

Editorial

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Source: Mountain Research and Development, 24(1) : 3

Published By: International Mountain Society

URL: [https://doi.org/10.1659/0276-4741\(2004\)024\[0003:E\]2.0.CO;2](https://doi.org/10.1659/0276-4741(2004)024[0003:E]2.0.CO;2)

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Dear Readers,

Mountain regions are a rich base of natural resources and livelihoods, but they are also hazardous environments. The Kolka Glacier catastrophe that occurred in North Ossetia on 20 September 2002—described and interpreted by Vladimir Kotlyakov, O. V. Rototaeva, and G. A. Nosenko in the Notes section of this issue—is just one among many examples of recent disasters that show how unpredictable and destructive mountain environments can be. The scale and nature of this event are mind-boggling. No human intervention could have prevented it, though human-induced climate change may well be one of the factors that caused the premature—and therefore unpredicted—surge of the Kolka Glacier.

Diminishing hazards by means of costly infrastructure, and developing elaborate prediction models will never suffice to protect human lives and livelihoods, especially in unstable, geologically young mountains such as the Caucasus. Moreover, population increase in (formerly sparsely inhabited) mountain areas also increases the impact of disasters on humans. Hazards in mountains must therefore be managed with great care, which includes taking stock and advantage of the natural and social resilience in an area. The concept of resilience is based on the understanding that social and ecological systems are interactive, interdependent and dynamic. It addresses such questions as whether systems can cope with shock or gradual change and recover to a desirable state, the extent to which they are capable of self-organization, and the capacity for learning and adaptation within a system. The Development Section of this issue of MRD addresses the question of hazards in mountain regions while also focusing on resilience.

A resilience-based approach poses new, unusual and therefore demanding challenges to the management of socioeconomic systems and to society as a whole. The need for a change in approaches to dealing with hazards is taken up by Juergen Weichselgartner and Jan Sendzimir. Irasema Alcántara-Ayala focuses on local knowledge and the importance of involving the local population in hazard management. Damage from hazards in mountain regions is increasing and has complex “hidden” economic impacts, as pointed out in the article by Christian Nöthiger and Hans Elsasser. Carmenza Robledo, Martin Fischler, and Alberto Patiño demonstrate how community vulnerability to hazards can be reduced. Finally, Markus Zimmermann offers a historical perspective on hazard management and technical measures, showing that land planning is vital, but difficult when the demand for land increases. However, focusing on resilience is not far-reaching enough to provide basic solutions to the current problems of global change, including global climate change and the impact of economic globalization. The questions of what causes these problems, how they increase vulnerability to the impact of natural disasters, and how they can be mitigated need to be dealt with at other levels as well.

The papers in the Research Section focus on a variety of important themes, eg, the need for reliable and relevant mapping for sustainable mountain development. One deals with “invisible mountains” at the policy level in South Africa, and a second calls attention to the need for revision of data in the Himalaya. Other papers in this section deal with resource conflict resolution in Nepal, improvement of tea agroecosystems, and mountain lake fishing as an economic opportunity in Norway.

We hope readers will come away from this issue of MRD with new insights into the problems of hazards and resilience in the world’s mountain environments.

Hans Hurni, Editor-in-Chief

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