Interdisciplinary collaboration and joint knowledge production in climate change adaptation in mountain regions in South Asia, Latin America and Switzerland

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The level of already committed climate change implies massive impacts and risks to natural and human systems on the planet which probably have been underestimated so far, as recent research and science-policy assessments such as from the IPCC indicate. Scenarios with less stringent emission reduction pose even greater risks of partly unknown dimensions. Adaptation to climate change is therefore of critical importance, in particular for countries with low adaptive capacity where climate change can seriously undermine efforts for sustainable development. Mountains are among the hotspots of climate impacts and adaptation.

Climate adaptation is fundamentally an interdisciplinary and transdisciplinary endeavor. Various sources of knowledge and perspectives need to be considered and integrated to produce actionable and solution-oriented knowledge. While experiences on joint knowledge production (JKP) has been increasing over recent years there is still missing clarity how to design and implement such a process in the context of climate adaptation.

Here we analyze experiences from a new initiative and network of climate adaptation in education and research with institutions from South Asia, the Andes and Central America, and Switzerland (knowledgeforclimate.net). Partners form a highly multi-disciplinary network with diverse cultural and institutional backgrounds which is both an important asset and challenge for interdisciplinary collaboration. A core of the collaboration are case studies conducted in all six countries in mountain contexts which are developed considering different disciplinary perspectives and represent the basis for both research and teaching. JKP takes place at different levels which need to be systematically and carefully analyzed.

We find that the processes of JKP are diverse, complex, and highly dependent on the interests and roles of actors within a network. To keep such processes alive, signposts in form of analysis and intermediary products along the network lifetime should be positioned as means of stocktaking and monitoring for the future.

We suggest that existing models of JKP need to be broadened to better accommodate the high diversity and non-linearity of JKP processes. JKP does not just happen as a product of interdisciplinary collaboration but needs continuous reflection, research, update and upgrade.
Trust and a range of common interests among partners in the network have been identified as key aspects in the process. A particular challenge furthermore is to dedicate enough time and resources to the framing process but then clearly moving beyond into the action and solution space. Harmonizing different forms of knowledge pertinent to climate adaptation in mountains and harvesting the diversity while accepting possibly limited consensus is essential, yet, it is not a priori predictable where this balance lies.