Review of Web Sites, CD ROMs, Books

Author: Ives, Jack D.

Source: Mountain Research and Development, 20(3) : 288-289

Published By: International Mountain Society

URL: https://doi.org/10.1659/0276-4741(2000)020[0288:]2.0.CO;2

Biodiversity Web Sites

Searching for "biodiversity" on the web produces an overwhelming amount of hits. While wetland, marine and coastal habitats, and forests are well represented, it seems that mountain ecosystems receive little attention. Some recent initiatives have been taken to preserve biodiversity in mountain environments and promote activities focusing on sustainable development and conservation. The following web sites were chosen because of their significance or the originality of their approach. The list makes no claim to comprehensiveness. It can be accessed via MRD's web site, www.MRD-journal.org.

Development

'Mountain biodiversity at risk'
www.idrc.ca/media/MountainBio_e.html
The IDRC Briefing No. 2 is an introductory electronic paper on the role of mountain biodiversity for development and on current risks of loss of biological diversity.

Mountain Forum (MF)
www.mtnforum.org
Several electronic papers on biodiversity are available in the MF library. MF also has a site in Spanish, www.condesan.org/infoandina/foro/mf2.htm.

Mountain biodiversity at ICIMOD
www.icimod.org.sg/focus/biodiversity/biodiv_toc.htm
A section especially devoted to mountain biodiversity in the Hindu Kush Himalayas. (Information on plant diversity and articles on local agrobiodiversity).

Center for Biodiversity and Indigenous Knowledge
www.cbik.org
NGO based in Kunming for "Conserving Nature and Culture, and Promoting Socially Equitable and Environmentally Sound Development In Mountain Ethnic Minority Areas of Southwest China."

Instituto Nacional de Biodiversidad, Costa Rica (INBio)
www.inbio.ac.cr
INBio generates knowledge about Costa Rica's biodiversity. It disseminates information in many formats designed to address national and international users. The site could be a model for other country-specific web sites on biodiversity. (Contains very informative databases, ie, Unidades Básicas de Informacíon, darnis.inbio.ac.cr/ubis/.)

Local Initiative for Biodiversity, Research and Development LI-BIRD
www.panasia.org.sg/nepalnet/libird/
Nonprofit organization committed to local initiatives for sustainable management of renewable natural resources and to improving people's livelihoods in Nepal. (Information about on-going and completed projects.)

Convention on Biological Diversity (CBD)
www.biodiv.org
Official web site of the Convention on Biological Diversity. Not specifically on mountains but fundamentally relevant.

World Resources Institute, Biodiversity
www.wri.org/wri/wri/biodiv/biodiv.html
Interesting approach: biological diversity is considered within the context of cultural and ecosystem diversity. (Information on the causes of biodiversity loss and opportunities to prevent biological impoverishment. Not specifically on mountains.)

Global Biodiversity Forum (GBF)
www.gbf.ch/index.html
An independent and open mechanism to analyze and discuss priority ecological, economic, institutional, and social issues related to biodiversity conservation and sustainable and equitable biological resource use. Provides a multistakeholder forum to support and enhance the objectives of CBD and other biodiversity-related instruments at the national and international levels. (Contains documents of the sessions and workshops since 1993. Not specifically on mountains.)

Research

Alexander von Humboldt Biological Resources Research Institute, Colombia
www.humboldt.org.co/
The Institute aims to promote, coordinate, and carry out research that contributes to the conservation and sustainable use of biodiversity in Colombia. (Information about projects, lists of endangered species.)

Global Mountain Biodiversity Assessment (GMBA)
www.unibas.ch/gmba/index.html
GMBA aims to synthesize available evidence and initiate new research activities with a comparative focus. After the inaugural GBMA conference in September 2000, this web site will be continually updated.

DIVERSITAS
www.icsu.org/diversitas/About/index.html
The only existing umbrella program to coordinate a broad research effort in the biodiversity sciences at the global level. DIVERSITAS launched GMBA and IBOY (International Biodiversity Observation Year 2001–2002, www.nrel.colostate.edu/IBOY/).

Sites With Further Resources

IISD's selected web resources on biodiversity
www.iisd.ca/linkages/biodiv/biodivsites.html

BIN21 Biodiversity Information Network
www.bdt.org.br/bin21

Biodiversity Conservation Information System (BCIS)
www.biodiversity.org
A joint initiative of IUCN, WCMC, and others. Includes access to BIOSEEK, a biodiversity search engine.

Virtual Library on Biodiversity and Ecology
conbio.rice.edu/y1/
Specializes on reviewing internet information sources pertaining to ecology and biodiversity based on their educational value.

Compiled by Susanne Wymann von Dach, Assistant Editor, MRD, with the kind cooperation of Mountain Forum staff and members and Jelle Maas, The Tropenbos Foundation, Wageningen.

Books

Himalaya: Life on the Edge of the World.

By David Zurick and P. P. Karan. The Johns Hopkins University Press, Baltimore and London, 1999 (released 11 January 2000). xiv + 355 pp. US$34.95. ISBN 0-8018-6168-3.

David Zurick and P. P. Karan have produced an aesthetically pleasing volume on the Himalaya. They define their region in the strict sense to include the extremely mountainous land between the Indus gorge in the northwest and the gorge of the Yarlung Tsangpo–Bramhaputra in the east, together with parallel strips of the North Indian–Pakistan plains and the Tibetan Plateau. Their coverage provides brief, highly informative sections on geophysics, climate, biogeography, prehistory, history, and ethnic evolution. The main weight of the work then goes on to analyze the current status of the region's demographics, environment, economy, political relationships, and, especially, the impacts of "modernity." A short concluding chapter (pp. 271–295) discusses "landscapes of the future" in an attempt to assess the routes that may be taken in the struggle between growing pressure on resources and efforts to alleviate poverty. There is a valuable, large appendix (28 pages) devoted to tabulated data for 1960, 1970, 1980, and 1990 on population statistics, forest area, cropped area, and population density (defined as persons per hectare of cropped land). The appendix includes older data sets for specific districts, where available. Twenty pages of endnotes, which include literature references noted numerically in the text by chapter, are followed by a very short author/subject combined index.

The book includes numerous black and white photographs that amply demonstrate the great range of Himalayan landscapes and human activities. Some of these are of outstanding aesthetic and scholarly value, eg, on pages 12, 34/35, 46, 76/77, 146, 188, 232, 292/293 (although some are impaired by reproduction of poor quality, while others would have added value had they been dated).

The authors state that much of their research was supported by a major grant from the US National Science Foundation, which facilitated visits to more than a hundred individual districts across the region and detailed study in 7 representative sites. This fieldwork was extensively supplemented by archival research and contributions by experts from the various Himalayan countries, together with that of their own graduate students; in total, they indicate a study of nearly 50 person/years.

Himalaya is rightly presented as the first quantitative regional study of the world's greatest mountain range. The details of the authors' various analyses rest, in large part, on the considerable data base that they have accumulated by district: the 120 districts are named and designated on a reference map on page 296. Many of the data on specific topics, such as population, forest cover, cropping area, and so on, are introduced in map form at relevant points in the text. These, however, are tiny sketches, often with 6 gray tones that, in some instances, are rather difficult to decipher—especially where national borders are omitted, as in the example on page 171.

Treatment of such a large and complex region, as the authors note, sets a serious challenge in presentation format. Thus, considerable repetition is not surprising; in some instances, it is both necessary and reinforcing. Nevertheless, the reader is informed on three occasions that "Chipko" means to hug trees and on two that an American missionary was the first to introduce apples into Himachal Pradesh in the 1930s. There are also occasional lapses into flamboyant language: "But the destructive impacts of the large dams loom large on the jagged mountain horizon" (p. 236). Some ambiguities and very one-sided stipulations arise, such as a statement to the effect that more than 50% of the population of Nepal is "below the poverty line" (p. 278), with no definition of "poverty line", and "The rivers [Indus, Ganga, and Brahmaputra] thus have a spiritual meaning for the native people of the mountains," when surely there are many times more lowlanders for whom there is an equally strong spiritual association.

The tendency to make big statements can become disconcerting: "An entire world will be flooded at the event"—this, the prospect of a collapse of the Tehri dam. Is this another Biblical flood? And the very frequent use of the word "worlds" (plural), as in "Himalayan worlds," is rather overdone. Similarly, "alpine" is frequently used to describe "alpine forests," "alpine grassland," "alpine habitats," "alpine societies." This is hardly a contribution to scholarly rigor: there is no such thing, in my estimation, as "alpine forests" except in the sense of the Alpine forests of

such countries as Austria, Switzerland, Italy, and France; in addition, the "alpine zone" is usually taken to mean that altitudinal belt lying above the mountain forests. India and China are referred to as "superpowers" without qualification. A more critical editorial control would have eliminated these albeit very minor yet numerous blemishes.

My main apprehension about the book, however, is on a more personal theme. It relates to the authors' central discussion of the so-called "Theory of Himalayan Environmental Degradation." This first appears in the Preface and in Chapter 1; it is discussed again from Chapter 8 onward, so that it could come to be seen as the book's primary *raison d'être*. On page 10, following their elaboration of Eckholm's central theme (Eckholm 1976), the authors introduce the thrust of their argument by referring to "the influential 1989 book *The Himalayan Dilemma*" (Ives and Messerli 1989). Later, in Chapter 8 (pp. 132–135) under the heading "A Grand Theory of Ecocrisis," they repeat their outline of the "Himalayan environmental degradation model" and state that "Jack Ives and Bruno Messerli wrote *The Himalayan Dilemma* to refute the above scenario" yet go on to refer to the theory, or model, as "their theory" (ie, the theory of Ives and Messerli). The ensuing detailed discussion of "their [our] theory" throughout the remaining 200 pages of the book runs the risk of leaving readers, especially those not fully informed (their [our] book is now out-of-print), with the belief that the Theory of Himalayan Environmental Degradation is indeed the theory of Ives and Messerli, when nothing could be further from reality. This treatment is misleading and must be corrected.

In the Preface, the authors introduce two paradigms: the first might be described as that of Erik Eckholm and a group of like-minded writers—the supercrisis approach; the other, Ives's and Messerli's (et al) refutation of it. Zurick and Karan remark: "The major intellectual problem with both paradigms is that the mountains are so vast and complex as to make any generalization untenable," and they affirm that their book falls into neither paradigm. This is a remarkable statement. First, more than 10 years ago, Ives and Messerli objected to the tendency to generalization by believers in supercrisis by stipulating that the "Himalayan region is so varied and so complex that generalization is counter-productive" (Ives and Messerli 1989: 9; Ives et al 1997). We also state with vigor the "need for plural problem definitions and plural solution definitions" (p. 242 and other authors). We strive to define the mountain farmer (women and men) as part of the solution(s) rather than part of the problem(s), dedicating the book to them as "the best hope for resolution of the dilemma."

Zurick and Karan have undoubtedly filled in many data gaps and have achieved the first approach to a quantitative regional description. Nevertheless, many of their viewpoints were anticipated more than a decade ago, and some of their statements are actually retrogressive. This comment is illustrated with a single yet powerful example—their treatment of the major issue of highland–lowland interaction between deforestation of the Himalaya and downstream impacts in Gangetic India and Bangladesh:

> The Himalayan Dilemma makes the linkage between upland forest change and lowland floods a pivotal point in the authors' [ie, Ives and Messerli] ecocrisis model. The authors discount the relationship between trees in the mountains and floods in the lowlands despite studies by India's Water Research Institute that show how the linkage between forest removal and increased siltation in rivers is, indeed, a strong component of landscape change in the Himalaya-Ganges region. (page 141)

This is an intriguing stand. Zurick and Karan give no further justification for their "inference" and not a single reference in support (eg, to any publication emanating from India's Water Research Institute) so that the reader cannot make a balanced evaluation. Our very early attempt to sever the assumed highland–lowland linkage is quite detailed and our emphatic references to problems of scale received little attention from Zurick and Karan. Subsequently, there has been further extensive support (Hofer 1993, 1998; Wu and Thornes 1995; Schreier and Wymann 1996; Hofer and Messerli 1997), yet none of these publications is referenced as part of this discussion by Zurick and Karan. Hofer's treatise (1998) is a monumental contribution to this issue of highland–lowland interaction and overwhelmingly substantiates the conclusions of Ives and Messerli (1989), together with Hamilton's (1987) conviction that floods occur in Bangladesh when it rains in Bangladesh. As early as 1989, Ives and Messerli had raised the specter that the numerous dams themselves must affect the movement of water and sediment between the mountains and the plains and that the environmental damage on the plains, in large measure, was likely due to infrastructural changes on the plains. Added to this is the rapid extension of people and infrastructure into flood-prone areas that has occurred over the last several decades, so that increased human losses would have occurred whether or not major floods increased in magnitude and frequency.

Furthermore, I must draw attention to the poor balance of the references. The authors have overlooked many significant

sources, although some of the 1998 publications may have become available when the preparation of the text was well advanced. Some examples are Berkes and Gardner (1997), Berkes et al (1998), Duffield et al (1998), Kulu Valley Himachal Pradesh–Uhlig (1995), Hoon (1996), Chakravarty-Kaul (1998), Central Indian Himalaya–Gilmour (1988), Gilmour and Fisher (1991), Gilmour and Nurse (1991), Griffin (1989), Jackson et al (1998, Nepal and social forestry). Moreover, Forsyth (1996, 1998) has written incisively on "mountain myths revisited" and "testing the theory of Himalayan environmental degradation."

Finally, while problems of warfare in the region do receive passing reference, the magnitude of the direct and indirect impact of the international conflicts, on-going and latent, along with widespread governmental corruption, may be the most significant threat to the Himalaya and its people (Hewitt 1997). There is barely a passing reference to the atrocities committed by the Bhutan authorities on their citizens of Nepalese descent, resulting in a large movement of refugees into eastern Nepal and the ensuing tri-nation (Bhutan, Nepal, and India) tensions. Already in 1989, Ives and Messerli stated that the Himalayan problem "is not environmental, but socio-economic, and especially political."

Nevertheless, the book is recommended to all Himalayan and mountain scholars. It is another worthy step along the way to fuller understanding of the Himalaya, and its price is quite modest. As more of the authors' large database is unraveled and analyzed, it is to be hoped that a fuller and more closely reasoned second edition will appear in the not too distant future.

REFERENCES

Berkes F, Davidson-Hunt I, Davidson-Hunt K. 1998. Diversity of common property resource use and diversity of social interests in the western Indian Himalaya. *Mountain Research and Development* 18:19–33.

Berkes F, Gardner JS. 1997. *Sustainability of Mountain Environments in India and Canada.* Winnipeg: Natural Resources Institute, University of Manitoba.

Chakravarty-Kaul M. 1998. Transhumance and customary pastoral rights in Himachal Pradesh: claiming the high pastures for Gaddis. *Mountain Research and Development* 18:5–17.

Duffield C, Gardner JS, Berkes F, Singh RB. 1998. Local knowledge in the assessment of resource sustainability: case studies in Himachal Pradesh, India, and British Columbia, Canada. *Mountain Research and Development* 18:35–49.

Eckholm E. 1976. *Losing Ground.* New York: World Watch Institute, W. W. Norton.

Forsyth T. 1996. Science, myth, and knowledge: testing Himalayan environmental degradation in Northern Thailand. *Geoforum* 27:375–392.

Forsyth T. 1998. Mountain myths revisited: integrating natural and social environmental science. *Mountain Research and Development* 18:107–116.

Gilmour DA. 1988. Not seeing the trees for the forest: a re-appraisal of the deforestation crisis in two hill districts of Nepal. *Mountain Research and Development* 8:343–350.

Gilmour DA, Fisher RJ. 1991. *Villagers, Forests and Foresters.* Kathmandu, Nepal: Sahayogi.

Gilmour DA, Nurse MC. 1991. Farmer initiatives in increasing tree cover in Central Nepal. *Mountain Research and Development* 11:329–337.

Griffin DM. 1989. *Innocents Abroad in the Forests of Nepal. An Account of Australian Aid to Nepalese Forestry.* Canberra, Australia: ANUTECH Pty. Ltd.

Hamilton LS. 1987. What are the impacts of Himalayan deforestation on the Ganges-Brahmaputra lowlands and delta? *Mountain Research and Development* 7:256–263.

Hewitt K. 1997. Risk and disasters in mountain lands. *In:* Messerli B, Ives JD, editors. *Mountains of the World: A Global Priority.* London and New York: Parthenon Publishing Group, pp 371–408.

Hofer T. 1993. Himalayan deforestation, changing river discharge, and increasing floods: myth or reality? *Mountain Research and Development* 13: 213–233.

Hofer T. 1998. Floods in Bangladesh: a highland-lowland interaction? *Geographia Bernensia,* G 48. Berne, Switzerland: Institute of Geography, University of Berne.

Hofer T, Messerli B. 1997. *Floods in Bangladesh: Process Understanding and Development Strategies.* Interlaken, Switzerland: Institute of Geography, University of Berne, Schlaefli and Maurer.

Hoon V. 1996. *Living on the Move: Bhotiyas and the Kumaon Himalaya.* New Delhi, London, and Thousand Oaks, CA: Sage.

Ives JD, Messerli B. 1989. *The Himalayan Dilemma: Reconciling Development and Conservation.* London and New York: Routledge.

Ives JD, Messerli B, Rhoades RE. 1997. Agenda for sustainable mountain development. *In:* Messerli B, Ives JD, editors. *Mountains of the World: A Global Priority.* London and New York: Parthenon Publishing Group, pp 455–466.

Jackson WJ, Tamrakar RM, Hunt S, Shepherd KR. 1998. Land-use changes in two Middle Hills districts of Nepal. *Mountain Research Development* 18:193–212.

Schreier H, Wymann von Dach S. 1996. Understanding Himalayan processes: shedding light on the dilemma. *In:* Hurni H, Kienholz H, Wanner H, Wiesmann U, editors. *Umwelt Mensch Gebirge.* Festschrift for Bruno Messerli. Jahrbuch der Geographischen Gesellschaft Bern, Bd. 59/1994-1996. Berne, Switzerland, pp 75–83.

Uhlig H (edited by Kreutzmann H). 1995. Persistence and change in high mountain agricultural systems. *Mountain Research and Development* 15:199–212.

Wu K, Thornes JB. 1995. Terrace irrigation of mountainous hill slopes in the Middle Hills of Nepal: stability and instability. *In:* Chapman GP, Thompson M, editors. *Water and the Quest for Sustainable Development in the Ganges Valley.* London and New York: Mansell, pp 41–63.

Jack D. Ives
Carleton University, Ottawa, Canada,
jackives@pigeon.carleton.ca

Oxidant Air Pollution Impacts in the Montane Forests of Southern California.

Edited by Paul R. Miller and Joe R. McBride. Ecological Studies 134, Springer-Verlag, Berlin, 1999. xvii + 424 pp. US$139.00, UK£99.50. ISBN 0-387-98493-3.

The potential impact of oxidant air pollution on forest trees has been a major international focus of environmental concern and research. As more scientific data have become available, there has been an increasing realization of the complexity of interactions involved in understanding pollutant impacts at the levels of the individual forest tree, forest stand, and ecosystem. Pollutant effects from ozone, sulfur dioxide, acid deposition and nitrate deposition all interact and are further complicated by cycles of drought, pathogen outbreaks, fire history and other variables.

No better case study for understanding the complexity of environmental impacts of oxidant air pollution exists than that of the San Bernardino Mountains in Southern California. Lying downwind from the greater Los Angeles airshed, the montane forests of this range have had a long history of chronic exposure to high levels of ozone,

particulate nitrate, and other pollutants. Observations of foliar necroses on native pines in the 1950s led to research that identified ozone as the causal agent. Moreover, early studies documented that pines exhibiting extensive foliar damage and associated reduction in needle longevity were more likely than healthy trees to be weakened and vulnerable to bark beetle attack and death.

The significance of these findings on forest health clearly established the importance of a better understanding of air pollutant impacts on montane forests of the San Bernardino Mountains and provided the impetus for the development of a large multidisciplinary study. This program of research, led by a team of scientists from the USDA Forest Service and the University of California, was initiated in 1974 and continues today. This volume presents an overview of 3 decades of research on oxidant air pollution impacts and nitrate deposition in these montane forests.

The volume is comprised of 18 chapters involving contributions from 35 authors and coauthors. Approximately half are current or former staff of the USDA Forest Service Fire Laboratory in Riverside, California. Chapters are grouped into four sections. Section 1, on physical geography, includes chapters on geomorphology and soils, climatology, and vegetation and fire dynamics. Section 2, on the effects of pollutants on vegetation and soils, groups 10 chapters covering a range of topics including the physiological ecology of pollutant effects, pollutant effects on conifer growth, wet- and dryfall inputs of pollutants, nitric acid impacts, and nitrogen deposition. The four chapters in Section 3 discuss interactions of pollutants with climate and biological factors and the associated influence on forest health and human use of forest habitats. Finally, Section 4 provides syntheses and conclusions for the volume in 2 chapters, one on ecological risk and policy implications of air pollutants and the other on forest management and research priorities under conditions of chronic air pollution.

The broad significance of the studies reported in this volume lies both with the long record of environmental studies and the multidisciplinary focus and intensity of this research. Long-term and detailed records of meteorological data and pollutant monitoring have allowed a better understanding of the complex interactions of pollutant concentrations and dynamics with climatic variables such as strength of the atmospheric temperature inversion, velocity of onshore winds, and differences in pressure gradients between ocean and interior deserts. While ozone is the primary pollutant directly responsible for foliar necroses and reduced needle longevity in pines, oxides of nitrogen in both gaseous and particular form are also shown to be highly significant. Nitrate particulates are the most important factor in reducing atmospheric visibility, and nitrate deposition on the forest canopy and soil have profound long-term impacts on nitrogen cycling and potential nitrogen saturation in these forest systems.

The major focus of this volume lies with the impacts of chronic ozone pollution on the needle condition, physiology, growth, and general longevity of dominant forest conifers, particularly *Pinus ponderosa*. However, it is useful to have additional contributions documenting the impacts of air pollution in the massive historical decline of lichen biomass and diversity in the San Bernardino Mountains and the evidence of widespread oxidant pollutant damage to understorey vegetation. A significant observation is that a number of annual species continue to show severe necroses from oxidant pollutants after more than 4 decades of chronic exposure of their populations, suggesting little selection toward ozone-resistant genotypes.

What has been the net impact of air pollution on forest structure and ecosystem function in the montane forests of the San Bernardino Mountains? Oxidant pollutant impacts to conifers reduce photosynthetic productivity and limit the supply of carbohydrates available for growth. Both decreased crown health from needle loss and decreased radial growth predispose trees to increased levels of bark beetle infestation and death. A reduction of cone and seed production in *Pinus ponderosa* has also been noted under conditions of chronic pollutant stress, reducing the regeneration capacity of these trees. Projections of forest succession models for the San Bernardino Mountains, using all of these data on pollution stress, indicate a likely gradual shift in dominance away from *Pinus ponderosa* toward *Abies concolor* and *Calocedrus decurrens,* which are more tolerant of oxidant pollutants. Moreover, field measurements have shown that increased dry and wet deposition of nitrates has augmented levels of soil nitrogen significantly. Simulation studies suggest that continued levels of deposition of this magnitude could lead to nitrogen saturation of soils and problems of nitrate pollution of ground water.

The breadth of topics covered in this volume should make it of interest to a broad range of scientists and resource managers with interests in issues relating to air pollution impacts on forests. The editors have accomplished a valuable task in pulling together these diverse studies into a comprehensive look at ozone and nitrate pollution impacts in Southern California's mountains.

Philip W. Rundel
Department of Organismic Biology, Ecology, and Evolution, University of California, Los Angeles, CA.

Landscape Stewardship: New Directions in Conservation of Nature and Culture.

Special issue of The George Wright Forum, Volume 17, Number 1. Guest-edited by Jessica Brown, Nora Mitchell, and Fausto Sarmiento. Published by the George Wright Society. April 2000.

This special issue of the George Wright Forum on landscape stewardship is one product of a recent World Commission on Protected Areas (WCPA) working session in Vermont, USA, which was convened by the Conservation Study Institute (of the US National Park Service) and QLF/Atlantic Center for the Environment. The publication explores the value of the protected landscape approach in the context of a changing role for protected areas, its potential application in several regions, and the opportunities it presents for the conservation of nature and culture. Seven articles by WCPA members draw on experience with protecting landscapes in regions as diverse as the Andes, South America, Oceania, the Eastern Caribbean, Europe, and northeastern North America.

As countries worldwide move to expand and strengthen their national protected areas systems, greater attention is needed to protecting landscapes where people live and work. Protected Landscapes (Category V in the IUCN system of management categories) and Cultural Landscapes (a category eligible for the World Heritage List) can provide valuable models of how to integrate biodiversity conservation, cultural heritage protection, and sustainable use of resources. This approach can also provide a way to support leadership by local people in the stewardship of these resources.

The protected landscape approach is central to a new paradigm for protected areas, one that is based on inclusive approaches, partnerships, and linkages, as Michael Beresford and Adrian Philips argue in their article. Mechtild Rössler reviews experience with Cultural Landscapes and the World Heritage Convention. Nora Mitchell and Susan Buggey examine the interface of protected landscapes and cultural landscapes and find opportunities for collaboration in the conservation of nature and culture. Giles Romulus and P.H.C. "Bing" Lucas draw on protected landscape/seascape experience from the Eastern Caribbean and the Pacific to discuss the value of this approach in small island states. Fausto Sarmiento, Guillermo Rodriguez, Miriam Torres, Alejandro Argumedo, Mireya Munoz, and Jack Rodriguez explore Andean traditions of stewardship that link nature and culture in specific case studies and suggest an innovative regional program for protected landscapes in the Andes. The concluding article by Jessica Brown and Brent Mitchell explores the value of the stewardship approach in protecting landscapes.

The volume is available from the George Wright Society, PO Box 65, Hancock, MI 49930-0065, USA. Fax ++906-487-9405; e-mail, info@georgewright.org; web site, www.georgewright.org.

Kashmir in Conflict. India, Pakistan and the Unfinished War.

By Victoria Schofield, I.B. Tauris, London - New York, 2000. 292 pp, paperback. ISBN 1-86064-545-3. UK£14.95.

Victoria Schofield takes us into a conflict that is predicted by many to be a global hotspot in the 21st century. Ever since the Indian Subcontinent was divided in 1947, Kashmir has been a continuous threat to the political stability of the region. Several full-scale wars have been fought over Kashmir, and hardly a year has passed without minor events and clashes. Proponents of a gloomy scenario refer to the fact that India and Pakistan, the main contestants in the conflict, have both entered the present century as nuclear powers.

Pakistan has never accepted that Kashmir, with its overall Muslim majority, became part of India in 1947. Various Pakistani governments have repeatedly referred to a UN resolution of 1948 which recommended that a plebiscite be held in Kashmir over the question of accession to India or to Pakistan. Kashmir itself wants to add the third option of independence to these alternatives, and India does not want a plebiscite on any terms. Presently one third of the old State of Jammu and Kashmir is under Pakistani control, and the remaining two thirds belongs to India. This division is, however, the outcome of the relative strength in war between India and Pakistan – not the result of deliberate negotiations or boundaries based on ethnicity or topography. Those who suffer most under these circumstances are, of course, the Kashmiris.

The author's aim is to inform the reader about the complexity of the issues. She takes us on a historical journey from ancient Kashmir at the time of Ashoka right up to the "undeclared war" at Kargil in the autumn of 1999. In particular, three historical events are claimed to have been crucial in shaping the present impasse.

The seeds of the problem were planted in 1846, when the British East India Company sold the valley of Kashmir to Raja Gulab Singh of Jammu for ten million rupees. By that transaction, the Raja of Jammu became Maharaja of Jammu and Kashmir. From the outset, the new state was not in any sense a nation-state. Jammu has a predominantly Hindu population, Kashmir proper

is dominated by Sunni Muslims, Ladakh has a substantial Buddhist population of Tibetan origin, and Baltistan and parts of Gilgit Agency, which was later annexed by the Maharaja, are inhabited by Shia Muslims. This patchwork of linguistic and religious groups was ruled by a Sikh dynasty, the Dogras, under whom the Muslims in particular felt oppressed and deprived.

The Dogras ruled the State of Jammu and Kashmir with support from the British, who were comfortable with a buffer between British India and expanding Tsarist Russia. But as the day of independence on the subcontinent approached, a decision had to be made about the future destiny of Jammu and Kashmir. Maharaja Hari Singh could not make up his mind whether to comply with the general principle that states with a Muslim majority should accede to Pakistan, whether to accommodate Jammu and Kashmir within secular India, or whether to retain independence. While the Maharaja pondered these alternatives, tribal people from Northern Pakistan invaded the Western parts of the state. In order to avoid Srinagar falling into the hands of the insurgents, Hari Singh asked for assistance from the Indian army, which was granted on the condition that he first accede to India. After 73 days of independence, Jammu and Kashmir became part of India.

The third moment of destiny occurred during the "proxy war" of the 1990s, when Muslim resistance to Indian domination turned violent. Encouraged by Muslim resistance in other parts of the world and by the break-up of the Soviet Union and the restructuring of Eastern Europe, a new generation of Kashmiri Muslims took up arms in an effort to change their lot. With massacres and kidnappings now substituting for political arguments and intrigues, relations between the various factions inside Kashmir, as well as between India and Pakistan, became more bitter than ever, seriously diminishing the odds for a peaceful solution to the conflict in the foreseeable future.

Schofield wisely avoids jumping to any substantial conclusions about who the culprits are and how peace should be restored. Instead, she outlines some of the repercussions of various alternative solutions for the actors involved, and concludes that all thinkable ways out of the deadlock are opposed by at least one of the contestants. Given this situation, she recommends that small steps towards reconciliation, such as establishing a "Checkpoint Chakothi" on the border between Indian- and Pakistani-held Kashmir, should be encouraged, pending a change in the wider international context. By contrast with several other publications dealing with this issue, this book is serious about the fact that "Jammu and Kashmir" is not a uniform category, but a differentiated complex of ethnic and religious groups with their own distinct histories and external affiliations.

If there are any shortcomings in the book, they are concerned with the treatment of "Kashmiriyat" – Kashmiri identity. Throughout the book, there is confusion about whether Kashmiriyat refers to the Kashmir valley only, or whether it also resonates with the populations of Jammu and Ladakh. It is certainly not relevant to people in the Northern Areas of Pakistan (the previous Gilgit Agency). In the same vein, the term *kaum* is translated as "nation", and may be read as referring to all inhabitants of Jammu and Kashmir. But throughout Western Himalaya and Afghanistan, *kaum* is primarily a designation for an ethnic group or a caste. All Gujars of India, Pakistan and Kashmir constitute a *kaum*, and so do Rajputs, Sayeds, Jats, Durranis, etc. When "The Lion of Kashmir", Sheikh Abdullah, includes all inhabitants of Jammu and Kashmir in one *kaum* that has a common Kashmiriyat identity, he is trying to accomplish what leaders of multi-ethnic states are coping with everywhere: the imposition of a sense of homogeneity on a heterogeneous population. The very problem in Kashmir, however, is that persisting *kaum* identities are not found on the level of the former state.

On the whole, Schofield has written a brilliant book that will stand as an authoritative source of insight into a conflict that will remain one of the potentially most dangerous in the contemporary world for years to come. The text is rich in detail without losing sight of the main theme; it is impressively well documented, and the author manages to maintain an unbiased balance between adversaries who all claim legitimacy for their particular views. The book is also exciting to read. Schofield gives a masterful portrayal of the intrigues among Maharaja Hari Singh, Nehru, Jinnah, Sheikh Abdullah, and other players in the game – including their personal tactics, their suspicions, and the unexpected turns of events that have characterized the problem of Kashmir. All of this is wrapped up in a highly readable narrative form. I read the book during my Easter vacation, and I did not miss le Carré or other masters of fictional suspense for a second!

Tor H. Aase
Department of Geography, University of Bergen, Breiviken 2, 5035 Bergen-Sandviken, Norway