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## **Focus Issue: Food Security and Sustainable Development in Mountains**

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# Focus Issue: Food Security and Sustainable Development in Mountains

Dear Readers,

Food security is a key concern for sustainable development in mountain areas. According to the Food and Agriculture Organization, in 2012 “1 out of 3 mountain people in developing countries [was] vulnerable to food insecurity,” while the “global estimate ... for the same countries ... [was] 1 out of 8 people” (Romeo et al 2015:40). The main causes of hunger and malnutrition—in mountains and globally—are rooted in persistent poverty, political and social marginalization, asymmetries in access to land and other natural resources, and the growingly uneven sharing of economic benefits derived from food value chains. Solving the food crisis requires moving beyond the current focus on production and productivity, and developing pathways towards more sustainable food systems. These food systems must be able to provide access to food for all, help implement the right to food, contribute to the reduction of poverty and inequality, and have optimal levels of environmental performance and social-ecological resilience (Rist et al 2016). In addition, research should support policy aiming to work towards governance of food systems that considers the broad constellation of social, economic, trade, investment, and environmental policies affecting these systems, in an effort to establish higher levels of policy coherence (IPES-Food 2015).

The papers in this focus issue contribute to better understanding of the root causes of food insecurity in mountains. They also provide insights into possible options towards more sustainable food systems. Bernet and colleagues for instance, in the MountainDevelopment section, present “nutrition-sensitive agriculture” as a promising approach to address nutrition and livelihood issues in mountain contexts, based on an analysis of interventions carried out in Ethiopia, Kyrgyzstan, Nepal, Pakistan, and Peru. Key to this approach is cross-national capacity building of local rural service providers.

In the MountainResearch section, the first 3 articles explore the dynamics of food systems and their effects on mountain communities from different perspectives. The study by Grocke and McKay uses a nexus approach to investigate the impacts of the construction of the first road in a remote area of Nepal on food security and nutritional status and shows that malnutrition is occurring both as underweight and overweight, for complex reasons. In the following paper, Spies examines how major transformations of farming systems and livelihoods have affected the resilience of food systems in a district of Northern Pakistan. His findings show that—contrary to what may be assumed—the shift from a subsistence-based food system to a multi-local system dominated by off-farm livelihoods, government subsidies, and external markets has led to an overall increased resilience to food crises. In her study in the Indian Trans-Himalaya, Dame also analyzes translocal livelihood diversifications and the shift to a supply-oriented food system. Her results highlight the socioeconomic and cultural challenges emerging from these dynamics, such as growing disparities, new dependencies, and an erosion of social institutions.

Six further MountainResearch articles provide us with insights from a diversity of themes and geographies relevant to sustainable mountain development. Laha and colleagues study the contribution to Himalayan households’ livelihoods of an important wild resource, the caterpillar fungus. In the next article, Hardy and co-authors analyze the economic performance of a series of products in walnut afforestation and reforestation plots in Southern Kyrgyzstan, including annual crops, berries, and fast bearing fruit trees. The following piece brings us to Slovakia, where Parobeková et al quantified change in dwarf pine cover by elevation over several decades. The subsequent article takes us back to the Himalayas, where Nicholson and co-authors study the bacteriological characteristics and physical parameters of drinking water sources in Sagarmatha National Park. We then have 2 papers that address the topic of tourism in mountain areas. While Purdie and Kerr investigate change in glacier conditions on a popular mountaineering route on New Zealand’s Aoraki Mount Cook, Bielański and co-authors evaluate the impacts of ski tourism on wildlife in Poland’s Tatra National Park, using data from ski tourers.

In the MountainAgenda section, Izquierdo and colleagues present an analysis of land use change in the Argentinian puna over the last 6 decades, focusing on human population dynamics and urbanization, livestock and pastoralism, mining and tourism activities, and wild vicuña populations. Based on their study, they propose research priorities for fostering sustainable development and wildlife conservation in the area.

In the MountainPlatform section, the Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN) describes its work on sustainable water resource management in the Andes. CONDESAN activities focus in particular on the implementation and monitoring of sustainable land and water management practices to conserve and restore hydrological services in the region. In the following MountainPlatform article, the Centre for Mountain Studies (CMS) at Perth College, University of the Highlands and Islands in Scotland, offers an interesting overview of its research, education, and knowledge exchange activities in the field of sustainable development in mountains.

Additional promising articles on food security and sustainable food systems are currently being peer-reviewed and will be included in the next issues of MRD. We will thus continue the conversation on this important topic.

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