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>> SYNTHESIZE MOUNTAINS OF KNOWLEDGE <<

Submitted Abstract

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Abstract

Mountains regions are among the most sensitive to the effects of climate change, with rising temperatures, melting snow and ice, and changing precipitation patterns affecting ecosystems, exacerbating natural hazards, and threatening lives and livelihoods. Adapting to the challenge of climate change requires new support mechanisms and innovative solutions to enhance local adaptive capacities. To help facilitate this process, the Adaptation at Altitude (A@A) programme, funded by the Swiss Agency for Development and Cooperation (SDC), has established a unique global database of tried, tested, and replicable climate change adaptation solutions for mountainous regions. This database aims to make these solutions easier to find, explore, and to give visibility and recognition to those contributing towards sustainable mountain development under a changing climate.

Here we provide a brief synopsis of the approximately 60 solutions uploaded thus far to the database, and report on common barriers to implementation that have hindered long-term transformative outcomes across different geographic regions. While all mountain regions of the world are represented, a large proportion of reported solutions (45%) initially uploaded were from South America, with around 30% of the solutions reported from South Asia. A concerted effort in 2022 is therefore focusing on increasing the contributions from Africa, Central Asia, and the Caucasus. There is a balance of solutions addressing issues of heat and drought on one hand, and issues relating to an excess of water on the other (floods and landslides). We also see that the focus of most solutions has been at the source (high alpine and upland environments), with less attention to the downstream urban environments where impacts can be most acutely felt.

One of the key barriers to adaptation is the reported lack of technological-capacities, particularly at sub-national levels. As a consequence, the implementation of solutions is often outsourced to external experts, who may lack the necessary connection to the ground-level. While solution providers have invested heavily in technical capacity building with key stakeholders, high staff-turnover means that skills are not institutionalised. In addition, key stakeholders, especially at the political level, often lack the necessary commitment to support the long-term maintenance of adaptation solutions, especially in terms of finance. This is despite the fact that local populations and community groups support further action. Hence, if coupled with training and empowering of local populations to take ownership of adaptation solutions, long-term financial strategies could significantly enhance the potential for sustainable outcomes.

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