the discussion part of this paper. Context was assigned a weight of 0.4,

⁴ <http://noszvaj.hu/images/terkep.jpg>

the initiator 0.3 and the other factors 0.1 each. Using EFEM we obtained a final number for each case from 1 to 4 where weak SI rates 1 and strong SI rates 4.

The results suggest that Noszvaj is the strongest performer and Mezőcsát the weakest. As each case study included participation from all four sectors (academia, government, industry/business and civil society), all scored 4 for this factor. It should be noted that academia is not a component of SI in all rural regions of Hungary and there is a question (not examined in this paper) of how effectively the results of R&D are applied in rural regions. In our case the reason for the presence of academia could be that the selected case studies were regions where the authors from academia had involvement. Although this factor was high even in the case of Mezőcsát, it is a lagging case because the two most important factors, the context and the initiator, scored poorly.

Discussion

The results presented in this paper convey two important messages. Firstly, the four case studies show that social innovation plays a role in developing rural areas. Secondly, the analytical framework presented in Table 3 enables the examination of particular cases of social innovation from various angles of the SI process.

The *context* in which social innovation is developed has a strong effect on the likelihood of success. Nevertheless, *local context* is a complex matter, depending on a range of socio-cultural, developmental and economic factors. For the rating of *context* (based on the results of our previous research, e.g. Varga, 2009; Katona-Kovács *et al.*, 2011) the different levels of the Lukesch governance model could be applied. According to Lukesch (2007), in Mezőcsát the region was between the power-planning type, which means the third and fourth levels in the ranking of eight levels of governance where the eighth is the highest. This means our suggestion for rating the weight of the *context* is 1 for the first and second levels of the Lukesch governance model (existence and identity), 2 for the third and fourth (power and legitimacy), 3 for the fifth and sixth (achievement and equality), and 4 for the seventh and eighth levels (uniqueness and sustainability).

Initiators or agentic engines also have a fundamental role in SI. They have to be purpose driven. According to the Lukesch model there is a development stage when a charismatic leader stands out from the community and takes the leading role in the development of the rural area. He or she can initiate the innovation personally as in Hernádszentandrás where the mayor plays the catalyst role in the SI process. Based on this stage the area could excel and gain even international recognition and strengthen its local identity. Based on our case studies there are different options for the possible initiator. In the case of Balaton Uplands cooperation of more than one initiator was also successful. There was only one case (Mezőcsát) where the main initiator arrived from outside the region. In such cases the main challenge appears when the initiator leaves the locality. This is the time when it becomes evident how much they are incorporated and integrated into the region. The long-term presence of the

initiator could be a question even when the initiator is from the region. How and how long can the initiator be involved in the SI? Will the context ensure the sustainability of the SI if the initiator leaves? The rating of the initiator needs further development – elements such as local inhabitant/or not, incomer/or not, authentic/or not could play important roles.

There were no outstanding differences in the four cases regarding the involvement of different *sectors* in the SI process. Representatives of all four sectors participated in each. A differentiation of the sectors according to their origin might be a point of departure for the analysis: if they are from within or from outside the case study region. This can help to improve our understanding of the differences between the results. When the initiation comes from outside the region it should not simply meet a social need or answer a social problem of the local area but also find receptive parties from different sectors (it can be achieved through the LAGs if they function well – as is shown in Balaton Uplands).

Our results suggest that the biggest threats to successful SI in rural regions are: (a) the lack of initiators and (b) the lack of supporting context that is commitment/involvement of active local actors. Regarding the sustainability of social innovation, the lack of institutionalisation is a crucial factor. Institutionalisation could provide the frequently missing link between product development and a practically and effectively working business based on social innovation. We also claim that for such projects some kind of social enterprise could be the best way of institutionalisation. To validate these claims further research is needed.

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Thomas DAX* and Theresia OEDL-WIESER*

Rural innovation activities as a means for changing development perspectives – An assessment of more than two decades of promoting LEADER initiatives across the European Union

Since the 1990s the LEADER approach has very powerfully addressed the spirit of mobilising actors in the countryside through focusing on endogenous potential and activating local stakeholders across all sectors. Given the long-term experience and wealth of diverse development initiatives across the European Union (EU), the diversity of implementation is huge. Considering the limited financial support as a Community Initiative (until 2006), a significant extension and ‘upgrading’ of LEADER was intended by integrating it into the EU Rural Development Programmes (RDPs) since 2007. The shift from the character of a ‘pilot’ instrument at the start of LEADER to its ‘mainstreaming’ into the RDPs involved radical administrative changes and high expectations of increased impacts. The interest in LEADER practice and effectiveness led to many studies that in general apply a limited perspective of self-evaluation and reflection on LEADER activities. Its main impact is seen in providing learning processes in rural regions and the effects on changes in local governance through extended involvement of local stakeholders and institutions. This paper provides a synthesis of European experiences and analyses of core changes, in particular by referring to the example of implementation in the Austrian context. The main lessons are based on the reflection of obstacles and promoting factors of implementation during the last 25 years against the LEADER principles. The limitations in the assessment of LEADER call for a systemic approach that includes interrelations to a much wider degree. LEADER’s legacy is seen well beyond a quantitative measurement, but has to be found in its influence on actors’ perspectives, new pathways and strategies for rural development¹.

Keywords: rural development, LEADER, social innovation, participation, policy assessment, Austria

* Bundesanstalt für Bergbauernfragen, Marxergasse 2, A-1030 Wien, Austria. Corresponding author: thomas.dax@berggebiete.at

Introduction

Since the early 1990s, rural development has emerged as an important European policy field. The Common Agricultural Policy (CAP) and the Cohesion Policy can be seen as the base of origin of the European Union’s (EU) Rural Development Policy (Kull, 2014). The emergence of rural policy can only be understood through the increasing changes and societal challenges extending by and by to all rural areas. Despite a strong and persistent reliance on traditional views and sector approaches linking the ‘rural’ tightly with the land use base, conceptual shifts have to be acknowledged (Copus and Dax, 2010). Increasingly, tendencies of diversification of economic activities as the main driving force for rural and regional development, an enhanced focus on modernisation and innovation, the recognition of the significant role of entrepreneurial activities and the widespread attention for the valorisation of local specificities are crucial elements in shaping the rural territory, indicate the change of the state of the art for analysing rural development. Yet, Rural Development Policy practice, as defined by EC regulations and understood by most involved stakeholders, hardly goes beyond land use issues (Dax, 2015).

However, the rhetoric on rural development largely visible since the late 1980s (cf. CEC, 1988) was a strong incentive for local action in rural areas. Given the institutional gaps and prevailing sector policy implementation, at that time only a ‘Community Initiative’ by the European Commission (EC) itself seemed capable to establish a new policy approach, encompassing the wide set of emerging policy needs. As a result, the concept of the LEADER approach has

been successful in mobilising endogenous resources and in addressing local development opportunities in rural regions (Shucksmith, 2010). The bottom-up principle is one of the most relevant aspects of LEADER, aiming at social capital building and enhancing (social) innovation in rural areas. Since its beginning, it focused particularly on enhancing ‘linkages’ and participatory approaches, and raised significant interest by policy and local actors. Based on the insight that local activities initiated by LEADER since its establishment in 1991 have brought substantial momentum to rural regions across the EU, a widespread application of the concept aimed in recent years to enhance regional performance which cumulated in the mainstreaming of LEADER (Dax *et al.*, 2016).

Whereas it was seen as an experimental ‘pilot’ scheme under LEADER I (in the period 1991-1993), LEADER II in the period 1994-1999 epitomised the ‘laboratory’ aspect, making use of the desire to engage and spread innovative, inexperienced pathways. However, it was still mainly oriented towards disadvantaged rural areas at that time. During the LEADER+ period (2000-2006) it was extended to a wide range of rural regions and it is said that LEADER reached maturity at that time. This refers to the fact that the whole rural territory is considered as the target area, and networks have taken up a central role, including transnational cooperation. Both aspects underpin the remit of the concept to address all rural areas and to provide substantial impact on rural economic and social development. With the CAP reform for the period 2007-2013, LEADER was formally integrated into the Rural Development Programmes (RDP) and, conceived as a horizontal priority scheme, all RDP measures became eligible for LEADER funding (EC, 2006).

The shift from a sectoral to a territorial rural development strategy in rural areas has focused attention on neo-endogenous strategies as a means of fostering rural develop-

¹ An earlier version of this paper was presented at the Fifth EUGEO Congress on the Geography of Europe, 30 August – 2 September 2015 in Budapest. The paper benefits from discussion following the presentation and subsequent peer review.

ment. Innovation within LEADER has involved economic initiatives but in particular shared learning processes and the mutual exchange of knowledge and ideas should be enhanced (Bock, 2012; Dax *et al.*, 2016). Furthermore, the territorial orientation of LEADER is manifested by the concern for small-regional and local scales and the promotion and development of new forms of organisation at both an institutional and personal level, which result in social changes beneficial to the communities involved (Cawley, 2009; Neumeier, 2012). As such, the notion of social innovation is widely recognised as of central importance to the aims of LEADER. Social innovation is not an aspatial activity, but is therefore intrinsically linked to territory.

The high potential recognised in the LEADER approach led to a further extension of the scope of application through enabling Multi-Fund Local Development Programmes through Community Led Local Development (CLLD) to be implemented for the funding period 2014-2020. Funds for LEADER projects will amount to EUR 6.7 billion for this period, but an ex-ante assessment reveals only very limited use of the CLLD approach (Kantor, 2015).

On account of this long experience the present paper draws on the wide scope of implementation practices of the LEADER approach and assesses its implications on rural and social changes. By referring to the long-term discourse on LEADER as the main territorial instrument of 'rural development', an important question is whether its implementation could take sufficient account of rural development needs, enhance social innovation and achieve substantial impacts for rural change. The paper outlines the specific implementation practices of the LEADER approach in the EU, by highlighting its significance in the Austrian context. Firstly the background and key aspects of the concept are introduced, and its general characteristics as well as obstacles and promoting factors of implementation during the different programming periods in the last 25 years are analysed. As the application of LEADER is programme specific, the analysis of the Austrian programme will serve as a useful example to address programme evolution up to the present stage. The most recent programme adaptations are analysed to provide an overview how the turn from 'mainstreaming LEADER' to CLLD was managed and which new requirements and incentives were taken into consideration. This is followed by a review of the LEADER practice that argues that many available studies apply a limited perspective of self-evaluation and reflection on LEADER activities. Against the weaknesses of quantitative results, LEADER's main impact is seen in providing learning processes in rural regions.

The conclusions then focus on the questions about LEADER's legacy and perspectives for rural development.

The idea of the LEADER approach

The LEADER programme was established as one of the Community Initiatives (in 1991) with the specific task of enhancing innovation and quality of life in rural areas. The core idea strived to provide scope for innovative actions within rural areas, thereby responding to the increasingly

visible development needs and the efforts to raise trans-sectoral activities (Dargan and Shucksmith, 2008). As it became the most famous tool of local development action it spread to almost all regions of the EU and was copied by similar programme approaches beyond (OECD, 2006). Its main achievement was in the pro-active perspective towards nurturing potentials and addressing innovation through place-based strategies. This mirrors the understanding that innovation is not an aspatial activity, but intrinsically linked to the territory (Polenske, 2007; Bock, 2012; Neumeier, 2012).

The LEADER principles² emphasise the area-based concept and look for the most effective use of local resources and assets in order to enhance the regional identity of the rural residents (EC, 2006). LEADER is an instrument for working with and for building the capacity of local residents and groups within their rural communities. Beyond supporting 'hard' economic interventions, it is its commitment to include activities to enhance social processes, considered as major driving forces to rural development (Dax *et al.*, 2016). The 'experimental' character of LEADER was important at the beginning, and later on attention shifted towards action for innovative, inexperienced pathways, still mainly limited to disadvantaged rural areas. As the concept of LEADER was seen as attractive and the most clear expression of a 'territorial focus' of the CAP, its integration into the RDPs in the period 2007-2013 was thought of as extending the scope and effectiveness of rural development considerably.

Although LEADER was known as an innovative decentralised initiative which generated many successful projects at local level, further needs for improvements and shortcomings became visible in the implementation process. Thus, LEADER has not reached all potential actors and interest groups (Shortall, 2008), leaving scope for inclusion of disadvantaged groups or less involved actors, such as rural women, young people or migrants. Also the full potential of the role of farmers and the opportunities for linkages to other economic actors were addressed to a limited degree in most Local Action Groups (LAG) (Oedl-Wieser, 2010; Thuesen, 2010; Furmankiewicz, 2012, Granberg *et al.*, 2015). Furthermore, it has to be acknowledged that the financial support for LEADER as a Community Initiative was very small, compared to the CAP and Structural Funds budgets, implying a limited (quantitative) impact on rural development. It therefore was sometimes seen as "a buzzword for a mode of governance practiced in regional, national and multilateral development programmes" (ÖIR, 2004, p.3) lacking sufficient effectiveness for the involved territories. Partly the reference to its pilot and laboratory character also led to a very context-specific experience and implementation practice. Overall assessment remained very mixed and very often the richness of the experience could hardly be used and transferred to other regions due to their huge diversity and local conditions. Partly the awareness for this 'learning deficit' was at the start of the mainstreaming debate. It was felt that all the time LEADER has generated new solutions, designs and ideas but a more general application and transfer

² From the start of the LEADER Community Initiative in 1991 the key features were: bottom-up approach; participation in decision-making and creating local development strategies; public-private partnerships; inter-territorial cooperation and networks; integrated trans-sectoral actions; promotion of innovation; and economic diversification.

of good practices in the context of the diversity of European rural regions was almost impossible (Van der Ploeg, 2003; ÖIR, 2004).

From pilot action to ‘mainstreaming’

Based on the above-mentioned limitations, but also the integrative character and the advanced stage of development, DG AGRI opted to mainstream the LEADER programme, hoping to extend its effectiveness and success to larger parts of RDPs. A study to analyse the potential benefits of including the LEADER approach into RDPs (ÖIR, 2004), commissioned by the EC, supported the view that the LEADER method is applicable to the whole spectrum of rural development measures, despite considerable diversity between Member States (RuDI, 2010).

The reform should enlarge the operating field of LAG activities by extending the scope of instruments to all RDP measures according to local needs and strategies. But the mainstreaming of LEADER was far from being a simple administrative change. Administrative problems arose due to programming rules and new regulation specificities that limit, in particular, the eligibility of non-agricultural activities. Furthermore, the principle of annuality of the budget is not appropriate for project-oriented funding. In some Member States political and institutional barriers could emerge, especially where decentralised management and financing through local actors is not backed up. But also problems regarding administrative obstacles related to routines of a sectoral perspective as well as large-scale payment operations occur. Moreover, the creation of local social capital that is fundamental for these activities to establish strategic and operational capacities, and to design and implement local development strategies needs a long time frame.

In the 2007-2013 programming period LEADER was conceived to contribute to “the territorial coherence and synergies between measures intended for the broader rural economy and population” (EC, 2005, para. 48). This highlights the close reference to territorial cohesion and calls for coherence with Regional Policy programmes. However, assessment of practical implementation of mainstreaming falls short of those objectives (Papadopoulou *et al.*, 2011; Dax *et al.*, 2016; Navarro *et al.*, 2015).

A main background was that the requirement to fulfil the minimum funding level of 5 per cent of EAFRD funding for the LEADER budget was an extension of the financial means of about three to five times. For Austria it meant that public support for LEADER measures increased from EUR 110 million in 2000-2006 to EUR 499 million in 2007-2013. As this over-stretched, at least in part, funding capacities and particularly the potential to prepare innovative action, the LEADER budget was largely used for other RDP measures, mainly from the part targeted at diversification and ‘quality of life’ measures (termed as Axis III within 2007-2013 RDPs). Moreover, these ‘formal’ changes included substantial changes in LEADER contents, delivery and strategy implications. As ‘horizontal’ application was the main approach of most LAG work plans, the specificity of contexts and local strategies waned. Experimental and innovative project orientation was no longer a compelling eligibil-

ity condition. Discussions where to find additional resources for innovative, more time-consuming activities and how to realise such ideas gained specific significance. Particularly, motivated actors interested in the network aspect and reflexive concerns of LEADER started to question the outcome on local development. In particular, they highlighted flaws on cross-sectoral effects, socio-economic changes and large-scale effects on improving situations for regions with negative population trends and weak economic performance. It is thus an issue if attractiveness of rural areas could be increased by LEADER activities or how perspectives on regional development are changing over the long term.

Case-specific assessment studies in Austria (Dax *et al.*, 2016), for other countries (Papadopoulou *et al.*, 2011; Pollermann *et al.*, 2013; Le Roy and Vollet, 2013; Navarro *et al.*, 2015) and more general EU-wide assessment (RuDI, 2010) suggest limited policy effects resulting from programme changes related to LEADER mainstreaming. These are due to the weak strategic support for integrating LEADER into the RDPs. It implies in particular a lack of strategy as to how to implement such a large share of innovative action across the LAGs. As the easiest way to cope with the administrative challenge of spending a much higher budget on LEADER projects was through including ‘traditional’ agricultural projects under the LEADER axis, this approach has been adopted by most provinces in Austria, according to the specific institutional contexts. As an effect, LEADER is ‘squeezed’ in between high expectations of local innovation and a neglect of strategic concern, which is aggravated by a very high administrative burden.

Towards integrating social innovation in Local Development Strategies

The circumstance that LEADER has not reached sufficiently all potential actors and interest groups and the disappointing outcome in the ‘mainstreaming’ period 2007-2013 (Dax *et al.*, 2016) led to an intensive reorientation towards integrative local development in the EU regulations (the CLLD approach) and in the programming process of LEADER for the 2014-2020 RDP of Austria.

For a deeper understanding of how comprehensive and integrative gender equality and social diversity issues are considered, the SWOT analysis of the 77 LDSs of Austria were analysed during the selection process of LAGs. The main points of interest were the assessment of local assets and the inclusion of needs and potentials of disadvantaged social groups in the proposed strategies. Despite the strong evidence that gender equality and social diversity boost sustainable economic growth in rural areas, all social issues are still subordinate to economic interests in the SWOT analysis. Nevertheless the analysis observes the starting recognition of diversity and equality aspects for local development. A more pronounced awareness of local actors, stakeholders and programme developers for the potentials and problems of women and other social groups, and the significance of ‘equal chances’ for all groups of society can help to transform the destructive views in still prevalent gender-role models and to overcome the restricted understanding of benefits of social diversity in rural regions (Oedl-Wieser, 2016).

Table 1: Relevance and priorities of different social groups and themes in the SWOT analysis of Austrian LAGs (2014–2020).

Category	Relevance	SWOT aspect (per cent)			
		S	W	O	T
Women	216	15.3	47.2	21.8	15.7
Youth	206	18.0	51.0	14.5	16.5
Elderly	56	14.3	39.3	30.4	16.0
Migrants	82	6.1	40.2	22.0	31.7
Disabled persons	51	11.8	58.8	23.5	5.9
Demographic change	121	4.1	24.0	7.4	64.5
Social infrastructure	179	15.6	51.4	22.4	10.6
Participation	134	47.8	23.9	12.7	15.6

Relevance calculated as number of mentions in all SWOT dimensions for all 77 LAGs; SWOT aspect shows the percentage of each SWOT aspect out of all items of the respective category

Source: SWOT analysis of Austrian LAGs 2015; own calculation

The SWOT analysis was carried out³ by applying the methodology of quantitative content analysis (Kromrey, 2009). For this purpose, eight categories were formulated – five concerning groups of disadvantaged people (women, youth, elderly people, migrants, disabled persons) and three targeted at thematic issues (demographic change, social infrastructure, participation) – and all relevant SWOT statements were attributed to these categories. While the latter ones are understood to address implementation aspects of gender equality and social diversity, the other five categories show the relevance for the different social groups. Table 1 summarises the statements of the regional SWOTs (with separate notes on their strengths, weaknesses, opportunities and threats) and provides a simple measurement of how frequently these categories have been addressed. Of course, this is not a qualitative assessment of the contents and relevance of these groups for the strategies. In the second data column, however, the predominant aspect is highlighted, thus indicating in which of the four dimensions of the SWOT analysis LAGs detect highest relevance for each of the categories.

The analysis of the LDS selection process and of SWOTs presented underpins an increased concern for gender, diversity and, more generally, social issues. This can be interpreted partly as reaction to the programme requirements since national call information and selection rules particularly urged inclusion of these perspectives. The majority of the 77 selected Austrian LAGs thus placed specific concern on presenting weaknesses and threats of these specific groups as input to the LDS discussion (Table 1). For women, young people and disabled persons the local actors could mainly see weaknesses, and with regard to future demographic development, threats were highlighted. However, for a small subset of LAGs the opportunities of integration and inclusion activities of elderly people and migrants are clearly visible. The same applies to the aspect of participation, even to a higher degree, where important strengths through enhancing relevant procedures and activating schemes were highlighted as a specific strength of the LDSs.

This confirms the hypothesis that social capital in the LAGs will be strengthened through extending LAGs and local action to new stakeholder groups including disadvan-

taged social groups (Nardone *et al.*, 2009). The awareness for the problems and needs for disadvantaged groups has risen substantially in the LAGs compared to the previous funding periods. It will be seen in the future to what extent the LAGs will actually address the issues of gender equality, social diversity and increased involvement when implementing their LDSs. It has to be seen whether the recent changes are appropriate to make use of the potential of the LEADER approach that was valued even higher in the discourse of EU policy reform.

The need for a critical assessment: valuing LEADER's practice

The complexity of any development approach and social interventions, which are the core constituents of rural development concepts, are reflected by research and evaluation in various case studies. The results of studies targeted at evaluation issues of rural development (RuDI, 2010) and internal EC assessment underpin the high relevance of LEADER activities for rural development. The experiences of EU Member States summarised in targeted conferences (e.g. preparation conferences for the current programme period), stock-taking exercises (Lukesch and Schuh, 2007) and comparative working groups for LEADER preparation and implementation support (e.g. European Network for Rural Development working groups and discussions at national level) point to the extension of evaluation considerations – from primarily quantitative to mixed approaches, where qualitative and participative tools are integrated increasingly (Pollermann *et al.*, 2013). This reflects a stronger focus on communicating evaluation potential and the need for a stronger involvement of local actors in the evaluation process. Local experiences may be seen as expressions of reflective agency and an important ingredient of learning processes in a given social context (Dax *et al.*, 2014).

The predominant discussion of assessing the impact of LEADER's effectiveness is dominated by particular attention for good practice and implementation observation following programme evaluations. Its focus is on research questions, highlighting a specific concern for learning processes, with a perspective of enabling rural development. The framing of the discussion is largely derived from internal assessment of satisfaction and evaluation of LAGs perspectives on how they interpret the achievements of programme outcome. Although such an approach openly captures the viewpoint of local active people, it is a highly demanding exercise, requiring reflexivity and the capability of self-evaluation to a high extent. Local actors have partly engaged in such activities, yet are often invited to do so when effects of the implementation are to be deployed. The process involved so far remained largely facultative (Baumfeld and Fidschuster, 2007), but whenever available the outcome of increased reflexive agency has been appreciated as a step towards LEADER's original remit (Nemes *et al.*, 2014).

A comprehensive valuation of LEADER's achievements has to go well beyond good practice collection or reference to stakeholder satisfaction. In a previous analytical reflection

³ One of the authors (TOW) was member in the Selection Committee for LAGs in Austria and prepared the classification of SWOTs into categories addressing different social groups.

of appropriate rural development evaluation the following main aspects were highlighted as crucial (Dax *et al.*, 2014): enhancing social innovation and empowerment; participation in rural development; responding to rural needs; enabling the process of empowerment; and focus on programme impact. In particular the last aspect deserves further in-depth exploration with regard to this paper, focusing on the long-term changes and achievements of LEADER for shaping rural development perspectives. A critical assessment of the programme's outcome is not bound by its own 'system borders'. Such a wider view is particularly valid as the recent regional development discourse has highlighted two major conceptual advances relevant for rural development; i.e. the 'relational turn' of spatial dynamics (Copus and de Lima, 2015) and the new concern of 'proximity' research (Torre and Wallet, 2014). Both concepts stress the increasing interrelation of spatial development and actors as well as the 'non-Euclidian' nature of these relationships. In essence, this means that closeness cannot always be captured through physical terms, but often relates to a concept of non-physical exchange and interrelation over longer distances.

This implies also fundamental changes in the approach to assessing outcomes of programme application. In particular, assessment should start with an identification of the intended result, i.e. a concentration on the programme focus. This is radically different from an approach where the allocation of resources is decided at the start of the programming process and a method to assess effectiveness is derived afterwards. In particular, such a shift would also increase transparency on the result indicator. The core target is to value LEADER's practice and its implications on activities of local actors and rural regions. This approach points to alternatives in the evaluation concept that go well beyond the current situation. However, indicators alone cannot tell the whole story and in this regard it is unavoidable to draw on the context of policy design, institutional setting and various additional forces impacting on rural development.

Realising LEADER's visions

Policy adjustment in the EU Member States is largely referred to by programme uptake. The evaluation logic of linear cause-effect relationships that prevailed for a long period is no longer accepted as an adequate framework for complex local development patterns like those addressed by the LEADER concept. An inherent bias of quantitative indicators towards measurable and less innovative action that hardly pays attention to the influences of interrelations, power relationships (Shucksmith, 2010) and upsetting discussions with different views and procedures is still often characteristic for programme evaluation. The affirmative role of evaluation therefore directly responds to its prevalent function of accountability.

As policy development is subject to forces of inertia (Dax, 2015) the application of the LEADER concept has to be viewed through a slow adaptation of both the institutional framework, and in terms of the knowledge and relevant expertise as well as involvement of individual local actors. The multitude of good practice examples taking stock of respective region-specific action at different stages

of the various implementation periods (e.g. EC 2007; Saraceno, 2007; EC, 2008a; EC, 2008b; EC, 2009; ENRD, 2011; ENRD, 2012) provide extensive and detailed evidence of different aspects of 'rural innovation'. However, it would be improper to underestimate the controversial effects of the governance systems of the 28 Member States for enabling innovative local development.

LEADER's vision is associated with a long-term perspective, indicating the changing nature of local development action that has to cope with inherent inertia of policy adaptation processes. In this regard controversial views of involved stakeholders, various actors and observers and groups affected by LEADER action are dealing with following main issues:

- *Learning processes* are addressed as one of the main effects of LEADER and relevant for all people involved in the programme process and in developing projects (project holders, LAG members, LAG managers, NGOs, administration etc.);
- Implementation of *cross-sectoral projects* faces many difficulties, including securing mutual understanding in cooperation, adjusting to diverse administration regimes, co-financing and available complementary financial resources, outcome, monitoring and controls etc.;
- *Overlaps of responsibilities* of new institutions and programme structures in rural development (Scott, 2004) is often a persisting problem;
- *Institutional learning* as iterative process in administration of provinces and at federal level is weakly developed, and subject to challenges of 'efficiency' of bureaucratic work;
- Exposure to *new social trends* and influences question traditional 'local identity' and requires an enhanced answer in positioning the LEADER region.

The host of questions arising from these aspects indicates the process nature of LEADER implementation and the great diversity of regional developments. The application of LEADER in almost all rural regions of the EU underpins its territorial scope and outreach on the relevant spaces. The mere coverage of the rural area, however, does not represent any proof of its effectiveness and implications on the rural society. Nevertheless, from a series of case studies in many EU Member States it can be concluded that internal processes, regional perspectives and socio-economic activities have evolved. As there is no conclusive study available that reports on the overall effects of LEADER on EU's rural regions⁴, any respective assessment has to refer to network exchanges and case study reports. Professionalisation of the regional development activities and increased external valuation of the regional changes is highlighted for example in LAG Steirisches Vulkanland (2015), showing how local assets could be used and extended through LEADER application. This LAG effectively elaborated initiatives in diverse economic and social fields, enhanced quality products and regional branding, and is famous of a (new) regional iden-

⁴ One draft of the Work Programme for the Horizon 2020 Framework Programme had proposed such a European study but unfortunately dropped the topic in the approval process.

tity. Another example is the LEADER project ‘Kraft. Das Murtal’ (regional economic development in Obersteiermark) which represents a strong trans-sectoral cooperation between 68 companies of the rural region, schools, pupils and students, and achieves tightening of links for young people to their region. Within this alliance the young people get useful information about qualification needs and job opportunities in the region. A further example for the integrative approach of LEADER is the project ‘Promotion of intercultural competence’ where different stakeholders and NGOs in a LAG in Oberösterreich established a training programme and a series of activities for enhancing the intercultural competence in rural areas (Fidlschuster *et al.*, 2015).

Quite often such interesting examples of regional development are useful as good practice and serve as role model for other areas. It should be noted that the improved communication and networking has brought about inspiration for an increasing amount and scope of project initiatives in contexts which were doomed to marginalisation and decay before that. In particular, cooperation across borders, including cooperation of municipalities remains a significant challenge, but includes substantial opportunities when managed and facilitated in an engaged and effective manner (Pfefferkorn *et al.*, 2010).

It is this exchange of experience that was at the origin of the LEADER concept (and indicated by the first letter of the abbreviation). However, this is the part that is still only weakly developed and deserves more attention (Marquardt *et al.*, 2012). Again, the example of the above-mentioned LAG Steirisches Vulkanland indicates the potential for trans-national cooperation and the changes acquired through international cooperation activities (Kah, 2015).

Conclusions

LEADER is referred to as the territorial instrument of the RDPs and many expectations are linked to it. As a local development initiative it was introduced in the EU, first in 1991 as a Community Initiative and later integrated into RDPs, while it recently changed toward the more general framework of CLLDs. These shifts in the institutional framework and at the same time the continuity in the objectives and main lines of its approach contributed to the high estimation of LEADER practice for rural development by observers and policymakers. As the assessment of the local development scheme so far has remained linked to case-specific valuation, European comparative studies and synthesis findings on its impact are rare. The long-term experience of LEADER application incites reflection on its effectiveness and influence for social, economic and cultural changes regarding rural development.

Focus on lessons learnt from the long-term use of the approach spread over recent years as the integration into the RDPs through the ‘mainstreaming’ concept posed a significant threat to its core principles. Actors in the field and analysts alike argued that practice of LEADER is losing its innovative character (Dax *et al.*, 2016) and arguments of its great success seem highly excessive when actual participatory experiences and involvement of different social groups

are analysed (Granberg *et al.*, 2015; Navarro *et al.*, 2015). In response to widespread criticism of excessive administrative burden, LAGs seem to gain again an increased level of autonomy in the period 2014-2020. Influences from higher levels (particularly the province level) towards implementation of LEADER funds by LAGs could be reduced and a re-orientation towards innovative projects, cross-sectoral cooperation and networking took place (Oedl-Wieser, 2015). The shift in the current programming period (2014-2020) towards the CLLD framework indicates its persistent strong appeal and relevance beyond rural areas.

Interrelations between different spaces and a more holistic assessment of spatial dynamics are an increased feature of regional discussion. Opening up local development discourse to inputs and stimulus from outside sources might enable further elaboration of innovative activities in rural areas. This includes active engagement with all relevant economic sectors and actors, and socio-cultural initiatives in order to tap the local potential of rural (and urban) regions. In this regard, assessment of LEADER experience suggests that technical adjustments would take account only of a restricted development potential and expectations from socio-cultural changes and reference to social innovation has a much better prospect for substantial local progress.

The assessment that LEADER is again focused on its wide scope of core principles is promising with regard to implications for rural development in general. Seeking a continued networking of all local and regional activities of rural areas, also with non-LEADER local action, includes enhanced opportunities for its lasting effectiveness in shaping the perspective of rural regions. In this respect, future LEADER and local development actions need to reinvigorate long-established core principles, most notably the notion of social innovation, and to concentrate on local and regional assets and deliver at that level, if its capacity to make a significant area-specific impact is to be realised again (Dax *et al.*, 2016).

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Marilena LABIANCA*¹, Stefano DE RUBERTIS*², Angelo BELLIGGIANO*³ and Angelo SALENTO*⁴

Innovation in rural development in Puglia, Italy: critical issues and potentialities starting from empirical evidence

Since the 1990s, innovation has been recognised as having a key role in the development and competitiveness of European rural territories. In particular, in the LEADER approach, innovation is seen in social and cultural terms rather than as a technological issue, but it has been interpreted by national and, above all, local policies almost exclusively in the latter sense. Especially at local level, often a 'productivist' approach emerges that in many cases reveals deeply-rooted conservativeness in the planning and implementation of programmes. Puglia, a NUTS 2 region in southern Italy, acknowledges the key role of innovation in rural development and invested a bigger share of funding in Axes III and IV of Pillar 2 of the Common Agricultural Policy in the 2007-2013 programming cycle than did the other Italian regions. This study examines the regional case in two interconnected stages to identify firstly the interpretation of innovation from the programmatic and operative points of view, and secondly, the needs and critical issues in terms of innovation in governance on the local scale through interviews with stakeholders from a representative LAG named 'Terra dei Messapi'. It reveals not only a marked disparity in the way innovation was interpreted, but also the limitations and critical issues in planning and in regional and local governance, which prove unable to embrace innovation affecting social and institutional processes and, more generally, processes related to the context.

Keywords: LEADER approach, governance, less developed region

* Università del Salento, Dipartimento di Scienze dell'Economia, Monteroni, 73100 Lecce, Italy. Corresponding author: labiancamarilena@libero.it

Introduction

In European Union (EU) rural development policies, innovation has been recognised as having a key role for the growth and development of territories, especially for marginal, outlying areas. The pluridimensional nature of innovation has been acknowledged since the 1990s, especially in its application at the local level in view of the extreme diversity of European contexts. This diversity is shown by various research studies conducted by Espon, in particular Edora (Espon, undated), which emphasises the need for specifically-designed actions, policies and support based on local contexts. Furthermore, in the new rural paradigm, local characteristics are seen to bring significant competitive advantages, but require major innovations in terms of policy and governance (OECD, 2006; Ward and Brown, 2009). Indeed, as argued by OECD (2006), traditional funding policies (especially agricultural subsidies) have not been successful, being "focused on a small segment of the rural population rather than on places" (p.52). In the new rural paradigm, as well as the place-based approach, what is needed is a greater and more integrated coordination between sectors, actors and the different levels of government (OECD, 2006). In this context, with greater complexity in managing public policies in agriculture, there have been different responses in the EU at the local level, generating more demand for participation and autonomy for collective groups as well as a gradual shift of responsibility away from the central authorities.

Innovation, which has been given an increasingly significant role in EU rural development policies since the late 1990s, can be understood in many ways. EC (2006) states that the LEADER approach is designed to produce more profound innovations in local contexts, in fact "it can play

an important role in encouraging innovative responses to old and new rural problems, and becomes a sort of 'laboratory' for building local capabilities and for testing out new ways of meeting the needs of rural communities" (p.5). This is further confirmed by a survey of relevant Community documents, which acknowledge that innovation may concern products, processes or services, or their adaptation to different geographical or environmental contexts but in particular it concerns social, institutional and contextual processes (LEADER European Observatory, 1997; EC, 2006, 2009, 2013, 2014a, 2014b; Metis, 2010⁵). In actual fact in rural areas, in view of the specific problems affecting them, it is often impossible to introduce radical innovations in technical and technological terms and in the general context (EC, 2006). But in the new rural paradigm an integrated rural policy and "the implementation of place-based policy for rural development requires a paradigm shift in governance arrangements" in terms of coordination, communications and also of new skills for local actors (OECD, 2006, p.138).

The LEADER approach is seen as a paradigm shift oriented to the social and cultural construction of the territories' institutional capacities (Murdoch, 2000; Shucksmith, 2000; Dargan and Shucksmith, 2008; Neumeier, 2012; Dax, 2014; Dax *et al.*, 2016), whose application has had a significant impact on the governance of predominantly rural European regions. In view of the mainstreaming of the LEADER approach as Axis IV of Pillar 2 of the Common Agricultural Policy (CAP) in the 2007-2013 programming cycle, and of the increasing focus on innovation in LEADER⁶, this paper aims to clarify the role of innovation and the interpretation of it at the local scale in one of the regions of Southern Italy: Puglia.

⁵ The interpretation of innovation from a social viewpoint (the greater coordination between actors and territory, the role of the actors and the social dynamics, especially at local level) is evident in the ex-post assessment of the measures inspired by LEADER and especially by LEADER + (Metis, 2010).

⁶ In this period the LEADER approach had a significant impact especially on Italian areas. In particular, the integrated development of rural areas through the introduction of participatory planning has been the best known type of innovation policy in Europe (INEA, 2009; De Rubertis *et al.*, 2013a, 2015).

¹ <http://orcid.org/0000-0002-6827-1603>

² <http://orcid.org/0000-0002-5956-8720>

³ <http://orcid.org/0000-0002-0274-5845>

⁴ <http://orcid.org/0000-0002-9065-2971>

Puglia, a NUTS 2 region located in the south-east of Italy, has a population of just over 4 million inhabitants and a territory of around 20,000 km². It is defined as predominantly rural by OECD (2006). Puglia was classified as a ‘Convergence region’ in the 2007-2013 EU programming cycle and in the current (2014-2020) period is defined as a ‘Less developed region’ (EU, 2014). According to the last census (Istat, 2013), Puglia is notable both for the number of farms (271,754 farming businesses, about 16.7 per cent of the Italian total) and for the highest proportion of utilised agricultural area (approximately 66.4 per cent). Thus, agriculture plays a key role in Puglia from the economic and social point of view. However, it is characterised by serious structural problems (such as the small average farm size, low corporate profitability and a very high average age of entrepreneurs) (MIPAAF, 2010).

In the 2007-2013 cycle, Puglia allocated the country’s highest proportion of CAP Pillar 2 funding to Axes III and IV. It allocated 40 per cent of its funding to Axis I (*competitiveness*), compared to 37 per cent on average for the Italian regions and 34 per cent for the EU as a whole. For Axis II (*environment*) the equivalent figures were 35 per cent for the Puglia region, while the Italian average was 43 per cent and the EU average 44 per cent. For Axis III (*quality of life*) the region allocated 4 per cent, as opposed to an average Italian allocation of 9 per cent, with 13 per cent for the EU and finally, for Axis IV (*LEADER*) the region allocated 18 per cent, compared to an Italian average of 8 per cent and an EU average of 6 per cent. As in Italy and the EU, the remaining 3 per cent was allocated to technical assistance (EU, 2011; MIPAAF, 2012). Thus the share of CAP Pillar 2 financial resources allocated to Axis III and IV by Puglia region was higher than the minimum limit set by the EU. This situation shows a specific strategic orientation on the part of the region. In fact, as Camaioni and Sotte (2009) argue, Axes III and IV are deeply connected and revolve around three main features: the size of the territory, the integration with other planning instruments in the territory and the importance of governance.

In addition, from a programmatic point of view the region attributed a key role to innovation in the 2007-2013 programming cycle (Regione Puglia, 2008; 2013a). Few other Italian regions chose to invest, at their own discretion, amounts above the minimum figure set by the EU of 15 per cent. As Sotte and Ripanti (2008) argue, the fact that the majority of Italian regions limited the share of total expenditure to around the minimum limit is a clear signal that they were focusing only on agriculture rather than on rural development in the broader sense of local development. This situation is also due to the socio-economic partnerships that followed the programming phase anchored to an agricultural-rural approach. However, a more thorough analysis and study of the mode of implementation on the local scale can reveal whether such intentions are actually confirmed in the development practices of rural areas.

Thus, compared to other Italian regions, Puglia made significant investments in the LEADER approach, thereby acknowledging the crucial role of innovation in territorial development in the 2007-2013 planning period. The aim of this paper is to understand the interpretation of innovation,

first of all from the planning standpoint, both on a regional scale and for all the Local Action Groups (LAGs) by using textual analysis of the main rural development documents, and secondly through a representative case, the ‘Terra dei Messapi’ LAG. This let us study the interpretation of innovation on a local scale, examining in detail factors such as the degree of involvement and participation of the actors, the organisation of the governance and the meaning attached to the rural sphere in the perspective of bottom-up policies of local development.

Methodology

Starting from the description of the context, of the role of the LEADER approach and of the aims and strategies in the region, the study, in two stages, tries to understand firstly the interpretation of innovation from a programmatic and operative point of view, and secondly, the needs and the critical issues in terms of innovation in governance on the local scale, through interviews of LAG actors using Interpretative Phenomenological Analysis, IPA (Smith and Osborne, 2008). This envisages an inductive approach “suited to the development of complex interrelated themes” (Convery *et al.*, 2010, p.375) and can provide an interpretation based on the perspective of the local actors. IPA tries to explore personal experience in the topic being investigated, based on the respondents’ perceptions rather than on the exact statements made by them (Smith and Osborne, 2008).

The first phase consisted of two interconnected steps. Firstly, the aims and strategies of regional planning and the interpretation attributed to the term ‘innovation’ (and hence to the role assigned to innovation in regional planning) were studied. This was done by indirect analysis, in particular textual analysis, of the main rural planning documents, namely Puglia Region’s Rural Development Programme (RDP) and the Local Development Plans of the 25 Apulian LAGs, using the ‘descriptors method’ elaborated by Fiori (2002), re-adapted to suit the specific structure and type of documents being analysed. This method enables the identification of the values implicitly or explicitly expressed in the programmes and relevant laws using keywords called ‘value descriptors’ with which the essence of the text can be encapsulated in a thorough and logical way.⁷ The descriptors are obtained by starting from the selection of a term considered strategic (due to its frequency and to the strategic or key role explicitly attributed to it by those drafting the document/plan). The role and significance given by the document’s authors can be understood by extracting the sections of text containing the term selected. The excerpts of text (which, in order to allow understanding of the context where the term was used, must indicate the corresponding section of the document) are then summed up using one or more keywords, the so-called value descriptors. The latter enable the meaning given to the term at stake to be synthesised and understood (an example is shown in Table 1). Finally, when all the value descriptors have been identified, the respective frequency of each of them is indicated.

⁷ Owing to the particular kind of documents analysed this method is more reliable than the use of automatic text analysis instruments.

Table 1: Puglia Region’s Rural Development Programme: an example of the descriptors method.

Excerpts of text	Section	Value descriptors
“For the agro-food industry in Puglia this therefore entails the general need for a great effort of modernisation and innovation – firstly in processes but also in products – that can redirect the industry towards quality and enable the Apulian system to adequately compete on the markets [...]”.	Analysis of context (pp.42-43)	Innovation of process/product for competitiveness
“Axis I has to create a strong, dynamic agro-food sector featuring greater competitiveness; the community priorities to achieve this target are the transfer of knowledge, modernisation, innovation and the quality of the food supply chain, to be accomplished through investments in human and physical capital, with particular reference to the seven key actions recommended by the European Strategic Orientations”	Priorities justification according to the Community’s strategic orientations and national strategic plan (p.190)	Innovation as strategy (attractiveness /competitiveness)

Source: Our elaboration on Regione Puglia (2008) by using Fiori (2002) re-adapted

Table 2: Causes of network failure: correspondence between the generalised assumptions of theory and the specific parameters related to the analysis of the Local Action Groups.

Generalised assumptions of the theory	Type	Parameters for analysis of the Local Action Groups
Asymmetrical network	Internal	Composition and balance/imbalance of the coalition
Decision-making power	External	Overlapping of instruments and aims (LAG, Consortium of municipalities and ‘Vast Area’)
Programme constraints	External	
Lack of participation	Internal	Limits of participation
Planning inefficiencies	Internal	
Conflicting policies	External	
Poor awareness of the rural world	External	Interpretation of rural development

Source: Belliggiano and Salento (2014)

Secondly, the interpretation of innovation from a programmatic point of view was then compared with the projects of the LAGs, through the collection and analysis of the calls for applications published from 2010 to 2015, to understand the role and the type of planning competence sought by the LAGs. The study then considered the amount of funding and the kind of planning competences actually financed by the Apulian LAGs. The results obtained highlighted critical issues related to the interpretation of innovation and in particular of innovations in governance in the region. This reveals a marked alignment to the region’s planning orientations, which in actual fact neutralises the LAGs’ planned role on the issue of the innovation.

In the second phase, in order to understand the needs of innovation in governance and the critical issues that a LAG may encounter in this regard, empirical instruments were used. The theoretical underpinnings of the research are based on the idea of ‘network failure’ (Schrank and Whitford, 2001; Jessop, 2006), which makes it possible to identify the aspects where the LAGs succeeded or failed (Belliggiano and Salento, 2014). The network failure theory puts forward some explanatory macro-hypotheses, each of which can be confirmed or rejected by analysing certain empirical parameters. As shown schematically in Table 2, the hypothesis that asymmetries develop in networks should be investigated by looking at the composition and balance (or imbalance) of the coalition; the hypothesis of a decision-making power that is unbalanced or lacking transparency and the hypothesis of an excess of programme constraints must be assessed by analysing the overlap of instruments and aims (LAG, Consortium of municipalities

and ‘Vast Area’); the hypothesis of a lack of participation and that of planning inefficiencies should be investigated with an empirical analysis of the actual space allowed for participation; lastly, the hypothesis of a conflict of policies and the hypothesis of a lack of awareness of the rural context must be examined by analysing the way the social actors interpret rural development.

The material was extracted from the results of an empirical investigation conducted on the ‘Terra dei Messapi’ LAG. This was chosen because of some particularly significant features it possessed. It showed a marked willingness to experiment with new forms of organisation of governance, explicitly designed to boost and/or accelerate the building of local capacities. This willingness is attested by the fact that, during the period in which the LAG had no public funding, different forms of inter-communal cooperation were set up. Although its critical issues can be linked to the local situation and circumstances connected to the specific history of the experience at stake, they provide a detailed picture of the systematic contradictions that – at least in the case of Puglia – prevent the LEADER approach from being regarded as a definitive model for rural development. The empirical analysis was carried out via 19 semi-structured interviews⁸ of actors directly or indirectly involved in the activities of the LAG. The interviewees held different, but equally important, roles in the governance of the LAG, and consisted of 12 persons internal to the LAG and seven who were external.⁹ Of the first group, three interviewees were members of the LAG management, four represented public partners (three municipalities and one consortium of municipalities), and five came from private partners. Four of the external interviewees represented interest groups (a cultural foundation, the local press, the Chamber of Commerce, Industry, Crafts and Agriculture, and the Worldwide Fund for Nature). The remaining three came from a consultancy firm (planner), the Puglia Region management authority and Brindisi ‘Vast Area’.

Lastly, the interviews were transcribed and analysed in detail, linking every statement by the respondents to one of the four parameters set for the analysis by using the previous scheme of ‘network failure’ (Belliggiano and Salento, 2014).

⁸ The interviews were collected between 2012 and 2013 and they concentrated mainly on the ways of organising the governance and on the internal tensions generated by the contrast between (post-) modern tendencies in rural development and sectoral resistance, a hangover from the old CAP.

⁹ For full details see Belliggiano and Salento (2014).

Table 3: The main features of LEADER in Puglia region.

	LEADER I (1991-1993)	LEADER II (1994-1999)	LEADER + (2000-2006)	LEADER (2007-2013)
No. Local Action Groups	2	17	9	25
No. municipalities	22	106	75	238
Average population (thousand)	56	71	85	114
Residents employed in agriculture (%)	17	25	22	15

Source: Rete Rurale (2013), modified

Results

LEADER in Puglia: aims and strategies of the regional planning

LEADER funded three initiatives in Puglia, of which only two were completed. The instrument was then gradually extended to cover almost all the municipalities (only provincial capitals are actually excluded) and the territory of the region (Figure 1). In accordance with the National Strategic Plan (NSP), the RDP in Puglia excluded urban centres from the intervention. With the population enlargement of the LEADER areas, their agricultural character, measured by the percentage of people employed in agriculture, declined (Table 3).

The interventions of the four Axes in Puglia took into account the differences between rural areas characterised by intensive specialised agriculture, intermediate rural areas (covering most of the territory) and rural areas with complex development issues. In Axis II the keywords (biodiversity, landscape and renewable energies) were the same as in the other regions of the Convergence objective. The goal of Axis III, which was to be implemented, where possible, via the LEADER approach, was to support employment and to diversify family income in rural areas. It also aimed to improve the attractiveness of rural areas for businesses and the population by expanding the provision and use of essential services (welfare, education, recreation), safeguarding the landscape and valorising the cultural heritage. With its aim of improving planning and local management skills and promoting the valorisation of the territory's endogenous resources, Axis IV was actually conceived as an instrument that could in part achieve the measures envisaged in Axis III (Regione Puglia, 2013b).

The analysis of the regional rural development plan and the development plans of the 25 LAGs in Puglia revealed severe limitations on freedom of choice of the aims to pursue and the instruments to use emerging from the implementation stage. In fact, in the public notice for the presentation of the strategic documents developed by candidate LAGs, the Region had rigorously specified the content and the structuring of the rural development strategy. Although the overall strategy of territorial and rural development was supposed to be elaborated using a bottom-up approach, according to the regional development plan it had to be connected to one of the following five unifying themes identified by the Region: (a) valorisation of local production resources and creation of the related circuits; (b) valorisation of natural and cultural resources; (c) recovery of the identity of rural areas; (d) creation of new production facilities in non-agricultural sectors and services and valorisation of existing ones; and (e)

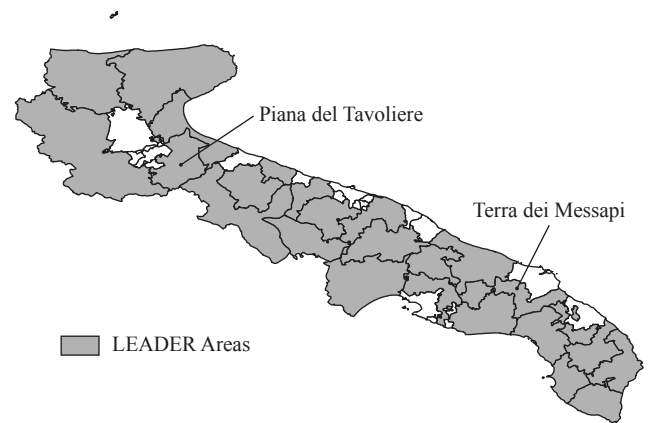


Figure 1: LEADER areas in the Puglia region in the 2007-2013 programming cycle.

Source: own cartography using data from Rete Rurale Nazionale (2013)

improvement of life in rural areas through the provision of local services to disadvantaged people (women, youth, disabled). The strategy had to be synthesised within these themes, all related to the identity of the territory, to which another of the remaining ones could be added as long as there was a territorial, technical, economic, sectoral and functional connection between them. Ultimately, each partnership should pursue its rural development strategy based on the unifying theme and related strategies to be provided for them through the measures of Axis III which it was planning to activate. Also in this case the measures that could be activated were already predetermined by the Region.

The variety of the projects was then further reduced by the decisions made by the LAGs in the stage of drafting the final LDPs. Reading the sections that each of these documents devotes to aims and strategies¹⁰ reveals surprising similarities between the LDPs of different LAGs: in many cases the contents were actually identical, both in the text and in the graphic layout of the documents. From the analysis it is possible to classify the Local Development Plans into four groups based on the degree of similarity or correspondence of their wording. It then emerges that there is a general levelling of the objectives, a greater focus on actions related to productive activities and to a lesser extent to actions on the local context (respectively, on average, about 55 and 47 per cent of the expenditure devoted by LAGs). From the results obtained it can be deduced that the strategies put in place indicate a rather obvious, standardised vision lacking the originality that should spring from the variety of territories involved. Development is reduced to mere growth, except

¹⁰ Following regional instructions, the LDP had a standard structure that placed in section 4 (about thirty pages long on average) the illustration of the aims and strategies elaborated in coherence with the unifying theme chosen. Our discussion refers only to the reading of section 4 of the LDPs of the 25 LAGs in Puglia.

for cases which highlight the multifunctional aspect of farming business and in general the complexity of the rural world. Furthermore, the space referred to is of a functional kind, the objectives are set by others and the territory is reduced to a passive support instead of being an active protagonist. In general what emerges is a lowering of the strategies towards sector-based aims of agricultural growth, poor coordination with other planning instruments existing in the same territory and a general tendency to narrow the vast range of viewpoints down to the prevailing one of the LAG planners.

Innovation from the programmatic point of view

The documentary analysis carried out on the RDP revealed not only a high frequency of the term ‘innovation’, but also a perfect alignment with European and national guidelines for all four Axes; in fact the actions were reductive or excessively generic and not adapted to a local level. More specifically, Axis IV was tritely reduced to increasing technical competences in the territory at the level of planning (Regione Puglia, 2008; De Rubertis *et al.*, 2015).

Innovation, the focal point of the regional strategy, was reduced, with the use of the descriptor method, to product or process innovation (Table 4). The latter is to be understood in straightforward standard terms and is based on a stereotyped kind of knowledge, lacking a context of reference and not taking into account the territory’s specificities. But the text analysis conducted on the 25 plans for local development of the LAGs in Puglia showed indeed a ‘more social’ interpre-

tation of innovation for all of them. In fact, these range from reinforcing the networks of players and sectors for an integrated development (seven LAGs), playing a leading role in coordinating the instruments of inter-communal cooperation existing in the territory (two LAGs), developing local social capital, in many cases elaborating operative solutions which range from creating thematic ‘think tanks’ (this solution is quite common) to interventions to extend the participation of outsiders (one LAG), or setting up real agencies for the development of tourism in the area (two LAGs), or creating local platforms and centres designed to promote the innovative and competitive image of the area (two LAGs). However, a reading of the projects, described in all the LDPs, shows that they are quite generic with no other indications or actors responsible for the actual implementation. This initial evidence revealed some critical issues to be examined.

The systematic collection and analysis of calls for applications published over the past five years (found in Rete Rurale Nazionale, 2014) showed that the financial resources were concentrated above all in Axis III. Thirty per cent of calls related to Measure 311 (especially investment serving the supply of farm holidays in a business context; for educational and teaching services to the local population with special reference to the school-aged: Teaching farms); for social-health services for weak sections of the population (Social farms); for marketing of typical products and promotion and use of energy from non-renewable sources); 14 per cent to Measure 313, 13 per cent to 312 and 323, and 4 per cent to 331. The format and the quality of the calls for

Table 4: Puglia Region’s Rural Development Programme: results of the textual analysis for the interpretation of the term ‘innovation’.

Section of document	Value descriptors and frequency in the text		
	Technological innovation of transformation facilities	Innovation of process/product for competitiveness	Innovation as strategy (attractiveness/competitiveness)
Analysis of context	2	3	1
SWOT analysis	1	1	
Axis III specific goals	1		
Axes and Measures financial weight	1		
Axis I corrective measures	1		
CSG, NSP, RDP coherence Axis I and Axis III	2	1	
Analysis by sectors, priority investments		1	
Business service system			1
Priorities justification according to CSG and NSP			2
Axis I Goals			1
NSP coherence and new challenges for RDP			1
Funding Plan to re-launch the economy and National Plan			1
Axis I strategy			1
Measure 111: Training and information			1
Measure 114: Consultancy services			1
Measure 121: Business modernisation			1
Measure 122: Increasing the economic value of forests			1
Measure 124: Intervention motivations - Cooperation for development of new products, processes and technologies			2
Measure 312: Support for development and for business start-ups			1
Measure 331: Training and information			1
Measure 413: Local development strategies			1
Measure 421: Development of inter-territorial and trans-national cooperation projects			2
RDP funding mode			2

Frequency: 1 = low; 2 = medium; 3 = high

CSG: Community Strategic Guidelines; NSP: National Strategic Plan; RDP Rural Development Plan

Source: our elaboration based on Regione Puglia (2008)

applications published essentially indicated adherence to the regional guidelines in all the projects to be funded. This fact can be interpreted as a sort of negation of the autonomy and planning creativity (as emerged previously in the development plans concerning projects for innovation) of the LAGs.

This fact shows that, although from the planning point of view, innovation is recognised as having a decisive role in a territory's development, it essentially concerns businesses more than the territories themselves. Even when the LAGs tried to promote projects that were innovative, especially on a cultural and social plane, they had practical difficulties in the implementation and in the financing of them (as well as problems simply concerning bureaucratic and administrative management). In fact, there is no official information about the start-up and subsequent development of the different projects, so eventually the LAGs had to give up their implementation and focus on other interventions closely adherent to the general guidelines. In this regard, the 'Piana del Tavoliere' LAG with the project 'Local Innovation Platform' is no exception. Even though there are official documents attesting the start of the project – after the assignment of the service to third parties through an agreement managed by the LAG – currently the project seems to be blocked in the first phase of its implementation¹¹. These results highlighted certain critical issues related to innovation in governance which, as was argued earlier, was exactly what the LEADER approach should have prompted and supported in the 2007-2013 planning period. The implementation at local level of Axis IV should have involved the adoption of innovative models of governance and at the same time should have catalysed the potential for endogenous development in rural areas.

The imperfect functioning of the mechanisms put in place and the structural fragility (which in some cases became total inconsistency) of the innovative processes can be identified, though to different degrees, in all the LAGs in Puglia.

Innovations in governance: an in-depth study of the 'Terra dei Messapi' LAG

The interviews conducted with stakeholders of the 'Terra dei Messapi' LAG revealed significant critical issues. The first point of analysis concerns the composition and the balances/imbances of the coalition. Here, the difficulty of structuring an organisational dynamic devoid of asymmetries emerges. The research highlighted the presence of strong leadership, the (consequent) hierarchy in decision-making procedures, the inertia or wariness of the local business actors towards the LAG, the conflicting relationships with the regional management authority, and the lack of specialised competences inside the LAG capable of autonomously controlling the innovative participatory processes. For example, a LAG management interviewee stated: "The goals were set by the Region, all we could do was to collect the project proposals that were consistent with those goals", and the Puglia Region interviewee confirmed but added: "The role of the LAGs (this is true [authors' note]) was

reduced to the mere management of predetermined goals, offering (however [authors' note]) the least active ones the alibi of acting simply as territorial windows for allocation of community funding". And again one of the private partner interviewees stated: "I am afraid they are not the most suitable people, unfortunately in some situations the selection of human resources was not the best for the territory".

The second point of analysis is related to the quality of participatory processes. In principle, they should be the essential element of an organisational device like the LAG. The research revealed that the substantial inadequacy of the promotion of participation seems to have impacted negatively mainly on the private component of the LAG, which expressed very critical opinions in this regard, often accompanied by suspected partiality, above all damaging the actors outside the strictly agricultural context. In this sense, one of the private partner interviewees stated: "... confining the action of the LAGs to sectors connected to agriculture would be reductive. Those sectors certainly should not be excluded but nor should they be seen as the only ones" and an interviewee from one of the interest groups stated: "I have never heard any discussion of issues related to the world of artisanry".

The lack of codified procedures for sharing decisions in the LAG is sometimes overcome by processes of extemporaneous integration promoted by the more active partners which involve other local business figures outside the LAG. For example, a private partner interviewee stated: "If any kind of network exists, I have never heard about it. If we are part of any networks, they are external to the LAG. Or they are networks created personally".

In contrast, partnership proves to be rather passive, probably because participation is perceived more as an external imposition than as a personal need. Overall, what emerges is that there is not a full awareness of the importance of participation by LAGs. Participation which however should be regarded as an instrument that is essential for the starting and consolidation of processes of rural development. But it cannot be ignored that underlying this lack is the fact that the programme aims – under the constraints of the policy for access to funding – are set essentially by others.

As for the third point of analysis, it emerged that there is considerable overlapping of institutions and instruments for inter-communal coordination (a phenomenon that, as our previous research has shown, involves the regional territory to various degrees). This gives rise to at least two critical issues: the first is related to the substantial interchangeability of the LAG and the inter-communal consortium which, as has been said above, is the institutional body that exerts a strong leadership in the events of the LAG. For example, a LAG management interviewee stated: "Once every single question has been worked out inside the Consortium, it is easy to arrive at the LAG with the agreement [already reached]".

The second critical issue is related to the presence of a competitive conflict between the LAG and the 'Vast Area', with inevitable repercussions on the ability to form an organic vision of the territory and therefore with ramifications also for the coherence, coordination and quality of projects. For example, a LAG management interviewee stated: "We were

¹¹ As evidence of this fact, the Report on the project states: "It is an illusion that the LAG has within its territory a sufficient market for the activation of such a system, or local knowledge and the necessary structures, or that by using the LEADER funds they could be fully activated. So, initially a phase of consultation will be launched that will serve to connect the area with the experiences and the tools that already exist ...".

invited to the 'Vast Area' assemblies but our role was absolutely marginal. For the 'Vast Area' the interlocutors were not us but the municipalities". The interviewee from the 'Vast Area' stated: "What at the beginning was supposed to be a master plan for the territory on all the territorial sectors covering the Public Administration and private enterprise, in actual fact was a strategic plan exclusively aimed at public works and a few plans for social infrastructure".

The fourth point of analysis concerns the interpretative uncertainty of rural development. On this point, the research revealed a widespread fact that can be considered an aspect of the culture. Although the concept of rurality underpinning the interventions of rural development has long been clearly separated from direct reference to agriculture as such, in the actors interviewed there remains the idea that rural development is a question concerning agriculture and its social and economic setting. On this issue, one of the private partner interviewees stated: "This territory is home to very highly regarded food products and I think that was where investment should have gone. However, very often we were presented with calls for applications that excluded agro-food processing, since there was to be specific funding allocated to that sector, but that funding does not respond to the needs of local businesses at all".

Discussion

Since the 1990s, the key role of innovation in the development and competitiveness of European territories has progressively emerged. In the LEADER approach, innovation from the planning point of view is seen in social and cultural terms rather than as an industrial and technological issue. However, as has been argued above, national and, above all, local policies have interpreted it almost exclusively in the latter form. This attitude denotes a (perhaps unconscious) conformism of the LAGs to the mainstream rhetoric of rural development based on a merely 'productivist' approach that in many cases reveals deeply-rooted conservatism in the planning and implementation of programmes.

Our study in Puglia shows not only the limits and the critical issues of planning, but also of regional and local governance, unable to embrace innovation oriented to social and institutional processes and more generally processes related to context. The Region placed great faith in the LEADER approach in the 2007-2013 programming cycle, planning to implement most of the measures for rural development via the operation of the LAGs, and granting them on average quite high financial allocations (De Rubertis *et al.*, 2013a; Sotte and Ripanti, 2008). The LAGs were given considerable responsibility for establishing the strategies and implementation of the instruments, but only for Axis III measures. They were expected to carry out checks on the applications for assistance and on requests for payment, with important technical/administrative tasks. However, they had very little autonomy for carrying out experimental initiatives or for the development of immaterial networks (Cacace *et al.*, 2010).

The study of the regional case demonstrated that although from a programmatic point of view, innovation is considered to play a key role in the growth and competitiveness of the

territories and it is seen in social and cultural terms, on a local scale it is regarded as industrial and technological innovation. As Dargan and Shucksmith (2008) and Neumeier (2012) argue, the rhetoric of national politics often appeals to the latter and the networks of actors created locally prove to be the result of a reductive interpretation of the meaning and value assigned (Dargan and Shucksmith, 2008; Dax *et al.*, 2016; Navarro *et al.*, 2014, 2016). There is an obvious gap between the interpretation of innovation by the Region and that given by the 25 LAGs, especially the older ones. Although, the latter see innovation in social and institutional terms, from the operative point of view the difficulties encountered in actual implementation force them to fall into line with the Region's orientation.

The analysis of the regional rural development plan and the development plans of the 25 LAGs in Puglia reveals a limitation of the paths chosen by the territories, due to the impositions of regional planning. This is confirmed by the reduced variety of the proposals and the innovativeness of the solutions put in place. More specifically, the approach was weakened by the fact that strategies and sector-based agricultural growth goals were poorly coordinated with other plans and integrated planning instruments.

The critical issues that the empirical enquiry uncovered can together be seen as the expression of broader issues. Based on the present research it can be stated that there is a rhetoric of regional politics in which rural development and innovation are not identified with local actors and local movements. On the one hand social, cultural and institutional innovation is poorly supported by regional programming, while on the other a general difficulty on the part of LAGs emerges, in which innovation is too complex to implement and usually reduced to banal business-as-usual techniques. As shown in the interviews conducted with the LAG named 'Terra dei Messapi', the causes include opportunistic behaviour, the training of the protagonists, the marked overlap of political/administrative spheres lacking a shared vision of development, a rather limited institutional culture, the absence of interventions, especially by the region, designed to promote and reinforce the networks of actors in the territories, a reductive interpretation of rural development and local resources, and the inadequacy of policies for innovation, since especially at the operative level it is believed that 'one size fits all', as well as the lack of clarification of the term innovation at local level.

The case study reveals various critical issues in local governance: despite the expectations of innovation linked to the LAGs, in real processes there remain mechanisms and dynamics that are strongly traditional and not at all innovative. Moreover, it is not only a matter of the social actors having limited ability to interpret a set of innovative rules, because in actual fact the possibility of attuning innovation to the local situation is also limited by the ambiguity of the community and national regulations.

All this shows that there continues to be traditional governance models at a local level that are not in the least innovative but also a scenario of critical issues that without significant, specifically designed interventions, will be very difficult to overcome. In short, despite the fact that social innovation (of the context) appears to be one of the factors

in successful rural development, the dominant practice has underrated it, and national and especially regional development programmes have consequently granted it only lukewarm support.

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Francisco NAVARRO*¹, Eugenio CEJUDO*² and Juan MAROTO*³

Participation of disadvantaged groups and governance in the LEADER and PRODER programmes in Andalucía, Spain

The involvement of disadvantaged groups in European Union neo-endogenous rural development programmes, such as the LEADER programme, must be a high priority. In this paper we study the profiles of the beneficiaries of LEADER and PRODER, the main Spanish example of mainstreaming the LEADER method, in the NUTS 2 region of Andalucía, Spain in the period 2002-2008, and of the decision makers in the Local Action Groups (LAGs). Using quantitative information provided by the regional administration and a questionnaire survey of managers of the LAGs, we show that there has been continuing underrepresentation of previously disadvantaged groups and territories, so contributing to uneven and selective empowerment and governance that favours the emergence of a project class. The groups that have benefited the most from LEADER investments have been entrepreneurs and 'town halls', in this order. Interviewed LAG managers felt that many mistakes had been made in the application of LEADER: excessive bureaucracy and interventionism by the regional administration, loss of the original philosophy, low participation of disadvantaged groups and lack of strategic vision. As was noted by one of the LAG managers, "LEADER has been a victim of its own success; the universalisation of its method has led to the elimination of its experimental nature as a real laboratory for the development of rural areas".

Keywords: neo-endogenous rural development, disadvantaged groups, participation, local development

* Universidad de Granada, 18071, Granada, Spain.

‡ Corresponding author: favalver@ugr.es

Introduction

According to several authors (e.g. Esparcia *et al.*, 2000; Ray, 2006; Woods, 2011), the most important rural development initiative implemented by the European Union (EU) over the last 25 years has been the LEADER programme. In Spain, a similar programme for those rural areas not covered by LEADER itself was called PRODER (Esparcia and Noguera, 2004). In these two programmes, rural communities have been able to choose their own development paths through more appropriate and more rational use of endogenous resources.

As Ray (2006) explains, a model that focuses development on the needs, capacities and perspectives of the local population must also emphasise the principle and process of local participation in the design and implementation of the measures required to achieve these goals. Local governance is therefore one of the basic principles of this initiative. Governance is a broader concept than government in that it also includes elected political parties, individual actors, non-state organisations, companies etc. (Ward and McNicholas, 1998). It covers the transfer of power from the state to local communities, which as a result have more freedom but also more responsibility for controlling and managing their own development processes. Although great advances have been made in this field, in certain questions such as care and support for disadvantaged groups in rural areas (women, youth, immigrants, unemployed etc.), success has been more limited because of the unequal capacities of local communities and rural residents to participate successfully in endogenous development (Woods, 2011).

Promoting local participation in EU rural development programmes (RDP) has often been little more than 'rhetoric' (Midmore, 1998). Their structure and the funding conditions are imposed via a top-down approach, which means

that rural communities do not play the part they would like to play. As a result, LEADER, for example, has become "an instrument of political, social and economic power" (Esparcia *et al.*, 2000, p.97), in which relatively few members of the community are involved. These tend to be those with the time, resources and aspirations to engage, i.e. the local elites, while many other stakeholders, often from the most disadvantaged groups, are excluded from the development process, as are their needs and interests (Nardone *et al.*, 2010), so reinforcing existing power structures (Gardner, 2011).

Research on LEADER at the European level, and in particular regarding the implementation of neo-endogenous rural development, focuses mainly on issues relating to the creation of social capital and the governance processes caused by the creation of public-private partnerships. These studies have noted the lack of involvement and real participation of the local population (Böcher, 2008; Dargan and Shucksmith, 2008; Buciega, 2012; Esparcia and Escribano, 2012; Augustyn and Nemes, 2014; Bosworth *et al.*, 2015; Dax *et al.*, 2016) and the strengthening of power structures in favour of certain economic and political lobbies at the expense of other social groups (Shortall, 2008; Nardone *et al.*, 2010; Gardner, 2011). In short, the unequal distribution of power in Local Action Groups (LAGs) promotes a 'class for projects' and an excluded underclass. At the same time the administration, especially at the regional level, has bureaucratized the management of these LAGs in a bid to control local decision-making (Navarro *et al.*, 2016).

On the other hand, other studies note the unequal territorial distribution of investments. As demonstrated in several NUTS 2 regions of Spain, such as Castilla y León (Gordo, 2011, p.19) where "most RDP investments have been concentrated in a few places (...), which showed greater capacity to attract investment", and Andalucía (Cejudo and Navarro, 2012), LEADER and PRODER Programmes have tended to penalise *deep rural* villages with problems of depopulation and social and economic decline.

¹ <http://orcid.org/0000-0001-5033-7603>

² <http://orcid.org/0000-0003-2564-5887>

³ <http://orcid.org/0000-0002-0391-5797>

This subject is important for several reasons, in addition to the fact that to learn the lessons of past experience an accurate assessment of earlier programming periods is required to enable us to identify both positive contributions and mistakes. Recent studies have tried to explain the factors that make rural areas more resilient (defined as the ability to respond to or cope with economic crises) and have highlighted the importance of public-private partnerships, such as those established in LAGs (Martínez *et al.*, 2015), effective management of rural development funds, institutional capacity and leadership (Sánchez *et al.*, 2014).

In this paper we study the profile of the beneficiaries of LEADER and PRODER in the region of Andalucía in the period 2002-2008, and of the decision makers in the LAGs. With a population of over 8.4 million inhabitants, Andalucía is the most populous NUTS 2 region in Spain and, with an area of 87,268 km², is second in size only to Castilla y León. It has several specific characteristics that have traditionally held back its development, including its peripheral location with regard to the EU's, and indeed Spain's, political and economic decision-making centres, and its predominantly rural nature (over 90 per cent of the territory of Andalucía is rural). Its high unemployment rate has a large chronic component whereby there is a high seasonal demand for labour on the land at certain busy times that provides employment for large sections of the population who for the rest of the year live on state benefits. There is also a high diversity of ruralities, from *deep rural* villages in the mountains of Andalucía, where the rural exodus continues, to *agrocities*, market towns and county towns. Finally, per capita incomes and living standards are lower than the national and EU averages (Navarro *et al.*, 2016).

For the current EU programming period (2014-2020), European Council Regulation 1303/2013⁴ sets out as one of three priority challenges for local development strategies within LEADER the improvement of public services and the quality of life, to mitigate the lack of opportunities compared to urban areas, with special attention to the disadvantaged and those at risk of exclusion. This implicitly covers social inclusion and the fight against poverty. Most previous papers have not analysed in sufficient detail the question of exactly how RDP funds are distributed. They offer general comments that in most cases are not based on empirical testing in the field. They lack concrete data, measurements and specific analyses of what has really happened, both quantitatively and qualitatively. Previous researchers have also focused on the unequal participation in decision-making, while paying less attention to the unequal distribution of EU funds.

Distribution of funds and programme participation are the two topics of our study. Andalucía has 696 rural municipalities which are home to nearly 3.7 million inhabitants, including large numbers of people belonging to marginalised groups. Our research is based on the hypothesis that there are inequalities in the distribution of grants and in terms of

participation according to the social, economic and territorial status of the beneficiaries. Priority is given to those with financial solvency while already disadvantaged groups are marginalised. The governance and empowerment resulting from these programmes has been selective and partial, exacerbating social inequalities. Our purpose is therefore to identify, in more detail than in previously published research, who are the beneficiaries of the LEADER and PRODER programmes, who the decision-makers in the LAGs in Andalucía really are, and how traditionally excluded groups participate.

Methodology

We used two main sources of information. The first is the list of projects implemented in Andalucía during the period 2002-2008 that was provided by the Regional Government of Andalucía. This list includes all the projects supported and, for every one of them, all the specific information, so the available level of detail is the highest. Data to 2013 are not yet available because the regional administration only finished the application of LEADER in the 2007-2013 programming period at the end of 2015. Our research focused on the projects carried out by private entrepreneurs under LEADER + and PRODER II. The data have been processed to reveal parameters such as total investment, grants, private investment and jobs created and consolidated and differentiates between men, women and young people (under 30 years old), type of beneficiary, the town in which the project was executed and so on. A total of 8,221 projects were carried out, of which 1,471 extended over various municipalities while the remaining 6,750 were implemented within single towns. The total investment was EUR 928 million, of which EUR 347.6 came from public subsidies.

The second source of information is a questionnaire sent to the managers of the 52 Andalusian LAGs in 2014. We wanted to find out what these experts and field workers think about matters such as the participation of disadvantaged groups and the need to include new stakeholders, as well as their personal opinions of the programmes. The information from the interviews complemented and illustrated the data obtained from the database of projects. In line with the principles and recommendations set out in AEIDL (1999), a questionnaire with nine questions was elaborated, two with closed answers, six with semi-closed answers and one with an open answer, generating both quantitative and qualitative information. It was answered by managers of 32 of the LAGs (i.e. 61.5 per cent), distributed across the region, making it highly representative in both statistical and territorial terms.

Results

Statistical findings

The Regional Government of Andalucía has already warned of excessive focalisation of funds in territories with greater economic dynamism. Most of the successful projects, i.e. those supported with funding, were located in places in

⁴ Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006.

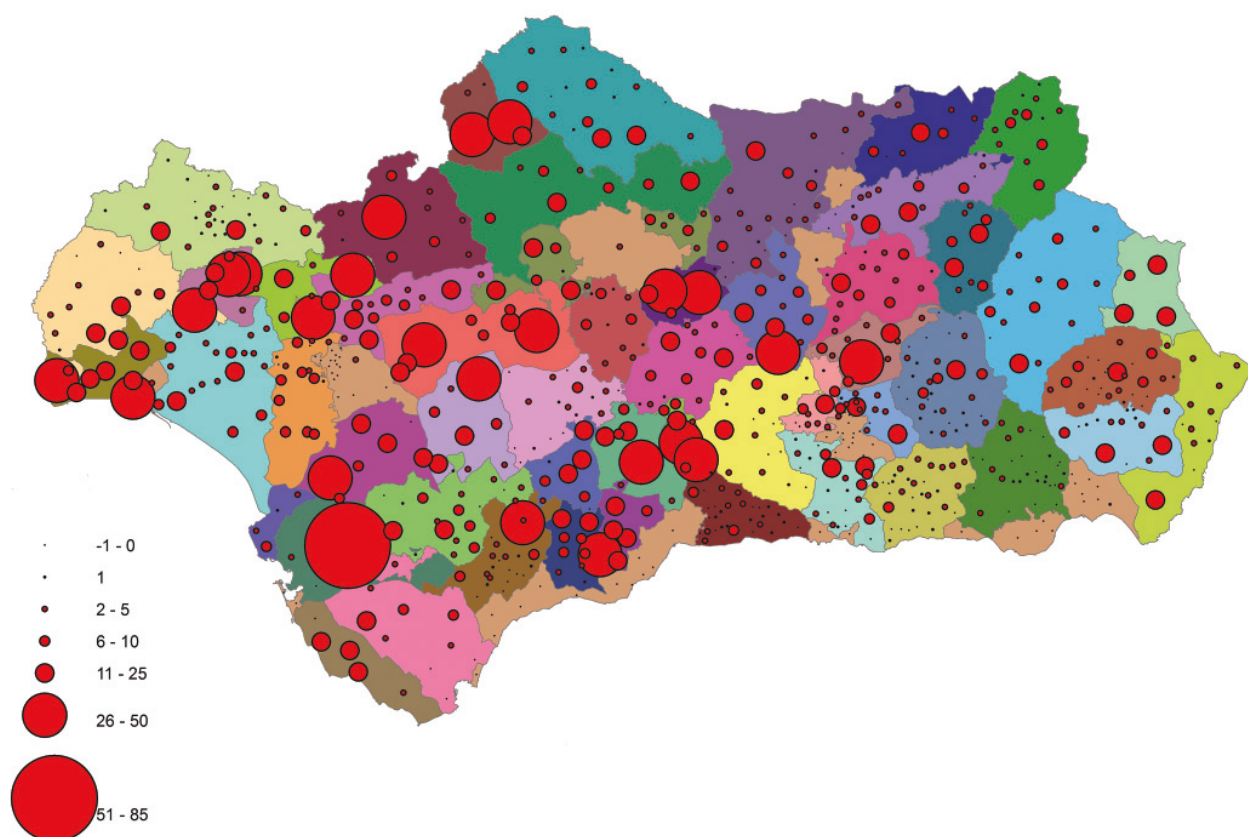


Figure 1: Number of private entrepreneurs benefited from the LEADER and PRODER programmes by municipality and LAG in the period 2002-2008.

Source: Government of Andalucía

which there was already an established business network, such as *agrocities*, subregional centres and towns that supply goods and services with greater added value and economies of scale. The LEADER and PRODER programmes have tended to bypass *deep rural* villages with problems of depopulation and social and economic decline. In general terms, there is a clear difference between mountain and upland municipalities and those in river valleys (Figure 1).

One of the main problems identified by our survey of 8,221 projects is the uneven territorial distribution of funds, especially on the basis of population size (Table 1). Only 13.4 per cent of the 3,924 private entrepreneurs who received funding from LEADER and PRODER projects lived in municipalities with fewer than 2,000 inhabitants. Although it could be argued that, in terms of the number of private beneficiaries per capita, the villages with fewer than 2,000

inhabitants performed better (one beneficiary for every 503 inhabitants) than those with 5,000 or more (one beneficiary for every 1211 inhabitants), such an assessment would mask the more basic problem of territorial involvement in the programme. Of the 696 municipalities, 117 had no private beneficiaries at all. Of these, 93 were villages with fewer than 2,000 inhabitants and only six were towns with more than 5,000 people. Of villages with fewer than 500 inhabitants, 42 per cent had no beneficiary private entrepreneurs, and there was also a high percentage (35 per cent) in the group with 500-999 inhabitants.

Most of the business recipients of LEADER and PRODER funding were either self-employed entrepreneurs or limited companies (18.6 and 18.5 per cent respectively of all projects). Males over 30 years old accounted for 45.8 per cent of beneficiaries, females over 30 years represented 30.8

Table 1: Distribution according to municipality population size of private entrepreneurs who benefited from the LEADER and PRODER programmes in 2002-2008.

Population size	Municipalities			Beneficiaries	No. beneficiaries per successful municipality
	Number	Total inhabitants (in 2006)	No. with no private beneficiaries	Number	
0-499	96	30,796	40	90	1.6
500-999	92	66,790	33	129	2.2
1,000-1,999	116	166,588	20	306	3.3
2,000-4,999	196	613,175	18	1,074	6.0
5,000-9,999	99	674,645	4	931	9.8
10,000-19,999	59	846,062	0	646	10.9
20,000+	38	1,294,845	2	748	20.8
Total	696	3,692,901	117	3,924	6.8

Data source: Government of Andalucía

Table 2: Investment and employment in the LEADER and PRODER programmes by type of beneficiary in Andalucía (2002-2008).

Type of beneficiary			Projects, investment and grant				Total employment
			Number of projects	Investment/project (EUR)	Grant/investment (per cent)	Investment/employment (EUR)	
Self-employed	Women	Over 30	471	110,145	26.8	50,350	1,030
		Young	136	64,071	28.3	39,689	220
	Men	Over 30	701	111,487	25.3	42,656	1,832
		Young	223	84,058	26.2	39,693	472
Town hall			2,066	55,003	64.4	59,716	1,903
Coops	Others		226	181,752	25.2	23,269	1,765
	Young		23	150,445	23.8	22,040	157
	Women		31	126,770	30.9	1,128	350
Limited companies	Others		1,206	233,639	22.7	29,279	9,623
	Young		267	258,885	22.2	39,024	1,771
	Young women		49	207,566	21.6	29,169	349
Worker-owned companies			290	177,345	21.7	24,593	2,091
LAG and association	LAG		1,355	77,117	85.1	168,119	622
	Assoc	Others	679	65,551	51.8	50,971	873
		Young	6	4,031	78.0	0	0
		Women	63	35,374	44.3	21,124	106
Other entities	Others		374	104,072	34.7	38,907	1,000
	Young		16	135,833	24.7	38,129	57
	Women		39	94,397	32.5	12,294	299
TOTAL			8,221	112,896	37.5	37,849	24,521

Data source: Government of Andalucía

per cent, men under 30 years old made up 14.6 per cent, and only 8.9 per cent were women under 30 years old (Table 2). Although, according to Municipal Census data from 2006, 48.5 per cent of the population in the 20-64 years age group were women, just 39.7 per cent of the self-employed entrepreneurs supported by the LEADER and PRODER programmes were female. To a lesser extent this underrepresentation can also be noted with age: 25.2 per cent of the inhabitants were aged between 20 and 29 years but young people (i.e. aged 30 or under) only made up 23.5 per cent of the supported entrepreneurs.

In terms of the amounts invested, there were even greater differences according to the sex and age of the promoters. Self-employed men over 30 risked an average of EUR 111,487 per project, while self-employed young women invested only EUR 64,071 (Table 2). These differences by age and sex could be observed in all the different types of company (including self-employed entrepreneurs, cooperatives, limited companies and worker-owned companies). However, in terms of the percentages of grants/investment, it seems that the LAGs did not take sex and age into consideration. While in the case of self-employed beneficiaries there may have been a slight positive discrimination towards young people and women, the difference between men over 30 and young women was only 3 per cent. By contrast, for companies, the percentages of public funding for projects led by young women (21.6 per cent) were slightly lower than for men or women over 30 (22.7 per cent).

Fewer women-led projects and lower investment by women lead to fewer jobs created for women than for men: they held only 1,250 (35.2 per cent) of the jobs created by self-employed people. This shortcoming also occurred among young self-employed people (31.8 per cent for women and 68.2 per cent for men) and in limited companies.

Across the 8,221 projects, 70.9 per cent (approximately EUR 928 million) of the investment was concentrated on

three measures or submeasures: 1305 *Basic services for the rural economy and population* (EUR 224 million, 26.1 per cent); 1307 *Diversification of agrarian activities* (EUR 217 million, 25.0 per cent) and 16 *Support to SMEs and craft enterprises* (EUR 164 million, 19.9 per cent) (Table 3).

Similarly, 85.5 per cent of the projects implemented by the self-employed beneficiaries came under these three measures, and with the same order of importance. Although these three measures accounted for 91.9 per cent of projects implemented by both men and women under 30 years of age, there were clear differences between the sexes in terms of individual measures. Whereas 52.2 per cent (i.e. 71 out of 136) of the projects implemented by young women came under measure 1305 (cf. 44 per cent in the case of young men), 21.5 per cent of projects implemented by young men came under measure 1307 (cf. just 13.2 per cent in the case of young women). So, young women entrepreneurs focused more on non-agricultural activities whereas young men placed more emphasis on diversification of agrarian activities.

In terms of financial investment per project, in general, women invested more than men in the diversification of agrarian activities: EUR 145,799 cf. EUR 133,209 per project. Women over 30 invested heavily in diversification and complementary income, perhaps because they were part of a family unit where the husband worked in a farm enterprise, this being the resource that allowed them to take the risk of investing in bigger projects. By contrast, many younger women, possibly remote from farming, opted for other kinds of projects with less money, maybe because they lack family/economic support. In particular, among projects related to measure 16, women over 30 invested almost double that of young women (EUR 83,623 cf. EUR 56,266 per project).

Finally, the measures related to tourism (1310 and 17) accounted for almost 13 per cent of all investment by the self-employed beneficiaries. Among younger beneficiaries there are no major gender-based differences in relation to

Table 3: Total investment and investment by the self-employed beneficiaries in the LEADER and PRODER programmes in Andalucía by measure (2002-2008).

Measure*	Total		Self-employed beneficiaries							
	No. projects	Investment (EUR)	Men over 30		Women over 30		Young men		Young women	
			No. projects	Investment/project (EUR)	No. projects	Investment/project (EUR)	No. projects	Investment/project (EUR)	No. projects	Investment/project (EUR)
11	297	58,310,404	21	89,396	23	106,563	3	174,158	3	116,043
12	6	572,038	1	111,562	1	16,619	0	0	0	0
1303**	1	111,434	0	0	0	0	0	0	0	0
1304	214	13,734,394	2	21,767	4	41,002	0	0	3	67,909
1305	2,374	224,287,602	206	85,883	138	68,236	99	49,200	71	38,264
1306	1,223	74,428,439	20	110,450	3	21,752	2	389,095	0	0
1307	1,618	217,036,630	211	140,786	159	146,319	48	133,209	18	141,201
1309	97	7,082,397	24	28,696	3	74,917	2	600,058	0	0
1310	111	200,087,853	8	411,863	9	303,444	3	200,831	0	0
1311	1	41,671	1	41,671	0	0	0	0	0	0
1312	30	2,938,275	0	0	0	0	1	99,715	0	0
16	1,225	164,430,801	175	94,349	90	83,623	58	72,151	36	56,266
17	336	67,381,527	28	196,144	36	161,981	7	167,481	5	175,585
21	13	370,415	0	0	0	0	0	0	0	0
22	49	13,700,001	0	0	0	0	0	0	0	0
23	156	2,819,295	0	0	2	34,046	0	0	0	0
24	40	1,274,567	0	0	0	0	0	0	0	0
25	16	330,906	0	0	1	81,842	0	0	0	0
31	1	59,100	0	0	0	0	0	0	0	0
32	80	4,066,287	2	58,804	1	34,644	0	0	0	0
33	8	1,117,479	0	183,727	0	0	0	0	0	0
35	79	9,002,183	0	0	1	2,301	0	0	0	0
41	109	9,478,074	0	0	0	0	0	0	0	0
51	137	47,785,308	0	0	0	0	0	0	0	0
Total	8,221	928,117,078	701	11,487	471	110,145	223	84,058	136	64,071

* 11 Agriculture; 12 Forest use; 1303 Creating replacement services on farms, and support services management; 1304 Commercialisation of quality agricultural products; 1305 Basic services for the rural economy and population; 1306 Renovation and development of villages and protection and conservation of rural heritage; 1307 Diversification of agricultural activities and nearby to it, to create multiple activities or additional incomes; 1309 Development and improvement of infrastructure related to the development of agriculture; 1310 Incentives for tourism activities; 1311 Support for crafts on farms; 1312 Environmental protection in relation to the soil, forestry, landscape conservation and animal welfare; 16 Support for SMEs and craft enterprises; 17 Tourism; 21 Labour market policy; 22 Social integration; 23 Promoting education and professional training not linked to a specific sector; 24 Adaptability, entrepreneurship and innovation, information and communication technologies; 25 Measures in favour of women in the labour market; 31 Road infrastructure; 32 ICT, services and applications for citizens and businesses; 33 Renewable energies; 35 Protection and recovery natural and cultural heritage; 41 Technical assistance and innovative measures; 51 Operational costs

** 1303-1312 are submeasures of measure 13 Promoting the adaptation and development of rural areas

Data source: Government of Andalucía

investment in this area. However, the investment by men was lower than that of those aged over 30 of both sexes: the average investment per project was EUR 300,000 (almost EUR 200,000 for those undertaken by young people) being an argument to explain their lower participation. But the share of the investments made by men was 16.5 per cent, cf. 12.2 per cent for women. The average investment per project was higher for men over 30 (EUR 411,863 and EUR 196,144 per project under measures 1310 and 17 respectively in a total of 36 projects) than for women over 30 (EUR 303,444 and EUR 161,981 respectively in a total of 45 projects).

The managers' viewpoint

In order to get a broader perspective on these results, we sought the opinions of the managers of the LAGs. When asked, on a scale of 1 to 5, which groups had benefited most from the programmes, they gave the highest score (4.3) to entrepreneurs, which could be due to a predominantly economic approach. In second place were 'town halls' (3.7), which was due to the huge influence of the public sector in project control and decision making. In third place came

Table 4: Which social groups have benefited more by LEADER and PRODER investments?

	Average	Standard deviation
Farmers	2.8	1.2
Non agricultural professionals	3.4	1.2
Entrepreneurs	4.3	0.8
Retired and unemployed people	2.2	1.1
Young people	3.0	1.1
Women	3.3	0.9
Cooperatives	3.1	1.1
Associations	3.0	1.0
Town halls	3.7	0.9

1 = not at all, 5 = significantly

Source: own data

women and young people (3.3 and 3.0, respectively) and in fourth, farmers (2.8), which may be a sign of the lack of an integrated, strategic approach. Finally, in fifth place, retired and unemployed people seem to have benefited little (2.2) (Table 4).

Respondents also noted that the LAGs had contributed 'quite significantly' (3.9) to increasing the representation of women in local decision-making. In terms of individual

responses, half of the respondents felt that the LAGs helped to increase the participation of disadvantaged groups in local decision-making. Most said that women, young people, immigrants and unemployed people had been integrated through local decision-making councils, associations and/or projects. Only 34.4 per cent thought that LAGs had not increased the participation of these groups. When asked whether LAG activities had had a negative impact on the involvement of different groups in local decision-making, 17 out of 32 replied 'No', implying that they thought that they had had a positive impact, while 11 out of 32 replied 'Yes' and four did not answer.

When asked whether they thought that additional local partners should be included in the LAGs, answers were divided: No (53.1 per cent) and Yes (37.5 per cent). The reasons that they offered for answering 'No' were: "we think that all the social and economic partners are already represented"; "we represent a broad section of society, what is needed is a greater involvement of individual stakeholders, and thus the decisions taken will have higher support"; "higher involvement of the private sector and farmers has proven impossible"; "this could always be improved"; and "maybe some specific actors, such as national parks, environmentalists and the boards controlling the quality of local food products". The 'Yes' answers claimed that a higher participation of the following groups was required: young people, women, entrepreneurs, small businesses, private sector, voluntary organisations, public sector organisations, young farmers, social associations, new residents, education agents, culture and sports agents, and groups at risk of social exclusion. Their specific observations included: "those who really want to participate", "I think that there should be inclusions and exclusions: include those groups of people with special characteristics, and exclude those groups/entities that do not participate"; greater participation "is always necessary"; "it is necessary to increase the area's internal and external relational capital". Greater flexibility in the LAGs participation was also required.

We asked the managers of the LAGs about the extent to which they have helped female employment opportunities, for which the average score was 3.8, i.e. between 3 ('to some extent') and 4 ('quite significantly'). A substantial number of new women entrepreneurs have emerged in rural areas in recent years thanks largely to the programmes, something which just a few decades ago was unthinkable. In Andalucía, these programmes have often helped female entrepreneurs and workers to escape from the informal economy. The general lack of businesswomen and their low participation in LEADER and PRODER has gradually been corrected over successive programming periods. Although this was the opinion of the LAG managers, the quantitative data reported above suggest that women still participate less as beneficiaries, and receive less financial support than men.

Finally, when asked about their opinion of LEADER and PRODER, most of the LAG managers, 25 out of 32 respondents, acknowledged that mistakes have been made in their implementation. All of these pointed directly or indirectly to the impact on disadvantaged groups. Only four of them thought that no mistakes had been made. The main problems they observed were: "excessive bureaucracy", a recurring

complaint in the LAGs (18 of them); and "loss of the specific features and philosophy of LEADER" (5), i.e. the bottom-up approach and local decision-making. Other problems they identified included a lack of participation by disadvantaged social groups, limited strategic planning and long-term vision, and low funding: "limited access for disadvantaged groups", "uneven geographical assignment and territorial distribution", "financial problems and delays" and "limited economic and financial contribution". The most popular solutions offered were: "reduce bureaucracy and complexity, mainly of the regional administration" (22); give "the LAGs greater autonomy in local decision-making" (15); and "return to the original principles of LEADER, recovering its specific values" (6).

For all these reasons, most of the LAG managers (28 of them) said they would change the way in which they work with the programmes, as was noted in a comment by one respondent: "LEADER has been a victim of its own success; the universalisation of its method has led to the elimination of its experimental nature as a real laboratory for the development of rural areas".

In conclusion, the surveyed managers thought that many mistakes had been made in the application of the LEADER initiative: excessive bureaucracy and interventionism by the regional administration, loss of the original philosophy, low participation of disadvantaged groups and lack of strategic vision. Therefore, given the opportunity, LAGs would change the way in which LEADER and PRODER function: improving the bottom-up approach and local decision-making and returning to the origins of LEADER.

Discussion

By considering all the projects supported, this study represents the most detailed analysis yet of the implementation of LEADER and PRODER in Andalucía. It shows clear imbalances. Firstly, in a territorial way, implementation has excluded a significant part of the Andalusian *deep rural* (no funding was secured by private entrepreneurs in over 30 per cent of municipalities with fewer than 2,000 inhabitants). Confirming the findings of Gordo (2011) and Cejudo and Navarro (2012), some parts of the *deep rural* in Andalucía have been marginalised by these programmes, despite the fact that small, more remote municipalities should be a priority for economic and technical support, together with a range of policies to encourage people to stay or to settle in these areas. This shows the need to reinforce efforts to revitalise these less populated areas. Higher participation of people coming from small, marginalised municipalities could help to improve their benefits and situation.

Secondly, in a social way, 46 per cent of private entrepreneurs supported were males over 30 years old. This finding is supported by the experiences of the interviewed LAG managers, who noted imbalances in LEADER investments between different groups. It must be recognised that, thanks to LEADER, a large number of new women entrepreneurs have emerged in rural areas of Andalucía (39.7 per cent of the entrepreneurs supported were women). But although our results indicate a significant presence of women as promot-

ers, which is to be applauded, they are still not sufficiently supported financially. The same applies to young people. These differences in terms of sex and age are greater if the participation of women in different kinds of companies is analysed, in which those led by men over 30 made the highest investment per project and created most jobs. In terms of total investment and average investment per project, especially in the case of young women, the differences are intensified. On the other hand, in terms of grant/investment, the differences in between men and women, and recipients over and under 30 were very small.

The data show that there has been some specialisation by age and sex in the different areas of investment. While the projects promoted by men over 30 cover a wide range of goods and services, women over 30 focus on more tourism. Young men have a more balanced profile in terms of the activities in which they invest, and young women opt for basic services (e.g. child and geriatric care) for the rural population.

There are a variety of reasons for this uneven participation. Firstly, the fact that promoters are obliged to start their projects with their own funds, as grant applications take time to process. This obstacle has prevented the participation of groups that are normally excluded from economic development, i.e. those with little capital. Banks are not prepared to back projects which they believe are of high economic and 'social' risk, and tend to reject those led by people from disadvantaged groups.

Secondly, by including experience and financial solvency as criteria in the selection of projects, the programmes have greatly limited access to funds for many young people and women. "The lack of confidence on the part of the family to invest and the lack of own funds" (Langreo, 2000, p.25) also reduces the presence of these groups. In addition to promoting training for women and young people, LAGs have to be facilitators of public funds and bank finance. It is necessary to further adapt the financial engineering of banking institutions (venture capital funds, microcredit programmes etc.) to the specific case and functioning of LEADER and PRODER programmes, a task in which the LAGs must play a greater role. A sufficient, readily available supply of financial capital is a basic prerequisite for the endogenous development of rural areas.

Thirdly, our survey of the LAG managers has indicated that several groups have been insufficiently involved in LEADER and PRODER in Andalucía. For example, there has been little participation from farmers. This group, which is often neglected in classical models of economic development, has probably not received a viable alternative or a real opportunity to support the EU strategy for rural development. It is clear that farmers are not a priority group of potential beneficiaries in LEADER. Similarly, involving the unemployed has not been a priority. This is worrying given the structural unemployment problem in rural Andalucía. The LAGs do organise training courses, but they tend to have a general approach with little specific orientation towards the job market.

Finally, in the opinion of the LAG managers, the excessive interventionism and control by government, especially at a regional level, has prevented the LAGs from opening

up to wider public participation. Local elites have controlled and participated more actively in LEADER and PRODER, while other less advantaged stakeholders have been excluded from the development process.

A basic task during the 2014-2020 programming period must be to revitalise and re-engage the entire population in a renewed commitment to LEADER. Faced with the apathy shown by many of these disadvantaged groups, work must be done to regain their confidence and their involvement. The participation of local stakeholders and civil society must be encouraged. The bottom-up, participatory approach must be re-established so that its benefits can be enjoyed by disadvantaged groups in rural areas, and in terms of territorial cohesion, given the limited scope and impact of LEADER on the *deep rural*. Governance and empowerment has been limited and selective in both social and territorial terms, benefiting local economic elites at the expense of traditionally disadvantaged rural groups.

In future research on the social impact of LEADER and PRODER, all the characteristics of the entrepreneur profile (such as age and geographical location (immigrant or not)) should be considered in greater detail in the evaluation indicators.

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Cristina Bianca POCOL* and Călin MOLDOVAN TESELIOS**

Perceptions of the support granted to female entrepreneurs in Romania: between anticipation and assessment

In the 2007-2013 European Union programming period, Romania benefitted from assistance provided through the Human Resources Development Operational Programme, financed by the European Social Fund, to promote social inclusion. Women are, in many instances, a vulnerable group that needs support from various sources for greater integration in the labour market. This integration resides in encouraging entrepreneurship. The purpose of this paper is to analyse how support is anticipated by women planning to start a business and assessed by those who already have experience in entrepreneurship. To achieve the research objectives, a study was conducted on a sample of 774 women in three NUTS 2 development regions of Romania in 2013. The variables used in the analysis were grouped using factor analysis in two factors. The results of the primary analysis reveal a greater emphasis on the first factor, represented by institutions, and less importance given to the second factor, represented by family and friends. However, potential female entrepreneurs are characterised by a tendency to overestimate the first factor, as positive on the one hand or rather negative on the other, in terms of starting an entrepreneurial approach. Our results point out the need for a stronger involvement of the responsible institutions in building trust and ensuring the support needed by female entrepreneurs.

Keywords: business start-up, family and friends, institutional support, social capital, factor analysis

* Universitatea de Științe Agricole și Medicină Veterinară din Cluj-Napoca, Calea Mănăștur 3-5, 400372, Cluj-Napoca, Romania. Corresponding author: cristina.pocol@usamvcluj.ro; <http://orcid.org/0000-0001-5079-8004>

** Metro Media Transylvania, Cluj-Napoca, Romania

Introduction

According to Sikalieh *et al.* (2012), entrepreneurship is a dynamic process of creating incremental wealth by individuals who assume risks in equity, time and career commitment. Schumpeter (1965) describes entrepreneurs as ‘individuals who exploit market opportunity through technical and/or organisational innovation’. At present, entrepreneurship is an income solution, particularly for socially vulnerable groups for whom finding a job is difficult (Pocol *et al.*, 2012). In this case, the driver is not the intrinsic motivation of becoming an entrepreneur as defined by Schumpeter, but rather the desire to have a source of income. Certain categories of women, particularly those with no occupation, belong to groups included by Morrow (1999) in the vulnerable inventory of a particular community. A rural community is often more exposed to situations of vulnerability due to poverty and low education level (Pocol *et al.*, 2013). Community involvement as part of the social capital, along with creating a supportive learning environment, represent a combination of factors necessary for the development of entrepreneurship in rural areas (Katonáné Kovács, 2014) and supporting vulnerable groups (Pocol *et al.*, 2012). For women, vulnerability is determined on the one hand by gender stereotypes, which lead to a negative societal perception of their performance (Heilman, 2015), and on the other hand it lies in resource and economic autonomy constraints, due to their multiple responsibilities in the household (Morrow, 1999). It is in this context that the involvement of women in entrepreneurial activities is significantly lower than for men (Langowitz and Minniti, 2007). The start-up of entrepreneurial activity by women can be influenced by a number of economic factors, such as interest rates, unemployment and access to credit (Saridakis *et al.*, 2014), as well as socio-cultural ones: fear of failure and perceived capabilities (Noguera *et al.*, 2013). The need for support from social structures (family, networks, groups) is demonstrated by Lerner *et al.* (1997).

Social capital is defined by Yetim (2008) as a network of contacts and relationships of trust that can be used to secure and access resources. Social capital support provides emotional strength for female entrepreneurs, which is a necessary prerequisite for coping with everyday life (Renzulli *et al.*, 2000). Welsh *et al.* (2014) stress that a long-term support system from the family, and private and government agencies is a growth factor for female entrepreneurs and their activities. Family support is perceived by women entrepreneurs in two ways: on the one hand, financial support (Mehta, 2013), and on the other hand, moral support (Maden, 2015). Rajkumar and Prasannakumar (2014) identify success factors in female entrepreneurship, and the family occupies an important place alongside self-confidence, motivation, education, economic and technological development, government policies and financial institutions. Gidarakou (2015) mentions the existence of forms of support that local authorities and regional development agencies provide to women entrepreneurs in rural areas, without assessing, however, how this support is perceived by women. A quantitative study conducted by Jaafar *et al.* (2014) on community participation in the development of entrepreneurship shows that there is a significant percentage of those who abandon their businesses due to lack of social support and recommends more support from the community. Among future entrepreneurs, a negative perception of support from family and institutions represents a barrier to starting an entrepreneurial approach (Shinnar *et al.*, 2012). Santos *et al.* (2016) demonstrate that personal perception of social capital plays an important role in the decision about starting a business.

The aim of the present research was to assess support as a key element of human and social capital. A main component of our study was to analyse the perception of support, either given or anticipated, by members of two groups of women: entrepreneurs and potential (future) entrepreneurs in Romania. The following research questions were addressed: (a) are there any differences among women entrepreneurs and

potential women entrepreneurs in Romania with respect to their perception of different types of support; (b) how is institutional support perceived by comparison with family and friends support; and (c) could the socio-demographic characteristics have an influence on the given/anticipated support?

Methodology

The research method used was sociological survey, based on questionnaires. The data were obtained from 602 active entrepreneurs and 172 potential entrepreneurs (Table 1). The maximum values of admitted errors were +/- 4 per cent in the case of the former and +/- 8 per cent in the case of the latter, for a confidence level of 95 per cent.

The entrepreneurs were chosen via a random selection from a comprehensive database of Registry of Commerce with more than 400,000 records of active businesses. Subsequently, a screening procedure was employed to select only those companies in which at least one of the owners or managers is a woman. This person was interviewed. The sample was then weighted according to the age and education levels of women entrepreneurs, as a result of studies conducted by Global Entrepreneurship Monitor (GEM¹) from the three years 2011-2013. The business sectors the women entrepreneurs are active in are commerce, services, consultancy, public health, and agricultural/industrial production.

The sample of potential entrepreneurs was extracted from a database with 500 people identified as intending to start a business in 2011-2013 GEM studies. The main sectors the intending entrepreneurs are looking at are agriculture, commerce and education.

The questionnaire was pre-tested in September 2013 on a sample of 12 persons from the population investigated (six active and six potential entrepreneurs, persons with different levels of education, with more or less experience in entrepreneurship, from different areas of activity, both from rural and urban areas). The pre-testing evaluated the ability of the respondents to understand the questionnaire, to identify unanticipated answers options and to complete the list of predefined answers. The tests were also intended to show any possible topic errors in the questionnaire design. Data collection was performed in October 2013.

Three NUTS 2 development regions of Romania defined our area of selection: North-East, North-West and West. These three development regions were the areas targeted by the project entitled 'An integrated intervention in order to strengthen social entrepreneurship among vulnerable women', and were chosen because of the higher incidence of women vulnerability: long-term unemployed, single parents, victims of domestic violence, victims of human trafficking, women previously in detention.

Women who had already developed a business responded to the question 'How much support were you offered by the following categories in your entrepreneurial activity?' For each variable mentioned above, we used a four point Likert

Table 1: The socio-demographic profile of the two sets of surveyed entrepreneurs.

Socio-demographic characteristics	Active entrepreneurs (%)	Potential entrepreneurs (%)	
Education	Maximum ten years education	3.7	21.5
	High school, post-secondary education	33.6	34.3
	University	62.8	44.2
Age	Between 18-35 years	16.6	51.2
	Between 36-50 years	47.3	39.5
	51 years and above	36.0	9.3
Region	West Region	29.1	33.1
	North-West Region	39.5	22.1
	North-East Region	31.4	44.8

Source: own data

scale (very much; a lot; little; very little/not at all) as a tool to measure respondents' attitudes and turn them into quantitative data. The question addressed to potential women entrepreneurs was 'How much help do you think you could be offered by following categories, if you want to start a business?' In this case, we used the same four point Likert scale.²

In the literature, a variety of situational variables have been analysed to create a commonly accepted model of entrepreneurship (Lockyer and George, 2012; Miskin and Rose, 2015; Santos *et al.*, 2016). These include the positive social support perceived by future entrepreneurs that comes from family, friends, colleagues and community leaders (Miskin and Rose, 2015). Based on this evidence, the following variables were chosen in our study: family, friends, local people, culture/traditions of local schools/high schools in the village, local NGOs/foundations, local businessmen and the state.

In order to test a causal model, a set of relevant socio-demographic variables was included in the analysis (age, education, marital status, occupation before starting business).

The research instrument used was the factor analysis (Lorenzo-Seva, 2013). To validate the use of this statistical tool, the KMO and Bartlett's test were applied, providing a very good score, indicating a high adequacy degree. These values are large enough to allow the adequacy of the factor analysis used. Factors were obtained by using the principal component analysis technique. The data were processed using the Statistical Package for the Social Sciences Software Program (IBM SPSS Statistics Version 22).

Results

A primary data analysis based on descriptive statistics shows that the family was the main source of support for those women who already run a business. In addition, an important part was played by friends and local community. Local authorities, the state, NGOs and foundations are among the groups not providing support for these categories of women (Figure 1).

¹ The GEM report provides the results of its sixteenth survey on entrepreneurship held every year across the world. The rising number of participating countries and consistent conceptual framework, surveying tools and applied methodology contribute to build the world's biggest database on entrepreneurship (Singer *et al.*, 2014).

² The original Likert scale contained five answer variants, being later on extended to several more, but, sometimes, these adaptations have generated errors in understanding and interpretation (Boone and Boone, 2012). In order to better capture the differentiation of perception of support provided by various actors, the scale with four variants (two degrees 'more' and two degrees 'less') was considered to be the best suited.

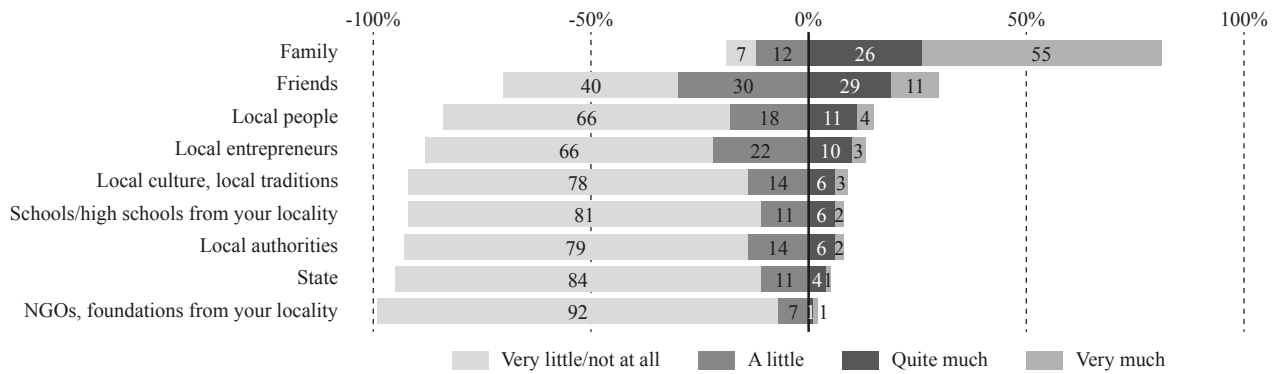


Figure 1. Results of the evaluation provided by female entrepreneurs on the support received for running a business (N=602). Source: own data

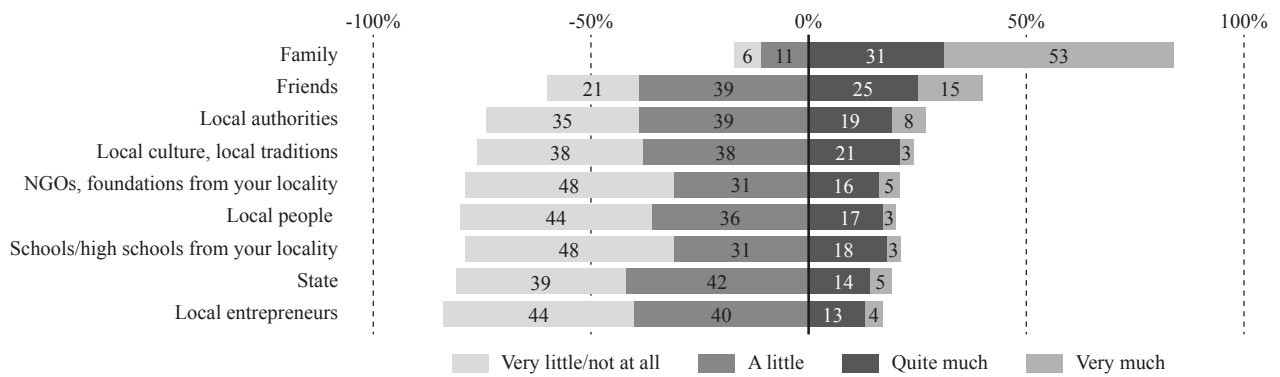


Figure 2. Results of the evaluation provided by female entrepreneurs on the anticipated support for running a business (N=172). Source: own data

It is also the case for potential women entrepreneurs that family and friends are ranked first in terms of expected support, followed by local authorities, local culture and traditions. Unlike women already running a business, future entrepreneurs do not see local entrepreneurs as significant sources of support, as this variable is ranked last (Figure 2).

Based on frequency distributions, with quasi-similar hierarchies, the primary data analysis did not allow identifying a clear conclusion on the differences between the

two subpopulations of the survey (entrepreneurs and future entrepreneurs). For this reason, the research continued with further analysis based on relevant statistical tools and tests. Factor analysis was used in order to reduce the data to fewer factors. After analysing communalities (Field, 2009), it was noted that for three items (local people, local entrepreneurs and state) the values were above 0.4, but below 0.5. These items were removed successively from the analysis and, after repetition, all communality values were above 0.5 (Table 2).

The first category of results provided by factor analysis is represented by information pertaining to the total variance explained (Table 3). The value of Kaiser-Meyer-Olkin index was 0.737 and Bartlett’s Test of Sphericity value was 902.9 (sig=0.000).

By means of the principal component analysis method, factors are generated (Cărbureanu, 2010). The first two factors in Table 3 meet the selection criteria (Eigenvalue >= 1). The variance explained is 41.5 per cent for the first factor and 20.1 per cent for the second. These two factors explain 61.6 per cent of the variance analysis. After the rotation procedure

Table 2: The variance in each item explained by the extracted factors (communalities).

Variable	Initial	Extraction
Family	1.000	0.749
Friends	1.000	0.646
Local schools/high schools	1.000	0.622
Local culture/traditions	1.000	0.588
Local authorities	1.000	0.563
Local NGOs/foundations	1.000	0.530

Extraction method: principal component analysis
Source: own calculations

Table 3: Eigenvalues and percentages of variance associated with each component.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	2.492	41.532	41.532	2.492	41.532	41.532	2.342	39.040	39.040
2	1.205	20.082	61.614	1.205	20.082	61.614	1.354	22.574	61.614
3	0.700	11.661	73.275						
4	0.632	10.541	83.817						
5	0.537	8.953	92.770						
6	0.434	7.230	100.000						

Extraction method: principal component analysis
Source: own calculations

is applied, there is a redistribution of the variance explained: for the first factor, it is 39.0 per cent, while for the second factor, 22.6 per cent. After applying the rotation method, the first factor has a lower saturation level than the second factor.

The rotated component matrix (Table 4) allows the final results for the two factors to be obtained. The first factor consists of the following variables: local culture/traditions (0.753), local schools/high schools (0.788), local NGOs/foundations (0.708), local authorities (0.750) and the second factor is composed of family (0.862) and friends (0.749).

The scores of the two factors vary: factor 1 between -0.85 and 4.67, where the negative values indicate the perception of low support and the positive levels the perception of high support from the item (Table 5); for factor 2, scores variation is between -2.68 and 1.71, with the same interpretation. Comparing factor scores according to the two categories – entrepreneurs versus potential entrepreneurs – a statistically significant score is obtained for future women entrepreneurs for factor 1, while for factor 2, the difference is very small. The employment of the Independent t-test, reveals a statistically significant difference between the scores for the first factor and, while for the second factor, the difference is not statistically significant (Table 5).

With two relatively different populations in terms of socio-demographic structure, the score difference was tested for both factors, sequentially checking a set of relevant variables: age, education, marital status, occupation before start-

ing business. The findings in each socio-demographic category are similar to those observed for the total sample: for all categories investigated, in the case of factor 1, the difference in score between entrepreneurs and future entrepreneurs is statistically significant. However, for factor 2, differences in score between entrepreneurs and future entrepreneurs are statistically significant only in one case (Table 6).

Table 4: Loading matrix of component solution after varimax rotation.

Variable	Component	
	1	2
Family	-0.070	0.862
Friends	0.291	0.749
Local culture/traditions	0.753	0.144
Local schools/high schools	0.788	0.028
Local NGOs/foundations	0.708	0.167
Local authorities	0.750	0.008

Extraction method: principal component analysis; rotation method: varimax with Kaiser normalisation; salient loading values are shown in bold
Source: own calculations

Table 5: Testing the significance of difference between scores, using Independent t-test.

	Group of entrepreneurs		Independent t-test	
	Current	Future	t	Sig.
	Mean	Mean		
Factor 1	-0.239	0.836	-13.884	0.000
Factor 2	-0.024	0.083	-1.241	0.215

Source: own calculations

Table 6: Average scores of support offered by family, friends and institutions to entrepreneurs and future entrepreneurs, in accordance to their socio-demographic characteristics.

Factor	Variable	Category	Groups		Independent t-test	
			Entrepreneurs	Future entrepreneurs	t	sig
Support from institutions (average score)	Age	18-35	-0.184	1.085	-9.379	0.000
		36-50	-0.230	0.543	-6.246	0.000
		51+	-0.276	0.706	-4.653	0.000
	Marital status	Married, in a relationship	-0.273	0.628	-9.615	0.000
		Divorced, widowed	-0.179	0.721	-3.610	0.000
		Single	-0.026	1.278	-6.603	0.000
	Education	Max. 10 degrees, vocational school	-0.553	0.430	-3.573	0.001
		High school, post high school	-0.300	0.977	-9.883	0.000
		College	-0.188	0.924	-10.041	0.000
Occupation before starting business	Employee in public sector	-0.248	1.158	-8.699	0.000	
	Employee in private sector	-0.225	0.935	-8.460	0.000	
	No occupation	-0.268	0.698	-4.882	0.000	
Region	West	-0.259	1.154	-10.414	0.000	
	North-West	-0.163	1.164	-8.219	0.000	
	North-East	-0.316	0.442	-6.806	0.000	
Support from family and friends (average score)	Age	18-35	0.092	0.009	0.556	0.579
		36-50	0.001	0.193	-1.405	0.161
		51+	-0.110	0.025	-0.536	0.592
	Marital status	Married, in a relationship	0.041	0.174	-1.309	0.191
		Divorced, widow	-0.347	0.146	-1.408	0.162
		Single	-0.066	-0.113	0.214	0.831
	Education	Max. 10 degrees, vocational school	-0.416	0.153	-2.176	0.034
		High school, post high school	-0.055	0.059	-0.777	0.438
		College	0.015	0.069	-0.419	0.675
	Occupation before starting business	Employee in public sector	-0.047	-0.143	0.520	0.604
		Employee in private sector	-0.058	0.185	-1.597	0.112
		No occupation	0.072	0.076	-0.015	0.988
	Region	West	-0.085	0.050	-0.829	0.408
		North-West	0.002	0.064	-0.355	0.723
		North-East	0.001	0.117	-0.919	0.359

Source: own calculations

Discussion

There are few published studies that assess the importance of social factors on entrepreneurship in Romania, especially in the case of women, one of the most vulnerable groups in our society (Șerb and Cicioc, 2015). Our paper offers a comprehensive description of support perceived by women entrepreneurs and potential entrepreneurs.

On a perceptual level, we show that future women entrepreneurs tend to overstate, in anticipation, the help they will receive from local institutions, but place themselves in relatively similar positions with women entrepreneurs regarding the help expected to be received from family and friends. In Romania, for the last 25 years, at the community level there has been a strong belief in the support future entrepreneurs will receive from family and friends, coming to compensate for the lower confidence or the distrust in institutions and state (Ciobanu *et al.*, 2015). Once they become entrepreneurs, the support from family and friends is as expected, while for local institutions there is a significant difference between expectations and reality. This overestimation of the support given by local entities (authorities, school, NGOs, local culture) to entrepreneurs represents a positive aspect, acting as a catalyst for new local businesses, which try to capitalise the local potential, to innovate the local traditions and the culture of origin.

The discrepancies between the anticipated and the provided support are to be found for all relevant socio-demographic categories, and reinforce the conclusion presented above. It is possible to notice sharper differences between active and potential women entrepreneurs in assessing the support received from local institutions, for young entrepreneurs, of maximum 35 years (in fact, there is a negative correlation between age and the perceptual difference between the two categories of entrepreneurs). Also, both medium and high education are associated with sharper perceptual differences regarding local support. And, if in the case of active entrepreneurs, previous occupation was not reflected differently in the assessment of local institutional support, in the case of potential entrepreneurs, expectations are different: those who become entrepreneurs switching from the status of an employee expect more consistent support in comparison with the unemployed.

By contrast, the support provided by family and friends with the starting of the business is assessed as living up to expectations. For all the other socio-demographic categories except one, that of respondents with elementary education, the differences in scores among active and potential women entrepreneurs are not statistically significant, which underlines the conclusion that the anticipation of support from family and friends is subsequently confirmed in practice.

The concept of 'female entrepreneurship' is still new in Romania, and responsible institutions should strive to change their attitude towards this category of entrepreneurs and gain trust. The importance of social support (family and friends) was also demonstrated by Miskin and Rose (2015), and described as a form of favourable influences convincing future entrepreneurs that their business is credible and desirable. Lockyer and George (2012) consider that the confidence granted by strong bonds with family and friends

not only influences the decision by women to start a business, but also provides emotional support necessary to maintain 'momentum' in an existing business. Miskin and Rose (2015) obtained similar results in the state of Washington, U.S.A. on the perception of less support from local authorities, the explanation possibly residing in frustrations of entrepreneurs, rather than on the account of universal reality.

The research presented in this paper formed part of a wider study on strengthening social entrepreneurship among vulnerable women in Romania. The results obtained represent an important tool for evaluating the position of women in the field of entrepreneurship. They also help to develop the conception of support instruments dedicated to entrepreneurship among women belonging to socially vulnerable groups, such as training courses, professional counselling, models of business plans and a guide for setting up a social enterprise. Brush *et al.* (2009) also demonstrated the importance of such analysis for women entrepreneurs: understanding the challenges they have to face and the impact of societal factors on their enterprise. The main limitation of our study is the number of factors included in the analysis, a constraint also identified by Kungwansupaphan and Leihaothabam (2016). There is a need for further research on other types of human and social factors related to women entrepreneurship.

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