Fausto O. Sarmiento
Guillermo Rodríguez
Miriam Torres
Alejandro Argumedo
Mireya Muñoz
Jack Rodríguez

Andean Stewardship:

Tradition Linking Nature and Culture in Protected Landscapes of the Andes

Resumen

En los paisajes protegidos de los Andes, la mayordomía que se ha experimentado en diversas regiones que han forjado intrincados modelos de conservación y desarrollo a través de los siglos. De las prácticas de administración de recursos y de uso de la tierra, los modelos andinos permiten generalizar las nociones que permiten unificar la naturaleza y la cultura en un todo integrado como paisaje protegido, para vincular la biodiversidad y gestión humana como impulsoras de una simbiosis que ha forjado la identidad de sociedades de montaña.

Al presentar varios casos de estudio provenientes de diferentes países andinos, incluyendo Colombia, Ecuador, Perú y Bolivia, se perfilan los diferentes criterios necesarios para la mayordomía del paisaje cultural en los Andes.

Introduction

A tradition of stewardship is embedded in the popular culture of the Andes. It has helped to sustain practices associated with land use in the local communities living and working in mountainous landscapes (known as "lifescapes" for short). The actors of the Andean drama have not only been objects, but subjects of holistic collaborative management as stakeholders for conservation and development (Gade 1999). They are regional and multilateral organizations; governmental agencies at the local, provincial, and national levels; non-governmental organizations; universities and research centers; and traditional and indigenous communities. In this mixture of conservation scenarios, the task of applying IUCN Category V protected landscapes in the region is to enrich options of sustainable development by bringing to the forefront the concept of

culture and nature as an integral unit, with important roles for the local players as stewards of both their natural and cultural heritage (Phillips 1998).

We argue that, once Category V is officially implemented in the region, it may help to change the "paper parks" problem found in most Latin American countries. The case studies included in this paper may lead to a

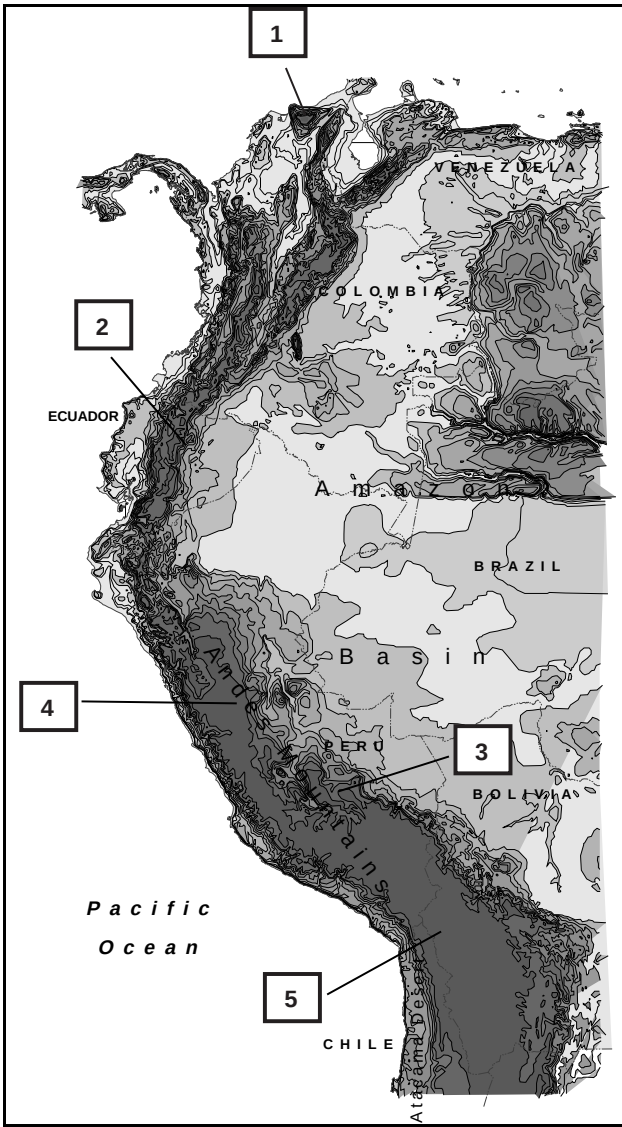

Figure 1. The northern Andean region, with the approximate locations of the case study sites.

1. Sierra Nevada de Santa Marta, Colombia
2. Quijos River Valley, Ecuador
3. Valley of the Kings, Peru
4. Alto Cañete–Cochas Pachacayo, Peru
5. Communities of the Sajama Volcano, Bolivia

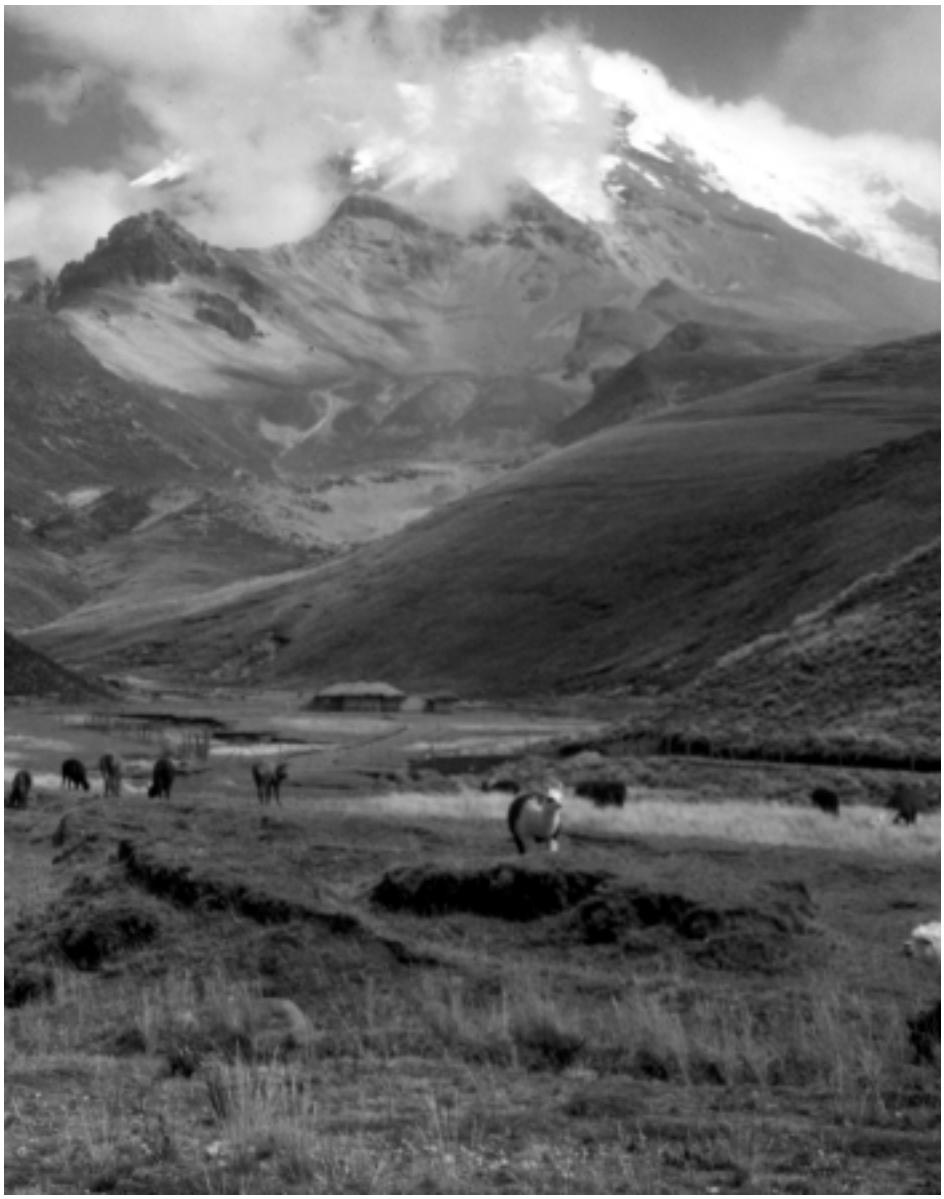

Figure 2. Several countries in the Andean region have been developing legislation enabling designation of protected landscapes. *Photograph by Jessica Brown.*

review of the management categories currently used in the region, or at least to an evaluation of their efficiency in achieving the goals of ecodiversity conservation. To have protected landscapes cared for by the stakeholders themselves as stewards will finally dispel preconceptions that limit nature and culture in the Andes (Sarmiento, in press). Furthermore, it will provide an opportunity to acknowledge that these local communities created working landscapes reflecting traditional practices of stewardship. Whether the selected sites will showcase indigenous management, criollo achievements, or colono lifestyles, the role of humans in tropical mountain ecosystems—recognized as a key to shaping biodiversity in the area (Ellenberg 1979)—is increasingly important to promote as a good conservation strategy.

Criteria for a Regional Approach

The Andes ecoregion harbors some of the most bioculturally diverse ecosystems in the world. It contains two recognized hotspots of biodiversity, two of the eight recognized centers of origin of major crops, 20 of the 36 World Heritage Sites in South America, and more than 205 languages (A. Argumedo, personal communication). The indigenous cultures have developed ingenious means for dealing with water stress and sloped terrain, as evidenced by the Pimampiro aqueduct in Ecuador; the Cumbemayo and Moche channels, the Puquios of Nasca, or the cochas de Liallahua in Peru; and the textiles of Atacama in Chile. A huge variety of plants has been domesticated, including anihua, kiwicha, tarwi, quinua, yacon, achira, racacha, olluco, mashua, oca, and potato. Ancient terraces found around Lake Titicaca, or the monoliths of the Tiawanaku plateau, are witness to the management of bounties long gone; even today, this great diversity is deteriorating rapidly in the face of global trends. Current conservation approaches in the region are deficient in that they have failed to comprehensively address socioeconomic, cultural, political, and institutional challenges for mountain sustainable development.

With this background, we note the challenges of developing the concept of the interrelationship between forms of diversity (whether biologically or culturally driven) amidst current trends of "setting aside" reserves for preservation of pristine nature. We will demonstrate that the role of humans as stewards of their lands is a prerequisite of the comprehension of the values of Andean cultural landscapes. We therefore, require a definition of the new Protected Landscape approach, stressing the highland/lowland interaction, the likelihood of long-lasting small-impact economic activities, and the legal base

for buffer zone management and core protection.

There are several criteria of stewardship that may be used to select cases in a regional approach. They include: (1) biological (e.g., large biota inventories), (2) physical (e.g., key environmental services such as water capture and soil degradation), (3) cultural (e.g., agricultural practices and religious considerations), (4) social (e.g., land tenure and class structure), and (5) economic (e.g., production modes and market strategies). Table 1 shows some of the indicators for landscape ecodiversity worth protecting.

Within the framework of Andean mountain situations, there is no single example which encompasses all the indicative factors for landscape stewardship. Here we try to cover the extent of the options, including references to specific sites along the cordilleras in several countries, each one emphasizing a particular criterion or a few criteria in working, living Andean landscapes.

Case Studies

A selection of case studies makes the point in favor of the protected landscape approach for conservation and development in traditional communities of the Andean mountains. We will proceed from north to south, explaining the significance and potential for demonstrating the validity of the concept with different scenarios that include tropical and temperate sites, highland and lowland montane environments, indigenous

Criterion	Indicators
Heirloom plants/animals (biological)	Local varieties, rare recipes, seed stock, local races, pets, and draft animals
Holistic rearing (cultural)	Not only agriculture, but livestock, root recollection, fruit and flowers, firewood, etc.
Traditional production (economic)	Subsistence agriculture, staple products and local specialties geared to the local market
Water management (physical)	Successful irrigation processes and terracing or other soil management practices
Cultural boundaries (economic)	Seasonal utilization, transhumance and home-range uses of potentially limiting activities
Spiritual ecotones (cultural)	Mental constructs—not physical lines but spiritual or intellectual reaches
IUCN membership (social)	Sponsorship of individuals' affiliation or NGO recognition in IUCN structure, mobility and organizational frames

Table 1. Some indicators of landscape ecodiversity.

and mestizo populations, and rural and urban settings.

Table 2 lists different prospective sites for an integrative protected landscape demonstration exercise. This should be considered a minimal sample for conveying the notion of landscape stewardship in the region. Due to the difficulty of finding one site that may be indicative of all factors, each site will focus on a special theme.

The Sierra Nevada de Santa Marta, Colombia. This massif constitutes traditional grounds for three different indigenous groups: the Wiwa, Arrumaco, and Kogi. The location of "Ciudad Perdida" in particular is a sacred place for the Kogi, who are now living around the archaeological site and are custodians of its maintenance as spiritual totem. The Tairona Indian builders of this impressive architectural wonder have disappeared. The area is already protected as a national park and UNESCO biosphere reserve. With its cultural patrimony, "Ciudad Perdida" is an important archaeological park. A comprehensive study has appeared as an atlas with general information on the massif. This is the highest coastal mountain on Earth, reaching from sea level to 5,755 m in only 42 km. A rapid ecological assessment (REA) has shown that 13 life zones are found within the 12,230 sq km that share the greater Magdalena River Basin.

The study would also reflect the "degree of criticality" to help define important areas in the Sierra Nevada de Santa Marta ("criticality" can be thought of as equaling "intrinsic quality" multiplied by "intervention condition"). All of the selected areas include indigenous settlements and interventions (Rodríguez 1999). A protected landscape category will bring to the forefront the important

Theme	Place	Facilitator
Indigenous management	Ciudad Perdida, Sierra Nevada de Santa Marta, Colombia	Guillermo Rodríguez
Production alternatives	The Quijos river valley, near Baeza, Ecuador	Jack Rodríguez
Highland tourism	Alto Cañete, Cochas Pachacayo, Huayhuash, Peru	Miriam Torres
Traditional agriculture	The Valley of the Kings, near Pisac, Peru	Alejandro Argumedo
Cultural heritage	Sajama community in the Sajama National Park, Puna of Bolivia	Mireya Muñoz

Table 2. Prospective sites for protected landscapes.

role of the ancient Tairona and the current Kogi and mestizo population in the area. Indigenous land management of the area, the seclusion of practices in sacred sites, as well as a comprehensive ethnobiological framework of Kogi livelihood make the case for an important contribution of the protected landscape concept in the northernmost Andean massif.

The Quijos River Valley, Ecuador. Amidst three important Ecuadorian protected areas (Sumaco-Galeras National Park, Antisana Ecological Reserve, and Cayambe-Coca Ecological Reserve), two fertile valleys run from the heights of the Antisana volcano to the foothills of the Andean crescent of the Amazon headwaters. The bulk of biodiversity housed in the tropical montane cloud forest belt is impressive in almost every respect. The area has been always an important mountain pass connecting the Amazon lowlands with the Andean highlands. An extensive network of pathways (or "culuncos") criss-crossed the area, connecting the Quijos Valley with other prehistoric and historic market centers, such as Pimampiro and Quito. With the arrival of the Spaniards, the region became the gateway to the Amazon after the Orellana expedition used this mountain pass to enter the mythical "El Dorado."

Colono lifestyle has changed the original landscape into a mosaic of pasturelands, croplands, and remnant forest patches. Although the original Quijos Indians have disappeared, rich archaeological evidence abounds in the area. Baeza, in the heart of the Quijos Valley, is the only city towards the Ecuadorian Amazon territory that is designated as being included in Ecuador's "National Cultural Patrimony." The life of the mestizo along the Quijos River and of the Cofan Indians along the Oyacachi River also present important examples of traditional practices and alternative economic options in a working, living landscape (Sarmiento 1997).

Several cycles of economic ventures have come and gone within the matrix of the valley, each leaving behind degradation of the original forest composition and soil structure. The most recent fashions, fishing in mountain waters and ecotourism (including whitewater rafting), pose a challenge for finding an appropriate administrative framework for conservation and development in the area.

The Valley of the Kings, near Pisac, Peru. The magnificent Andean civilization of the Inca empire is vividly portrayed today in the traditional village of Pisac, where the architecture and the surrounding terraced terrain set the stage for a continuation of simple agricultural practices and communal living. The protected landscape category at Pisac, close to the imperial capital of Cusco in highland Peru, will acknowledge

the intimate links embodied by a natural capital rich in evidence of ancient human impact. UNESCO recognized the important of the area as World Cultural Heritage Site, but reference is made only to the colonial city without considering the surrounding Pisac valley, the breadbasket of the Inca empire.

Local communities have developed communal strategies for agricultural production and irrigation so as to develop a highly sophisticated system of seasonally effective production mechanisms. Also, altitudinal adaptation to the "verticality" of Andean landscapes is practiced around the area by using several different crops according to the elevation and month of the year.

Agrodiversity, or the variety of cultivars and heirlooms, is also maximized in the protected landscape approach. This is something that Andean indigenous peoples have been doing all along; for example, the campesinos of Quechua descent have been stewards for several centuries (A. Argumedo, personal communication).

Alto Cañete-Cochas Pachacayo, near Junín, Peru. The cordillera of Huayhuash in highland Peru is often mentioned as one of the focal points for mountain tourism and ecotourism (Torres 1999). As in Huascarán National Park, increasing pressure from hikers, bird-watchers, and climbers put stress on the natural resource base. Further to the south, lying between the departments of Lima and Junín, another important tourist destination is emerging. The Alto Cañete and the Cochas Pachacayo are areas of important potential. Here, for the first time in the history of Peru, eight local indigenous communities have organized themselves into the "Agriculture Association of Social Interest" (SAIS) to create a new reserved zone in Alto Cañete and Cochas Pachacayo, where the national government entrusted the indigenous leaders, who own the land, with the creation and management of a protected area. The search for an appropriate designation will likely take place within the context of the protected landscape approach.

Peru already has legislation enabling the establishment of a Category V area through the so-called "reserva paisajística." However, a closer view of the area reveals not only the scenic beauty of a natural monument, but important agricultural biodiversity, forest cover, water supply, and cultural heritage issues. This designation of a reserva paisajística opens more opportunities for private investment in protected area management. In the past, this was done by using a "basket" category of multiple use particularly oriented to conflict management and greater success in conservation.

The communities of the Sajama Volcano, Bolivia. Sajama National Park in Bolivia encompasses 200,000

ha. As one of the first Bolivian protected areas, the Sajama volcano (6,540 m) and its zone of influence show a strong orientation toward biological conservation of the last remnants of *Polylepis* woodlands in the so-called highest forests on Earth, with trees growing at 4,700 m.

However, with the presence of a combination of important archaeological sites, some burial monuments, several "chullpas" and many "apachetas" that are typical of the Andean tradition of crossing the continental divide via highland trade routes, the Sajama Volcano (which itself is considered a deity, or *Apu,* by the indigenous population) holds a high amount of cultural and religious significance. Associations with the landscape include sacred places, rituals, and age-old beliefs that have evolved into organic cultural landscapes with implications for local and regional trade and transit of goods through the newly constructed highway in Sajama National Park.

The Bolivian highland of the Sajama also readily qualifies for the protected landscape approach. Not only have humans been affecting the area for centuries, but they have forged associated management schemes such that the current phenology of the national park is very much a response to ancient and current land use practices.

The Next Steps

All of these examples fully comply with the tests of integrity and authenticity suggested in the operational guidelines of the World Heritage Convention of 1992, as ratified in successive experts' meetings in La Petit Pierre (France), Schorfheide/Templin (Germany), and Amsterdam (The Netherlands). The framework of cultural landscapes in the Andes was discussed at a 1998 UNESCO-sponsored meeting held at Arequipa/Chevay in Peru's Colca Valley. The next step will be to design a truly regional approach that includes both the biological and the cultural—and even the spiritual. We are proposing that the condor be adopted as the project's "biological flagship," and Wiracocha, a mythical pre-Hispanic wise man, as its "mythological flagship." We can help establish a system of protected cultural landscapes throughout the region by adopting the "Condor Route" (La Ruta Cóndor) and the "Wiracocha Route" (La Ruta de Wiracocha) as a lead-in to the project. With this concept in mind, additional areas already listed as potential cultural landscapes (either designed, living, relict or fossil, or associative) could be incorporated to obtain an optimal representation in the regional spectrum. These sites include the Páramos of Mérida in Venezuela; the cacao haciendas in Venezuela; the páramos of Antisana in Ecuador; the

Cordillera of Huascarán and the Lomas de Antiquipa in Peru; Aquina, Toconce, and San Pedro de Atacama in northern Chile; and the Isla Navarino in the extreme south of Chile (Mujica 1998).

The Cóndor/Wiracocha Route

Until quite recently, national approaches towards protected area management in the region adopted the national park model. The preservation of large areas of "unspoiled nature" through ownership of land have often excluded local peoples from planning and implementation processes. The use of Western conservation science and practices and the involvement of formally trained experts have been emphasized, while the valuable knowledge and practices of indigenous peoples have largely been ignored in the process. Paraphrasing IUCN's Protected Areas Program, "a 'protectionist' mentality persists in the management of protected areas in South America, and successful work with local communities has seldom been achieved. Systematic methodologies to bring about the efficient participation of local people have not yet been developed." The "Ruta Cóndor/Wiracocha," as described below, presents a new paradigm, one in which local indigenous communities form the core of protected area establishment and management in a regime which aims to conserve biological and cultural diversity through a more integrative approach.

Building on this momentum, a network of indigenous peoples from seven countries is developing an innovative approach to the conservation of Andean cultural landscapes. The "Ruta Cóndor/Wiracocha" proposes a community based management regime in the Andean mountain ecosystems intended to regenerate and conserve its cultural and biological diversity. By moving from strict nature protection to multipurpose protection that embraces nature, culture, spiritual place, historical sites, and centers of diversification of native crops, the foundations for sustainable, bioculturally rich Andean landscapes can be built.

Incorporating the diverse ecosystems of the Andes, which are linked through historic and ecological attributes, an international route extending from Venezuela to Chile, covering the historic pre-Hispanic Andean space based on the ancient Wiracocha Route, is being developed. (La Ruta de Wiracocha was a pre-Hispanic route which linked culturally and biologically important points, including sacred sites, cities, areas of high biodiversity, ceremonial centers, and so forth. It was devised by Wiracocha, a mythical wise man, who used Andean scientific principles to establish a line which expanded from Colombia to Argentina.) The route will follow a network

of traditional-agriculture protected landscapes throughout the Andes, to be established following IUCN Category V principles. These traditional-agriculture landscapes will link focal points along the route. For purposes of this project, "focal points" have been defined as being nodal conservation areas which have already been established as well as other bioculturally rich areas that require conservation. The Ruta Cóndor/Wiracocha's focal points will include, among others:

1. Micro-centers of crop origin and diversity (particularly Vavilov centers and areas of crop diversity);
2. Areas of high biological diversity (including hot spots, critical, and vulnerable areas);
3. Outstanding mountain ecosystems (including high-mountain wetlands, native forests, and grasslands);
4. Cultural areas (including sacred sites, archaeological centers, World Heritage Sites, and other cultural landmarks such as places where there is a strong craft tradition, e.g., pottery and weaving); and
5. Protected areas (including national parks, nature reserves, biosphere reserves, etc).

The "Ruta Cóndor/Wiracocha" will be implemented and managed by indigenous communities themselves. Agricultural protected landscapes and new focal points making up the route will be managed adaptively, based on the traditions and knowledge of the native peoples. Linkages with the already established focal points will be done in collaboration with conservation authorities in each particular country, and arrangements will include strategies to ensure effective participation of local people in the management of such areas.

The integrated ecosystem approach that will be employed is key to the effective conservation of each element in the route, since protection of biological and cultural diversity are interdependent. This holistic approach will provide an enabling environment for conservation and sustainable use of biological diversity, including the maintenance of ecosystem functioning and resilience, wildlife populations and habitats, and biological diversity important to food and agriculture, including landraces and wild relatives of domesticated plants and animals. The route would be free of genetically modified organisms (GMOs) in order to maintain the Andes as an important reserve of strategic plant genetic resources and to ensure critical ecological services for the region's increasing population.

The "Ruta Cóndor/Wiracocha" will link landscapes that developed organically and were intimately tied

in the early history of the Andes. The Spanish invasion violated the harmony and connectivity of the landscape and marginalized the indigenous peoples who helped to create the region's richness and diversity. The "Ruta Cóndor/Wiracocha" is, therefore, an attempt to revitalize native peoples' common identity. To this end, the "Ruta Cóndor/Wiracocha" will emphasize the incorporation of culturally important sites to help native peoples strengthen their cultural identity and sense of belonging. The incorporation of sacred sites is also important from a conservation standpoint, since they usually harbor high diversity as a result of long-standing traditional protection status.

The corridor framework is intended to empower local communities and indigenous peoples and support them in their conservation efforts by bringing them together in various forums to share experiences and ideas, obtain resources, and construct successful conservation initiatives. McNeely et al. (1994) identify strategic actions required to strengthen protected areas in South America, and these include the use of research and planning techniques and training programs that emphasize participatory processes, conflict resolution, and harmonization of interests. The "Ruta Cóndor/Wiracocha" strategy is based on these principles, and, given its geographic scope, will go a long way in strengthening *in situ* conservation objectives in the continent. Additionally, the implementation of the route will provide an opportunity to native people in the Andes to work together to create opportunities to conserve, protect, and benefit from their knowledge, practices, and innovation systems. Issues of intellectual property and benefit-sharing will be therefore integral to the project.

The establishment of the "Ruta Cóndor/Wiracocha" will involve indigenous and traditional communities along the route, and will require and strive for effective mechanisms to coordinate actions and make decisions, collaborating with other conservation and development actors at the local and regional levels and from national and international sources. Direct participation and control of the project by the local communities will ensure that views of the indigenous peoples and their construction of local reality are the basis of the intervention. This will also guarantee that landscape conservation activities are tailored to local realities and enhances the project's chances of acceptance and success. The project strategy will promote the use of traditional knowledge, and will benefit from its shared ownership, adaptive nature, and Earth-based cosmovision. In addition, the "Ruta Cóndor/Wiracocha" initiative aims to influence regional protected area policy, especially where local com-

munities are concerned, and act as a catalyst for much-needed policy and institutional reforms.

The project will take proper account of the general goals of equity for and poverty reduction among the indigenous peoples along the "Ruta Cóndor/Wiracocha." An ecotourism and indigenous tourism plan will be developed to provide economic incentives for conservation, especially by adding value to local biodiversity and landscape features. Ecotourism activities will be promoted within the framework of the 2002 United Nations Year of the Mountains and of Ecotourism.

The "Ruta Cóndor/Wiracocha" initiative is an important first step in dealing with various complex problems that indigenous peoples face in their efforts to co-exist as traditional societies in the fast-paced global community. The project will serve as a model for locally driven sustainable development in the region and on the global scale, ensuring appropriate community development processes and the sustainable management of mountain resources. This is the first case in the region of a protected landscape initiative of such scale established by indigenous peoples, and is likely the first initiative of its kind in the world.

Conclusion

The Andean initiative of the "Ruta Cóndor/Wiracocha" should be:

1. **Communicative,** in order to publicize Category V's potential among community organizations, environmental NGOs, local and national governments, and international agencies;
2. **Inclusive,** by having a national consultation on the topic, bringing together both the grassroots organizations and government officials;
3. **Participatory**, by having a regional workshop on the topic that would include regional and national governments and community leaders;
4. **Epistemographic,** in order to clarify semantics and terminology of the dynamics of mountain ecosystems;
5. **Methodological,** to start building experience by documenting and publicizing previous works or pilot studies applicable to the concept of protected landscapes in the Andes ecoregion; and
6. **Transcendental,** to unify and invigorate local cultures.

If these six conditions are fulfilled, the "Ruta Cóndor/Wiracocha" will be a success story in the pilot effort for protected landscape conservation worldwide.

Acknowledgments

We acknowledge the opportunity to work together on the idea of protected landscapes in the Andes occasioned by the special WCPA-IUCN International Working Session on Stewardship in Protected Landscapes, held in Woodstock, Vermont, USA, and organized by the QLF/Atlantic Center for the Environment and the Conservation Study Institute of the U.S. National Park Service. We also thank the Andean Mountains Association for helping with networking and the Center for Latin American and Caribbean Studies of the University of Georgia for help with references and illustrations.

References

Ellenberg, H. 1979. Man's influence on tropical mountain ecosystems in South America. *Journal of Ecology* 67, 401-416.

Gade, D. 1999. *Nature and Culture in the Andes.* Madison: University of Wisconsin Press.

McNeely, J. 1994. Conserving biodiversity outside protected areas: How traditional agroecosystems can contribute. IUCN Workshop on Biodiversity Paper. Gland, Switzerland: IUCN.

Mujica, E. 1998. Regional thematic meeting on cultural landscapes in the Andes, Arequipa/Chivay, Peru, 17-22 May 1998. Typescript report.

Phillips, A. 1998. The nature of cultural landscapes—A nature conservation perspective. *Landscape Research* 23(1), 21-38.

Rodríguez, G. 1999. Un modelo socioeconómico para definición de areas críticas para la conservación en la Sierra Nevada de Santa Marta-Colombia. Pp. 209-226. En: *Entendiendo las Intefaces Ecológicas para la Gestión de los Paisajes Culturales en los Andes.* F. Sarmiento and J. Hidalgo, eds. Memorias del III Simposio de Desarrollo Sustentable de Montañas. Quito: Corporación Editora Nacional.

Sarmiento, F. O. In press. Human impacts in managed Tropandean landscapes: Breaking mountain paradigms. *Ambio.*

———. 1997. The Quijos River Valley: A protected landscape as best management practice for conservation and development in Tropandean Ecuador. *The George Wright Forum* 14(3), 59-66.

Torres, M. 1999. Una aproximación a la sustentabilidad del turismo Andino para el desarrollo de las zonas de montaña. Pp. 233-238. En: *Entendiendo las Intefaces Ecológicas para la Gestión de los Paisajes Culturales en los Andes.* F. Sarmiento and J. Hidalgo, eds. Memorias del III Simposio de Desarrollo Sustentable de Montañas. Quito: Corporación Editora Nacional.

Fausto O. Sarmiento, Center for Latin American and Caribbean Studies, University of Georgia, G-40 Baldwin Hall, Athens, Georgia 30602-1619 USA; fsarmien@arches.uga.edu

Guillermo Rodríguez, Fundación Pro-Sierra Nevada de Santa Marta, Calle 74, Numero 2-86, Santafé de Bogotá, Colombia; prosierra@rnd.net or snevada@uniandes.edu.co

Miriam Torres, The Mountain Institute — Andes Program, Apartado 01, Psje. Ricardo Palma #100, Pedregal Alto – Huaraz-Ancash, Peru; miriamt@mountain.org

Alejandro Argumedo, Indigenous Peoples Biodiversity Network, Ruinas 451, Cusco, Peru; ipbn@web.apc.org

Mireya Muñoz, Nogales & Asociados, Consultore Internacionales, P.O. Box 5240, La Paz, Bolivia; mireya@ceibo.enteinet.bo

Jack Rodríguez, FUNDRAE, Toribio Montes No. 766 y Cuero y Caicedo, Quito, Ecuador; hoturis@interactive.net.ec