Focus Issue: Mountain Forests and the SDGs

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Editorial

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Dear Readers,

Mountain forests play a key role in securing mountain livelihoods by providing timber, fuelwood, food, fodder, and medicine. In addition to these provisioning services, they offer cultural services as well as locally and globally significant regulating and supporting services, such as protection from natural hazards, carbon sequestration, and biodiversity. These important services provided by mountain forests have been explicitly acknowledged in 3 targets of the United Nations' Sustainable Development Goals (SDGs)—targets 6.6, 15.1, and 15.4 (https://sustainabledevelopment.un.org/sdgs). But what does this imply concretely for research, policy, and practice? The Guest Editors of this Focus Issue, Georg Gratzer and William S. Keeton, invited researchers to explore interrelations between the SDGs and forest management issues around the world, in 2 workshop sessions that took place at the "Mountains of Our Future Earth" conference in Perth, Scotland (5–8 October 2015). Most of the papers published in this issue of MRD have emerged from these workshops and the subsequent call for papers inviting authors to reflect on the relation between forests and the global sustainable development agenda.

The first paper in this issue is an Introductory Essay by the Guest Editors. They very usefully introduce the debate about the role of mountain forests in sustainable development by reminding us how the global debate shifted from a rather sectoral approach focused on developing countries (the Millennium Development Goals or MDGs) to a systemic approach that addresses all of the world's countries (the Sustainable Development Goals or SDGs). They then show what role mountain forests (can) play in fulfilling the SDGs; this is followed by a discussion of how the SDGs can help achieve sustainable development in mountain forests. Both parts are based on a broad review of the state of the art in forest and forest management research, including an analysis of the 8 papers on mountain forests selected for this Focus Issue. The authors conclude with more general remarks on the role of science in achieving the SDGs.

The Introductory Essay is followed by 6 mountain forest papers in the MountainResearch section. In the first, Nischalke et al use a gender lens to analyze whether—and under what socioeconomic and cultural conditions—agroforestry in an Ethiopian natural coffee production area can help local communities improve their livelihoods while respecting conservation needs. In the following paper, Lama et al examine the impact of migration on community-level gender relations in forest user groups in 3 districts of Nepal; they show that gender norms and time poverty make it difficult for women to achieve a higher level of participation and leadership in forest management. The next paper, by Toscani and Sekot, presents and illustrates a method to analyze the profitability of small-scale farm forestry in Austria's mountain areas; their case study allows them to show that profitable timber production is not incompatible with sustainable forest management. This analysis is followed by an article by Min et al, who examine the impact and risks of small rubber production in Xishuangbanna; based on their extensive survey, the authors show that rubber has taken over the rural economy, bringing both benefits as well as risks due to price fluctuations and loss of livelihood diversification. The following paper, by Wangdi et al, presents the results of a throughfall-exclusion experiment in a forest area in Bhutan, the aim of which was to simulate the impact on vegetation of changes in monsoon patterns due to climate change. Manral et al, finally, assess the resilience of mountain forests to various disturbance scenarios in a protected area in the Western Himalaya, based on an extensive survey that includes an analysis of livelihoods and a thorough vegetation study.

In the MountainAgenda section, 2 papers present agendas for research on forest systems and sustainable development. The first, by Mathez-Stiefel et al, focuses on Andean forest landscapes and their capacity to contribute to sustainable development in the context of climate change and increasing resource use. Using a conceptual framework that draws on sustainability science and social–ecological systems research, and on the results of a literature review and 3 workshops with researchers and development experts, it maps out research needs for the next 15 years. The second article, by Halofsky et al, is the last of the mountain forest collection. It focuses on public land forests in the Rocky Mountains, USA, and describes 2 expert-driven assessments of climate change vulnerabilities and the resulting formulation of adaptation options, focusing on aspects that affect community economic security and livelihood security in these forest areas and identifying ways in which federal land managers can help sustain forest and range productivity.

Two further MountainResearch papers present interesting results of research on property rights, management of rangelands, and herder livelihoods in Bhutan (article by Tenzing et al) and a thoroughly tested method to model urban spatial growth in mountainous areas in Western China (article by Huang). In the MountainPlatform section, the Centre for Development and Environment presents 2 larger initiatives to increase integration of knowledge for sustainable water and land management and improve governance in highland–lowland contexts. The issue closes with 3 interesting book reviews in the MountainMedia section.

We hope that this issue will increase understanding of mountain forests as a key resource for sustainable development beyond the 3 explicit targets in the SDGs.

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