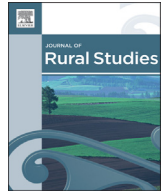




Contents lists available at ScienceDirect

Journal of Rural Studies

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

Operationalising resilience in farms and rural regions – Findings from fourteen case studies

Amit Ashkenazy^a, Tzruya Calvão Chebach^{b,*}, Karlheinz Knickel^{c,d}, Sarah Peter^d,
Boaz Horowitz^e, Rivka Offenbach^e

^a Faculty of Technology, Policy and Management, Delft University of Technology, Jaffalaan 5, Delft, 2628BX, The Netherlands

^b The Porter School of Environmental Studies, Tel Aviv University, P.O. Box 39040, Tel Aviv, 6997801, Israel

^c Instituto de Ciências Agrárias e Ambientais Mediterrânicas (ICAAM), University Évora, Portugal

^d Institute for Rural Development Research (IfRS) at Goethe University Frankfurt, Kurfürstenstraße 49, 60486 Frankfurt/Main, Germany

^e Central and Northern Arava Research and Development Centre, Sapir Centre, Doar Na Arava Tichona, 86825, Israel

ARTICLE INFO

Article history:

Received 15 December 2016

Accepted 6 July 2017

Available online xxx

Keywords:

Resilience strategies

Persistence

Transformability

Adaptability

Rural resilience

Agricultural development

Rural development

ABSTRACT

The limited resilience of agricultural and food systems, and of rural communities, has become an important concern in rural and agricultural policy. However, while the term has been heavily theorised and discussed, particularly in the natural and environmental sciences, it is sufficiently ambiguous to support divergent and even contradictory policy goals and farmers' strategies. This paper focuses on the more encompassing notion of social-ecological resilience and contends that among the causes of this divergence are the disparate spatial and temporal scales used to assess and plan enhancing resilience. Based on empirical evidence, we show that strategies that may increase farmers' abilities to persist in a difficult economic environment may undermine the resilience of the wider region, while decisions that enhance farmers' resilience in the short term may lock them onto a path that weakens their future resilience. Using case studies from 14 different countries across Europe and beyond, we address two main questions. Firstly, how the notion of resilience is being operationalised at a farm or regional level. That is to say, what are the different strategies that farmers, rural residents and other decision-makers in rural areas are using to enhance resilience? Secondly, we look at how the outcomes of implementing these strategies vary according to spatial and temporal factors.

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1. Introduction

Discussions about resilience have gained significant momentum in research and in policy-making circles in recent years (MacKinnon and Derickson, 2013). The concept has already found grounding and relevance in such diverse disciplines as the natural sciences, management, economics and psychology and has also started to influence regional sciences as well as planning theory and practice (Davoudi et al., 2012). The RETHINK project set out to investigate how resilience is operationalised in rural and agricultural development in 14 case studies across Europe and beyond.

Researchers were asked to identify the way farms, communities

and rural regions perceive new economic, demographic, and environmental challenges, as well as more locally-specific changes in their region. In particular, the project aimed to identify strategies that these communities are deploying in their efforts to ensure their future wellbeing. Resilience should be seen in this context as the capacity to ensure the continuity of a particular value, public and private good, or practice in one form or another, such as for example, the continuity of an agricultural practice, a family farm, or even the character of a region.

In this paper, we explore how the concept of resilience (both short- and long-term) is operationalised through multiple strategies implemented by farmers, rural residents, and those in leadership positions in rural regions. Our focus is on actual strategies deployed at these two different levels, which we respectively refer to as farm and region.

* Corresponding author.

E-mail addresses: A.Ashkenazy@tudelft.nl (A. Ashkenazy), tzruyac@post.tau.ac.il (T. Calvão Chebach), knickel@em.uni-frankfurt.de (K. Knickel), peter@ifrs.de (S. Peter), boazh@arava.co.il (B. Horowitz), rivka@arava.co.il (R. Offenbach).

2. Review of relevant conceptual and analytical frameworks

In recent years, the term resilience has become central in both academic discourse and policy agendas in a broad range of fields, including agriculture and rural development (see for example Lin, 2011; Conger and Conger, 2002; Herman, 2015; Lamine, 2015; Wilson, 2010). Holling (1973) has led to the understanding that the ability to manage or cope with change is important at different levels of the system. Walker et al. (2004, p. 2) defined resilience as “the capacity of a system to absorb disturbance and reorganise [itself] while undergoing change so as to still retain essentially the same function, structure, identity and feedbacks”. In the analytical framework of RETHINK (Darnhofer et al., 2014), resilience was defined in the context of social-ecological systems. These are complex, integrated systems in which human beings should be considered as a part of nature (Berkes and Folke, 1998). Social-ecological systems are interdependent and co-evolutionary and they exist at many levels, from individual farms up to a global scale. The analysis of the interrelationship of these different levels, or ‘panarchy’ (Gunderson, 2001), is essential to understanding them. Panarchy theory argues that processes at one scale affect those at other scales and thereby influence the overall dynamics of the system. Control can be exerted by both larger-scale processes (top-down) and by smaller-scale processes (bottom-up) (Berkes and Ross, 2016).

Walker et al. (2004) and Folke et al. (2010) distinguish between three different aspects of resilience: the capacity to buffer systemic shocks while conserving existing functions and structures (persistence); the capacity to deal with challenges such as uncertainty and surprise through renewal, reorganisation and learning within the current regime (adaptability); and the capacity to create a whole new trajectory that is rooted in a radical change in the very nature of the system (transformability). These three aspects of resilience clarify the need for a diversity of behaviours in order for a system to remain ‘dynamically stable’. They also disentangle some of the contradictory aspects of the concept of a ‘resilient system’ and help account for scenarios in which one or more of the aspects may be dominant and negatively affect another. Following this rationale, for a system to be resilient, it should be able to display all three aspects and implement whichever is deemed most appropriate (Darnhofer et al., 2014).

Davoudi et al. (2013) emphasise the role of learning in resilience, maintaining that the interplay between persistence, adaptability and transformability is not deterministic but can be shaped by human intervention through the use of technologies, ingenuities and foresight. Social learning capacity may determine whether a social-ecological system becomes more or less resilient when faced with disturbances of all sorts. The comparative analysis on knowledge and learning carried out in the RETHINK project supports this view (Sūmane et al., 2017; in this special issue). Similarly, Knickel et al. (2009, 2017; in this special issue) argue that the very institutions, administrations and extension services that are responsible for supporting changes are often slow to react to new challenges or opportunities. Assuming that “today’s research will guide tomorrow’s farming solutions and approaches” (European Commission, 2016, p. 4), such inertia may prove hugely detrimental, as these institutions generally offer a limited range of support, while the needs of farmers and society have already changed and diversified (Knickel et al., 2009, 2017; De Roest et al., 2017; in this special issue).

The resilience concept is therefore closely related with the social-ecological systems concepts, as it deals with “adaptive relationships and learning in social-ecological systems across nested levels focusing on feedbacks, nonlinearity, unpredictability, scale, renewal cycles, drivers, system memory, disturbance events, and windows of opportunity” (Berkes and Ross, 2013, page 5). These

authors propose an integrated approach to social-ecological systems and the psychology of development and mental health approach to community resilience. This approach adds an important dimension to our analysis as it “emphasises identifying and developing community strengths, and building resilience through agency and self-organisation, with attention to people–place connections, values and beliefs, knowledge and learning, social networks, collaborative governance, economic diversification, infrastructure, leadership, and outlook” (Berkes and Ross, 2013, page 5).

While disturbances are usually considered to be ‘negative’ events, a shock can actually provide a ‘window of opportunity’ enabling a transformative change and the chance to re-evaluate the current situation, socially mobilise and recombine sources of experience and knowledge to arrive at new strategies (Darnhofer et al., 2014). Similarly, some resilient systems may not make a positive contribution to society at large, which raises important questions about system boundaries and definitions. Any account of resilience must clearly define the boundaries of the system under consideration. This caveat emphasises the political nature of the question: what (and who) should be included (or excluded) from the definition of the system (Davoudi et al., 2012; Carpenter et al., 2001)?

Thus, bringing these conceptualisations of resilience together makes clear that understanding it as a concept, applying it to rural and agricultural systems, and assessing its possible impacts requires that it is examined across multiple scales (in our case, the farm and the region), and over time. The word resilience stems from the Latin root ‘resilire’, meaning ‘to spring back’ (Davoudi et al., 2012). But agricultural and rural systems in industrialised countries have been in a state of flux for decades if not more. Therefore, when we wish to preserve the rural system as it is or as it was – what precisely do we want to preserve, and why? Is it the one that existed before intensification occurred or after? Is it one where agriculture is the main driver of economic activity, or an arcadian rural landscape unencumbered by agricultural enterprises, big or small? Is it a state where farmers are independent and entrepreneurial, responding to the free market that exposes farmers to global fluctuations, or a rural state where subsidies enable a comfortable and attractive rural life in perpetuity?

McIntosh et al. (2008) note that ‘rural resilience’ has gained traction mainly in response to notions of rural decline. As such, rural resilience focuses on how rural residents and regions can improve their wellbeing through changes in their behaviour and adaptation to new circumstances, as opposed to feeling at the mercy of structural and external forces that appear to dictate their social and economic circumstances. In this paper, we identify five strategies that rural residents, farmers and regions are utilising to enhance their resilience, strengthen their sense of agency (and their actual agency), generate a desired (or - by local standards - sufficient) level of income and wellbeing, maintain a stable population base, and influence a wide range of policies and regulations that affect farms’ operations, markets, and legitimacy within the rural space. Rather than ignoring the structural causes of ‘rural decline’, these strategies form part of the dynamic relationship of rural residents and these external forces.

In the light of these concepts and systemic challenges, when illustrating the myriad of ways in which farmers, rural residents and regions may respond to (and even benefit from) these adversities, we structure our analysis around two key questions: (1) How is resilience operationalised on a farm and regional level, or, in other words, what are the different strategies to enhance resilience that are being used by farmers, rural residents and other decision-makers in rural areas? (2) How may the outcomes of these strategies vary across spatial and temporal scales?

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