

BIODIVERSITY AND SOCIAL WELL-BEING: THE CASE OF SOUTH AMERICA

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Summary

South America shows that the well-being of human communities and of other biological species go hand in hand. Where biodiversity have been protected, levels of autonomy and social well-being of local communities are higher than in areas covered by extensive terrestrial or aquatic monocultures, degraded landscapes, or large cities where poverty and marginality are abundant. This synergism between biodiversity conservation and social well-being can help overcome polarization between developers and conservationists. Macroeconomic parameters, such as gross domestic product, economic growth, or per capita income can be misleading because of the omission of important social and environmental variables, and the concentration of income in minorities. In addition, a few individuals or companies can cause large-scale losses of the “common natural capital” of nations or regions. Accelerated, intensive, and extensive development models and economic projects—such as large-scale plantations of sugar cane, banana, and cotton, ranching of cows and sheep, mono-specific plantations of *Eucalyptus*, silver and gold fever—have a widespread presence through post-Columbian American history. Repeatedly, these types of development have been

associated with ephemeral economic booms that left behind degraded social and ecological environments. A historical analysis reveals that the intensity of biodiversity losses, ecological and cultural homogenization, and degradation have progressively increased since the European conquest, so that today we have a type of *ultra-colonial* era. Solutions are, however, at hand. First, South America is inhabited by a rich diversity of local knowledge, cosmologies, environmental values, and practices. Second, ecological and social dimensions are dissociated not only in political and economic spheres but also in academia. Integration of humanities, social, and natural sciences is urgently required. Third, South America is the continent with the highest percentage of protected land; however, prevailing preservationist approaches have erroneously excluded a key species: *Homo sapiens*. Fourth, in South America there are fundamental differences between discursive and pragmatic levels, between written laws and actual practices, between market variables and indigenous values and practices. Fifth, in the current context of globalization we have to be prepared to modify those models in response to the actual signals and responses of people and ecosystems in the New World.

1. Current Ecological and Social Problems in South America

The central idea defended here is that the well-being of human communities and of other biological species are associated rather than antagonistic. Each time a river, for example the Tietê in the biggest city of South America, Sao Paulo, receives discharges of industrial pollutants, including lethal compounds, not only is the aquatic biota eliminated but also the sanitary conditions of human populations inhabiting the Brazilian megalopolis—particularly those of marginal sectors living in extreme poverty conditions (i.e. *favelas*)—are severely degraded. In contrast, each time the ecosystems of a watershed are conserved, for example in Amazonia, the largest tropical forest expanse in South America, not only is the life of myriad invertebrates, aquatic plants, algae, fish, and birds enhanced but also it allows the continuous supply of clean water, food, and shelter for people who, as have the Amazonian Indians Ka'apor, have relied on them for centuries.

The former link is obvious. However, it has been frequently neglected during the process of colonization of the New World by Europeans. They arrived in the South American ecological and cultural landscapes with foreign mindsets, and before they observed or fully understood them they introduced their own fauna and flora, transformed the landscapes, and installed a new social order according to their own concepts of the good life. Today, this colonial dissociation rooted in the lack of familiarity with native biota and cultures is often expressed in the tension between developers and conservationists.

First, this article analyzes three ecological and social causes of such misleading dissociation in South America. Second, a more detailed analysis of the historical process of ecological and cultural homogenization in southern Chile is presented to understand better the genesis of this problematic dissociation and its increasing intensity ever since European arrival. Thirdly, three propositions to assist in overcoming the conflicts between local and foreign environmental practices and social agenda are made for educational programs, research, and political approaches.

1.1. Antagonism between Conservation and Development

Appropriately, poverty is presented in political and public spheres as the most urgent problem affecting Latin America. Incorrectly, the protection of the environment is frequently presented in those spheres as a luxury, even as an impediment to the solution of poverty and its associated problems. In part this latter interpretation derives from a preservationist approach of South American conservation policies or agencies that dissociates nature from human societies. But it derives mostly from a faith that technology and economic growth will solve all social problems in the long term.

Many Latin American governments have justified their development policies as necessary to overcome poverty. But contrary to the expectations of development, during the second half of the twentieth century the number and proportion of people living in conditions of extreme poverty grew in this region. In South American countries, development models, driven by narrow technological and market parameters, have promoted expropriation of land and concentration of land ownership that have had severe negative social impacts.

When indigenous people and rural populations have been left without access to their regional land or marine ecosystems, they are forced into massive urban migrations with drastic decreases in their qualities of life. Even when local people are offered jobs by the new landowners—individuals or companies (for example, oil companies or multinational fishery companies)—their levels of autonomy are drastically decreased, and their traditional ways of life are disrupted.

Those populations, who include most of the South American people, become marginal to national or global economic-political systems that are foreign to them. Therefore, these recent development models, greatly inspired and controlled by neo-liberal economies, not only have caused severe losses of biodiversity and environmental degradation but also have prevented the political participation of indigenous, rural, and poor people (two-thirds of the South American population), whose lives have been spiritually and materially impoverished.

Conservation could play a crucial role in alleviating poverty in South America by clarifying the links between the integrity of regional ecosystems and the well-being of human populations. Diverse biological species and products—such as fungi, fruits, larvae, shellfish, meat, and fiber—and ecosystem structures and functions—such as clean water, shelter, and seasonal migrations—have played a central role for many indigenous and rural populations over the centuries.

The maintenance of these ecosystem patterns within which humans are integral components is one of the key challenges for contemporary efforts in conservation biology and protected areas in South America. In addition, it is necessary to consider the international or national pressures acting over regional ecosystems and human populations. For that reason, a second challenge for current South American conservation biology is to incorporate, in economic and political projects and models, ecosystem goods and services that are left out of most economic and social analyses (as shown in the next section).

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Biographical Sketch

Ricardo Rozzi studied ecology (M.Sc. at Universidad de Chile, and Ph.D. at University of Connecticut, USA) and philosophy (M.A. at University of Connecticut and University of North Texas, USA). His research combines both disciplines through the study of the interrelations between the ways of knowing and inhabiting the natural world. Since the mid 1990s, with the aim of incorporating environmental ethics in the practices of conservation and education in Latin America, especially in Chile, he has collaborated

with the Chilean Ministry of Education, the Ecology Schoolyard Program (coordinated by the Latin American Program of Audubon), and has participated in the creation of the Biological Station “Senda Darwin” (Chiloe, Chile), the Latin American Network of Ethnobotanical Parks, and the Omora Ethnobotanical Park (Puerto Williams, Chile). Since 1998 he has been the South American representative for the International Society of Environmental Ethics. Currently, he is an associated researcher to the Universidad de Magallanes, Chile, and Assistant Professor in Latin American Environmental Ethics at the University of North Texas. With these and other institutions, Professor Rozzi is working on the consolidation of the Omora Environmental Ethics Center to integrate biocultural conservation and social well-being in the austral region and Latin America. Among his numerous publications is a textbook on Latin American conservation, *Fundamentos de Conservación Biológica: Perspectivas Latinoamericanas* (co-authored with R. Primack, P. Feinsinger, R. Dirzo, F. Massardo, and 117 contributors of case studies). Other publications include The reciprocal links between evolutionary-ecological sciences and environmental ethics, in *BioScience*; two CDs of indigenous Mapuche poems prepared with the shaman Lorenzo Aillapán, called *Twenty Winged Poems from the Native Forests of Southern Chile*; and the book chapter *Implicancias ecológicas y sociales de la bioingeniería: un análisis desde el sur de Latinoamérica*, in *Ingeniería Genética y Ambiental: Problemas Filosóficos y Sociales* (written with F. Massardo).