Overcoming challenges of evaluating integrated endogenous rural development and partnership interventions – A worthwhile exercise?

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Abstract

Supporting integrated endogenous regional development, community-driven initiatives and establishing partnerships are acknowledged as drivers of rural development. Common to these approaches is their potential for added-value creation, either through strategic planning and cross-sectoral consideration of resources like in the integrated approach and partnerships, and/or by forming social capital through joint actions. Though such interventions have been an inherent part of policy programmes for decades, evaluating the impact and legitimising public spending, as well as bringing systematic evidence for the added value of those interventions compared to conventional interventions still present a challenge. Evaluation methods, which allow one to underline added-value creation, mostly follow qualitative approaches that are not easily transferable and bring about non-comparable and non-summable results. Based on a review of existing evaluation approaches and their advantages, disadvantages and shortcomings, in this paper two novel evaluation approaches based on Multiple Criteria Decision Analysis and Social Network Analysis are introduced as a tool for evaluating endogenous and integrated approaches and partnerships. It is shown that when applied supplementarily within the proposed evaluation framework, both approaches can fruitfully address most of the identified common evaluation challenges, and are preferable to other evaluation methods in many regards, e.g. in making added value quantitatively feasible. The major drawback of the approaches is the high effort required for data collection.

Keywords: *Evaluation, Integrated endogenous regional development, Rural development, Partnerships, LEADER, Multiple Criteria Decision Analysis (MCDA), Social Network Analysis (SNA), Added value creation*

Zusammenfassung

Bewältigung der Herausforderungen der Evaluierung integrierter endogener ländlicher Entwicklung und Partnerschaftsinterventionen – Eine lohnenswerte Aufgabe?

Förderung integrierter endogener Regionalentwicklung, gemeinschaftlicher Initiativen und Partnerschaften sind anerkannte Instrumente zur ländlichen Entwicklung. Gemein ist ihnen das Potential zur Mehrwertschöpfung durch strategische Planung und multi-sektoralen Berücksichtigung von Ressourcen und/oder den Aufbau von Sozialkapital. Obwohl solche Interventionen schon Jahrzehnte Bestandteile von Förderprogrammen bilden, stellt ihre Evaluierung und damit die Legitimierung öffentlicher Ausgaben sowie das Erbringen eines systematischen Nachweises ihres Mehrwerts im Vergleich zu konventionellen Interventionen noch immer eine Herausforderung dar, insbesondere das Hervorbringen quantitativer, vergleichbarer und aggregierbarer Ergebnisse. In diesem Artikel werden Evaluierungsansätze, die auf Multiple Criteria Decision Analysis und Sozialer Netzwerkanalyse aufbauen, vorgestellt. Bei komplementärer Anwendung beider Ansätze können weitverbreitete Herausforderungen, die mit dieser Evaluierungsaufgabe einhergehen, angegangen werden; sie bringen Vorteile gegenüber anderen Evaluierungsmethoden, z. B. bei der Quantifizierung von Mehrwert. Ihr Hauptnachteile ist der hohe Aufwand für die Datenerhebung.

Schlüsselwörter: *Evaluation, Integrierte endogene Regionalentwicklung, Ländliche Entwicklung, Partnerschaften, LEADER, Multiple Criteria Decision Analysis (MCDA)/ Multikriterielle Entscheidungsanalyse, Soziale Netzwerkanalyse/ Social Network Analysis (SNA), Mehrwertschöpfung*

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1 Introduction

Integrated endogenous or community-driven approaches, as well as the formation of partnerships, are acknowledged means of supporting effective rural development in industrialized states, and in the developing world. Common to those approaches is – as revealed in the following section – their potential for stimulating the creation of some kind of added value (Marquardt, 2013). As such, they have become an inherent part of many funding schemes, such as LEADER[1] in the European Union (EU) or RegionActiv in Germany (see also OECD, 2006). Added value creation, though difficult to assess, is required to legitimise public spending and to provide evidence for the effectiveness of policy programmes. This evaluation challenge rose to prominence with the introduction of the EU LEADER programme in the 1990s, and in fact, a common evaluation approach applied across member states had to be developed. In recent decades there have been many ambitions to tackle this evaluation problem [as discussed by, e.g. Margarian (2010) and Midmore (1998)], but satisfactory solutions have so far not been found (cp. ECA, 2010; Grieve and Weinspach, 2010; Metis, 2010). Thus, the starting point for unveiling a novel evaluation framework in this paper is a review of approaches developed for assessing the impacts of integrated endogenous rural development and partnerships with regard to their suitability for evaluating respective (public) interventions and their shortcomings. The proposed concept rests on the application of Multiple Criteria Decision Analysis (MCDA) and Social Network Analysis (SNA). Conclusions on the advantages and disadvantages of the introduced evaluation framework are drawn, and light is shed on the question of the balance between efforts required and the value of knowledge gained through evaluation.

2 Background

2.1 Integrated endogenous development and partnership interventions [2]

Compared to other "conventional interventions" such as investment measures funding individual projects, programmes supporting integrated endogenous development and partnerships are characterised by special interventional features and are expected to stimulate the creation of some kind of added value (Figure 1). Indeed, an integrated

approach, which normally rests on a territorial approach[3] and entails the consideration of social, economic and ecological concerns in the development of a region, is likely to lead to synergies and to cushion reciprocal effects between, e.g. activities initiated in different sectors. In practice, the integrated approach is reflected within a strategy or a Regional Development Concept (RDC)[4] establishing objectives for and priorities in developing a certain region. A further vehicle for translating the integrated approach into interventional designs is the requirement for public-private partnerships (PPPs) to include stakeholders from different sectors. One argument upon which intervening in PPP formation is likely to be based is that imperfect information impedes the functioning and development of markets, particularly where this concerns inter-sectoral linkages and opportunities for positive synergies between actors who would not normally interact in their day-to-day lives (Dwyer, 2008). Moreover, forming a partnership might result in added value in the form of increased efficiency and/or effectiveness through capacity sharing. The idea of the endogenous approach, which is associated with bottom-up development, is that by decisions-making *within* a region the regional potential is exploited and supplementary funds are used very targeted and effectively (and efficiently). In fact, interventions supporting endogenous development follow a "neo-endogenous" (Ray, 2001; Ray, 2006) development approach, as funds are external to the region (Marquardt et al., 2010), and supplement the regional resources.[5] Translating the endogenous approach into practice entails community-driven development and requires participation for sufficiently using the human and social capacities within a region.[6] Participation also furthers effective problem solving and legitimacy. Community- and partnership actions build upon social relationships; they both re-quire and have the potential for social capital creation, which may result from interactions in social

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[1] LEADER stands for "Liaison entre actions de développement de l´économie rurale". The English translation is "Links between the rural economy and development actions". In the context of the LEADER programme, the European Court of Auditors (ECA) understands added value potentially resulting from the application of the LEADER approach as

[2] A more detailed description of the different approaches to rural and/or regional development briefly outlined in this section can be found, e.g. in Bröckling (2004), Grieve and Weinspach (2010), Marquardt (2013), Marquardt et al. (2010), Ray (1999), or Shucksmith (2010).

[3] Integrated rural development is mostly about a regional approach. The meaning of the term „region" is explained, for instance, in Böcher (2008) and Bruckmeier (2000). The terms "area" and "territory" do not necessarily bring about the idea of the term "region", which implies that a certain area has been demarcated for a specific purpose, which might be expressed through cultural or natural homogeneity, etc. (see Böcher, 2008 and Shucksmith, 2010).

[4] Within EU funding schemes often the terms "Local Development Plan" or "Local Development Strategy" are used instead of RDC. Without discussing this terminological differences in detail, as one reason for this circumstance can be seen, that the term "region", whose relevance in the context of development approaches has been outlined in Footnote 3, has a specific connotation within the EU legal framework referring to administrative and/or statistical geographical units.

[5] The neo-endogenous approach rests on the assumption that a development trajectory emerges of an interplay of internal and external forces (Hubbard and Gorton, 2011). Thus, 'neo' identifies the roles played by various manifestations of the extra-local (Ray, 2006) like funds or inter-regional partnerships.

[6] In the context of the earlier mentioned LEADER programme, the European Court of Auditors (ECA) understands added value potentially resulting from the application of the LEADER approach as better identification of local needs and local solutions, more engagement on the part of local stakeholders, and greater scope for innovation. The latter, however, which might result from the effect of bringing a heterogeneous group of actors together, as it is the case in e.g. multi-sectoral partnerships, is no explicit subject of this paper.
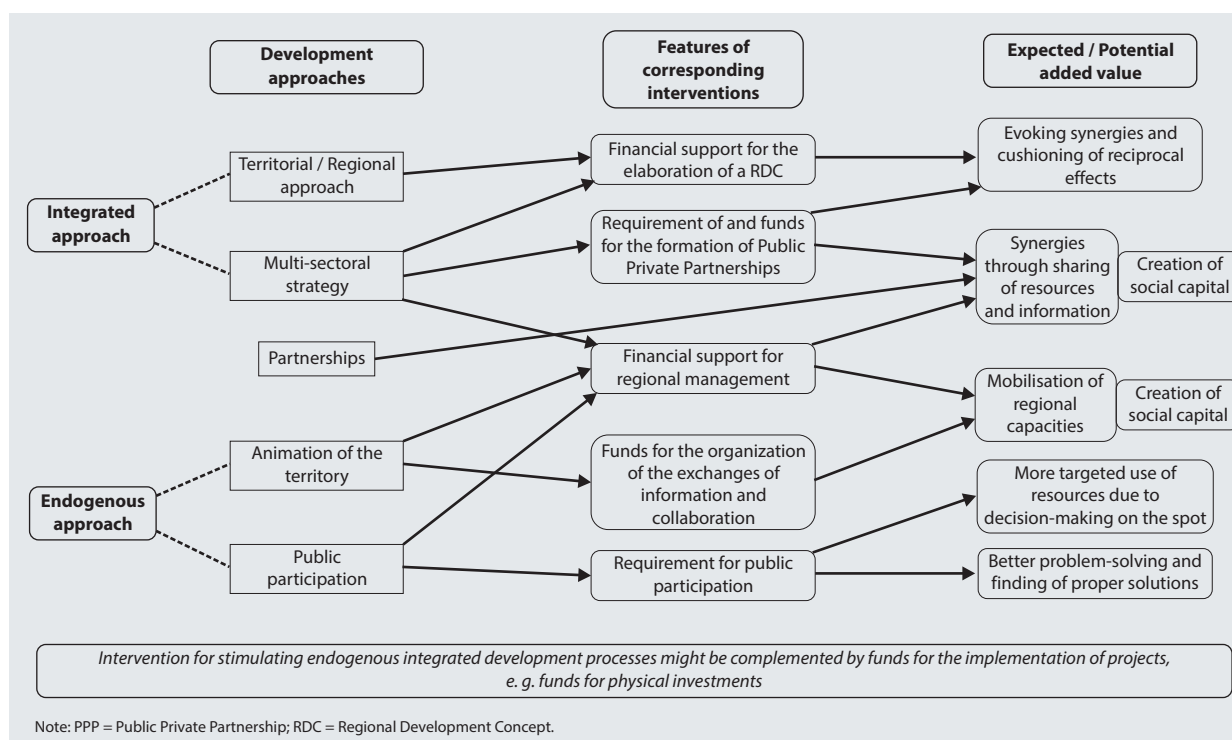
Figure 1
Development approaches, their translation into interventions, and the expected added value

networks[7]. Social capital does not refer to individual persons but rather to the relations among them (Bourdieu, 1983). A primary consideration of social capital is that by building upon certain social structures, social capital allows actors a broader range of actions (Adler and Known, 2002; Jansen, 2000; Jansen and Wald, 2007; Sedült, 2005). Social capital might be created through the interrelation of repeated social interactions (Lee et al., 2005; Matějů and Vitásková, 2006), or norms and trust (Coleman, 1988; Farrell and Thirion, 2005; Putnam, 1993).

Support for integrated endogenous development and partnership formation entails process stimulation, which might be achieved through a) the requirement of (public-private) partnerships for receiving funds; b) financial support for regional management and for animating the territory; and c) the requirement for the (financially supported) elaboration of a RDC (Figure 1). Those interventions might be supplemented by support for physical investments. Such interventions, which associate support for integrated endogenous development and partnerships, form a clear difference to conventional interventions, where funded projects are not complemented by means of process stimulation and are not embedded into a strategy, and thus evoke expectations in the creation of added value. Yet despite being widely accepted as fruitful, it is certain that – as probably holds true for all interventions – effectiveness is not guaranteed: distributing funds does not imply that the desired processes are

stimulated. Moreover, there is limited evidence for the added value of supporting integrated endogenous development and partnerships as opposed to conventional interventions (ECA, 2010). Generally, as soon as interventions are a part of policy programmes, evaluating their (added) value is required for transparency and accountability, as well as legitimising public spending. The demand for evaluating interventions that further integrate endogenous development and respective methods has brought about significant challenges to funders/sponsors and scientists over the last decades, which has only been revealed recently in EU-wide LEADER evaluation efforts (ECA, 2010; Metis, 2010). Thus, one must identify particular evaluation challenges and how they might be overcome.

2.2 Demands on evaluation systems
For revealing legitimacy systems for evaluating interventions have to meet certain requirements and ideally, for being an effective instrument, they must also fulfil other functions. For instance, another notion of evaluation is that it offers the opportunity to distance cognition, and might function as a tool for improving the quality, efficiency and effectiveness of the interventions. Table 1 presents carefully selected criteria for judging evaluation methods (cp. e.g. Hockings et al., 2006; Capeling-Alakija et al., 1997; Saraceno, 1999). These criteria are not discrete, but rather overlap and depend on each other; while some of them accompany any research, e.g. the demands for validity and reliability, others, like "Practicability" and "Comparability of evaluation results" are rather related to the evaluation of interventions. A fundamental basis for an

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[7] Falling back on the words of Johnson (2003: 3) social networks are, "the medium through which social capital is created, maintained, and used".

Table 1

Criteria for judging the suitability of evaluation methods

Criteria	Explanation
Validity	The assessment should measure what is intended to be measured with accuracy and appropriateness of the interpretation.
Reliability	Assessments are to be characterised by precision in measurement, and have to be consistent and reproducible.
Explanation of patterns of causality	Evaluation findings provide information about the reasons and origins for certain effects or missing impact of interventions.
Absence of bias	Evaluation results must be logical and justified by the data without any characteristics associated with an assessment that might distort the results.
Quantifiability of evaluation results	Evaluation results are scalable.
Comparability of evaluation results	Results from evaluating different cases can be compared with each other; cases might be related vertically, i.e. forming time series, or horizontally, i.e. cases funded under the same intervention/ within the same programme.
Objectivity	Objectivity refers to impartiality in the conclusions of an evaluation.
Practicability	Evaluation has to be easily conductible without much effort, and has to be economical.
Relevance for external evaluation	Method can be applied in external evaluation, which is conducted by actors not involved in the implementation of the intervention focussed on (for ensuring legitimacy).
Relevance for internal/ self-evaluation	Method can be applied for internal evaluation, which is conducted by the actors affected by an intervention, e.g. the beneficiaries of funds.
Instrumental side effects, e.g. functioning as management tool	Applying the evaluation method brings about additional positive effects, e.g. furthering the management of regional partnerships.

evaluation system is an analysis of causes and effects (often corresponding to some kind of intervention logic). Following Pearl (2000), several propositions to cause and effect inference can be set; and while probability language helps to convey uncertainty about cause and effect relations, they are according to him insufficient to fully express patterns of causality (similar Neuberg, 2003). In addition to observation and statistical assumptions, cause and effect analysis requires counterfactual reasoning (cp. Neuberg, 2003). Thus, a further requirement for an evaluation system is that it allows counterfactual assessment, i.e. with-without-comparison with regard to the presence and absence of interventions. For the present case, this entails, for instance, evaluators proving that a set of projects which were implemented within an integrated strategy, for whose elaboration extra funds have been provided, actually created added value to a region in comparison to a range of individual projects.

2.3 Evaluation experiences – Examples of matured evaluation approaches and their strengths and weaknesses

Figure 1 forms a sound basis for outlining the evaluation problem in the context of support to integrated endogenous development as it reflects on causal relations between approaches, specific interventional features and expected effects. Evaluation experiences and a range of means applied to assess the impact of related intervention against the criteria listed in Table 1 were reviewed and categorised by common methodological features. These evaluations methods' main advantages and disadvantages are presented in Appendix A and briefly summed up in the following.

Already 15 years ago evaluating LEADER was the subject of methodological discourses (see e.g. Grieve and Weinspach, 2010; Margarian, 2010; Midmore, 1998; Saraceno, 1999), and two streams in the development of evaluation approaches have evolved in concert: 1) the programme's official evaluation, where evaluators are confronted with questions of how to ensure the comparison and aggregation of individual initiatives at the national and European levels, as well as how to produce relevant evaluation information for different stakeholders (Saraceno, 1999); and 2) the development of assessment approaches within the scientific sphere. Still, one finds five major types of problems associated with evaluating interventions in integrated endogenous development:

1. Common technical evaluation problems that apply to all interventions such as the choice of appropriate indicators, how to define the baseline, where to draw boundaries in terms of impact and time, and the effect of additionality and causality (Blandford et al., 2010).
2. Time is needed until the impact of externally stimulated changes in governance structures/processes, such as partnership formation, become measurable (Schuh et al., 2006; see also ÖIR, 2012).
3. Making added value feasible presents a general methodological challenge.
4. Even if methods turn out to be useful for underlining added-value creation, they often go along with the problem of non-transferability and non-comparable and non-summable evaluation results, as they are often of qualitative nature.
5. Evaluation is complicated, as in most programmes interventional components are interwoven (cp. Figure 1), thus making the assessment of various features challenging.

Policy programmes are commonly only associated by an evaluation system quite similar to that of conventional interventions, mostly formed by quantifiable input, output, result

and impact indicators. However, measuring the impact of integrated strategies is difficult as long as monitoring is conducted at the project level. A weakness of many holistic approaches for assessing the impact of interventions supporting integrated endogenous development (i.e. approaches by which a comprehensive view on the development of a region is taken, see Appendix A), is that they must be adapted to the regional context to judge whether the situation in the region has been improved or/and the regional potential has been sufficiently used (OEL, 1999). Furthermore, many such approaches (e.g. Calatrava-Requena and Gonzalez-Roa, 2011) presume that regional strategies are developed in a profound way and the desired instrumental (governance) processes are practiced. While setting up formal multi-sectoral PPPs is provable (as one first indication for the possible application of an integrated approach), broad participation, which is essential for using the regional endogenous potential, is not self-evident. Presuming that programmatic features that encourage practicing an integrated endogenous approach are applied by beneficiaries – which is evidently not always the case (Böcher, 2008; ECA, 2010) – is a severe shortcoming. Additionally, the presumption that applying an integrated approach is underlined through the formation of multi-sectoral PPPs might be one reason that assessing synergies potentially achieved through the application of an integrated approach received little attention by evaluators and scientists.[8] Thus, systematic assessments of this aspect by e.g. transferring structured approaches as applied for environmental and social impact assessments has been hardly practiced in the context of evaluating integrated endogenous rural development. Therefore, one rarely finds evaluations that go beyond surveying local actors about their involvement in the elaboration of a RDC, or about synergies between projects implemented under a RDC. Moreover, evaluation approaches that are practical at the programme level mostly fail to assess (the effect of) stimulated processes and patterns of causality, particularly with regard to the socially-based added value (for discussion, see Marquardt, 2013).[9]

Indeed, ambitions to tackle these problems are ongoing and are also not simply ignored in the context of programme evaluation. Thus, in a very recent guide provided at the European level (EENRD, 2014), an indicator for assessing local empowerment and participation has been proposed, which potentially allows to reveal how far stimulation processes have taken place, but which does not allow the effects of empowerment and participation to be revealed.[10] Approaches that meet the challenge of revealing causality patterns are likely to fail in terms of external accountability, practicability, transferability and comparability of evaluation results, as applied methods for assessing regional governance processes and added-value creation are mostly qualitative in nature (Appendix A).

The results of the review highlight that the choice of an evaluation method primarily depends on the intention of the evaluator, e.g. the sponsors or beneficiaries. Yet a trend can be observed that also sponsors advocating self-evaluation and promoting its application because they become aware of the limitations of the official programme evaluation commonly applied at a larger scale, and at the same time become aware of potential positive side-effects of certain kinds of self-evaluation (Calatrava-Requena and Gonzalez-Roa, 2011), for example social learning.

Based on our review the list of major deficits, remaining challenges and methodological gaps presented above can be supplemented and refined as follows:

- Case study findings on stimulated processes are seldom linked to initiatives' overall effectiveness.[11]
- Counterfactual evaluation for funded partnerships and-projects implemented within RDCs is rarely conducted.[12] If counterfactual evaluation approaches are employed, they fail to explain patterns of causality.
- Assessing synergies potentially resulting from the integrated approach has received little attention by evaluators and scientists.

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[8] Another well-known reason for this circumstance, which should not be further discussed at this point, are the general costs of programme evaluation; within programmes supporting integrated endogenous development the supplementary funds for implementing projects amount to much more than the funds for process stimulations and the elaboration of an integrated strategy, whereby evaluation effort for the two latter is much higher.

[9] For instance, limitation of the official evaluation of the EU's LEADER programme become obvious when considering that the Austrian Ministry has tendered a study on the degree and quality of participation within LEADER processes in the funding period 2007-2013, which is no exceptional case. Also common evaluation questions on the impact of interventions of process stimulation are sometimes tried to be addressed with much effort and in close collaboration with scientists. Case studies or surveys as well as analyses of supplementary statistical data are conducted by evaluators. Nevertheless, from the political/ programme-technical perspective, due to the different means used for explaining the results of LEADER in the different regions, the direct comparison of cases and the aggregation of evaluation results are difficult and thus many synthetically LEADER evaluations bring about the identification of individual success stories and good practices.

[10] One of the respective indicators reads for instance *"No and types of events where local actors participate in LAG [Local Action Group] decisions at community, municipality and LAG level per LAG by various target groups (LAG members, non- members, beneficiaries, etc.)"* (EENRD, 2014). It has to be stated, that the fact, that the indicator is propose at European level does not imply that data collection across member states will work: That indicator and/or similar ones have already been applied in some evaluation projects and the collection of the necessary data has turned out effortful and has ideally to be announced before a LAG takes up its work.

[11] In other words, despite most case studies claim to explain patterns of causality in a better way, still the link between effectiveness and the regional partnerships' work is mostly missing.

[12] Generally, counterfactual evaluation appears to have received less attention by evaluators and scientists. In ÖIR (2003) evaluators have compared projects funded under LEADER with projects funded within conventional policy measures with regard to degree of innovation, sustainability and economic effects, whereby the latter was not specified in monetary numbers. In addition to the qualitative effects of LEADER, comparative case studies on cost-effectiveness revealed a number of economic advantages compared to conventional rural development projects (ÖIR, 2003) which accompany the higher costs for technical assistance and capacity building. Revealed economic advantages are, for instance, a leverage effect on private investments (see also Copus, 2010); increased qualification of project owners, and better employment effects.

- Holistic evaluation approaches to regional impact assessment are likely to fail in differentiating between origins of effects, i.e. the impacts of different programmes and/or non-funded activities are not differentiated between.
- Holistic evaluation approaches are likely to neglect the prerequisites of participation and integrated planning.
- If the degree of participation is considered in evaluation exercises, mostly its influence on the final content of a RDC is reflected to a limited extent (cp. ECA, 2010).

3 Research Concept

The principal objective of this research is to contribute to the elaboration of tools for assessing the (added) value achieved by integrated endogenous regional rural development and partnership interventions. Therefore, the following research questions are raised:

> *Which contribution can a Multiple Criteria Decision Analysis (MCDA)- and a Social Network Analysis (SNA)-based evaluation approach make for solving identified challenges when assessing the impact of interventions supporting integrated endogenous rural development?*

Considering the selected criteria (Table 1), the advantages and disadvantages of the approaches reviewed, and the remaining evaluation challenges identified (Section 2.3), two novel evaluation approaches were developed. They will be introduced in Section 4 and are intended to supplement each other in a comprehensive evaluation framework. Both components of the evaluation framework suggested below have been empirically tested in case studies in similar research contexts allowing fair statements on their practicability. Those case studies on the development of PPPs following an integrated approach to regional rural development took place in Romania and Italy in 2008, 2010 and 2012/13. Case study design and results appear in Marquardt et al. (2010), Marquardt et al. (2012) and Pappalardo et al. (2014).

4 Novel Approaches for the Assessment of Effects of Integrated Endogenous Rural Development – A Proposal for an Evaluation Framework

In this section an evaluation framework addressing identified short-comings in methods commonly applied to evaluate interventions supporting integrated endogenous rural development is proposed. The framework consists of two components: the core of the concept is formed by a MCDA-based approach to develop ex-ante conditionality in the elaboration of endogenously grown integrated strategies. Here a holistic view on the region is taken, and it is accounted for regional particularities as well as transferability, aggregatibility, and comparison between regions. The complementary second component of the evaluation framework is based

on applying SNA for assessing the effects of social interaction in a profound way.

4.1 MCDA-*based evaluation approach for effective integrated endogenous development*

Evaluability of the impact of support to integrated endogenous development strongly depends on targets defined in a RDC, which has been developed endogenously with broad participation representing the population in a region with regard to different groups, age classes, sectors etc., appropriately, and which is based on the situation in the region, and accounts for the multiple dimensions inherent to the integrated approach (at least social, economic and environmental concerns). A RDC is commonly structured around a hierarchy of objectives and measures, under which later projects are selected in the course of implementing the RDC. Though all dimensions of the integrated approach have to be considered, to effectively and efficiently achieve goals, priorities, e.g. regarding the distribution of resources have to be defined within a RDC. Ideally, local actors also elaborate a set of target and impact indicators. The RDC elaboration process can be fruitfully supported by the application of MCDA; as described in Box 1, MCDA is a mostly software-supported approach that considers different dimensions of decision alternatives and varying preferences for criteria.

Box 1
Key features of Multiple Criteria Decision Analysis (MCDA) and its application

Elaborating a RDC and setting priorities usually involves many objectives and several actors with different values and interests (Marquardt et al., 2010). MCDA (Belton and Steward, 2002; Figueira et al., 2005; Munda, 2008) is an approach that considers different dimensions of decision alternatives and varying preferences for criteria. It aims to structure and model the actual choice problem for aiding decision-makers. The approach is based on the explicit documentation of objectives, preferences and rankings of options. This increases transparency in the decision-making process. First experiences with facilitating the formation of EU rural development policies by MCDA are discussed, e.g., in Kirschke et al. (2004, 2007), Prager and Nagel (2008), Schmid et al. (2010) and Wegener (2008). In the case study conducted by Marquardt et al. (2010), MCDA was applied for facilitating local actors' decision-making on their RDC. From the menu of MCDA methods, the Analytical Hierarchy Process (AHP) (Saaty, 1980) and the software Expert Choice were selected. As shown by, e.g. Schmid et al. (2010), the MCDA analyses can be refined by, e.g. the application of parametric linear optimization, in case further framing conditions, such as budgetary ceilings for certain priorities, have to be considered in the decision-making process.

The MCDA approach has to be adapted to the RDC elaboration process as follows: 1. The participatory notion and the perspectives of multiple regional stakeholders have to be explicitly considered; 2. The identification of main and sub-objectives and the selection of measures has to be achieved. Table 2 presents the individual working steps in the MCDA process and how they are linked to the development of an evaluation framework. Public participation forms one basis for the analysis of strengths and weaknesses of the region, the identification of its development potential, and for the setting of development objectives to be achieved in a certain period (Steps b and c in Table 2). Apart from offering a basis for discussion, the qualitative data form the basis for elaborating a hierarchy of objectives (Step d in Table 2), to which all contributions are ideally reflected. The prioritization of main and sub-objectives (Step e in Table 2) rests on the quantitative pairwise comparison of the importance of the individual objectives. Determining the weight of each objective in this way can be performed either solely by the members of the PPP, or by considering the results of a second round of public participation. The same applies to determining the potential contribution of individual measures (which form within the MCDA terminology, a "set of decision alternatives") to achieving each objective at ordinal scales (Step f in Table 2). The objectives' weight and measures' impact values are then combined, resulting in a ranking which forms the basis for the selection of measures. Thus, the choice of measures is based on assessments in which the opinion of the local actors is made more or less explicit, depending on the degree of participation in the different steps in Table 2. Over the implementation period, projects supported under each measure are selected according to a-priori defined criteria linked to the objectives set. Objectives' priority values and measures' ranking values also form an essential foundation for the distribution of resources and an index-based evaluation system with result-, target- and impact indicators being linked to objectives and measures, allowing one to define exante conditionality and benchmarking in comparison to the status-quo as assessed in Step b (Table 2). This will be further described below.

In the context of integrated endogenous development and its evaluation, applying MCDA has some key advantages:

a) MCDA allows one to consider and reflect the multiple standpoints of local actors in a systematic way; compared to verbal-argumentative methods, the development of preferences for objectives is made more transparent.[13]

b) By applying MCDA, measures are selected that promise to best contribute to achieving the set of defined objectives as a whole considering the multiple effects of the measures on the various (sub)objectives in a weighted way. It therefore forms the basis for using regional resources (complemented by external funds) in the most effective (and efficient) way, when following the intended integrated approach as measures' contribution to low prioritised sub-objectives is also considered. In other words, as MCDA works at a high level of analytical detail and considers various objectives in a coherent system, despite prioritization, all objectives are still considered. Thus, MCDA not only contributes to a participatory approach, but also to an integrated approach, as it facilitates a very detailed assessment regarding the number of opinions and variables, as well as a more complex analysis.

c) An MCDA-based RDC allows one to draw a balanced index for measuring goal achievement in the integrated development of a region and the usage of its endogenous potential, and for measuring whether resources have been spent effectively for furthering integrated development. Normally when developing an index the most critical point, aside from the choice of the individual indicators, is the determination of their weight; when applying MCDA the weights can be derived from the calculated priority and ranking values (Table 2). Contrary to other indexes in related fields, e.g. quality of life indexes and socio-economic indexes (ID Coop Project, 2013; OECD, 2012) indicators' weights are determined "within a region", following the idea of an endogenous approach.[14]

Applying the proposed MCDA approach allows one to set the ex-ante conditionality in that sense that with the elaboration of a RDC, the criteria for evaluating an integrated approach, for achieving synergies, and thus for the effective disbursement of funds are defined. Moreover, counterfactual evaluation with regard to the contribution of projects that have not been developed and implemented under a RDC could be assessed by applying a result and impact indicators set. While the compiled performance index is definitely specific for individual regions, it still allows one to compare, in terms of the degree of goal achievement, integrated development and usage of the endogenous potential in the different regions.

Yet applying MCDA as an evaluation tool is also associated with some weaknesses: Despite MCDA being able to trace the impact of participation, and despite its design being likely to almost entirely avoid social pressure, as contributions can be made in writing, the suggested MCDA-based approach cannot measure the impact of informal governance processes in the final decision-making process regarding elements of a RDC which cannot be directly drawn from quantitative MCDA results. This applies e.g. to the definition

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[13] Applying MCDA generally contributes to a structured and transparent decision-making process and can support the feeling of ownership among local actors. Methods for facilitating LEADER-like elaboration of RDCs are described in several guides (e.g. DVS LEADER+, 2002; Farrell and Thirion, 1999). However, tailored methods such as MCDA, despite their unquestioned advantages, are seldom practiced. The main reasons are time-constraints and a lack of knowledge and skills.

[14] Certainly the concept of this evaluation approach presented so far is only valid if certain governance conditions are fulfilled. However – as outlined earlier – contrary to most holistic evaluation approaches, MCDA allows one to trace how public participation has influenced objective- and priority-setting within a RDC.

Table 2

Contiguity of the practical MCDA-based RDC elaboration process with the development of a framework for evaluating integrated endogenous approaches to rural development

Steps in the MCDA-based RDC elaboration process to be performed by local actors	Elements of an MCDA-based approach to evaluate integrated endogenous rural development
a) Defining topics which have as a minimum to be considered in the analysis of the region	I Setting corner stones for ensuring the integrated notion
b) Discovering the regional potential by means of a SWOT-Analysis by local actors and with public participation	II Situation analysis and definition of the scope of the evaluation
c) Collecting objectives and project proposals for the development of the region by local actors, and with public participation / Development of decision alternatives	
d) Elaborating a hierarchy of objectives (including main- and sub-objectives)	
e) Pairwise comparison for assessing the relative importance of objectives (by PPP members individually; broader public participation is possible)	
f) Setting ex-ante conditionality	III Elaborating indicators for measuring the achievement of objectives and estimating the weight of the individual indicators for reflecting on each objective.
- Elaborating framing fields of measures and related criteria for selecting projects in these fields	IV Identification of indicators' significance/weight within an index.
- Estimating the potential impact of measures on achieving each objective	V Normalization of (two sets of) indicators and consolidation of indicators/ Elaboration of an index
- Calculation of ranking of measures, under which later projects are supported using AHP.	
g) Selection and implementation of projects under the chosen and weighted measures.	
	VI Analysis of evaluation results
	- Measuring the overall development of the region toward the defined objectives
	- Measuring the degree of balance in the integrated development of the region
	- Measuring the cumulative contribution of projects funded under the RDC compared to the contribution of conventional interventions.

Note: SWOT = Strengths-Weaknesses-Opportunities-Threats
Source: Own design

of selection criteria and indicators. At this point it has to be stated that measuring actors' power presents one of the greatest challenges for social scientists (Hasanagas, 2004). Furthermore, even if several stakeholders are represented in the RDC elaboration process, it might be necessary to define the minimum topical cornerstones, i.e. socio-economic and environmental concerns, in advance to ensure that an integrated approach is followed (see Step a in Table 2). The reason for this is that local actors might neglect the aspect of sustainability and directly proceed with up-to-date topics and feasible operational objectives, instead of taking a more abstract multi-dimensional and comprehensive view. Another weak point of MCDA as an evaluation tool is that it cannot assess the impact of partnership processes on the implementation of a RDC and cannot provide a basis counterfactual evaluation with regard to effects of non-funded partnerships.

To compensate for two of these shortcomings, MCDA is supplemented by the application of SNA within the proposed evaluation framework.

4.2 Applying SNA for assessing the effects of externally stimulated and non-stimulated social interactions

Marquardt et al. (2012) and Marquardt and Möllers (2010) have shown that with SNA effects of community and partnerships, actions can be made feasible. Using mathematical and statistical figures, SNA can reveal the dynamics of social networks, i.e. the changing network properties over time (Wagner et al., 2005). SNA allows for the systematic assessment of social capital, governance, and the transfer of information (cp. e.g., Jansen, 2000; Sedült, 2005; Wald, 2011). In the following section, suggestions are made for how SNA can be used as an evaluation tool complementing MCDA by analysing relations between actors. For details on its practical application, see Box 2.

Besides its primary focus on relational data, in network analysis the position of single actors, as well as the actor constellation in the overall network context are important. Different actor networks, e.g. the network structures among the members of different PPPs, can be compared, e.g. in terms of

the density of formal relations within an actor network. In Appendix B examples of network properties and their calculation are presented.

Box 2
The practical application of SNA as evaluation tool

In network theory, a social network "consists of a finite set or sets of actors and the relation or relations defined on them" (Wassermann and Faust, 1994: 20). Contact matrices are used for organising collected relational data (Table 3). A contact matrix reveals whether or not a relation exists between actors in the network. Different types of relations can be analysed individually and together. The SNA software UCINET (Borgatti et al., 2002) facilitates the mathematical calculation of specific network structures (Appendix B) and the position of actors within the network. In the graphical presentation of networks, actors are represented as nodes connected by lines. Actors' attributes might be included in the network analysis.

An SNA-based evaluation system is operational, as most relations proposed for the application of the evaluation concept (Table 3) have been applied in practice for assessing the development of local communities. Yet the manageability of SNA is not completely sound: while the graphical SNA results may be demonstrative, not all mathematical SNA results are easy to interpret, and experts are also needed for elaborating the evaluation design. Moreover, to perform some types of network analyses, it is important to consult all relevant actors, which is sometimes burdensome.

To address the outlined evaluation challenges, network variables have to be identified which reflect the development of local initiatives in terms of participation, a bottom-up approach, and differences between funded and non-funded partnerships. A quite impressive example for the operationalisation of network features has been developed by Hasanagas (2004) for performing a comparative evaluation for a related evaluation problem. This author analysed the power of actors in environmental policy networks, assuming that power is a function of network and organizational characteristics of an actor. Hasanagas' data set allowed regression of e.g. negotiation results and network features. For the present case, indicative network features and actor/ group attributes have also been developed (for details, see Marquardt and Möllers, 2010): Table 3 presents actor relations relevant for assessing networks of local initiatives/regional PPPs when the focus is on integrated endogenous development. For instance, for gaining insight into governance processes, a network of the relations of "formal and informal participation in decision making" can be drawn. Yet, for the approval of participation more information is needed than knowledge, which actors are actually involved in the decision-making network. It is necessary to identify in how far formal and informal participation is offered by a regional

PPP itself.[15] Furthermore, the differentiation on formal and informal contacts between actors prior to and during the work of a PPP allows statements on causality for preconditions for partnership building and – for addressing the concrete evaluation problem – counterfactual evaluation of the effects of funded partnerships and/or externally stimulated partnerships compared to the effects of other formal and informal partnerships (see Section 4.3). Assessing these two kinds of relations also provides a clue on whether it is a "close-knit partnership". Which kinds of relations are finally used in the evaluation depends on the depth of analysis; for instance, drawing up the network on alerting new PPP members (Table 3) provides further information on the openness of a regional partnership and the relevance of pre-existing contacts for the formation of a PPP. It also depends on the indicators used for the evaluation system.

When defining an indicator, not only is the kind of relation relevant, but so too is an indicative network property (Appendix B), and in some cases so are actor attributes. Consequently, it is a complex undertaking which cannot be comprehensively explored here. Nevertheless, some examples can be provided. For some issues like promoting collaboration within a PPP, the operationalisation of network features is straightforward, namely measuring the *network density* (Appendix B) of the respective relation. Furthermore, when assessing information flow, the degree of *centralization* and the *centrality* of actors (Appendix B) by stakeholder group provide information on the openness of a PPP and the nature of regional management. For some indicators, considering two network variables at the same time might be necessary, e.g. the relations' "contact prior the PPP's establishment" and "formal partnership" (Table 3). The collection of attributional data related to the actors under investigation allows SNA results to be refined with regard to heterogeneity analyses, e.g. the distribution of actors by sectors, or the calculation of network properties by attribute, and the importance of certain actors or groups of actors (measured by their degree *centrality*). Thus, by using SNA many facets of the nature of partnerships and their development can be assessed quantitatively.[16]

The experiences gained with SNA and the methodological options outlined suggest that in the context of the evaluation problem addressed in this paper it might be

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[15] Considering that regional partnerships are often organised in a more representative than a participatory manner because a multi-sectoral stakeholder composition is a criterion for their selection, it becomes clear that for proofing a participatory approach, applying SNA is more meaningful than looking at the stakeholders present in a PPP, as the configuration of a PPP can be easily established artificially on paper.

[16] For making the methodological options of SNA and their practical relevance more feasible, one example is provided: By applying SNA, Marquardt et al. (2012) trace the development of two (potential) LAGs and show that the slowly-grown heterogeneous partnership tends to be more open than a close-knit network of public actors, which have both formal and informal relations. For the development of both partnerships they identify the relevance of key actors and the effects of institutionalized management compared to informal organisational structures.

worthwhile to assess social interactions not only in the form of percentages of, e.g. participation as a share of the population in a region, which could also be revealed within the application of MCDA. With the possibility of calculating network properties, not only can more processes be assessed in a more differentiated way, but also some patterns of causality can be revealed. At the same time, SNA results allow quantitative vertical (over time series) and horizontal (between different regions) comparison for many network features, which is important when standardised programme evaluations have to be conceptionalized. Yet, even if the application of SNA brings about quantitative results, it will hardly be possible to relate revealed effects to the level of funding provided for the stimulation of desired processes, e.g. the amount of funds required for animating the territory and/or regional management within the partnership formation process, rather it is about a with- and without comparison.[17]

4.3 Building an evaluation framework

So far the MCDA- and the SNA-based approach have been presented as independent units. As shown in Figure 1, some of the interventional features, whose effects can be assessed by one or the other approach are interlinked. Thus, while in cases in which solely the elaboration of an integrated RDC has been financially supported, applying MCDA in a formal programme evaluation would be theoretically sufficient. As soon as participation, partnerships or animation of the territory formally establish a part of the programme design (which is usually the case), the effects of those externally stimulated processes are to be seen together with the usage of the endogenous regional potential and/ or synergies achieved by applying the integrated approach. Consequently, the degree of goal achievement in the MCDA-based performance-index system has to be correlated with quantitative SNA results. While a share of the knowledge gained through

Table 3

Actor relations analysed with SNA for assessing the effect of regional partnership processes

Kind of relation	Form of data collection	
	Contact matrix	Open question
Communication (before and during the PPP's establishment)	*X*	
Formal/ Informal contact (before and during the PPP's establishment)	*X*	
PPP *internal* information flows		Who informs you about the PPP? Whom do you inform about the PPP?
PPP *external* information flows *		Whom do you inform about the PPP? Who informs you about the PPP?
Outreach of the PPP		Who alerted you to the PPP and whom did you solicit to join the PPP?
Formal partnerships	*X*	
Informal partnerships	*X*	
Contributing to the PPP's work and projects		What have you contributed to the PPP's work? Who else, aside from the PPP members, contributed to the work of the PPP?
Working relation for PPP purposes	*X*	
Active/ Passive participation in PPP activities		Who participates in the activities of the PPP in active/ passive way?
Formal/ Informal participation in decision making *		Who formally/ informally participates in decision-making processes concerning the PPP?
Dependency on actors in the realization of PPP activities	*X*	
Current information		Who gives you current information about processes concerning the PPP/ the policy programme?

Note: * By examining this relation it is particularly important to also consult persons in the region who are not members of the regional PPP.
Source: Adapted from Marquardt and Möllers (2010)

[17] By applying SNA, Marquardt et al. (2012) found a relation between time actor relations that had to mature, and their sustainability and trust (measured in the willingness to jointly enter into a formal contractual relation). Therefore, while it might not be possible to find direct relations between the level of funding and the intended processes to be stimulated, a relation between intervention type and the desired processes might be revealable.

SNA helps to explain patterns of causality in individual cases, and have importance for self-evaluation or regional management, some theoretically-drawn indicators can also be directly linked to index results. This particularly applies to indicators underlining the openness of a PPP, network activities initiated by PPP members, the degree of networking within a region, and the intensity of collaboration of project holders (see Section 4.2). Indeed, for all of those variables the consideration of further network characteristics, especially with regard to the nature of the partnership, would be ideal; particularly important would be considering the networks' heterogeneity with regard to sectoral composition.

Yet even in such an ideal situation with regard to data being available for the evaluation project, when striving to span a regression model proxies must be introduced. Indeed, even if the MCDA approach allows in opposite to most holistic evaluation approaches (see Appendix A), one to relate achievements of the integrated endogenous development to projects funded under the respective strategy by differing between target- and impact indicators, which can be related to projects funded under the strategy and other projects realized in the respective region, the assumption that solely the externally stimulated processes assessed within this evaluation framework influence the performance of a PPP (and the regional actors as a whole) is not valid. Therefore, the influence of the proxy value, which is likely to vary between cases, i.e. regions, has to be proven in practice.

4.4 Strengths and weaknesses of proposed evaluation concept

Table 4 shows the assessment of the suitability of the proposed MCDA- and SNA-based concept as tool for evaluating integrated endogenous rural development and partnership interventions, compared to other evaluation methods. Despite not fully satisfying all criteria (Table 1), the two novel methods introduced here rank high in overall assessment. They also further the implementation of these development approaches in the regions, and make a contribution to informed policy-making.

Following a holistic approach, MCDA – by setting ex-ante conditionality for the maximisation of the effectiveness of the integrated approach when realizing RDCs and enhancing the possibility for using synergies between actions – allows one to assess the degree of usage of endogenous regional potential in an integrated way, quantitatively in interim stages, and ex-post. While applying MCDA ex-ante conditionalities for the application of the integrated approach are set, thus allowing an assessment of achievements in practicing that approach, individual synergies resulting, e.g. between specific projects, cannot be quantified. Counterfactual evaluation in the sense of comparison with conventional interventions is possible. As a means of evaluating endogenous development, a strength of MCDA is the possibility of tracing participation and its impact; yet MCDA fails to assess effects of informal governance processes counterfactually. Within

Table 4

Judgment on the proposed MCDA- and SNA-based concept for evaluating interventions in integrated endogenous rural development

	MCDA		SNA	
Scope of evaluation approach				
Integrated notion				
Endogenous notion			X	
Integrated endogenous regional rural development initiatives	X			
Partnership formation			X	
Criteria for judging evaluation methods	**Fulfilled?**	**Comparative performance**	**Fulfilled?**	**Comparative performance**
Quantifiability of evaluation results	√	+	√	+
Comparability of evaluation results	√	+	√	+
Validity	(√)	+	(√)	+
Explanation of patterns of causality	(√)	(+)	√	+
Practicability	√	+/-	(√)	+/-
Absence of bias	√	+/-	(√)	+/-
Reliability	√	+	√	+/-
Objectivity	√	+	(√)	+
Relevance for external evaluation	√	+	√	+
Relevance for internal/ self-evaluation	√	+	√	+
Instrumental side effects/Function as management tool	√	+	√	+/-

Note: √ = Criterion fulfilled   (√) = Criterion partly fulfilled

\+   = The performance in that respective criteria forms a particular strength of the evaluation approach.

+/- = Performance equals that of other evaluation method/ is worse than that of most other evaluation methods.

the proposed evaluation framework, these limitations are compensated for by the supplementary application of SNA. Moreover, SNA not only reveals the "end-product" of an intervention, but helps make the underlying social interactions feasible, and consequently has compare to other evaluation methods high relevance in explaining patterns of causality in externally stimulated development processes. A clear strength of the evaluation framework is that its concept allows one to link quantitatively measurable effects of externally stimulated processes, e.g. partnership formation and participation, to performance in integrated endogenous development.

Compared to other evaluation methods the framework suggested here scores high for *external legitimacy* as well as for the criteria *transparency*, *quantifiability* and *transferability of approaches* (Table 4). Both methods allow vertical (in time-series) and horizontal (cross-regional) comparison of quantitative results. The MCDA- and SNA-based approaches are valuable means for external and internal evaluation and social learning, as they provide a basis for participatory evaluation. To make these strengths feasible for the seemingly rather abstract SNA approach, it comprises the aspect of accountability normally resulting from external evaluation (Marquardt and Möllers, 2010). Unlike many other methods used for evaluating community development, when applying SNA through the more distant assessment of actor relations governance processes are likely to be reflected in a more objective way; multiple evidence sources impart both internal and external validity to the quantitative SNA results, which are calculated by independent third parties. Then again, SNA also allows self-reflection within a PPP. Thus, it also provides the educational effects of self-evaluation (Marquardt and Möllers, 2010). Within the evaluation process, learning effects might arise by rethinking the work of local actors and by discussing the evaluation results within the concerned group, led by an independent actor.

The proposed evaluation framework can be extended to function as a management tool. MCDA's support in strategically steering the development of the region,[18] as well as benchmarking, is especially noteworthy. So too is the possibility, by means of SNA, to reveal PPP-internal collaboration patterns and the effectiveness of regional management, e.g. with regard to circulating information. All these instrumental features are backed by vivid examples (see Marquardt, 2013).

A small weakness of the evaluation framework is the need for advance planning. As the recommendation of using it as a management tool already suggests, and it is selfevident for the application of MCDA, also the SNA-based evaluation approach is ideally done prior to implementing the respective intervention for establishing a solid baseline because collecting relational data retrospectively is challenging.

5 Conclusions

Applied supplementary within the evaluation framework proposed here, the MCDA- and the SNA-based approach are likely to allow one to overcome most problems common to the assessment of effects of integrated endogenous rural development, which are primarily related to underlining added value creation potentially resulting from strategic planning and joint action. The review of evaluation methods revealed that assessing the effects of practicing an integrated approach has received little attention from evaluators. Thus, solely proposing the MCDA-based evaluation approach makes a significant contribution to the existing evaluation repertoire. Furthermore, unlike other methods that strive to assess (the effects of) stimulated processes (social interaction in particular) both approaches produce vertically and horizontally comparable quantitative evaluation results.

Both approaches, MCDA and SNA, by themselves reveal theoretically-drawn patterns of causality leading to the creation of added value quantitatively, and the idea and the benefits of their supplementary application have become obvious. Nevertheless, interlinking the two approaches in an evaluation system, which allows going beyond descriptive results, and allows for a standardised assessment of interventions supporting integrated endogenous development by correlating SNA- and MCDA- results, still needs to be proven.

Raising the question, when which kind of evaluation being a worthwhile exercise, and weighing costs and benefits of the proposed evaluation framework, the effort involved with data collection might catch the eye at first glance. Yet compared to other case studies striving to assess the effects of integrated endogenous rural development, the effort of using SNA to assess the effects of social interaction, particularly of partnerships, is not noticeable. The effort might, however, still be too high for employing SNA in standardised programme evaluations. Applying SNA is particularly valuable for regional initiatives with a high number of actors or with a newly-composed membership, as social structures then cannot be easily assessed by means of assumption or participatory observation. Considering that local actors have to elaborate a kind of RDC in any case, the effort of applying MCDA, which is linked to the RDC elaboration process, is negligible. Moreover, the pragmatic ex-ante conditionality approach furthers effective spending of funds in advance. Since both methods allow self- and external evaluation, might function as management tools, and may also provide systematic evidence for policy discussions, the possibly – compared to common standardized programme evaluations higher level of effort is relativised.

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[18] In addition to prioritising objectives and ranking measures, using MCDA software facilitates strategic planning, because it allows e.g. linking weights of the objectives to stakeholder groups and thus to diminish effects of under-representation.

Appendix A

Categories of reviewed evaluation approaches and their advantages and disadvantages for evaluating interventions

Category of evaluation approaches	Description/ Advantages/ Disadvantages
1) Internal/Self-evaluation or mixed approaches: Focus groups	The idea of the internal self-evaluation, e.g. practices within focus groups (Grieve and Weinspach, 2010), is that local actors have a "view in the own region", that stimulates self-reflection and provides a basis for future decisions to be made by the local actors. Ideally, self-evaluation leads to the effect of social learning (High and Nemes, 2007). Internal evaluation fails in terms of accountability; results are primarily qualitative, whereas actors can tell many things, and particularly statements on governance are likely to be affected by social control present in focus groups.
2) Action research and participatory observation	Midmore (1998) stresses the importance of observation, as it provides the opportunity to determine whether claims made in interviews and written declarations of intent are realized in practice, or whether they merely conceal the continued dominance of local elites. Thus, compared to internal evaluation (see above), the level of accountability increases, but results are still strongly subjective and of a qualitative nature.
3) Multi-stakeholder/Multi-site-/Multi-perspective evaluation	In its general application, multi-perspective evaluation, as e.g. suggested by Grieve and Weinspach (2010) or Birolo et al. (2012), helps to alleviate the deficits of internal evaluation in terms of subjectivity, effects of social control, and accountability. Depending on the approach, views of the different stakeholders are more or less easily brought together. Yet individual aspects such as assessing participation or the impact of regional management are assessed in a merely qualitative way.
4) Case studies on governance processes and social capital creation based on several theories – qualitative results	There are uncountable case study approaches, backed with theories on governance processes and social capital creation leading to qualitative results, which do not allow the aggregation of evaluation results from different cases, i.e. in the context of this paper regions. Case studies might include elements of evaluation approaches, e.g. participatory observation. In one example, Go et al. (2013) use the concept of embedded governance complemented by behavioural theories to examine rural development processes.
5) Case studies on governance processes and social capital creation with quantitative descriptive results and (often) non-comparable results	To make governance processes and social capital creation quantitatively descriptively feasible, and to allow a comparison between assessments of different points of times in one region or between regions, indexes and models have been developed. For social capital creation within local development processes, Nardone et al. (2010) offer an insightful approach. A deficit common to many of these models – in addition to the mostly high effort of data collection – is that they rest on proxies, which do not reflect the interaction between actors, but reflect relational and process aspects too comprehensively, such as the presence of organisations. This kind of study mostly does not account for inter-actor relations that can affect participation, partnership formation and social capital creation.
6) Contingent valuation	An interesting approach for assessing LEADER has been applied by Calatrava-Requena and Gonzalez-Roa (2011), who point out that valuation does not equal evaluation. Though, as most evaluation approaches fail to measure the impact of LEADER in monetary units, contigent valuation (CV), a special kind of external evaluation, appears to be a meaningful tool supplementing general project evaluation fed into the political debate. CV is a good method to validate public choices, especially when public money is used. The technique of CV has been widely used to perform cost-benefit analysis of projects. A major problem with this approach is that activities and effects on e.g. regional development can often not be linked to specific support programmes. Moreover, as CV is a „stated preferences method", it can generate various biases like „hypothetical market bias" (there is not a real market), „strategic bias" (from respondents), „design bias" (the way in which information are presented can affect the answer).
7) Holistic approaches: Welfare/ Wellbeing approaches, Indexes for increased regional competitiveness	Instead of measuring the impact of individual projects realized within a RDC e.g. by number of created jobs, some evaluators and/or scientists follow a more holistic approach, mostly by means of indexes, for assessing changes in regional competitiveness, wellbeing or welfare (see, e.g. Baranauskiene, 2012; Calatrava-Requena and Gonzalez-Roa, 2011; Midmore, 1998). Indeed, applying an integrated endogenous approach to regional development can be assumed to strive for increasing the quality of life in one way or another. However, the development of the quality of life within a region can be affected by many issues and cannot necessarily be linked to the impact of one policy programme. Furthermore, collecting statistical index data at the local level is mostly a challenging exercise. Therefore, such holistic approaches are likely to be weak as evaluation tools regarding their validity and reliability.
Note: The division of evaluation approaches into the seven categories presented in this table was done by the authors; one evaluation approach can belong to two or more categories.	

Appendix B

Examples for SNA network properties

Network property	Description and calculation
Network size	Number of actors in a network.
Network density	Number of ties in a network, expressed as a proportion of the maximum possible number of ties, which is: $\frac{n \times (n-1)}{2}$, if n = number of actors.
Degree (centrality) (of an actor)	Total number of actors to which the examined actor is connected. This measure is standardised by expressing it as a percentage of the maximum possible connections.
- Out-degree	Relations to which the focused actor is connected by outgoing arrows.
- In-degree	Relations which have arrowheads directed towards the focused actor.
Network centralisation	Measurement of how tightly the graph is organised around its most central point(s). The differences between the centrality scores (e.g. the degree-centrality) of the most central point and those of all other points are measured. Centralisation, then, is the ratio of the actual sum of differences to the maximum sum of differences (Scott 2001, 90).
Isolator	Actor with a degree of 0% – i.e. with no in- and no out-degree.
Betweenness (of an actor)	For each actor, the proportion of times that they are 'between' other actors, e.g. for sending information, is measured. This measure is standardised by expressing it as a percentage of the maximum possible betweenness that an actor could have had.

Note: The network properties described in this table are calculated for a set of actors and a certain kind of relation, whereby for determining the size of a network it is not important that the actors belonging to the network under investigation are interlinked (see network property "Isolator" in this table). Box 2 explains how the relational data used for calculating the network properties is collected.

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