

## Mountains and their protected areas

### Quick facts:

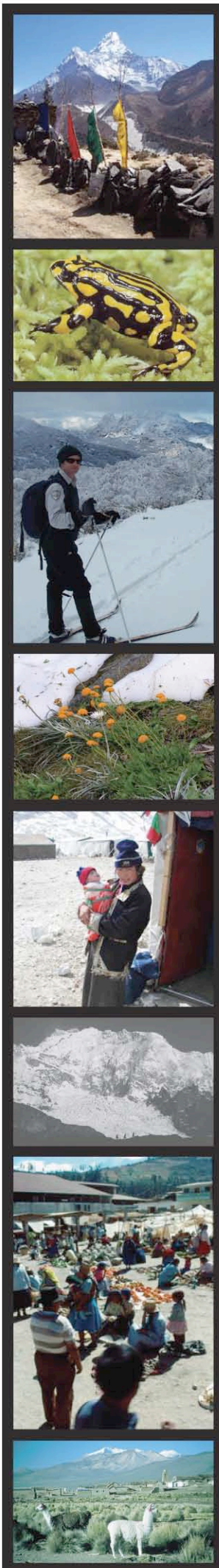
- Mountains are found on every continent on Earth, and on many oceanic islands.
- As a single great landscape type, reaching almost from pole to pole, they encompass the most extensive array of topographic, soils, climatic, faunal, floral and cultural differentiation known.
- The conspicuous beauty and grandeur of mountains, and their seeming unchangeable characteristics, have made them sacred to the major religions of the world, and often the abode of ancestors.
- The five most important food staples of the world come from mountain environments.
- The 2003 UN list of Protected Areas (PAs) has a total of 9,345 mountain PAs covering 17,358,280 sq kms.
- Many regions with mountains have no representative protected areas such as the Atlas Mountains, Antarctica, Papua New Guinea and the Middle East.
- For high mountains, 61 World Heritage areas have been designated. 32% of the world's PAs are found in mountains.

### Mountains – special challenges

Mountains, because of their three-dimensional nature as major landforms, present special problems and opportunities. Lowland-based approaches to mountain use and to MtPAs design and management, have not worked. The special features from which key issues arise include:

- Given the worldwide shortage of water of sufficient quality to meet present and future needs, and the fact that the bulk of the world's precipitation falls on mountains, high quality water is a paramount and economically valuable product of MtPAs.
- Their biological diversity is extremely high. Moreover, the level of endemism is outstanding, due to the "island" effect of single mountains separated by lowlands. Half of the world's 24 biodiversity hot spots are mountainous.
- The cultural diversity of mountain peoples is a precious but eroding heritage, needing conservation as part of MtPA management. The involvement of mountain peoples in protected area planning and management is especially imperative since:

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- they know how to live sustainably with mountains.
- long-distance transport of pollutants in the atmosphere is affecting MtPAs more than other kinds of protected areas.
- because of the relatively narrow altitudinal vegetation zones and diminishing space with increasing elevation, any global warming will have major impact on mountain flora and fauna. Where there are MtPAs embedded in mountain ranges, there are opportunities for gene and species migration along ranges (e.g. poleward in N-S ranges for warming, and E-W for precipitation changes) but MtPA managers need to be attempting linkages along the ranges in conservation corridors.
- MtPAs need re-design and enlargement down the mountain, since most include only the summits and higher elevations of scenic, spiritual or recreational value and are inadequate to protect biodiversity, cultural diversity, and water.

### **Mountains in the international agenda**

The global importance of mountains has been increasingly recognised in global fora in recent years. In 1992, in Rio de Janeiro, the UN Conference on Environment and Development, or Earth Summit, included – Managing Fragile Ecosystems: Sustainable Mountain Development – in Agenda 21. In 1995, the Global Environment Facility (GEF) identified mountain ecosystems as the subject of one of its ten operational programmes. By 2002, GEF had committed over \$620 million and leveraged about \$1.4 billion of additional funding for over 100 projects in 64 countries.

At the end of the International Year of Mountains in 2002, the UN General Assembly adopted a resolution appealing to UN organisations, governments, international financial institutions, NGOs, and academic, private sector and other stakeholders to further strengthen their involvement in mountain issues. In 2004, World Conservation Congress adopted a wide-ranging programme of work on mountain biological diversity.

### **The Mountains Biome Theme**

The Mountain Biome Theme of the IUCN – World Conservation Union’s World Commission on Protected Areas was established in 1992.

The Mountain Biome Theme is a global network of over 500 mountain experts from 67 countries devoted to preserving and protecting our precious mountain regions of the world. They have the goals of:

- Playing a strong role in the Mountain Agenda follow up on Chapter 13 of Agenda 21 from the Rio Earth Summit.
- Developing a support and exchange network of protected area managers, researchers and other professionals dealing with mountain protected areas who share common issues because of the nature of these three-dimensional earth features.
- Promoting a greater awareness of values of mountain protected areas (MtPAs) among the international community of governments, environmental NGOs, donors and the general public.

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