


Social-ecological Systems of Latin America: Complexities and Challenges


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Editors

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 Springer

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Preface

*No doubt it was necessary to civilize man in relation to man. That work is already advanced and is making progress every day. But man must be civilized also in relation to nature.*¹

The book *Social-ecological systems of Latin America*²: complexities and challenges resulted from the multi- and transdisciplinary efforts of several social actors, scientists, resource managers, and members of international organizations. Our main goal was to describe our contemporaneous society–nature relationships. Throughout the writing process, the desire to contribute with knowledge and experiences, both individuals and collectives, always prevailed. This process was marked by the solidarity among authors, a fundamental value that should be the basis for the relationships between Latin American peoples and the entire world in the twenty-first century³. This book is dedicated to the future generations, a future that we want and wish for them.

The concept of social-ecological systems (SES) was the theoretical umbrella for this book since it allows for the interconnected study of ecosystems and human beings. We, humans, are an indissoluble part of earth, cohabitants or “ecosystem’s people,” sharing the biosphere’s ecosystems with other biotic and abiotic components. Human beings, complex and reflexive components of nature, are a powerful force that alters historical ecosystems. This ongoing process requires new, already existing, interdisciplinary approaches to study the different relationships between ecosystems and human societies (e.g., bioethics, environmental economy, among others). A key issue of these studies is to accept and embrace the contextual (both in time and space) inherent system’s complexity. One consequence of this approach is that environmental management should be thought in such a way that it may contribute to coadaptation and human well-being.

¹Victor Hugo (1898) *The Alps and Pyrennes*. Bliss, Sand and co., London.

²Latin America is an ethnic-geographic concept, identifying a region of the American continent where languages derived from the Latin are spoken https://es.wikipedia.org/wiki/América_Latina

³In the year 2016, the United Nations proclaimed December 20th as the “International Human Solidarity Day.” <https://www.un.org/en/events/humansolidarityday/>



Fig. 1 Map of Latin America showing the different ancestral cultural areas on top of the countries of the region. (Source: Museo Chileno de Arte Precolombino, Santiago, Chile)

The sociocultural and ecosystemic complexity, diversity, and heterogeneity of Latin America motivated us all to write our experiences contextually. The origins of our region include multiple cultural, ancestral, and current roots. The syncretism between nature and human beings has always existed in Latin America and currently persists in ecological and traditional cultures (Fig. 1). For example, it is still possible to see in the high Andes sacred Inca sites and paths and in low lands, such as the Amazon forests, historical society–nature relationships (e.g., Kayapo culture) that include tropical forest’s conservation. In this way, we Latin-Americans have generated our environmental history in the last 16,000 years, starting from hunters–collectors in the pre-Inca period to our days, adapting to the provision of services and resources provided by the natural ecosystems.

The main objective of this book is to increase the knowledge about science for the people from a Latin American perspective. That is, with a postnormal scientific focus oriented to action. This approach accepts that each individual may have multiple valuations and perspectives about reality, influencing in the study, understand-

ing, and management of the social-ecological systems. This book can be considered one of the first in its style and shape, not only due to the participation of experts from several Latin American countries (Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru) and invited experts from other regions, but also due to, as stated by Jay Inslee, Governor of Washington State: “We are the first generation to feel the impact of climate change, and the last generation that can actually do something about it.”⁴ Consequently, we the authors not only want to share our knowledge but also to express our deepest concerns about the future social-environmental challenges for mankind.

This book is divided into four sections. In the first section, we discuss concepts and methods related to the study of social-ecological systems in four chapters. Chapter “Postnormal Science and Social-ecological Systems” analyzes the SES concept from a postnormal perspective; Chapter “Simplifying the Complexity of Social-ecological Systems with Conceptual Models” describes how to simplify the study of SES using conceptual models based on the narratives of social actors; Chapter “Social Actors and Participation in Environmental Issues in Latin America” reflects on the differences between stakeholders and social actors, with a gender perspective and its effects on environmental issues; Chapter “Social-ecological Systems and Human Well-Being” discusses the complex issue of human well-being and its multiple approaches, proposing that the concept is different in Latin America than in other areas of the world.

The second section, divided into six chapters, discusses the challenges that SES represent for Latin America. Although theoretical concepts are considered as “universal” (i.e., applicable in the same way to any system on earth), several have evolved contextually in different regions. In this section, we have focused on these developments. Chapter “Studying Social-ecological Systems from the Perspective of Social Sciences in Latin America” analyzes the evolution of the SES concept from the perspective of social sciences in Latin America, Chapter “Environmentalism of the Poor: Environmental Conflicts and Environmental Justice” discusses the poor people ecologism; Chapter “A New Environmental Governance” proposes new environmental governance for Latin America; Chapter “A Hierarchical Approach for the Evaluation of Multiple Ecosystem Services” develops the idea of a hierarchical approach to value ecosystem services; Chapter “Social-ecological Complexities and Novel Ecosystems” discusses the complexities of novel ecosystems and Chapter “Social-ecological Systems and the Economics of Nature: A Latin American Perspective” analyses the nature’s economic management and its biophysical effects and threats.

The third section, case studies, is an invitation for the readers to travel to eight countries of Latin America with the help of 45 authors who will show them the social-ecological complexities of our region. The main idea, behind the 12 chapters, is to fascinate readers with Latin America, its ecosystems and peoples.

⁴See Chapter “Social-ecological Systems and the Economics of Nature: A Latin American Perspective” for details.

In the last chapter, the editors reflect on the future challenges for Latin America and its complex social-ecological systems, based on the information presented and discussed by the authors in the previous 22 chapters.

The authors of this book would like to thank our institutions and our families for understanding our tireless desire to share science and our life experiences. We give special thanks to the Chilean Museum of Pre-Columbian Arts (Museo Chileno de Arte Precolombino) for granting us permission to use the Cultural Map of the American Continent (Fig. 1).

Santiago, Chile
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