

Coping with landscape change: Lessons from a comparative case study on agricultural abandonment in the Black Forest, Germany

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Europe's mountain areas have been subject to massive land use change over the last decades. Due to agricultural abandonment, forest cover is on the increase. Mainly large-scale agri-structural and economic factors serve as drivers of this process which is characterized by an array of ecosystem services trade-offs. On the one hand, there are positive effects e.g. in terms of carbon sequestration. On the other hand, forest expansion may lead to a loss of biodiversity, as the land abandoned is typically high nature value grassland on slopes and marginal sites. The expanding forest in many cases grows over ancient elements of the landscape such as stone walls, diminishing their function as archives of cultural heritage. Changes to the mosaic of forest and open land as well as the abandonment of traditional land-use practices can result in a loss of the landscape character deemed typical of the region by both local residents and tourists. This and the loss of scenic views often lower the recreational value. Afforestation can also change the local climate, for example, by altering airflows.

In sum, forest expansion at multiple scales affects a wide range of closely interwoven ecological and social aspects. Especially in rural central and northern Europe, where most of the mountainous areas are dominated by forests already, the overall effects are rated as negative. As forest expansion has been of considerable societal concern in many regions for decades, a number of initiatives aims at preventing further forest expansion and preserving the remaining open land. Activities encompass political interventions at state, national, and European Union-level, but also action at a local level, carried out by the affected communities or even small groups of individual local stakeholders. However, it turns out that the success of the efforts to improve the resilience of rural landscapes and also the identified possible solutions strongly vary from place to place.

This contribution presents insights from a comparative case study of a number of municipalities in the Black Forest mountain range in Germany. Each of these communities is striving for resilience in the face of agricultural abandonment, but the steps actually taken and their results are quite diverse. Drawing on these cases, the paper explores factors which are crucial for a social-ecological system's ability to cope with change. Specifically, it addresses the role of communities and local actors in managing landscape change. The results enhance the understanding of how local stakeholder involvement and empowerment and creative exploration of possible visions for the future contribute to resilience. Moreover, the paper sheds light on the question of how these local driving forces for resilience relate to incentives on a superordinate level such as regulations or funding schemes and underpins the necessity for leeway allowing for locally specified ways of adaptation. The paper integrates results from a transdisciplinary research project in the years 2005-2008 and older studies in the region and thus draws conclusion from analyses covering a time period of roughly 50 years.