Land Use Policy 34 (2013) 233–242

Contents lists available at SciVerse ScienceDirect

Land Use Policy

journal homepage: www.elsevier.com/locate/landusepol

Social learning and innovation. Ice fishing communities on Lake Mille Lacs

Kristof Van Assche[a,b,*], Raoul Beunen[c,1], Jeff Holm[d], Ming Lo[e,2]

[a] Strategic Communications Group, Wageningen University, The Netherlands
[b] Research Fellow at ZEF, Center for Development Research, Bonn University, Germany
[c] Land Use Planning Group, Wageningen University, P.O. Box 47, 6700 AA Wageningen, The Netherlands
[d] Independent Researcher and Consultant, Princeton, Mn, USA
[e] Department of Economics, St. Cloud State University, 720 Fourth Avenue South, St. Cloud, MN 56301-4498, United States

ARTICLE INFO

Article history:
Received 24 September 2012
Received in revised form 14 March 2013
Accepted 20 March 2013

Keywords:
Social learning
Innovation
Participatory environmental governance
Success factors
Ice fishing

ABSTRACT

Social learning took place largely outside the sphere of government and spurred substantial technological and institutional innovation. Unique patterns of networks, informal institutions and social learning environments delineate options for social learning that are more likely to succeed, to lead to implementation. The history of social learning on lake Mille Lacs showed that new formal institutions are not necessarily the best sites for social learning, and that forms of innovation and modes of learning cannot be separated. Interdependence and shared goals, and flexibility in role distribution appear as success factors. The diversity of learning sites in a community should not be understood as a problem, as an obstacle to central steering and education by government: it enables the community to adapt and survive.

Introduction

Social learning, according to most of the literature (see Reed et al., 2010; Muro and Jeffrey, 2008; Rodela, 2011; Rodela et al., 2012 for overviews), occurs when a group enables individual learning and the sum of individual learning is more than the elements: a change in collective thought and/or action (e.g. Gerlak and Heikkila, 2011; Muro and Jeffrey, 2008; Safarzynska et al., 2012). For a while, social learning was considered a panacea by researchers and practitioners who believed in a move toward a more participatory environmental governance, but were nervous about its potential for populism, instability, ignorance, power games and fragmentation (Berkes, 2004; Schusler et al., 2003; Leeuwis and Pyburn, 2002; Maarleveld and Dangbegnon, 1999; Roling and Wagemakers, 1998; Daniels and Walker, 1996; Finger and Verlaan, 1995; Pretty, 1995).

Social learning was usually understood as group learning in a situation of participatory governance, ideally leading to articulation and implementation of informed, viable and sustainable policies. In the words of Leys and Vanclay (2011a, p. 581): it "promotes self-organization through the integration of robust science with local knowledge for adaptation and change". It was expected to deal with the inherent dangers of participatory governance, but many of the critiques of participatory approaches to governance (see e.g. Stringer et al., 2006; Agrawal and Gibson, 1999; Van Assche et al., 2011b) were eventually applied to social learning as well. Both social learning and participatory governance were exposed as 'aspirational' (Muro and Jeffrey, 2008) in the sense that too many positive effects were postulated a priori. Social learning was supposed to occur in participatory governance, and supposed to crystallize into policies that are implementable, democratic, scientifically informed, and more sustainable (Booher and Innes, 2010; Brummel et al., 2010; Reed et al., 2010; Bull et al., 2008; Muro and Jeffrey, 2008; Blackmore, 2007; Mostert et al., 2007).

Building on an emerging literature emphasizing the community embedding of social learning, and the delineation of its potential by co-evolutions and path dependence, we analyze the development of ice fishing communities on Minnesota's lake Mille Lacs. This specific case, with a history of sixty years of social learning and innovation sustaining villages on the ice, deepening the fishing experience, making money for some players, and creating social cohesion, enables us to further develop a perspective on social learning that de-emphasizes its links with formal governance, and argues against concepts of social learning as a (measurable) unity, as transparent, manageable and amenable to incorporation in social engineering approaches to environmental management.

* Corresponding author at: P.O. Box 8130, 6700 EW, Wageningen, The Netherlands. Tel.: +31 202374575.
E-mail addresses: kristof.vanassche@wur.nl (K. Van Assche), raoul.beunen@wur.nl (R. Beunen), jeffholm@ymail.com (J. Holm), mclo@stcloudstate.edu (M. Lo).
[1] Tel.: +31 317 482 697.
[2] Tel.: +1 320 308 0143.

0264-8377/$ – see front matter © 2013 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.landusepol.2013.03.009

Still, we believe social learning theory has a promising future in environmental studies, when it can acknowledge the multiplicity of learning sites and mechanisms, their complex social embeddings and their co-evolution, leading to uncertainty, instability and design problems, but also to the uncovering of unexpected adaptation options (Brugnach et al., 2011).

Theoretical frame

Rodela (2011), Reed et al. (2010) and Muro and Jeffrey (2008) uncover a wide variety of meanings and uses of social learning (a diversity often deplored). We argue that, with all the diversity, most of the literature assumes the chain of associations sketched above (cf. Reed et al., 2010). Another way of saying this is that participatory governance is usually present, either in the foreground as site of observation or implementation, or as accepted premise, and that environmental governance is expected to become more manageable again, once social learning is understood. Social learning is thus easily and quickly instrumentalized for a greater good, usually sustainability, and this can easily lead to a silent reversal from environmental governance back to environmental management (after Rist et al., 2007).

Many authors however, including ourselves, still see a future for the concept of social learning. Some recent elaborations of the concept seem to offer avenues to rethink it more reflexively. Our aim is to contribute to a renewed reflection on social embeddings. The community social learning is embedded in, cannot be understood as the mythic community, unified and malleable, that plagued so much of participation studies according to Agrawal and Gibson (1999). They stress the need to address (p. 641) 'divergent interests of multiple actors within communities, the interactions of politics through which these interests emerge and different actors interact with each other, and the institutions that influence the outcomes of political processes'. Thus, we want to draw the attention to the complexity of the embedding of social learning, involving a multiplicity of learning sites, myriad relations with formal and informal institutions and governance processes (an endeavor embarked upon by Diduck et al., 2012; Safarzynska et al., 2012; Brugnach et al., 2011; Gerlak and Heikkila, 2011; Voss and Bornemann, 2011; Niehaus, 2011; Borowski, 2010; Schneider et al., 2009; Rist et al., 2006 and others). This, we believe, can be helpful in revealing new niches for social learning and new limits to steering.

In particular, it seems important to open up the analysis to evolutionary thinking (as argued for by Safarzynska et al., 2012; Van Assche et al., 2011a). If one can envision (as Gerlak and Heikkila, 2011) social learning as influenced by structure (communication, coordination), social dynamics (trust and shared knowledge, leaders, ties) and technology and functional domains (tools for information processing, task specificity), in other words, as a product of many processes that mark a community, then it seems logical that a community will harbor many actual and potential learning sites and modes (cf. Borowski, 2010; Wenger, 1998). It seems also obvious then that social learning cannot be expected to be amenable to formal process design for all issues and all communities (cf. Allen and Gunderson, 2011; Rist et al., 2006)

If one considers the evolution of a community and of socio-ecological systems as a co-evolution of various subsystems and processes (Folke et al., 2005; Duit and Galaz, 2001; Luhmann, 1989), then it becomes easier to envision the intricate relations between social learning, innovation and governance. Safarzynska et al. (2012) persuasively present social learning as a precondition for innovation, and evolutionary theory as a framing device to understand both. Gerlak and Heikkila (2011) and others (Diduck et al., 2012; Brugnach et al., 2011; Folke et al., 2005) notice that social learning theory cannot be separated from theories of collective action and its coordination mechanisms: social learning for adaptive collective action has to take into account existing coordination mechanisms. The constructivist theory of innovation (e.g. Douthwaite et al., 2001, 2003) and social systems theory (Luhmann, 1989) both elucidate how social systems co-evolve, and how multiple and entwined processes of social learning and innovation are a natural and necessary feature of the continuous reproduction of society.

Voss and Bornemann (2011) argue that awareness of co-evolution can increase the awareness of political dynamics and their inhibiting or catalyzing effects on social learning. This is also borne out by social systems theory, emphasizing the different internal logics (and thus learning abilities) of the various social subsystems (Luhmann, 1989; Van Assche and Verschraegen, 2008). Neither science nor economic actors can simply impose innovations on the rest of society, and simply sharing them will often not work. Niehaus (2011) argues that sharing information has a price, and that, even within the same subsystem (e.g. the economy) learning and innovation can relate to each other in different ways at different times. Reasons include shifting complementarities that enable a specific innovation, the cost of assemblage, of learning and of sharing ideas. Which innovations become possible through which learning process is thus largely unpredictable because of co-evolution (Saether et al., 2011).

We place ourselves within this developing line of work on social learning as embedded, multiple and evolutionary. This line is largely compatible with the adaptive governance literature, where attention to learning, path dependence and co-evolution in environmental governance often coincides with an awareness of the limits of steering and the irreducibility of uncertainty (Van Assche et al., 2011a; Booher and Innes, 2010; Olsson et al., 2007; Folke et al., 2005). Brugnach et al. (2011) speak of ambiguity that has to be managed, not eliminated (as this would be an illusion). Co-evolution, interdependence and path dependence generate uncertainty that cannot be easily reduced and limits steering (Van Assche et al., 2012a; Allen and Gunderson, 2011; Van Assche and Verschraegen, 2008). One reason is that the multiplicity of co-evolving learning sites renders meaningless most attempts to reduce social learning to one parameter that can be measured, quantified, evaluated. Rodela et al. (2012, p. 21) speak of 'a tension' between positivist expectations and more diverse research practice. Social learning in different sites cannot always be directly observed (or consciously interrogated), cannot be simply added up, and any new insight (as a social learning 'product', cf. Gerlak and Heikkila, 2011) is continuously reinterpreted and triggering effects elsewhere in a community (Douthwaite et al., 2001; Schneider et al., 2009). Pollard and du Toit (2011) speak of multi-scale feedback loops and point at their manifold ways to undermine or reinforce local social learning.

Institutional economists such as Greif (2007) highlight the relative autonomy of coordination structures that emerge out of repeated games. At the level of individuals, one has to be aware that much learning is, in the words of Diduck et al. (2012, p. 15) 'muddled, non-linear and not necessarily rational'. Because of this combination of features of group coordination (not necessarily stemming from learning) and individual learning, caution is warranted with instrumentalization of social learning in adaptive governance.

Our case study reconstructs a history of 60 years of social learning. The long-term character of the evolution presented here is important, and distinguishes the analysis from most of the literature, focusing on the process and/or effects of one policy initiative (although these can be positioned on different scales; cf. Rodela et al., 2012). We present the story of the ice fishing communities on Lake Mille Lacs, and analyze the evolution of these communities in terms of social learning and its conditions. From this analysis (and