



Farmers' mental models of change and implications for farm renewal – A case of restoration of a wetland in Sweden



Helena Hansson*, Suvi Kokko

Swedish University of Agricultural Sciences, Department of Economics, P.O. Box 7013, SE-75007, Uppsala, Sweden

ARTICLE INFO

Keywords:

Farm renewal
Mental models
Nature restoration
Rural policy
Sweden
Zaltman metaphor elicitation technique

ABSTRACT

In this study, an analysis was made of farmers' mental models of a change in their environment that called for significant changes to the way their farms were run. In particular, the attributes farmers ascribed to the change, the consequences of these attributes, and the values the attributes acted to fulfill or prevented from fulfilling were identified. As a case study to illustrate a change to farmers' environment, the study used the restoration of a Swedish wetland (Lake Hornborgasjön), in what has been one of Sweden's largest nature restoration projects. Based on 15 in-depth interviews with farmers affected by the restoration, it was found that farmers mostly associated the restoration with negative impacts on their farms. Personal values of the types power, hedonism, universalism, security, achievement, and self-direction were also associated with farmers' mental models of the change, and perceived consequences associated with attributes of the change resulted in these values not being fulfilled. Building on the concept of identity, the study provides a tentative explanation for why the perceived negative consequences of the change have typically not led to further consequences to prevent the negative impact of the attributes. By providing an example of farmers' mental models of a change in their environment, the findings are interesting for agricultural and rural policy aimed at encouraging farm renewal. In particular, the study illustrates a way of mapping farmers' understandings of causes and effects related to a change, which is informative for policy makers. In relation to this particular case, the findings point to the need to focus on measures that foster a broadening in farmers' perceptions of their identities outside the domains of traditional agricultural production.

1. Introduction

There is increasing emphasis on the renewal of farm businesses in agricultural policy schemes. For instance, the European Union's rural development policy encourages farmers to develop their farms by diversifying their activities (Aguere-Granier, 2016), and this policy is translated into policy actions in the individual member states' rural development programs. Farm businesses can renew themselves by finding new ways of generating income, as income from conventional production of food and fiber is often no longer sufficient to generate profits to sustain sufficient farm income. Renewal of the farm business can be seen as part of resilient agriculture (e.g. Milestand and Darnhofer, 2003; Darnhofer, 2014), where the farm business adjusts to changes in order to continue to make use of its resources and function as a farm business. Resilience of farm businesses considers the ability of the farm and farmer to adapt to a changing context, buffer change, and undertake necessary changes (Darnhofer, 2014). Farming in general can be considered an unstable, complex socio-ecological system and, in

contrast to many other models of farm businesses and the environment in which they exist, the resilience concept explicitly assumes a changing, complex, and unpredictable environment (Darnhofer, 2014). A resilient system either absorbs disturbances and re-organizes to maintain mainly the same function and structure, and thus keeps identity, or transforms by changing identity and moving to an alternative regime (Folke et al., 2010). Reorganization of the system by means of renewal and innovation is critical for a resilient system to adapt to change (Gunderson and Holling, 2002).

The way in which farm business renewal and adaptation to changes in the surrounding environment is undertaken is likely to be heavily dependent on the related mental models, or mental representations, upon which farmers base decision making in their business. Furthermore, the psychology literature identifies personal values as the standards which function to guide people in their behaviors (Rohan, 2000; Bardi and Schwartz, 2003). The potential to achieve personal values can thus function to drive decision making in response to a change in the surrounding environment. An understanding of farmers'

* Corresponding author.

E-mail addresses: Helena.Hansson@slu.se (H. Hansson), Suvi.Kokko@slu.se (S. Kokko).

mental models of a change to their business, in terms of the attributes of change, the consequences of change and how a change can work to facilitate or prevent farmers from achieving certain values through their businesses, would therefore be helpful in understanding the basis for farmers' decision making in relation to change. However, to the best of our knowledge, farmers' mental models of change in their businesses have not been investigated to date. Because decisions in relation to change affect how change leads to renewal of farm businesses, understanding farmers' mental models in relation to change would improve understanding about how farm renewal can take place. Furthermore, understanding farmers' mental models in relation to change would be valuable in a policy design process by improving understanding about how farmers represent a change and its impact on achievement of their personal values through their farm business, and thus why and how attributes of a change matter to farmers as business managers.

Accordingly, in this study we moved beyond the current literature on farm renewal by investigating farmers' mental models of a change in their environment that called for significant changes in the way their farm businesses could be run. In particular, our aim was to identify farmers' mental models in terms of the attributes they ascribe to the change in question, the consequences of these attributes, and why these attributes are important to them, i.e., what values they function to fulfill or prevent from fulfilling. In this way, we explored farmers' mental models of the change, which direct them in adjustment of their farm businesses to the change. We thereby provide an example of how farmers may conceptualize change. To fulfill our aim, we interviewed 15 farmers about their experiences relating to a change in their surrounding environment that took place in connection with restoration of a wetland (Lake Hornborgasjön) in Sweden.

In previous related literature, there has been significant interest in renewal of farm businesses, especially in terms of farm diversification as a form of renewal. These studies have examined determinants of farm diversification and farmers' attitudes and motives for farm diversification (e.g., McNally, 2001; Haugen and Vik, 2008; Barbieri and Mahoney, 2009; Pfeifer et al., 2009; Hansson et al., 2012; Hansson et al., 2013) and the effect of farm diversification and of diversification within agriculture on the long-term viability of agriculture (Barnes et al., 2015). In previous literature related to renewal of the farm business there has also been interest in the pluriactivity of farmers and their families (e.g., Alsos et al., 2003; Serra et al., 2004; Haugen and Blekesaune, 2005; McNamara and Weiss, 2005; Lagerkvist et al., 2007), which relates to the understanding of the farm in the wider sense and includes off-farm work. Furthermore, previous studies have investigated farmers' identities and the importance of the social symbolic values farmers associate with traditional agricultural production (Burton, 2004); farmers' identities as entrepreneurs or producers, and how these identities are present among farmers with conventional or diversified farms (Vesala and Vesala, 2010); how farmers frame farming in terms of a peasant livelihood or the entrepreneurial typology emphasized by the Common Agricultural Policy (Niska et al., 2012); and how farmers prioritize between terminal and instrumental values (Hansen and Greve, 2014). While these are all essential aspects in understanding the development and renewal of farms, previous literature has never investigated farmers' mental models of a significant change which calls for profound changes in the way their businesses are run. Focusing on farmers' mental models of change, as we do in this paper, means that we outline how farmers conceptualize the change, including its attributes and consequences, which would be useful from a policy perspective.

The present paper makes a contribution to previous research on farm business renewal by exploring farmers' mental models of a change that calls for renewal of their farm business. It does this by providing an example of how farmers affected by a change conceptualize the change, including how the change has acted to facilitate or prevent farmers from achieving certain values. To uncover farmers' mental models of the change that restoration of Lake Hornborgasjön meant for their

businesses, we used the means-end chain (MEC) model (Gutman, 1982; Reynolds and Gutman, 1988), complemented with the Zaltman metaphor elicitation technique (ZMET; Zaltman and Coulter, 1995; Zaltman, 1997). This allowed us to investigate what had happened on the farms in response to the change, why it had happened, and why that was important to the farmers. Based on these insights, we considered possible consequences for farm renewal in response to the change in the farm environment.

Gaining an understanding about how a system adapts and continues to function in a changing environment depends heavily on the definition of the system and where the borders around the system are drawn. In terms of farm businesses this is particularly relevant, as the system can be understood at different levels. A particular distinction can be made between the farm business in a narrower sense, with a focus on the farmer as a manager, its resources and activities, and the farm in a wider sense, including the farm family with its possible off-farm activities (i.e., pluriactivity) (e.g., Hansson et al., 2013). In this study we take the narrower approach, with a focus on the farm business, and consider renewal of farm businesses in the sense that its agricultural production resources can continue being used for business purposes as part of a resilient system. It should be noted that this approach does not mean that these business purposes necessarily need to focus on agriculture. Instead, resources that are or have been used in a farm business could be used for any business purposes after renewal of the farm business.

The paper continues by outlining the conceptual framework used in the study. Section 3 presents the method and data. Findings are reported in Section 4 and Section 5 provides a discussion of the approach and the major findings, as well as conclusions.

2. Conceptual framework

Mental models can be considered to be the lenses through which people see the world (Johnson-Laird, 2005). They include people's values, beliefs, experiences, learning, and biases about how the world functions (Greenfield, 2005; Sax and Clack, 2015). In other words, mental models are schemata that represent the individual's cognitive structure about a situation, problem, etc. (Beach and Connolly, 2005). These cognitive structures also include attitudes, emotions and feelings, actions, symbols, goals, personal values, images, memories of past events, visions of anticipated events, and sensory images (Christensen and Olson, 2002). Mental models have been shown to be important in processes such as problem solving (for a review of the literature, see Bagdasarov et al., 2016).

With ZMET, conceptual frameworks of people's mental models can be constructed based on the idea that people think in images and not words (Damasio, 1994). To access the content and structure of a mental model, respondent-generated data in the form of images are used in an explorative way (Zaltman, 1997). The images represent metaphors of causal relationships sketched in the mind. Everyday reasoning is considered to be based on metaphors (Lakoff and Johnson, 1980). As opposed to conventional face-to face interviews (Collier, 1957; Harper, 2002; Clark-Ibáñez, 2004), use of images in interviews has been proven to provoke deeper meanings, such as emotions and intangible ideas (Clark, 1999; Clark-Ibáñez, 2004). Therefore, more complete understandings of experiences, thoughts, and values can be obtained through representations of unconscious states of people, revealed through the use of images (Tucker and Dempsey, 1991).

Metaphors shape the formation of new thoughts through imagination and shape the content of knowledge, and are therefore central in ZMET. Conscious thoughts and emotions guide decision making and behavior and are driven by the hidden knowledge people possess (Zaltman, 1997).

Probing methods that raise experiences from unawareness to a level where they can be articulated may be necessary in order to understand respondents. One such technique used in ZMET is the MEC approach

Download English Version:

<https://daneshyari.com/en/article/6545278>

Download Persian Version:

<https://daneshyari.com/article/6545278>

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