Developing indicators for sustainable regional development in mountain areas

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Scientific studies show that park areas and world heritage sites can make a substantial contribution to regional value creation and development. A central role in these mechanisms is the guaranteed protection of important resources such as glaciers and water reservoirs or biodiversity due to a globally recognized protection status. Beyond the protection of biophysical resources, keeping alive traditional cultural landscapes, institutions and local forms of knowledge is an important feature of heritage sites too. This feature is crucial as it builds the bridges between natural and cultural resources in heritage sites within broader spatial contexts. The comprehensive view on heritage sites, therefore, opens up novel pathways for positioning heritage sites as social-ecological systems that play an important role in regional sustainable development. The contribution of these areas to sustainable regional delevopment is mainly evident in tourism through the creation of jobs in related sectors such as hotels, outdoor infrastructure, tourist services and visitor catering. In addition, these areas often have indirect effects on infrastructure, industrial sectors or agricultural structures. However, little is known about the potential of heritage sites and park areas as social-ecological systems to contribute to sustainable regional development. Often neglected but potentially strong elements, these areas should be integrated into sustainable regional development agendas.

This knowledge gap is closely related to the lack of globally comparable indicators for assessing sustainable regional development in mountain areas in general. Comparable indicators are a necessary prerequisite to monitor and analyze sustainable regional development and, where necessary, to intervene. Hence, a globally comparable set of indicators for sustainable regional development in mountain areas can present a basis for decision making in affected areas, particularly in the face of global changes such as climate and land use change, biodiversity loss, migration or changed social and cultural conditions for inhabitants of mountain areas.

Heritage sites and park areas offer themselves for the development of an indicator set for monitoring and evaluating sustainable regional development in mountain areas if they are treated as comprehensive social-ecological systems as mentioned before. Their development is an inter- and transdisciplinary endeavour that relies on the integration of different types of knowledge from social and natural sciences as well as from actors with a non-academic background. While the social and natural sciences can contribute their expert knowledge to questions of social wellbeing, economic development, environmental quality or the changes of physical parameters, the knowledge of non-academic actors is essential for defining desirable futures and environments they would like to live in. The process of defining desirable futures

contains many normative aspects and has to rely on social negotations rather than drawing on scientific knowledge alone.

In this contribution we introduce a transdisciplinary approach for developing a set of indicators for sustainable regional development in mountain areas. This approach is being applied in several research projects on the sustainability of food systems, just transition within food systems, and sustainable regional food provision in mountain huts. We present some of the learnings of this approach and point to pitfalls when engaging in such processes.

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