



The role of social learning in fostering farmers' pro-environmental values and intentions



Pedro Noguera-Méndez ^a, Lourdes Molera ^b, María Semitiel-García ^{a,*}

^a Department of Applied Economics, University of Murcia, Campus de Espinardo, 30100, Murcia, Spain

^b Department of Quantitative Analysis, University of Murcia, Campus de Espinardo, 30100, Murcia, Spain

ARTICLE INFO

Article history:

Received 24 November 2015

Received in revised form

31 May 2016

Accepted 2 June 2016

Keywords:

Social change

Communities of practice

Pro-environmental intentions

Innovation

ABSTRACT

In interventions to achieve sustainability, social learning plays a prominent and growing role as a framework strategy in changing behaviors and intentions. Many interventions have been designed to achieve better performances in natural resource management, but the literature studying the effects on values and intentions is scarce. This paper studies the effects of the Local Agrarian Innovative Programme, which aims to promote sustainability, in two regions of Cuba. It is a long-term, on-going intervention in which learning, cooperation and social interactions play key roles. In this paper, outcomes and actions are considered a first category of learning (single loop learning), and subjective perceptions and intentions imply a superior category of learning (double loop learning). The data, mainly based on primary information collected from a representative sample, are analyzed in terms of differences in values and intentions, and reveal noticeable inter-regional diversity, while intervention duration appears as a decisive variable. From a policy point of view, this research calls into question the efficacy of short-term awareness projects and proposes the integration of social learning programmes when designing pro-environmental interventions.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

The relationship between rural societies and nature needs to be changed if sustainability is to be achieved. This is a big challenge that requires complex, interrelated changes, as well as involving legal, scientific and ethical issues. Sustainability cannot be achieved only through regulations (laws and sanctions) and technologies, mainly because it is a social engagement that is conditioned by individual and social conceptions about nature, ourselves, future generations and the inter-relationships of these (Vucetich and Nelson, 2010). According to Johnson et al. (2012: 1), “social and ecological challenges (...) require not only scientific and technological capabilities but also learning and adaptation”, which has to do with actions, attitudes, perceptions, norms, values and governance. The strength of established attitudes and values can make them difficult to change. However, these changes are necessary because it is intentions that define our willingness to act in a particular way when facing change.

Many interventions aimed at achieving better socio-economic performance have been designed using participative approaches where learning, cooperation and social interactions play central roles (Chambers, 1997; United Nations, 2008; Almekinders et al., 2009). This is also true for natural resource management, where social learning as a framework strategy has a prominent and growing role in changing behaviors and intentions and influences values and norms in an effort to achieve sustainability. Its growing role in interventions may be because social learning is often considered “a higher form of learning”, so facilitating adaptive management (Glasser, 2009: 47). The design of an intervention process should consider the existence or the promotion of ‘communities of practice’ or ‘learning communities’, which facilitate the social learning process, which promotes adaptation and innovation through social interaction (Wenger, 1998; Kilpatrick et al., 2003).

Although social learning is now recognized as a normative goal in environmental science, the definitions offered by the literature are vague, so the factors explaining it need to be considered (Armitage et al., 2008; Reed et al., 2010; Kristjanson et al., 2014). This paper sheds light on the learning process and its effects on attaining sustainability by analyzing two case studies. While many research works analyze the influence of attitudinal factors on pro-

* Corresponding author.

E-mail addresses: pedrono@um.es (P. Noguera-Méndez), lmolera@um.es (L. Molera), mariase@um.es (M. Semitiel-García).

environmental behaviors (López-Mosquera and Sánchez, 2012; Rogers et al., 2012), the literature analyzing the impact of pro-environmental interventions on values and intentions is scarce. There is also recent literature highlighting a lack of supportive theories that foster pro-environmental behavior in agriculture, which seeks to fill this gap and asks for more quantitative analysis including socio-economic variables (Home et al., 2014; Price and Leviston, 2014). This paper advances in this necessary line of research by conducting a quantitative empirical analysis based on socio-psychological theories and social learning. Quantitative analysis allows us to assess whether there is a change in behaviors, attitudes and intentions, while the study of values and norms would require the use of ethnographic methods. Focusing on social learning and innovation also implies a step forward because, as Price and Leviston (2014) conclude, one appropriate intervention to foster pro-environmental behavior in farmers is the design and implementation of social learning programmes, that explicitly consider the role of innovation.

The paper offers an exhaustive analysis, that combines qualitative and quantitative approaches with an interdisciplinary focus for data obtained from an understudied region in order to illustrate the effects of the Agrarian Innovative Local Programme (PIAL) in Cuba on outcomes, actions (single loop learning) and intentions (double loop learning) aimed at promoting sustainability. The objective of PIAL is to increase food security and sovereignty through a participative system of local agrarian innovation (Núñez et al., 2014; Ríos and Ceballos-Müller, 2016) by creating new institutions and spaces for interaction and learning. PIAL is a long-term intervention, initiated in 2000, and implies a process of co-production of knowledge between scientists and technicians, who designed the intervention, and farmers who redesign and implement it. Both groups interact in a new boundary organization (Local Centre for Farming Innovation -CLIA-) created to exchange and generate knowledge and take decisions. The members of the CLIAs, taking part in communities of practice, interact and develop their own understanding about agrarian and environmental challenges and work on attitudes and adopt decisions. One purpose of our research is to answer the following questions, referring to the two case studies analyzed: Has the intervention promoted by PIAL had a significant impact on pro-environmental intentions and values? What is the role of social learning in this process?

The literature reviewed highlights some very positive consequences of this programme, but they are restricted to actions and, therefore, to a first level category of learning. This literature has not considered changes in values or in intentions. We have addressed the effects on behavior by investigating farmers' actions on waste disposal, and on values and intentions by designing three specific questions about agrochemical use and environmental awareness. Waste management, the use of agrochemicals and, more generally, environmental awareness and sustainability have been approached in a transversal and integrated way in PIAL, with the main objective of finding solutions for the needs and difficulties of farmers (production, seeds, productivity, pest control and soil management, among others). Also an extensive review of the literature conducting empirical analyses shows a variety of positive outcomes of PIAL programme, although the papers are mainly restricted to actions and, therefore, to a first category of learning. Our main conclusion is that the effects of this intervention on a superior category of learning (intentions and values) have been positive although highly conditioned by time. An appropriate evaluation of its efficiency is therefore in order. The analysis of this particular intervention gives us a better understanding of the options available to the agricultural sector, and the rural societies in which it is embedded, when seeking a sustainable response to environmental change.

2. Social learning and social change

Social learning is best understood by comparing it with other kinds of learning. Within the context of resource management, Armitage et al. (2008) points to three main, complementary, learning theories: experiential, transformative and social learning. Experiential learning is, according to Kolb (1984: 38), “the process whereby knowledge is created through the transformation of experience” and it is an experiential and learning-by-doing process. Mezirow (1991) conceives transformative learning, or transformation theory, as a process of effective change in an individual's perception through reflection and critical engagement. Both learning theories are largely modelled as individual learning processes.

Social learning shares many aspects about how learning can happen with both experiential and transformative learning. There is, however, a main factor that differentiates it from the other two: the distinguishing role of interactions and personal communication. According to Reed et al. (2010: 4), social learning can be defined “as a change in understanding that goes beyond the individual to become situated within wider social units or communities of practice through social interactions between actors within social networks”. A community of practice is a group of people sharing an interest or enthusiasm for something they do and learning how to do it better by regularly interacting (Wenger, 1998; Wenger et al., 2002). The three characteristics defining a community of practice are: the existence of a shared domain of interest, members interact and learn together, and members are practitioners. In the particular case of environmental management, communities of practice foster social learning and social change, understood as “the collective action and reflection that occurs among different individuals and groups as they work to improve the management of human and environmental interrelations” (Keen et al., 2005: 4).

The lower part of Fig. 1 shows how social learning can set off changes with impacts at various levels. When analyzing a pro-environmental intervention, it is important to know if it has had an impact on behavior (Single Loop Learning -SLL-), but also if it has led to a superior learning process, modifying intentions (Double Loop Learning -DLL-). SLL refers to changes in skills, actions or routines to adapt to changes in the internal and external environments, but maintaining the central institutional features. One example would be a change in farming techniques that has an impact on income and productivity, and finally affects sustainability. DLL refers to changes in intentions, motivations or assumption that could cause, or define, actions. According to Argyris and Schon (1978), SLL only solves problems and corrects errors by changing strategies and actions when the framework of norms for performance is constant. DLL goes beyond that and implies the modification of norms and values leading to behavioral changes in order to correct errors and improve outcomes. One DLL example would be the implementation of an educational programme raising awareness for the environment that led to particular new actions, like not burning rubbish, and finally affecting sustainability. Triple loop learning (TLL) is the deepest level of learning and concerns the modification of the underlying governance system (Argyris, 1999; Armitage et al., 2008). An example would be a change in the law or in norms, with users recognizing its benefits, and finally enhancing sustainability.

The behavior of individuals and communities participating in learning processes are modelled by psychosocial factors. Price and Leviston (2014: 66) assert that “pro-environmental behaviour is best conceived as a combination of self-interest and pro-social motivation”. The great difficulty in explaining the causes of and barriers for pro-environmental actions (Kollmuss and Agyeman, 2002) is revealed in the efforts made to integrate different non

Download English Version:

<https://daneshyari.com/en/article/6545385>

Download Persian Version:

<https://daneshyari.com/article/6545385>

[Daneshyari.com](https://daneshyari.com)