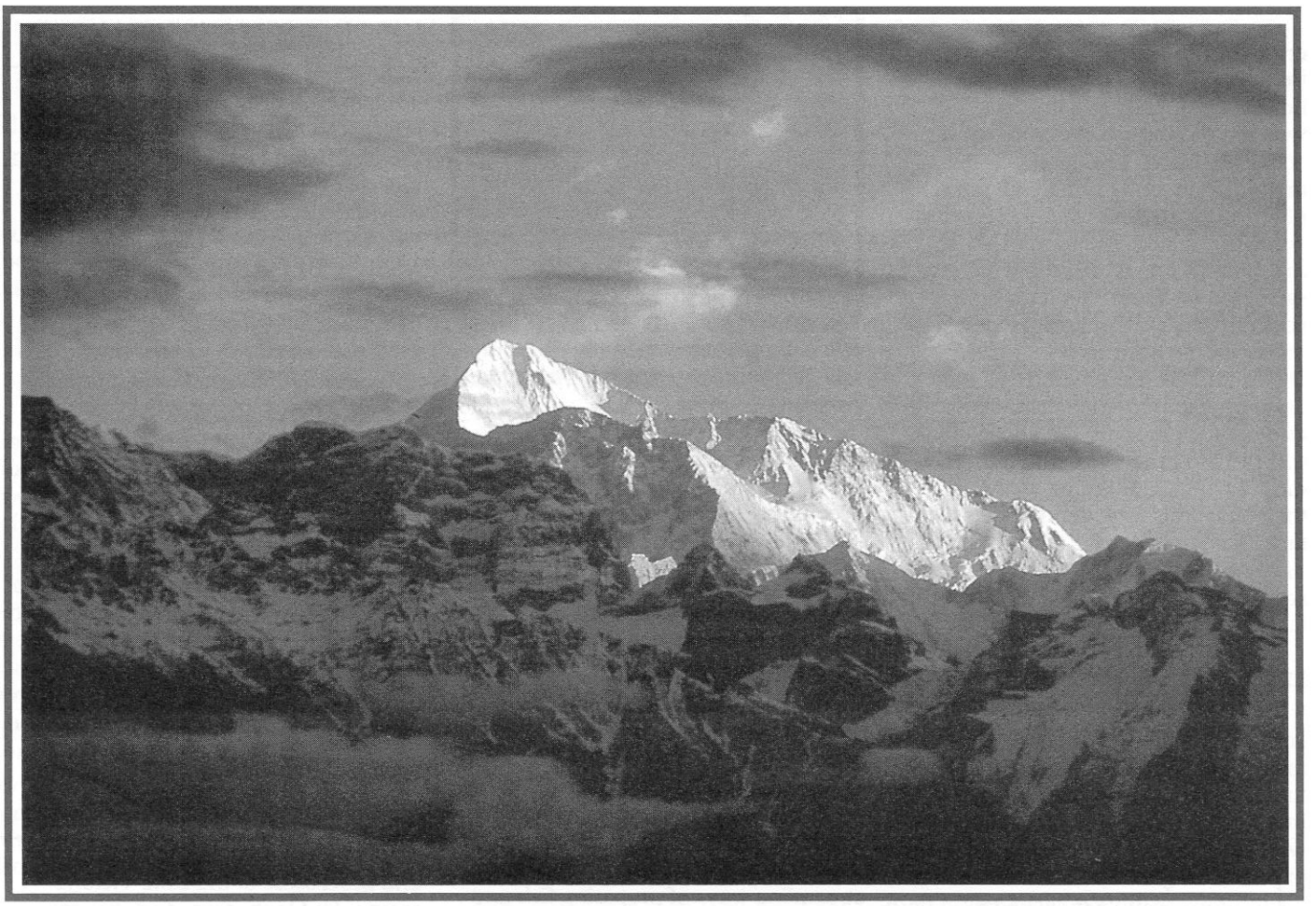


CONSERVATION REACHES NEW HEIGHTS

The boundary between Nepal and Tibet stretches across the "roof of the world" — Mount Everest. The Tibet side, lying in the rainshadow of the Himalayas, is a high, flat desert plateau.

The steep slopes of Nepal, by contrast, are host to one of the richest ecological habitats in Asia. In an hour or two's walk, a hiker can pass through a vertical corridor of vegetation that extends from the gaudy flowers of the tropics to the fir trees and birches of sub-alpine climates.

These dissimilar landscapes are the focus of an international effort to preserve the unique environment surrounding Mount Everest. In 1988, the Nepalese government set up a task force to plan the conservation of the Makalu-Barun area that adjoins the Mount Everest National Park. The following year, the Government of the Tibetan Autonomous Region of China established the Qomolangma Nature Reserve on the peak's northern slope. Together, these two projects will conserve 20,000 sq km. When joined with the other protected areas surrounding Mount Everest, they will form a region of more than 42,000 sq km — about the size of Switzerland.

The challenge of planning, implementing, and managing two contiguous parks in two nations is equally enormous. The Woodlands Mountain Institute (WMI), an American nonprofit educational and scientific organization, is helping the governments of Nepal and Tibet execute the project. WMI has found funding and research support for the initiative from international donors, including IDRC.

IDRC's support is focused on preserving Mount Everest's complex ecosystem. The project also sets out to protect a cultural resource. About 100,000 people living on both sides of the border will be affected by the creation of these vast parks. Conservation

programs throughout the world often leave local people economically marginalized and cut them off from their traditional natural resources. But the Mount Everest project seeks to combine conservation with sustainable development, showing local people how they can benefit from the park without damaging its environment. This approach is based on the "premise that the dignity and welfare of people and their cultural diversity are as important as biological diversity... the conviction that the key to preserving either one usually lies in the other," said J. Gabriel Campbell, the Director of WMI's Asian Environmental Programs in remarks to the IV World Congress on National Parks and Protected Areas held in Venezuela earlier this year.

LAST PURE SEED

The proposed parks encompass a region known as the "last pure ecological seed" of the Himalayas. UNESCO has also designated it as a World Heritage Site. The Nepalese side includes seven valleys that radiate from Mount Makalu, the fifth highest summit in the world. These valleys shelter some of Nepal's last remaining pristine forests and alpine meadows. The park also contains a single sweep of mountain slope with an altitude transect of 8000 metres — a continuous strip of vegetation that begins with tropical plant life at 1000 metres, rising through sub-tropical, temperate, subalpine and alpine zones before reaching the snow and ice of the nival zone at 8000 metres. This transect reveals a panorama of biodiversity. The great range of precipitation (4,000 mm to less than 200 mm) and differences in soil and sunlight make these habitats even more complex. Researchers in Nepal recorded more than 3,000 species of flowering plants and about 80 species of mammals, including the endangered red panda. "If there is a Yeti snowman, you can be sure that this is where it will be preserved," joked Dr Tirtha Bahadur Shrestha, the botanist and ecologist who heads the Nepalese Task Force for the Makalu-Barun Conservation Project.

This biological richness is matched by the region's cultural diversity. The people speak more than 15 different Tibeto-Burman languages and dialects. They depend on the natural resources of the area for their survival, working in subsistence agriculture and livestock farming. Their existence is marginal. Nepalese researchers found that 73% of the households reported a shortage of food at some point during a calendar year. Health care and educational facilities are limited. The Nepalese villagers have to walk for days to attend a market and more than a week to reach a road. To supplement their meagre incomes, they sell cloth woven from wild nettle and paper made from a local shrub. They also collect herbs to sell in India — a 10-day journey. Some find work as porters for the occasional tourist who visits the region.

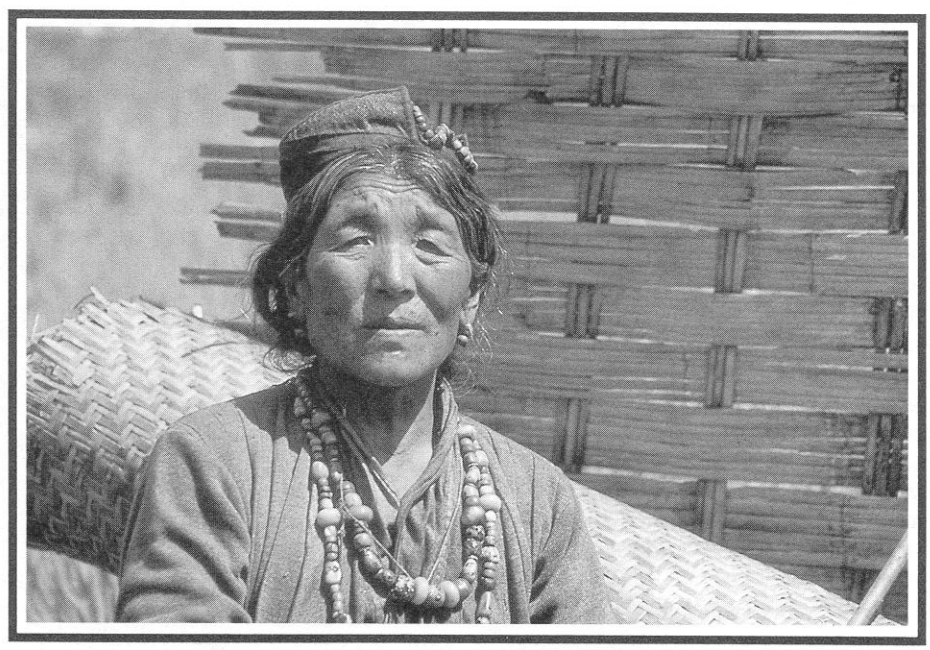
In Tibet, farming is practiced up to 4,500 metres where water is available for irrigation. At higher altitudes, only grazing is possible. Nomads tend a variety of animals, including cattle, sheep, and goats, depending on the elevation. At the highest altitudes, they graze yaks.

ENVIRONMENT AT RISK

The people's efforts to survive on these mountain slopes have come into conflict with nature. Population growth has placed a burden on natural resources, leading to over-grazing, cultivation of marginal land, and deforestation. Certain trees that are harvested for firewood, such as juniper and caragana, are difficult to regenerate because they grow slowly in such high altitudes. Rare birds are trapped for food and the remoteness of the area makes it difficult to control hunting.

Future human activity, however, poses an even greater threat to the environment. The World Bank is funding a US$1 billion 402-megawatt hydroelectric dam on the Barun River and a 200-km access road that will border the proposed park area. More than 3,500 workers and their families are expected to settle on the site, ready consumers of the area's natural resources. The road will also bring in more immigrants, business people, and tourists. Although there are few visitors to Makalu-Barun now, the tourist industry could grow at a rate similar to that around the Mount Everest summit. In 1963, the summit area attracted 20 visitors. In the year 1989–1990, the number had risen to 13,000.

The planners of the Nepalese and Tibetan nature preserves aim to balance these human demands with conservation needs. Research is underway in Tibet, although it is hampered by



The project will show local people how they can benefit from the park without damaging its environment.

enormous distances and the difficulties of working in a desert environment 5,500 metres high. The Qomolangma Nature Preserve Task Force has completed a draft master plan for the park that combines findings from scientific research and local consultation. Researchers completed surveys on a variety of sectors, including vegetation, economic development, cultural conservation, and wildlife management. The ministries of health, education, and tourism have already incorporated some of the preliminary data. The management plan would establish three zones in the park with different types of activities marked for each section. The core areas of the park would be kept free of human activity, save for some seasonal grazing and the presence of monasteries. "We plan to link conservation education to the traditional culture of holding both mountains and life sacred," said Changlo Chen Wangchuk, the Director of the Tibet Development Fund and a member of the task force.

FIELD RESEARCH

The Nepalese task force has presented its management plan, the product of hundreds of hours spent exploring habitats and talking with local people. "We spent about 19 months in the field to come up with the plan document," said Dr Shrestha. We did it in a participatory learning process, spending our days with local inhabitants." The scientific, biological and socio-economic research resulted in 20 papers, which in turn formed the basis of the management plan.

The plan called for the creation of a national park joined by a conservation area. (The park was officially established in November 1991.) The plan divides the park into three management zones: nature reserves in which natural ecosystems would be strictly protected and human activity confined to scientific research; protected areas where traditional land use practices would be allowed, albeit carefully controlled; and special sites and trails for the use of tourists and religious pilgrims.

The conservation area will act as a buffer zone to the park and generate economic opportunities for local people. Like the park, the conservation area will be divided into categories based on land use: biodiversity protection; community forest and pasture; agroforestry; and agriculture and settlement. Planners will focus on sustainable ways for local people, especially women, to increase their incomes through the processing of natural resources from the conservation area and getting access to credit for agricultural work. One example of how modified agricultural practices could improve the local economy relates to livestock. Higher milk producing animals could be introduced and used to promote stall feeding, which is less environmentally damaging than grazing. Slope degradation would be prevented and at the same time, increased milk production would lead to greater earnings.

Planners also hope to establish a museum of cultural and natural history. Although it would function as a visitors' centre, its exhibits would also encourage local people to appreciate the richness of their heritage. This has already happened in the case of the tetra centron tree, which researchers discovered in a small village. A fossil of this tree has been found in Japan and researchers are using the two discoveries to support the theory of continental drift. Numerous papers have been written about the tetra centron but only after visitors to the area photographed the tree did the villagers realize its importance and start to protect it. "We think the same thing will happen with the other items which they neglect," said Dr Shrestha. "If we put them in the museum then they will start preserving traditional artifacts such as the twin-blow whistle, a musical instrument that only the Rai people in the area make and use."

LOCAL INVOLVEMENT

More than 70% of the resources of the Mount Everest project are being directed toward the involvement of local people. Regulations on every aspect of the park development will be established only in consultation with local residents. They will also help maintain the park, working as game scouts and rangers. It will be the first park in Nepal not to use the army for protection.

The Mount Everest project is a model of how the conservation and protection of nature's resources can be compatible with local economic development and participation. Dr Shrestha describes the philosophy behind the project in terms of a parable. A hungry farmer faces a dilemma. "Should she cook her last ear of corn or save the seeds for the future? We have a Nepalese proverb: 'protect your body in a crowd, protect seeds in a famine.' The wise woman saves her seed for the future. In the same way, the Makalu-Barun Nature Park and Conservation area has been designed to preserve biodiversity's seeds for posterity, to draw upon mountain wisdom for development and to value local people as resources for conservation."

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