

Mountain Research and Development

Mountain Research and Development (MRD) is published
by IMS and UNU, who are the joint copyright holders.



Volume 25, Number 1

February 2005



February 2005

Volume 25, Number 1

Core funding for MRD is provided by the
Swiss Agency for Development and Cooperation (SDC)



The following organizations generously support subscriptions
for institutions in developing and transition countries:



ISSN 0276-4741

Mountain Research and Development

Development Cultural Diversity as an Asset

Research

- Perspectives on conservation in Mexico
- Himalayan plant trade: typology of economic agents
- Communities and enclosures in Ethiopia
- Visitor preferences in park management, Spain
- Ecological security evaluation in Mongolia
- Vegetation succession on Tyndall Glacier, Kenya

Cover photograph: Students from Sidama-Leku, a village in the Ethiopian highlands, explaining their cultural treasures at a “Village of Cultural Biodiversity” event in Wolisso, July 2002. This event took place as part of an initiative to involve Ethiopian students in a program aiming to raise awareness of the country's cultural diversity and reconnect young people with elders in their communities to acknowledge the value of traditional practices and skills. Mountain communities worldwide are increasingly aware of the value of the cultural diversity they represent, and of the need to preserve traditional knowledge, values, skills, and cultural products, while also adapting to the challenges of globalization. (Photo by Solomon Hailemariam)

Mountain Research and Development

Editorial Policy

Mountain Research and Development (MRD) is devoted to mountains and their surrounding lowlands—ecoregions of particular global importance. In its **research section**, MRD publishes peer-reviewed scientific papers that report on generic, strategic, and applied research relevant to sustainable mountain development, and that present concepts and new methodologies employing disciplinary, interdisciplinary or transdisciplinary approaches. The **development section** contains reports on experiences with sustainable mountain development in programs, projects, and community actions. **Additional sections** are devoted to institutions concerned with mountains and to communication related to mountain initiatives. MRD seeks to present the best in recent research on the world's mountain systems. Editorial assistance is available to authors of scholarly, high-quality papers written in English who are not completely fluent in the language.

Editorial correspondence, questions, and manuscripts submitted for publication should be addressed to:

Mountain Research and Development (MRD)
Centre for Development and Environment
Institute of Geography, University of Berne
Steigerhubelstrasse 3
3008 Berne, Switzerland
E-mail: mrd-journal@giub.unibe.ch

Guidelines for Contributors

The general guidelines apply to all articles and reports submitted to MRD. These are followed by specific guidelines for research papers and development papers.

General guidelines: Authors are expected to submit articles in clear, concise English.

It will be assumed that papers submitted are original and have not been published elsewhere, including on the Internet. However, papers or abstracts of papers originally published in a language other than English may be considered.

One typescript copy of the manuscript and of all illustrations should be submitted. Text and tables and, if possible, illustrations in .jpg (photos) or .cdr and .ai (other figures) format can be sent either as E-mail attachments or on disks. Format for text files must be Microsoft Word for Windows or .rtf. Please do not use footnotes in the manuscript. A separate list of captions, tables, and figures must be provided in electronic format. Tables and figures must be referred to in the text in numerical order.

Manuscripts should be printed with double spacing and wide margins on one side only of standard-sized paper. All pages should be numbered. The title of

the paper, authors' names and affiliations, and complete addresses, including E-mail addresses, should appear on the first page. Where there is more than one author, correspondence and one set of .pdf proofs will be sent to the first-named author unless otherwise requested.

If .jpg (photos) or .cdr and .ai (vectorized) files of figures cannot be sent, please supply duplicates of hard copies suitable for reproduction. Glossy prints of photographs should be unmounted; maps, line drawings, and diagrams should be completely ready for reproduction, bearing in mind the need for moderate reduction to one column width or full page. MRD reserves the right to charge authors for extra editorial work on figures and references.

Figures should all carry the figure number and the author's name on the back. Captions should not be added directly to the illustration. No letter or symbol should be smaller than 1 mm in height after reduction.

The metric system should be used for all measurements, and numerical units should conform as closely as possible to the International System of Units (SI).

Place names should be spelled in the form officially used in the country under discussion; where this differs from the commonly known name or the English-language name, the other name should be written in parentheses. Authors must supply latitude and longitude coordinates for the regions referred to in a paper.

All contributors to MRD must accept full responsibility for the contents and opinions expressed in their writings. Contributors must also ensure that written permission is granted to publish or reproduce photographs, illustrations, tables, quotations, or other material in publications already copyrighted that can be reproduced only with written permission from the copyright owner. Credits must be provided for all photographs, etc. Contributors will not be asked to sign copyright transfer agreements. Page charges may be applied under certain conditions.

Specific guidelines for research papers: The manuscript (including title, abstract, keywords, references, and authors' addresses) must not exceed 25,000 characters, including spaces. Papers should not contain more than 5 figures and few tables. One copy should contain all figures, tables, and captions, but no personal data. A second copy must have personal data, but figures, tables and captions must be delivered in separate files. Include tables only if they summarize important and innovative research results. The editors reserve the right to publish large tables on the web site.

References should be listed at the end of the paper without numbering, alphabetically by author, giving the complete unabbreviated source citation. Format, style, and manner of referencing should follow the “MRD Style Sheet” available on the web site (www.mrd-journal.org). Additional work in the MRD Editorial Office will be charged.

In the text, references should be cited in chronological order with author's name and year of publication in parentheses; where there are two or more papers by the same author in one year, distinguishing letters (a, b, c...) should be added to the year. All references should be carefully cross-checked; it is the author's responsibility to ensure that references are correct. Only references cited in the text should be listed as such.

Research papers are normally published entirely in black and white. Authors must expect to pay a charge for color photos or maps. The editors reserve the right to make final judgments about the use of color.

One set of proofs in .pdf format will be sent to the author; page proofs will not be sent. Authors must accept responsibility for checking the accuracy of all numerical material and references as well as non-English quotations and names.

Specific guidelines for development papers: The development section aims to create and raise awareness among policy-makers project planners, decision-makers, and people in educational and research institutions. Contributors are encouraged to report on aspects of local and regional mountain development of interest to the general reader, in accordance with themes planned for future issues as listed on the web site (www.mrd-journal.org). Articles should illustrate how applied research can help solve development problems in mountain regions (using specific examples). Contributing authors thus include a wide range of scholars, development personnel, policy-makers, and others who have knowledge and experience of development in mountain regions.

Contributions should be written in an engaging, nontechnical style. Direct quotations from local people are particularly valuable to illustrate local issues, experience, etc. Good quality color photos are a must. Simple, clear colored maps, graphs, and tables are also welcome.

Manuscripts may range from 8,000 to 15,000 characters, including spaces. Footnotes must be avoided. The editors reserve the right to do language editing and make other changes. Extensive alterations will be discussed with authors.

Papers that do not conform to these guidelines will be returned to authors.

3 Editorial

Development

4 – 9 *Mark Turin*

Language Endangerment and Linguistic Rights in the Himalayas: A Case Study from Nepal

10 – 14 *Million Belay, Sue Edwards, and Fassil Gebeyehu*

Culture as an Expression of Ecological Diversity: Integrating Awareness of Cultural Heritage in Ethiopian Schools

15 – 19 *William Sempé*

Traditional Architecture in Tibet: Linking Issues of Environmental and Cultural Sustainability

20 – 24 *Andreas Neef, Peter Elstner, Chapika Sangkapitux, Liane Chamsai, Anne Bollen, and Jirawan Kitchaicharoen*

Diversity of Water Management Systems: Examples from Hmong and Thai Communities in Mae Sa Watershed, Northern Thailand

25 – 29 *Tu Jian-jun, Chen Yong, Ye Yan-qiong, and Chen Guo-jie*

The Upper Min River Basin: A Key Ethno-cultural Corridor in China



Research

30 – 36 *Peter Gerritsen and Freerk Wiersum*

Farmer and Conventional Perspectives on Conservation in Western Mexico

37 – 43 *Carsten Smith Olsen and Nirmal Bhattarai*

A Typology of Economic Agents in the Himalayan Plant Trade

44 – 50 *Tefera Mengistu, Demel Teketay, Håkan Hultén, and Yonas Yemshaw*

The Role of Communities in Closed Area Management in Ethiopia

51 – 59 *Estela I. Fariás Torbidoni, H. Ricardo Grau, and Andreu Camps*

Trail Preferences and Visitor Characteristics in Aigüestortes i Estany de Sant Maurici National Park, Spain

60 – 67 *Kang Mu-yi, Liu Shuo, Huang Xiao-xia, Dong Shi-kui, and Shi Pei-jun*

Evaluation of an Ecological Security Model in Zhalute Banner, Inner Mongolia

68 – 75 *Kazuharu Mizuno*

Glacial Fluctuation and Vegetation Succession on Tyndall Glacier, Mt Kenya

MountainPlatform

76 – 79 **WWF International's Regional Approach to Conserving High-Altitude Wetlands and Lakes in the Himalaya**

80 – 81 **MRI Newsletter 4: Climate Science in the American West**

MountainNotes

82 – 84 **Policy Options to Support Transhumance and Biodiversity in European Mountains: A Report on the TRANSHUMOUNT Stakeholder Workshop, Landquart/Zurich, Switzerland, 26–28 May 2004**

84 – 85 **Integrated Development of Epirus: Fourth NTUA and NTUA Metsovion Interdisciplinary Research Center Interdisciplinary–Interuniversity Conference, 23–26 September 2004, Metsovo, Greece**

85 – 87 **Mountain Studies Institute “State of the San Juans” Conference, Silverton, Colorado, 24–26 September 2004**

87 **Mountains at the World Conservation Congress, Bangkok, November 2004**



MountainMedia

88 – 93 **Review of web sites, CD-ROMs and books**

MountainViews

94 – 96 **Reflections of an Indigenous Student on the Realities of His People**

Publishers

Mountain Research and Development (ISSN 0276-4741) is published by the United Nations University (UNU) 53-70, Jingumae 5-chome, Shibuya-ku, Tokyo 150-8 925, Japan, and the International Mountain Society (IMS), c/o Centre for Development and Environment, Institute of Geography, University of Berne, Steigerhübelstrasse 3, 3008 Berne, Switzerland.

Institutional Members of the International Mountain Society (IMS)

SDC, Swiss Agency for Development and Cooperation, Berne

UNU, The United Nations University, Tokyo

ICIMOD, International Centre for Integrated Mountain Development, Kathmandu

FAO, Food and Agriculture Organization of the United Nations, Rome

CIP-CONDESAN, Consortium for the Sustainable Development of the Andean Ecoregion, Lima

CDE, Centre for Development and Environment, Berne

MRI, Mountain Research Initiative
WWF International

MRD collaborates with Mountain Forum (MF) and other institutions to further the cause of mountains on the international development and research agendas.

Editorial Board

Hans Hurni, Editor-in-Chief

Theodore Wachs, Managing Editor

Jack D. Ives, Founding Editor

Martin Price, Editor, MountainMedia and Regional Editor, Europe

Eklabya Sharma, Regional Editor, Asia
Fausto Sarmiento, Regional Editor, Latin America

Salomé Misana, Regional Editor, Africa

Alton Byers, Regional Editor, North America

International Editorial Advisory Board

Bina Agarwal (India), Yuri P. Badkov (Russia), Roger G. Barry (USA), Gerardo Budowski (Costa Rica), J. Gabriel Campbell (Nepal), Jose M. Garcia-Ruiz (Spain), Gregory B. Greenwood (Switzerland), Biksham Gujja (Switzerland), Lawrence S. Hamilton (USA), Thomas Hofer (Italy), Libor Jansky (Japan), Kebede Tato (Zambia), Thomas Kohler (Switzerland), Hermann Kreutzmann (Germany), Ulrich Lutz (Switzerland), Mesfin Wolde-Mariam (Ethiopia), Bruno Messerli (Switzerland),

Elias Mujica (Peru), Marcus Nüsser (Germany), D. Jane Pratt (USA), Robert E. Rhoades (USA), Hans Schreier (Canada), Christoph Stadel (Austria), Michael Stocking (UK), Teiji Watanabe (Japan).

Editorial Staff

Susanne Wymann von Dach, Assistant Editor
Anne Zimmermann, Assistant Editor
Monika Iseli-Felder, Editorial Assistant
Marlène Thibault, Editorial Assistant

Publication Policy

Mountain Research and Development (MRD) publishes articles by authors from many disciplines associated with mountain environments, resource development, and human welfare. MRD is published quarterly. Articles must be previously unpublished (including Internet).

Manuscripts submitted for publication in the research section are peer-reviewed by at least two referees. MRD is indexed in the Science Citation Index, Current Contents/Agriculture, Biology and Environmental Sciences, Geo Abstracts, C.A.B. International Series Checklist, AGRICOLA databases, Meteorological and Geostrophysical Abstracts (MGA), CABS (Current Awareness in Biological Sciences), and others.

Please address correspondence to:

MRD Editorial Office
Centre for Development and Environment
Institute of Geography, University of Berne
Steigerhübelstrasse 3
3008 Berne, Switzerland
E-mail: mrd-journal@giub.unibe.ch
Internet: www.mrd-journal.org

Please send material for "MountainMedia" to:

Martin Price
Director, Centre for Mountain Studies
Perth College, Univ. of the Highlands and Islands
Crieff Road, Perth PH1 2NX, UK.
Fax +44(0)1738-631 364
E-mail: martin.price@uhi.ac.uk

Subscriptions and Back Issues

Annual subscription rates, which include associate membership in IMS, are as follows:

USA and Canada

Institutions and libraries	US\$	150
Individuals	US\$	70
Students	US\$	40

All others (includes international airlift)

Institutions and libraries	US\$	170
Individuals	US\$	90
Students	US\$	60

Students are asked to provide a copy of their official student registration.

Subsidized subscriptions are available to institutions and libraries in developing countries. Please apply to MRD at the MRD Editorial Office address above. Donors are especially invited to subsidize institutional subscriptions in developing countries. Please contact the MRD Editorial Office for details. Current donors include the Swiss Agency for Development and Cooperation (SDC), the United Nations University (UNU), and the International Center for Integrated Mountain Development (ICIMOD).

Subscription inquiries relating to new subscriptions, payment, claims, and address changes should be addressed to:

Mountain Research and Development
Business Office
810 East 10th Street
P.O. Box 1897
Lawrence, Kansas 66044-8897/USA
Tel: +1 785 843-1235
Fax: +1 785 843-1274
E-mail: mrd@allenpress.com

MRD is available online through the BioOne program. See www.bioone.org

Back issues: Some abstracts of issues previous to Volume 20 are available in electronic form in Mountain Forum's Online Library: www.mtnforum.org/resources/library/mrd_metadata.htm Recent abstracts (as of Volume 15) are available on MRD's web site: www.mrd-journal.org

For single issue sales of Volume 20 and later, please contact the business office address above, or E-mail: orders@allenpress.com

Copyright Rules

Authorization to photocopy is granted by the International Mountain Society and United Nations University for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$1 per copy is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923/ USA. For permission to photocopy materials for classroom use, call CCC at +1 978 750-8400, or fax them at +1 978 750-4470.

© Copyright (2005) International Mountain Society and United Nations University
ISSN 0276-4741

Printed in USA

Dear Readers,

The last Human Development Report (HDR), entitled Cultural Liberty in Today's Diverse World (<http://hdr.undp.org/2004/>), asserts that “states must actively devise multicultural policies to prevent discrimination on cultural grounds—religious, ethnic and linguistic,” and that “expansion of cultural freedoms, not suppression, is the only sustainable option to promote stability, democracy and human development within and across societies.” This is a strong statement, but the HDR offers sufficient examples and analyses showing that diversity is not a threat to national unity, nor the cause of strife or “backwardness,” and certainly not an obstacle to development—on the contrary.

Without falling into natural and/or cultural determinism, the articles in the Development section of this issue of MRD demonstrate how important diversity is in mountainous environments, often arguing that there is a direct link between cultural diversity and biodiversity—a feature of the biophysical world that has arguably become one of the major pillars of sustainable development. Thus, linguist Mark Turin discusses the relevance of language diversity for equitable development in a highly diverse mountain state, Nepal. Tourism specialist Million Belay, botanist Sue Edwards, and marketing specialist Fassil Gebeyehu present a national program to enable young students in Ethiopia to understand and bank on their rich cultural heritage. Architect William Semple also shows the value of preserving traditions and how this can benefit the environment in an area that has experienced a muffling of cultural diversity and overuse of timber resources. Agronomist Andreas Neef and co-authors show how diversity of irrigation systems can be the result of communal cultures adapting very fluidly to pressures of all kinds on the micro-scale. Finally, geographer Tu Jian-jun and co-authors present a brief overview of the multiplicity and flexibility of cultures in the “corridor” of the upper Min River basin, thus debunking the myth of backward highland cultural isolation. In MountainViews, MRD presents an essay on cultural identity written from an indigenous perspective.

In the Research section, several authors also address the value of cultural multiplicity: Peter Gerritsen and Freerk Wiersum discuss the importance of Mexican farmers' perspectives on conservation for the preservation of biodiversity (vs the traditional conservationist perspective). Carsten Smith Olsen and Nirmal Bhattarai offer a typology as a means to systematize the debate on economic and social aspects of an important opportunity in the Himalaya—plant trade. Tefera Mengistu and co-authors present the results of a participatory study of the perceived costs and benefits of area enclosure for environmental protection. And Estela Farías Torbidoni and co-authors discuss ways of integrating the diversity of visitor preferences to optimize park management. The final two papers in this issue tackle other aspects of sustainable development: Kang Mu-yi and co-authors present a model to evaluate “ecological security” in a farming and pastoral area that has suffered from overuse in Mongolia, while Kazuharu Mizuno analyzes the influence of glacial fluctuation on vegetation succession on Mt Kenya, whose glaciers face the threat of disappearance in the coming decades.

Though this issue of MRD can hardly claim to represent even a fraction of the cultural diversity that exists in the world's mountains, we hope our readers will enjoy its plurality.

Hans Hurni, Editor-in-Chief

Anne Zimmermann, Assistant Editor

Mark Turin

Language Endangerment and Linguistic Rights in the Himalayas

A Case Study from Nepal



According to even the most conservative estimates, at least half of the world's 6500 languages are expected to become extinct in the next century. While the documentation of endangered languages has traditionally been the domain of academic linguists and anthropologists, international awareness of this impending linguistic catastrophe is growing, and development organizations are becoming involved in the struggle to preserve spoken forms. The death of a language marks the loss of yet another piece

of cultural uniqueness from the mosaic of our diverse planet, and is therefore a tragedy for the heritage of all humanity. Language death is often compared to species extinction, and the same metaphors of preservation and diversity can be invoked to canvas support for biodiversity and language preservation programs. The present article addresses language endangerment in the Himalayas, with a focus on Nepal, and presents the options and challenges for linguistic development in this mountainous region.

The Hindu Kush–Himalayan region: a language “mega center”

The Hindu Kush–Himalayan region (HKH), which extends for 3500 km from Afghanistan in the west to Myanmar in the east, sustains over 150 million people and is home to great linguistic diversity and many of Asia's most endangered languages. Moving across the region, Afghanistan boasts 45 living languages, Bangladesh 38, Bhutan 24, China 202,

India 387, Myanmar 107, Nepal 121, and Pakistan 69. The HKH is known as one of the 10 biodiversity “mega centers” of the world. But this stretch of mountainous Asia is also home to one-sixth of all human languages, so the area should be thought of as a linguistic “mega center” as well.

Preserving linguistic diversity

Why should development workers and scholars be concerned with the extinction of endangered languages? After all, 96% of the world's population speak 4% of the world's languages, and over 1500 languages have fewer than 1000 speakers. Some monolingual English speakers would have us believe that linguistic diversity is incompatible with the juggernaut of inevitable progress that requires interoperability and smooth international communications across national boundaries. This is simply not the case, particularly in areas such as the Himalaya, where many people are functionally tri- or quadri-lingual, speaking an ethnic or tribal mother tongue inside the home, a different language in the local market town, conversing in the national language at school or in dealings with the administration, and often using an international language (or two) in dealings with the outside world. The monolingualism of much of the First World is as provincial as it is historically anomalous.

While the origin of the extraordinary diversity of human languages is intertwined with the evolution of cognition and culture, the spread of modern language families is a direct result of histori-

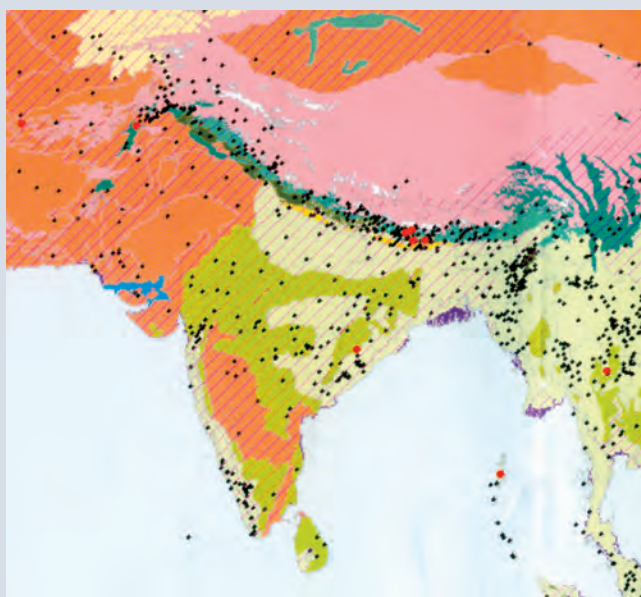


FIGURE 1 This map shows the overlapping distribution of the ecoregions and languages spoken in the HKH. The black dots indicate languages and red dots indicate endangered languages. Note that areas of high biodiversity (plants, animal species, and their habitats) coincide with a high number of distinct ethnic groups speaking different languages. Most of the regions' languages are spoken in areas of rich biological and cultural diversity. (Source: close-up of map entitled *The World's Biocultural Diversity: People, Languages and Ecosystems*, produced by UNESCO, Terralingua, and the World Wide Fund for Nature [WWF]; available at: <http://www.terralingua.org/poster.pdf>)

cal population movements and migrations across continents and the colonization of new geographical and environmental zones. Human languages are not evenly distributed across the world: there are relatively few in Europe compared to an abundance in the Pacific. The Himalayan region is home to great linguistic diversity, in part because the mountains have in the past been a natural barrier to mobility and communication (Figure 1).

The need to prevent language death

There are 4 solid reasons for supporting, preserving, and documenting endangered languages. First, each and every language is a celebration of the rich cultural diversity of our planet; second, each language is an expression of a unique ethnic, social, regional or cultural identity and world view; third, language is the repository of the history and beliefs of a people; and finally, every language encodes a particular subset of fragile human knowledge about agriculture, botany, medicine, and ecology.

Mother tongues are comprised of far more than grammar and words. For example, Thangmi (known in Nepali as *Thami*), a Tibeto-Burman language spoken by an ethnic community of around 30,000 people in eastern Nepal, is a mine of unique indigenous terms for local flora and fauna that have medical and ritual value. Much of this local knowledge is falling into disuse as fluency in Nepali, the national language, increases. When children cease to speak their mother tongue, the oral transmission of specific ethnobotanical and medical knowledge also comes to an end.

Language and ecology: an intimate relationship

Linguistic diversity is an integral component in ecological stability and the fabric of cultural life, and we should remember that the evolution of a species or a language takes much longer than its extinction. Languages, like species, adapt to and reflect their environment. The Thangmi language, spoken in a highly mountainous region where topography is challenging, has 4 semantically distinct verbs that are translated into English as “to come:”

- *yusa*, “to come from above (down the mountain),”
- *wangsa*, “to come from below (or up the mountain),”
- *kyelsa*, “to come from level or around a natural obstacle,” and
- *rasa*, “to come from unspecified or unknown direction.”

Language thus mirrors ecology, and ecology reflects the linguistic and cultural forms of a people inhabiting a specific niche. The languages and cultures of millions of indigenous peoples in the Himalaya are in part endangered because their traditional habitats and ecological niches are now under threat.

Recent scholarship on language endangerment points to an intriguing correlation: language diversity appears to be inversely related to latitude, and areas rich in languages also tend to be rich in ecology and species. Both biodiversity and linguistic diversity are concentrated between the tropics and in inaccessible environments, such as the Himalaya, while diversity of all forms tails off in deserts. Around the world then, there is a high level of co-occurrence of flora, fauna, and languages, and humid tropical climates as well as forested areas are especially favorable to biological and linguistic diversification.

Language and education in Nepal: the mother tongue debate

During Panchayat rule in Nepal, which ended in 1990, the state promoted the doctrine of “one nation, one culture, one language,” and the national education policy of that era was largely intolerant of indigenous and minority languages. Since 1990 though, Nepal has come a long way in acknowledging diversity: Article 4 of Part 1 of the Constitution of the Kingdom contains important legislative guarantees which state that Nepal is a “multi-ethnic, multi-lingual” nation. Article 18 even states that “each community shall have the right to operate schools up to the primary level in its own mother tongue for imparting education to its children,” even though this provision remains essentially inactive at present. This constitutional guarantee is very much in line with con-

“It concerns me that our ancestral language is on the wane and will likely not be spoken by the next generation, but it upsets me far more to think that as our speech is dying, no one will think to translate into Nepali the knowledge that our forefathers collected in order that our grandchildren may know what we have known.” (Rana Bahadur Thangmi, a local shaman and village leader, in an interview with the author)

Education in local languages: a developmental priority

As John Daniel, Assistant Director-General for Education in UNESCO, writes:

Years of research have shown that children who begin their education in their mother tongue make a better start, and continue to perform better, than those for whom school starts with a new language. The same applies to adults seeking to become literate.

This is particularly important because about 476 million of the world's illiterate people speak minority languages and live in countries where children are for the most part not taught in their mother tongue (Figure 2).



FIGURE 2 Educating Babel: the mother tongue dilemma. While studies show that students learn better through their mother tongue, the language has to be taught in school for the benefits to be reaped, which is rarely the case with minority languages. (Source: Education Today, The Newsletter of UNESCO's Education Sector, Number 6, July–September 2003, pages 4–5, copyright Erik Staal; reproduced with kind permission of UNESCO)

temporary research and international best practices (see Box).

The National Foundation for the Development of Indigenous Nationalities (NFDIN) in Nepal views the existence of a specific and unique language as a primary basis for the identification of an ethnicity or *adibasi janajati*. The Foundation is implementing a range of policies to support endangered and indigenous languages. Dictionary projects are particularly popular, since the products have both practical benefits and symbolic capital: linguistic minorities can canvas central and local government more effectively for mother tongue education when a lexical corpus has been prepared and the process

of standardizing an unwritten language is already underway (Figure 3). There is an increasing realization that successful language maintenance efforts ideally combine literacy and education with an improvement in the economic and political standing of the minority language community.

Language and gender: the central role of women

Across the HKH, disaggregated census data demonstrate that mountain women retain fluency in their ethnic mother tongue longer than men. While men from disadvantaged mountain areas commonly engage in trade with other communities or seek wage labor in local centers and neighboring states, thereby learning regional *lingua francas* and foreign languages, women are still in many cases the natural resource managers of a community. Whether collecting firewood and forest products, fetching water, working the fields or raising children, women in remote Himalayan villages have cause to use their ethnic language in daily life.

In terms of educational and linguistic planning, Nepal is now taking steps to ensure that rural primary schools are staffed by more local women teachers who can explain words and concepts using the mother tongue of the students as a medium to help them transition to functional bilingualism. Part of this movement requires a change of mindset: dispensing with the prevailing belief that Nepal's indigenous unwritten languages are backward, primitive and somehow shameful, and moving to embrace ethnic languages as symbols of diversity and indigenous knowledge. NFDIN is leading by example through training 200 local women to work in their own communities.

Language and conflict: Maoists, politics and Sanskrit

The deployment of "language" in public arenas, whether ethnic or national, can quickly become very politicized. The clamoring of linguistic minorities in Nepal for education in their mother tongue is as much about basic linguistic rights as it is a call for national recognition and participation in the governance of the modern



FIGURE 3 Cause for hope: after years of being forgotten by scholars and language activists, the endangered Thangmi language now boasts 3 dictionaries, all of which were published in 2004. (Photo by Mark Turin)

nation state. Ethnic and linguistic differences are also quick to be invoked in times of conflict.

In Nepal, the violent conflict between Maoist rebels and government forces, which has claimed over 10,000 lives since 1996, has tapped into the pre-existing concerns of ethnic and linguistic minorities. Some analysts even argue that the marginalization of Nepal's disadvantaged and ethnic groups is one of the root causes of the Maoist insurgency. The Maoists have been very adept at co-opting indigenous peoples and their outstanding grievances into their overall political struggle for a constituent assembly and radical communist reforms. In their 40-point demands, the Maoist leadership address the basic rights of indigenous peoples and their mother tongues, arguing for local autonomy for communities where ethnic peoples are dominant and the provision of education in the mother tongue through secondary school.

The Maoist ideologues and linguistic activists are united against another common cause: the teaching of Sanskrit in Nepali schools. Sanskrit, the liturgical and classical language of India, to which modern spoken languages such as Hindi and Nepali are related, is intimately associated

with issues such as caste, Hinduism, and highly structured learning. It is also a language that has no mother tongue “speakers” in Nepal, and is perceived by almost all indigenous people as the linguistic embodiment of a hegemonic heritage that they do not share.

Sustainable futures: promotion of diversity at all levels

The preservation of a language in its fullest sense entails the maintenance of the speech community. Reversing language death therefore requires the preservation of the culture and habitat in which a language is spoken. While many of the languages spoken as mother tongues in the Himalaya today will likely only survive, if at all, as second languages in the coming years, that is in itself no small feat. Supporting minority languages and halting linguistic decline must become an integral element in securing the sustainable livelihoods of diverse mountain peoples. Integrated development programs that focus on the vulnerability of marginalized peoples in the HKH should introduce a component of support for the languages and livelihoods that are presently under threat.

“If during the next century we lose more than half of our languages, we also seriously undermine our chances for life on Earth. From this perspective, fostering the health and vigor of ecosystems is one and the same goal as fostering the health and vigor of human societies, their cultures, and their languages. We need an integrated biocultural approach to the planet’s environmental crisis.”
(UNESCO 2003: 44)

Signs of hope: projects underway in Nepal and the Himalaya

To date, there are no active projects on languages and livelihoods in the HKH that interweave biological and cultural diversity with the aim of building sustainable futures for disadvantaged mountain communities. The Culture, Equity, Gender and Governance Program (CEGG) at ICIMOD, which promotes the equality and empowerment of vulnerable mountain peoples for enhanced social security and reduced conflict, is planning to introduce a layer of project support for linguistic and cultural diversity to areas previously focused on biological and ecological diversity. As one way of reaching out to the grassroots and addressing the multilingual base of its constituents, ICIMOD produced a brochure on the International Year of Mountains (IYM) in 4 languages of the HKH: Chinese, English, Hindi and

Nepali. ICIMOD also has a welcome sign in 8 regional languages (Figure 4).

The British Department for International Development (DFID), through its Enabling State Program (ESP), has recently provided a 3-year grant to the Nepal Federation of Indigenous Nationalities (NEFIN) to support the empowerment of Nepal’s marginalized ethnic groups. Entitled the Janajati (indigenous ethnic group) Empowerment Program (JEP), the project has the explicit purpose of increasing the participation of Nepal’s disadvantaged ethnic peoples in socioeconomic and political processes at central and district levels. Focusing on local capacity building and strengthening civil society networks, JEP proposes to preserve and further develop Nepal’s ethnic languages and help advocate for linguistic rights.

Language revitalization campaigns aim to increase the prestige, wealth and



FIGURE 4 “Welcome to ICIMOD” in 8 different languages. The sign at the entrance to the main offices gives an indication of the multilingualism and linguistic diversity of the 140 staff. (Photo by Mark Turin)

FIGURE 5 The result of a major effort to map biocultural diversity: an online map of the “Indigenous and traditional peoples in the global 200 ecoregions.” (Source: WWF and Terralingua 2000; map available at: <http://www.terralingua.org/Images/WWFmap.JPG>; reproduced with kind permission of Terralingua)



power of speakers of endangered mother tongues, to give the language a strong presence in the education system and to provide the language with a written form to encourage literacy and improve access to electronic technology. Linguistic diversity is, after all, the human store of histori-

cally acquired knowledge about how to use and maintain some of the world's most vulnerable and biologically diverse environments (Figure 5). Biocultural development projects need to involve and mobilize communities to build positive values for indigenous languages.

AUTHOR

Mark Turin

Visiting Scientist, Culture, Equity, Gender and Governance Program (CEGG), International Centre for Integrated Mountain Development (ICIMOD), GPO Box 3226, Kathmandu, Nepal.
mt272@cornell.edu

Mark Turin teaches linguistic anthropology and visual anthropology at Cambridge, and is a research associate at Cornell University. He is also Co-Director of Digital Himalaya, a pilot project to develop digital collection, storage, and distribution strategies for multimedia anthropological information from the Himalayan region, which can be found online at www.digitalhimalaya.com.

FURTHER READING

- Crystal D.** 2000. *Language Death*. Cambridge: Cambridge University Press.
Grimes BF. 2000. *Ethnologue: Languages of the World*. Dallas, Texas: SIL International.

Nettle D, Romaine S. 2000. *Vanishing Voices: The Extinction of the World's Languages*. Oxford: Oxford University Press.

UNESCO [United Nations Educational, Scientific and Cultural Organization]. 2003. *Education Today: The Newsletter of UNESCO's Education Sector 6* (July–September). Paris: UNESCO Publishing.

UNESCO [United Nations Educational, Scientific and Cultural Organization], World Wide Fund for Nature, Terralingua. 2003. *Sharing a World of Difference: The Earth's Linguistic, Cultural and Biological Diversity*. Paris: UNESCO Publishing.

WWF [World Wide Fund for Nature], Terralingua. 2000. *Indigenous and Traditional Peoples of the World and Ecoregion Conservation: An Integrated Approach to Conserving the World's Biological and Cultural Diversity*. Gland, Switzerland: WWF and Terralingua. Available at: <http://www.terralingua.org/EGinG200rep.pdf>, with companion map at: <http://www.terralingua.org/Images/WWFmap.JPG>

Wurm SA. 2001. *Atlas of the World's Languages in Danger of Disappearing*. Paris: UNESCO Publishing.