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Book Review

A. Wood, P. Stedman-Edwards, and J. Mang, editors. 2000. ***The Root Causes of Biodiversity Loss***. World Wildlife Fund and Earthscan Publications Ltd., London, UK.

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- [Book Information](#)
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"The race to save biodiversity is being lost, and it is being lost because the factors contributing to its degradation are more complex and powerful than those forces working to protect it." (Wood et al. 2000: 81)

The Earth is losing plant and animal species at an accelerating pace; however, science and management have failed to either understand or halt the process. This observation motivated the compilation of case studies in *The Root Causes of Biodiversity Loss* (2000). The World Wide Fund for Nature and the Global Environmental Facility initiated the *Root Causes* project in an effort to explore the socioeconomic and political drivers of habitat degradation and species loss. The editors assert that most research on biodiversity loss addresses its proximate causes, such as agricultural expansion, logging, and hunting. Their approach is based on the belief that preventing biodiversity loss requires policy makers to understand and mediate the distant and diffuse forces that produce these proximate causes.

The Root Causes of Biodiversity Loss analyzes 10 case studies of biodiversity loss from Brazil, Cameroon, China, the Danube floodplain, India, Mexico, Pakistan, the Philippines, Tanzania, and Vietnam. These cases were selected to represent specific ecosystem types, distinct sociopolitical contexts, or biodiversity hotspots. The scarcity of reliable ecological data and accurate government records motivated most research teams to develop descriptive, rather than quantitative, models of biodiversity loss. These models emphasize anthropogenic processes,

marginalizing biophysical processes such as climate change or changes in lake salinity. The editors, Alexander Wood, Pamela Stedman-Edwards, and Johanna Mang, integrate the cases, identify commonalities, and extract lessons and global recommendations.

A compelling feature of the *Root Causes* project is that the analytical framework was designed in cooperation with the interdisciplinary research teams conducting the studies. The cases integrate the diverse perspectives of social and natural scientists, resource managers, politicians, and others. In each study, the authors trace connections from local resource users to distant economic and political processes that influence local livelihood decisions. The volume's quality and cohesion stem from this close collaboration between the editors and the research teams throughout the project's development. The writing style is generally clear and scientifically sound, although the excessive use of acronyms is confusing. The tables, maps, figures, and models are helpful.

The volume's explicit emphasis on analyses that span temporal and spatial scales is also positive. Detailed histories, ranging from decades to centuries, expose how colonialism, war, and prior regimes condition the present-day unsustainable use of resources. Less convincing are the analyses of interactions between local and larger geographic scales, which in most cases describe local people as being passively driven by macroeconomic forces. Indeed, the "exclusively local approach to conservation that is at the heart of many international conservation programmes" (Wood et al. 2000: 77) has many flaws, but it is also problematic to ignore the heterogeneity in resource-use decisions among individuals who vary in sex, wealth, education, and other characteristics.

Although the editors' effort to create a general analytical model is laudable, the model itself explains little. It will not surprise anyone that biodiversity loss is produced by causes including macroeconomic policies and structures, politics and markets, social change and development biases, demographic change, and poverty and inequality (Wood et al. 2000: 14). In fact, few phenomena are not explained by this framework. Even the editors acknowledge in their conclusions that it is "not surprising" that the factors underlying biodiversity loss fit these categories (Wood et al. 2000: 61). More interesting than the general framework, therefore, are the case-specific hypothesis, models, and questions, which are narrower in scope and more explanatory.

One immediate observation is that rich countries are missing among the cases. Their absence is misleading in suggesting that biodiversity loss is a problem of the poor. We know, however, that species are rapidly disappearing in rich countries that are, in theory, dedicated to biodiversity conservation, such as the United States and Australia. Also unexplored are cases in which biodiversity conservation has been relatively successful. *The Root Causes of Biodiversity Loss* incorporates only one site where natural resources have been somewhat preserved. The case of the Philippines island of Palawan suggests that civil society can challenge environmentally damaging policies. Drawing upon lessons from rich countries and relative successes would strengthen the validity of the general conclusions (Wood et al. 2000: 58-79) and recommendations (Wood et al. 2000: 80-94).

The conclusions of the *Root Causes* project are rather obvious, but nevertheless valuable. The editors suggest that the root cause of biodiversity loss is the paradox of current development models. These models propose that, to grow economically, poor countries need to exploit their natural resources. However, this reduces their potential for sustained development. The lack of cultural, scientific, and economic appreciation of ecosystem services and biodiversity feeds the perception that unused nature is unproductive wasteland that should be converted to meet domestic and international economic demands. Many factors perpetuate these models, including poverty and inequality, population pressure, international lending and trade agreements, and inadequate institutions. Rather than blaming those responsible, the authors show that resource-based economic development is usually an understandable choice, because poor countries need economic revenues and poor local people need to feed their families.

How do we break the development paradox? Unfortunately, the editors contribute few new insights to this debate. The final recommendations are disappointing in their generality, especially given the more specific conclusions from the separate cases. Nevertheless, the cases contain compelling lessons that the attentive reader will be able to extract. One example is the observation that specific root causes can either encourage or discourage biodiversity conservation. The proximity of markets, for example, has stimulated bushmeat and wildlife trade in Cameroon. In contrast, in Tanzania, Vietnam, and Mexico, limited market access minimizes income-generating opportunities, motivating the exploitation of natural resources. Although other researchers have argued that models of environmental degradation are accurate only in specific spatial and temporal contexts, the compilation of cases promotes understanding of these contexts.

Well-framed and synthesized by the editors, the cases' parsimonious models and common layout expose commonalities and differences in the causes of biodiversity loss in a variety of natural and sociopolitical environments. *The Root Causes of Biodiversity Loss* may appeal to a variety of people. The cases and their synthesis can provide a valuable global context for political economy and political ecology case studies. Resource managers and policy makers, on the other hand, may find the analytical framework a useful tool for pinpointing the most effective areas for interventions. More generally, the *Root Causes* volume is recommended to both social and natural scientists who struggle to understand the anthropogenic forces that are rapidly destroying the earth's ecological heritage.

BOOK INFORMATION

Wood, A., P. Stedman-Edwards, and J. Mang, editors. 2000. *The Root Causes of Biodiversity Loss*. World Wildlife Fund and Earthscan Publications, Ltd., London, UK. 304 pp., paperback, US\$29.95. ISBN 1853836990.

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