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# Between aspirations and reality: Making farming, food systems and rural areas more resilient, sustainable and equitable

K. Knickel [a, b, c, *], M. Redman [d], I. Darnhofer [e], A. Ashkenazy [f], T. Calvão Chebach [g], S. Šūmane [h], T. Tisenkopfs [h], R. Zemeckis [i], V. Atkociuniene [i], M. Rivera [j], A. Strauss [e], L.S. Kristensen [k], S. Schiller [b], M.E. Koopmans [l, m], E. Rogge [l, m]

[a] Instituto de Ciências Agrárias e Ambientais Mediterrânicas (ICAAM), University Évora, Portugal
[b] Institute for Rural Development Research (IfLS) at J. W. Goethe University Frankfurt am Main, Germany
[c] Centre for Rural Research Trondheim (CRR), Norway
[d] Highclere Consulting S.R.L., Str. Tohanita 28b, Zarnesti, Brasov 505800, Romania
[e] University of Natural Resources and Life Sciences, Department of Economic and Social Sciences, Feistmantelstr. 4, A-1180 Vienna, Austria
[f] Delft University of Technology. Faculty of Technology, Policy and Management, Jaffalaan 5, Delft 2628BX, The Netherlands
[g] Tel Aviv University, The Porter School of Environmental Studies, P.O. Box 39040, Tel Aviv. 6997801, Israel
[h] Baltic Studies Centre, Kokneses prospekts 26-2, Riga LV1014, Latvia
[i] Aleksandras Stulginskis University, Studentu 11, Akademija, LT-53361 Kaunas District, Lithuania
[j] Technical University of Madrid, School of Agronomy, Food and Biosystems Engineering, Calle Ramiro de Maeztu 7, 28040 Madrid, Spain
[k] University of Copenhagen, Department of Geosciences and Natural Resource Management, Rolighedsvej 23, DK-1958 Frederiksberg C., Denmark
[l] Research Institute for Agriculture, Fisheries and Food (ILVO), Social Sciences Unit, Burgemeester van Gansberghelaan 115, Box 2, B-9820 Merelbeke, Belgium
[m] Ghent University, Department of Agricultural Economics, Coupure Links 653, 9000 Ghent, Belgium

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ABSTRACT

This paper explores the connections between farm modernisation, rural development and the resilience of agricultural and rural systems. The paper starts by ascertaining why agricultural and food systems need to change systemically. Evidence from case studies in fourteen countries is used to explore the possibilities for, and drivers and limitations of systemic change in four thematic areas: the resilience of farms and rural areas; prosperity and well-being; knowledge and innovation, and; the governance of agriculture and rural areas. In each area, we identify a major mismatch between visions and strategies on the one hand, and market developments, policy measures and outcomes on the other. The first theme is of growing concern as there has been an observable decrease in the social-ecological resilience of farms and of rural communities in recent decades. The second theme emerges as important as the concentration of production in some regions or some farms is directly linked to the marginalisation of others. The third theme illustrates that local farmer-driven innovations can teach us much, especially since farmers focus on efficiently using the resources available to them, including their location-specific experiential knowledge. Through the final theme we show that informal networks can balance different interests and approaches, which is essential for integrated rural development strategies and projects. Our findings in these four thematic areas have implications for the strategic frameworks and policy of the EU (and beyond) and future research agendas. We explicitly draw these out. The 14 case studies show that practitioners, grassroots initiatives and pilot programmes are already generating a wealth of experiences and knowledge that could be fruitfully used to inform higher-level policy development. The paper concludes that systemic change requires more critical reflection of conventional wisdom and approaches, and openness to ideas and practices that are outside the mainstream.



* Corresponding author. Instituto de Ciências Agrárias e Ambientais Mediterrânicas (ICAAM), University Évora, Gab. 202, Apartado 94, 7006-554 Évora, Portugal.
*E-mail addresses:* karlheinz.knickel@gmail.com (K. Knickel), redman.consultancy@gmail.com (M. Redman), ika.darnhofer@boku.ac.at (I. Darnhofer), amit.kolkore@gmail.com (A. Ashkenazy), tzruyac@post.tau.ac.il (T. Calvão Chebach), sandra.sumane@gmail.com (S. Šūmane), talis.tisenkopfs@lu.lv (T. Tisenkopfs), Romualdas.Zemeckis@asu.lt (R. Zemeckis), vilma.atkociuniene@asu.lt (V. Atkociuniene), maria.riveramendez@gmail.com (M. Rivera), agnes.strauss@boku.ac.at (A. Strauss), lokr@ign.ku.dk (L.S. Kristensen), schiller@ifls.de (S. Schiller), Marlinde.Koopmans@ilvo.vlaanderen.be (M.E. Koopmans), Elke.Rogge@ilvo.vlaanderen.be (E. Rogge).

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## 1. Introduction

The last decades have seen profound structural changes in European agriculture, food systems and rural areas. In large parts of Europe, agricultural production has become highly specialised and capital-intensive, and food processing and retailing have grown exponentially in scale (EEA, 2010; European Commission, 2011a, b). These changes have contributed to an abundant supply of cheap food for European consumers, and have supported the development of non-agricultural sectors by releasing labour resources and creating a steady demand for machinery, production inputs and services.

However, these structural changes also mean that contemporary food production is now largely decoupled from natural processes and much more dependent on industrially produced inputs and fossil fuels. The negative social and environmental outcomes of these developments have been widely analysed and documented (IAASTD, 2009; EEA, 2010, 2013; OECD, 2012). The risks associated with intensive farming systems, including their path-dependency and limited buffering capacities, are increasingly becoming apparent. Examples include the collapse of cereal production due to drought in regions accustomed to low but relatively stable rainfall levels; the nutrient surpluses and the related eutrophication of ecosystems and groundwater bodies in regions with a high concentration of intensive indoor livestock production; and the current economic problems in capital-intensive dairy farming (EEA, 2010, 2013; European Commission, 2011b).

The intensification of production and the growth of output in some specific areas means that other areas, generally with less favourable production conditions and/or more distant from markets, are being marginalised (Knickel, 1990; Knickel et al., 2013). The concentration of agricultural production and the increasing polarisation of agricultural structures has led to significant problems in both, intensive farming areas and less favoured areas (European Commission, 2010a, 2011b). There is a large risk that the very substantial public and private sector investments currently going into building a 'knowledge-based bio-economy' will further aggravate these problems, as this will reinforce the agricultural sector's focus on producing cheap raw materials (EU SCAR, 2015).

From the point of view of a more balanced development of rural areas, it seems of utmost importance to steer structural changes in directions that foster a more sustainable development overall, and that contribute to addressing the social, environmental and economic imbalances and challenges referred to earlier. Hence, the transformation and the adaptive capacity of the agricultural sector and of rural economies have become key questions (European Commission, 2015; Knickel et al., 2013; Horlings and Marsden, 2014; Peter and Knickel, 2016; IPES-Food, 2016).

The objective of this paper is to investigate how farms, communities and rural regions perceive and respond to the systemic challenges they are facing. Through 14 case studies, we investigate the strategies deployed by farmers and other rural actors in their efforts to maintain their quality of life and ensure continuity, not least through adapting and transforming in response to new challenges, opportunities and broader societal changes. We will explore the gaps between current policy and practice and the changes that are both needed and desirable.

## 2. The relevant scientific literature and policy discourses

What does the literature tell us about the gaps between existing practice and the needed changes, and in what direction are the strategic policy frameworks moving? In this section we will briefly review both of these issues before framing the research questions addressed in this paper.

### 2.1. Resilience

The introduction of this paper discusses the diminishing social-ecological resilience of farms and of rural communities. But, why is this a problem, and why have the research and policy communities come to regard resilience as so important? Detailed accounts of the enormous structural changes that have occurred in the European and global agricultural and food sectors in recent decades and the changes that are needed in order to meet the joint challenges of feeding the world and to significantly lower agriculture's environmental impact have been put forward by the European Commission (2010a, 2010b, 2011a, 2011b, 2015, 2016), the European Environment Agency (EEA, 2010, 2013, 2015), The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) (2009), Cooper et al. (2010), the Forum for the Future of Agriculture (FFA, 2016), Potočnik (2015) and others. The importance currently attached to resilience by the research and policy communities is very clearly a result of the declining social-ecological resilience of farms and of rural communities.

Resilience is generally understood as the capacity of social, economic and environmental systems to cope with change, both foreseeable trends and unexpected events or disturbances, by responding and reorganising themselves in ways that maintain their essential functions and their identity (Berkes and Folke, 1998; Walker et al., 2004; Folke et al., 2010). In the early 1970s Holling (1973) highlighted the importance of resilience, defining it as the ability *"to manage or cope with change"*. Milestad and Hadatsch (2003) and, most recently, Askenazy et al. (2017) argue that it is critically important to analyse and understand the interrelationships between farm, local/community and regional levels. Darnhofer et al. (2014a; 2014b) highlight the importance of diversity in strengthening resilience and, more recently (2016) have drawn attention to farmers' agency, the wider social forces that play influential roles, and the importance of a range of capacities: the capacity to conserve existing functions and structures (persistence), the capacity to deal with uncertainty through reorganisation and learning (adaptability), and the capacity to create a wholly new trajectory that involves a change in the very nature of the system (transformation). Herman (2015) adopted a socio-cultural approach in her exploration of the development of social resilience within agriculture and cautions that *"the particular relationship between farmers and the land, and the positive sense of connection and custodianship, can cement conservative socio-economic and environmental values, thereby constraining innovation"*. Lamine (2015) emphasises the possible reconnections between agricultural, food and environmental issues from a *territorial* agrifood systems perspective. In doing so, she goes beyond the prevailing sustainable development paradigm, which focuses on the interactions between agriculture and the environment. She emphasises the importance of relocalisation and transition pathways and the diversity of actors and institutions involved in agrifood systems. Focussing on the related research, Wilson (2010) argues the need for agricultural economists and social scientists working on multifunctionality to work together more closely.

Resilience has also become increasingly important as a reference point in policy discourse. One can argue, however, that the term is often used as a buzzword with little clarity about its meaning. OECD (2012) emphasises in its 'Environmental Outlook to 2050: The Consequences of Inaction' that *"continuing with business-as-usual will have adverse and costly impacts on human well-being, security and economic growth"*, and that fundamental changes are needed. The 'Europe 2020' strategy seeks to promote a *"more resource efficient, greener and more competitive economy"*. We should also look to the Common Agricultural Policy (CAP), which is the primary EU instrument for encouraging sustainable resource

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