



The Hindu Kush Himalaya Assessment. Edited by Philippus Wester, Arabinda Mishra, Aditi Mukherji, and Arun Bhakta Shrestha

Author: Price, Martin F.

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Martin F. Price

martin.price@perth.uhi.ac.uk

Centre for Mountain Studies, Perth College, University of the Highlands and Islands, Perth PH1 2NX, United Kingdom

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The Hindu Kush Himalaya Assessment is an important publication that, although available as a hardcopy book, will be accessed by most readers online. Following 5 years of work, it is the first major output of the Hindu Kush Himalayan Monitoring and Assessment Programme (HIMAP), coordinated by the International Centre for Integrated Mountain Development (ICIMOD), where all 4 editors work. Comparably to other major assessment efforts such as those of the Intergovernmental Panel on Climate Change (IPCC), each chapter has 1 or more coordinating lead authors and a larger number of other lead authors and contributing authors, a review editor, and a corresponding author. The majority of these are from the Hindu Kush Himalaya (HKH) region, but others come from around the world.

The first chapter introduces the assessment, noting that the fourth assessment report of the IPCC, in 2007, identified a lack of consistent long-term monitoring in the HKH and that little progress had been made by the time of the fifth assessment report in 2014 (Pachauri and Meyer 2014). After very briefly introducing the region, its population, and river basins, the chapter presents the objective(s) and rationale for the assessment, followed by 13 “critical questions” and 9 “priorities for mountains and people of the HKH”—each with targets and indicators, which are then cross-referenced to the United Nations’ Sustainable Development Goals (SDGs)—and the process followed for the assessment.

Most of the remaining 15 chapters are based on literature reviews and have a common structure, starting with a “chapter overview” with “key findings” and “policy messages,” and a summary of the evidence, indicating whether specific elements are “well established,” “established but incomplete,” “unresolved,” or “inconclusive” (though these terms are not used in the chapter on the cryosphere). These confidence terms are adopted from the Intergovernmental Science Platform on Biodiversity and Ecosystem Services (IPBES). As noted by David Molden, Director General of ICIMOD, in the

Foreword, while one rationale for the assessment is “about extending the accessible knowledge base,” “[t]he main objective of the assessment is to inform decision-makers with the best science and knowledge we have” (p v). Both from reviewing the table of contents (eg chapters with more of a natural science focus tend to be longer than those with a social science focus) and from reading the chapters, it is clear that the extent of, and confidence in, the existing knowledge—and its depth across the region and its very diverse countries—vary considerably between topics. This inevitably has implications for the use of knowledge for decision-making but also suggests where research priorities could lie.

Briefly, the 15 main chapters address drivers of change to mountain sustainability; trends of, and adaptation to, climate change; biodiversity and ecosystem services; energy needs; the cryosphere; water; food and nutrition security; air pollution; disaster risk and reduction; poverty and vulnerability; gender and social exclusion; migration; and governance. As well as text, figures, and tables, the chapters include illustrative text boxes. Overall, these chapters may be regarded as the state of the art regarding knowledge of the HKH, although in some cases the latest data are not presented. For example, a table and figure on the number and area of protected areas in the HKH (p 148) is based on 2007 data, rather than current data, easily available from the World Database on Protected Areas. In addition, for some of the maps, no sources are indicated. There are also a few typos. However, overall, there are very few such considerations. One advantage of the fact that this is an open access publication is that all figures are in color, which would be prohibitively expensive for a hardcopy book of this scale.

Chapter 4, which presents scenarios for the future of the HKH, looking forward to 2080, is different from the others. These scenarios emerged from 6 workshops within a participatory visioning exercise in 2016. Decision-makers and scientists from the HKH countries determined 3 scenarios—prosperous, business as usual, and downhill—each with a storyline. In a second step, these were then backcast to 2015 baselines for each country, using indicators from the evidence presented in the other chapters. A third step was to extrapolate existing trends and policies toward 2030, the target year of the SDGs, although these refer to entire countries, not only the parts in the HKH. This chapter adds value to the book, and it will be interesting to see to what extent the scenarios—or parts of them—become reality. However, as this chapter effectively provides a forward-looking conclusion to the book, it would have been more logically placed last.

The HKH Assessment sets a benchmark for the integrated assessment of the knowledge base for a large mountain region and represents the result of a major investment of resources from the governments of the 8 states of the HKH region, as well as those of Australia, Austria, Sweden, Switzerland, and the UK—and the more than 350 contributors. As David Molden notes, “there is a value beyond the assessment report itself, in bringing together a

network of people who can work across disciplinary and geographical boundaries in the future” (p v). It is to be hoped that this network continues to exist and that, as planned, this will be the first of a series of assessments; perhaps the next should be for 2030, the target year for the SDGs. At the same time, it should be recognized that the level of resources committed to the project (including its open-access publication) shows the unique international attention to this particular mountain range. Although it would be desirable to have comparable assessments for other major ranges (or the mountains of a particular continent), finding the necessary resources would probably be a far greater challenge.

At the time of writing (July 2019, 3 months after publication), there had been over 330,000 downloads of chapters of the book—in order of numbers of downloads: the introduction, and then the chapters on the cryosphere, climate change, energy, and water. However, numbers of downloads of other chapters were not much lower. This shows the great demand for this assessment and the value of open-access publication.

REFERENCE

Pachauri RK, Meyer LA, editors. 2014. *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva, Switzerland: Intergovernmental Panel on Climate Change.