

pect to find similar types in other countries? If so, which types, and which countries?

Nevertheless, *Red to Green* has much to offer. It takes us beyond the “rise and fall” narrative of Russian environmentalism to an assessment of current activities. The distinction between different types of “activism,” and the enumeration of different strategies, could provide valuable models for environmentalists in other imperfect democracies. Henry reminds us that the simple survival of so many environmental organizations in a generally unfriendly environment is itself no small achievement, and the educational efforts of grassroots groups may lead to greater substantive or transformational results in the future. The next political “opening” could allow existing groups to use their resources more effectively, rather than having to (re)build from the ground up.

Richerzhagen, Carmen. 2010. *Protecting Biological Diversity: The Effectiveness of Access and Benefit-sharing Regimes*. New York, NY: Routledge.

*Reviewed by Samuel Snyder*  
*Alaska Conservation Foundation*

Over the last few decades, as global populations and associated development have increased, the world has witnessed increasing threats to biodiversity. While the term *biodiversity* has its origins in biology, or more specifically conservation biology, the importance of biodiversity is recognized widely “as the foundation on which the ecosystem functions” (p. 11). Beyond ecosystem functions, however, biodiversity hotspots (i.e. centers of diverse ecosystems) are prized as locales for genetic materials central to research and development within commercial industries of agribusiness, cosmetics, and pharmaceuticals. Demand has increased trade in natural resources for genetic material, increasing threats to global biological diversity, particularly in developing nations. Efforts to address the need for these resources and the peril of overexploitation led to what would, in 1992, become the Convention on Biological Diversity (CBD).

In *Protecting Biological Diversity: The Effectiveness of Access and Benefit-sharing Regimes*, Carmen Richerzhagen offers an analytical framework for measuring the effectiveness of the CBD, through programs of access and benefit-sharing (ABS) in Costa Rica, the Philippines, Ethiopia, and the EU. In each case study, Richerzhagen builds upon primary and secondary literature, empirical data collected by the host countries, NGOs, and researchers, and information collected through qualitative research that included interviews of stakeholders, experts, and key informants.

Richerzhagen provides an extensive literature review of discussions surrounding the evolving history of ABS under the CBD. She suggests that while assessments of ABS are not new, most do not provide comprehensive review. Assessments working from largely legal and policy perspectives neglect economic questions, and vice versa. Most assessment approaches work from the

supply side, and thereby fail to develop a comprehensive evaluation that accounts for both supply and demand or for the complexity of those bi- or multi-lateral relationships. In seeking a more comprehensive approach, Richerzhagen reviews the effectiveness of ABS programs to enhance the conservation of biodiversity, facilitate access to genetic material, and enhance fair and equitable benefit sharing, including the prevention of misuse and misappropriation of biodiverse resources.

In the assessment of ABS through each case study, Richerzhagen develops an analytical framework that accounts for the assignment of physical and intellectual property rights, asymmetries of information between user and supplier country (e.g. nature of research, potential benefits, uses, or patents tied to a genetic resource), the quality of governance in provider countries, administrative complexity (including institutional capability and transaction costs) of the program, and market structures. Through these analytic benchmarks, she shows that, if properly articulated and implemented, benefit sharing provides potentially important incentives for conservation.

In each case study, Richerzhagen also reveals how breakdowns in one or more of the components of the analytical framework might threaten the success of an ABS program. For example, while the Philippines has spent years attempting to implement ABS, its efforts have largely been ineffective. Although the Philippines provides a comparatively positive example of attention to issues of physical and intellectual property rights, Richerzhagen notes that the Philippines case founders on information asymmetry, which she calls the “strongest critical factor for this case” (p. 150). The breakdown arises from issues such as providers expecting higher benefits than researchers or users are willing to provide. On the user side, users could not be sure that their investments would be properly directed toward shared benefits or environmental protection, as regulations are not concrete or clearly formulated.

In Costa Rica, the ABS program largely succeeds thanks to a stable government and a political system that favors bioprospecting and is simultaneously relatively successful at protecting physical and intellectual property rights. Conversely, in the case of Ethiopia, weak systems of property rights protection, coupled with generally unstable governance, make ABS implementation difficult despite the existence of a potentially effective agency for biodiversity management (The Institute of Biodiversity Conservation). Where the first three case studies assess the provider side of the equation, the EU case (Germany) provides the reader with an examination of the user dimension of ABS. In this context, where governance is stable and scientific research is a cultural premium, networks of scientific research institutions generate policies of conduct, transparency, and certification schemes that can prove crucial for overcoming obstacles in provider countries.

Each case study, in the end, provides excellent examples of challenges inherent in the creation and implementation of “an international concept that aims to protect formerly open access resources” (p. 210). While Richerzhagen’s

work underscores the difficulties of successful ABS models in a variety of contexts, her case studies and rubric for analysis can be applied in additional contexts where ABS might be a consideration.

Richerzhagen's review of CBD and ABS would be useful in courses on international or global environmental politics, particularly those examining the benefits and shortcomings to market approaches to ecosystem management and conservation. She admits this work is a starting point, and urges researchers and policy-makers alike to develop and advance continuing approaches to the protection of biological diversity. This book provides a solid foundation for that work.