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An analysis of learning interactions in a cross-border network for sustainable urban neighbourhood development

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ABSTRACT

Learning networks have the potential to support joint learning and collective innovation processes needed for sustainable urban development. However, systematic analyses of joint learning processes in such networks are often lacking. In this paper, the Interreg project SUN (Sustainable Urban Neighbourhoods) is taken as a case study to analyse learning interactions in a regional network for sustainable urban neighbourhood development in the Euregio Meuse-Rhine. The SUN project provides concerted public and private action, focussing on community engagement, cross-border cooperation, and collective innovation. In this context, joint learning implies the exchange and co-production of knowledge among a diverse group of actors. We first describe the learning network of SUN in terms of the actors involved, the learning activities and tools applied, and the types of knowledge exchanged and co-produced (technical, attitudinal, innovative). These features are further used to characterize a set of typical learning interactions that generated learning across four main knowledge boundaries (territorial, role-based, sectoral, and project boundaries). From this analysis, we identify main factors supporting the joint learning process, and discuss the general applicability and added value of the developed analytical framework.

1. Introduction

Learning networks have the potential to support collective innovations needed for sustainable development at the regional level (Barton and Dlouhá, 2011). Such learning networks typically involve local authorities, knowledge institutes, businesses, NGOs and other stakeholders exchanging and co-producing knowledge on themes like agroforestry (Cardoso et al., 2001), energy efficiency (Jochem and Gruber, 2007), greener production and ecosystem management (Manring, 2007; Manring and Moore, 2006) and environmental management at the municipal level (Von Malmborg, 2007). Similar networks exist and were analysed within the scope of social learning and water management (Pahl-Wostl et al., 2007), social learning and city planning (Holden, 2008), and agricultural transitions (Veldkamp et al., 2009). These networks share a focus on what we refer to as 'joint learning': the exchange and co-production of knowledge across disciplinary, territorial and other boundaries, as a way to support collective innovation processes.

Although joint learning is considered essential to support collective innovations for sustainable development, systematic analyses of learning processes in regional networks are often lacking. Armitage et al. (2008), for example, describe this as a *learning paradox* in adaptive co-management, arguing that despite widespread support for learning as a normative goal and process, "careful examination of the factors that determine if, who, how, when and what type of learning actually occurs" is often lacking. Holden (2008) concludes that "while often cited as part of the desired outcomes of planning and policy processes, social learning is rarely investigated from a process-based perspective able to reveal how and why it occurs to different degrees in different contexts." As a consequence, it is still largely unclear how effective learning networks for regional sustainable development are and how such networks can be best supported in order to optimize their learning effects.

In this paper, the ongoing Interreg project SUN[1] (Sustainable Urban Neighbourhoods) is taken as a case study to address joint learning in a regional network for sustainable urban neighbourhood development in the Euregio Meuse-Rhine. The project falls

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[1] http://www.sun-euregio.eu (accessed August 2012).

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under the European Territorial Co-operation objective on cross-border cooperation, fostering knowledge exchange and cooperation along internal European borders[2]. The project engages Euregional academics, city practitioners, local stakeholders, non-profit organizations (NPOs), entrepreneurs and other professionals to implement concrete actions in seven pilot neighbourhoods on various sustainability themes (energy, greenery, economy, social cohesion). In this context, joint learning entails a broad palette from the exchange of technical knowledge on housing insulation, to developing a shared understanding of what a sustainable urban neighbourhood is, and collectively experimenting with promising, innovative practices.

The diversity of SUN project partners from different Euregional territories is expected to contribute to a rich joint learning process. Yet, the same diversity may create knowledge boundaries (Carlile, 2002) that need to be 'crossed' in order for joint learning really to occur. This raises a number of main questions: Through which project activities does joint learning actually occur? To what extent are knowledge boundaries effectively crossed? How can such boundary crossing best be facilitated? To address those questions, we provide an analysis of learning interactions in the SUN project. We do so by carefully examining three recent years of project activities, highlighting the activities through which learning interactions were generated, the actors involved, the type of knowledge exchanged and co-produced, and the knowledge boundaries that were crossed. We thus focus on portraying the context the SUN project as a learning network provides, and the way this context may support joint learning processes.

The paper is organised as follows. We first draw on the theoretical background of regional learning networks for sustainable development to clarify relevant terms (learning network, joint learning, learning interaction, knowledge boundary). Second, we describe the SUN project as a learning network, describing its members, the various activities and tools that supported learning, and the types of knowledge exchanged and co-produced. Third, we characterise a set of typical learning interactions in the SUN project that facilitated knowledge exchange and co-production across four main knowledge boundaries (territorial, role-based, sectoral, and project boundaries). From this analysis, we identify main factors supporting the joint learning process, and discuss the general applicability and added value of the analytical framework we developed for analysing joint learning in regional learning networks for sustainable development.

2. Regional learning networks for sustainable development

2.1. Learning networks

A learning network (LN) (Bessant and Tsekouras, 2001; Downes, 2007) is a network of actors that facilitates learning. Actors may include individuals and organisations, and the interactions among them may be facilitated, for example, through face-to-face meetings, web-based information exchange, and undertaking collaborative activities. The concept might be characterised as learning 'bottom-up', highlighting that learning occurs in communities, focussing on knowledge creation rather than consumption, and emphasising the decentralisation of content and control (Downes, 2007). When carefully designed, LNs have great potential to improve processes of knowledge acquisition and capacity building (Bessant and Tsekouras, 2001). They are of specific relevance in the context of sustainable development that generally requires enhanced engagement between business, government and civil society. Networks may fulfil that requirement and create the ground for innovation through knowledge exchange and development (Roome, 2001).

A specific class of LNs is devoted to supporting sustainable development at the regional level. Von Malmborg (2007) highlights the increasing role of such regional actor-networks, involving both public authorities and the private sector, for collective innovation for sustainable development. Other examples of regional LNs for sustainable development can be found in the fields of social learning (Pahl-Wostl et al., 2007), systems of innovation (Cooke et al., 1997; Edquist, 1997; Lundvall, 1992; Schartinger et al., 2002), and communities of practice (Wenger, 1998). The character of such regional LNs may differ, including intra- or inter-regional networks, constituted of homogeneous or heterogeneous group members, and being formal or informal in nature (De Kraker et al., 2013).

2.2. Joint learning

We define joint learning in such networks as the exchange and co-production of knowledge among a generally diverse group of societal actors, as a way to support collective innovation processes. We thereby interpret the term 'knowledge' broadly to entail all the relevant objects of learning, including information, data, views, perceptions, values, norms, and technical and social-relational skills. The 'exchange of knowledge' thereby refers to the process of exchanging 'established' knowledge between actors, while the 'co-production of knowledge' refers to the joint development of ('new') knowledge among an actor group. Learning outcomes of joint learning thus typically pertain to two levels: individual- and group-level (see also De Kraker et al., 2013). Moreover, we use the term 'learning interaction' in our analysis to denote key types of interactions between members of the LN through which knowledge is exchanged or co-produced.

To describe joint learning processes, scholars often use four components (Bennett and Howlett, 1992; Van de Kerkhof and Wieczorek, 2005): the subjects of learning (who learns?), the process of learning (learns how?), the objects of learning (learns what?), and the results of learning (to what effect?). In our case, the subjects of learning refer to the members of the SUN learning network as described in Section 3.2. The process of learning refers to the concrete activities and supporting tools through which learning takes place (see Section 3.3). The objects of learning refer to the type of knowledge exchanged and co-produced (see Section 3.4). The results of learning refer to the concrete actions taken at the neighbourhood level and their implications for sustainable development. A full description of those results, however, is beyond the scope of this article. We limit our analysis to the first three components.

Concerning the objects of learning, the literature distinguishes different learning types. A main distinction is the one between 'single-loop' and 'double-loop' learning. The first—also labelled 'instrumental', 'first order', 'lower order', or 'cognitive' learning—concerns the acquisition of technical ('how-to') knowledge; the second—also labelled 'policy', 'second-order', 'higher order', or 'normative' learning—is a more reflexive type of learning involving changes in the underlying normative frame, e.g. changes in beliefs, values, objectives and problem perceptions (Haug et al., 2011; Van de Kerkhof and Wieczorek, 2005). Moreover, in regional LNs for sustainable development, learning is often embedded in practice. This implies relational learning outcomes, including the acquisition of technical and social-relational skills, and the group capacity to implement joint actions (Craps, 2003; Haug et al., 2011).

[2] httpc://ec.europa.eu/regional_policy/cooperate/cooperation/index_en.cfm (accessed August 2012).