



## Editorial

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Dear Readers,

The third World Mountain Forum will be held from 17 to 20 October 2016 in Mbale, Uganda, at the foot of the iconic Mount Elgon, with the aim of strengthening dialogue between researchers and policy-makers for sustainable mountain development around the world. Choosing Africa as the event's host continent can be understood as an attempt to place African mountains more visibly on the agenda for achieving the Sustainable Development Goals in mountains, and to strengthen mountain-relevant research and policymaking in Africa. Indeed, as shown by a recent report (Romeo et al 2015), 11% of the world's mountain regions are located in Africa, and they host 22% of the global mountain population. Moreover, from 2000 to 2012, the number of people living in African mountains increased by an astounding 38%. This trend is not (yet?) reflected in the attention given to African mountains in policymaking and research. In this issue of MRD, peer-reviewed papers on African mountains are sorely missing, but thanks to the World Mountain Forum initiative (hosted by the Albertine Rift Conservation Society, ARCOS) and the efforts of institutions such as the Afromontane Research Unit (see below), this will hopefully change in the near future.

This said, let us begin with a look at this issue's MountainPlatform section, in which 3 of our International Mountain Society members present their activities. Their articles provide good examples of the important role that mountain institutions play in advancing both mountain research and sustainable development in mountains. The Afromontane Research Unit (ARU) has just started its academic operations as part of the University of the Free State in South Africa. Its goal is to advance "montane research in an environment where relatively little research has been undertaken until now, focusing on enhancing interest and building capacity in multidisciplinary research." The Mountain Societies Research Institute (MSRI) is part of the University of Central Asia's Graduate School of Development; it "conducts transdisciplinary research for development, with the goal of improving the livelihoods and wellbeing of mountain societies in Central Asia and building their resilience," and aims to increase the academic pool of researchers in the region. And the Centre for Mountain Studies (CMS) at Perth College, University of the Highlands and Islands, in Scotland, already has a long tradition of promoting research and teaching on and for mountains and mountain people; its current article presents the results of successful collaboration among a number of partners aiming to influence European policy in favor of mountain regions, based on very interesting evidence collected in recent years. All 3 institutions are committed to training researchers capable of conducting the kind of development-oriented scientific work needed to promote sustainable development in mountains.

This brings us to this issue's peer-reviewed sections. The first article in the MountainResearch section presents an integrative approach to assessing the potential for photovoltaic power generation in the Eastern Pamirs of Tajikistan: Zandler et al conclude that a photovoltaic power plant in their remote study area would offer energy at a reasonable cost and contribute to both poverty alleviation and environmental conservation; their approach is suitable for replication in other remote mountain regions. In the next paper, Mayer and Meili describe how "new highlander entrepreneurs" in Switzerland help reverse the trend of outmigration from peripheral mountain regions in their search for a higher quality of life, following business opportunities and fostering economic and social initiatives in their new home. Bernués and coauthors analyze livestock farming systems in Norwegian mountain and fjord areas with a focus on farmers' perceptions of their goals and the different functions of agriculture; the authors insist on the need for integrated (mountain) policies that address agricultural, environmental, and rural development while also taking into account the diversity of farmers' perceptions and goals.

This is a conclusion that also applies to the next paper, in which Sharma et al investigate why large-cardamom production in the Sikkim Himalaya—until recently the key area producing this valuable crop for the world—underwent a significant decline, and what could be done to restore its productivity; they conclude that 4 broad types of drivers (biological, socioeconomic, institutional/governance-related, and environmental/climate-change-related) need to be considered. Climate change is also one among several factors that have triggered land use and land cover changes in the Sagarmatha National Park in Nepal: in their paper, Garrard and coauthors differentiate the nature of these factors according to their origin (global to local) and to whether they have long-term or short-term effects on the sustainability of the National Park. Examining another protected area in Nepal (Manaslu Conservation Area), Thapa et al discuss grazing intensity along an elevational gradient; they conclude that grazing and herd size increased with increasing elevation, as people at higher altitudes benefitted most from cattle herding due to cross-border trade; and they found that grazing had different effects on species richness at different altitudes, also confirming the intermediate disturbance hypothesis. In the following article, Nyein Chan and Shinya Takeda show that transition of land use can also be observed in Myanmar: they describe 2 villages where swidden agriculture is decreasing due to several new socioeconomic factors, leading to an increased above-ground biomass with the age of fallow.

In an effort to improve ecological knowledge of the remote Peochar Valley in the Hindu Kush, Rahman et al measured the effect of environmental variables on plant species composition, showing that elevation, aspect, grazing pressure, soil depth, and rock type had a significant effect on species composition and diversity; they recommend conservation measures for all flora of this valley and for rare species in particular. In the next paper, Song et al analyze how changes in environmental conditions influenced forest assemblages, finding that soil moisture and temperature regimes were associated with elevational distribution of tropical tree species in Xishuangbanna, southwest China, and that predicted increase in temperature and droughts may result in contraction of lower forest types and a downhill shift of tree species at higher elevations. Kirch and co-authors tested 3 field methods to visually assess pasture conditions in mountainous terrain in Kyrgyzstan, with contrasting results and conclusions about applicability, underlining that further research in collaboration with farmers is needed to refine the methods and improve their applicability and reach.

The final peer-reviewed paper is in the MountainAgenda section and offers so-called target knowledge (Hurni et al 2013) for climate adaptation in mountains. Based on a case-study analysis of the status of knowledge from natural science disciplines as well as research needs relevant to the national and subnational climate adaptation policies of various countries in Europe, Latin America, and Asia and of one US State, Muccione and colleagues conclude that there is a need for improved climate and socioeconomic data (including sharing of

data generation methods between the global North and South), more integrated and combined top-down and bottom-up assessments, and more impact and vulnerability assessments at regional and local levels—ie at scales that are relevant to planners and managers in mountain areas. They conclude by cautioning against a simple knowledge transfer paradigm and remind us that it is important to continue exploring which knowledge production paradigms would best be suited to support sustainable adaptations to increasing environmental stress in mountain regions.

We hope that readers will enjoy the findings presented in this issue of MRD and that we will meet some of you at the World Mountain Forum in Mbale next October; we also hope that more papers on African mountains, mountain communities, and mountain development will be submitted and successfully pass review in the near future.

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