

Elizabeth Lyon's Commentary on "Biodiversity and Human Health"

Commentary On

Case: Biodiversity and Human Health

This material is based upon work done while serving at the National Science Foundation. Any opinion, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the National Science Foundation.

This case study addresses several important ethical issues around the topic of biodiversity and human health. I also see it as a useful starting point for guiding OEC users to a wider range of issues around the ethics of international biodiversity research and environmental action.

By having the study's protagonist be native to and working in Indonesia, the case study misses the chance to ask what ethical issues OEC users based at American institutions might consider when they work in foreign countries in areas such as biodiversity research or conservation. I propose a few issues, but this is not an exhaustive set.

First, for anyone doing biodiversity research, a fundamental tenet of international law (i.e., the Convention on Biological Diversity or CBD) is that nations have sovereign control of their biological resources and that **scientific needs do not override a country's rules**. This means that all researchers must secure the required research permits, collections permits and/or material transfer agreements for each area in which they work; the requirements and processes can vary within and between countries. In the past, non-compliance with such requirements has had serious negative consequences for some researchers, students, projects, U.S. universities and even international relationships between the United States and other countries. Alas, right now the ethical path, i.e., following those rules, can be especially cumbersome and time-consuming because many countries are working to develop or revise their biodiversity-related rules to comply with the 2014 addition to

the CBD treaty, known as the Nagoya Protocol (NP) on Access and Benefit Sharing of Genetic Resources. The [NP website](#) and the [CBD's Access and Benefit-Sharing Clearing-House](#) have a vast array of country-specific information that could assist many OEC users, especially researchers, follow the right steps; a [guest blog that I wrote on this shifting landscape](#) also provides some tips for researchers.

A second issue in foreign countries is that the ethical landscape around biodiversity, i.e., the sets of values held by different groups, can be vastly different than those familiar to American scientists. When I taught a course on tropical deforestation with an economist several decades ago, I discovered a rich literature on the various value constructs underlying human-nature relationships, including the Judeo-Christian stewardship perspective that underlies many conservation efforts, as well as beliefs shaped by other religions, and by secular, utilitarian/economical, interconnectivity, and deep ecology/intrinsic views, for example. Understanding how these views play out is difficult in a country like Indonesia that is both biologically and culturally rich (e.g., with more than 700 languages, and large Muslim, Christian and Hindu populations); one cannot assume that various foreign communities will embrace the mainstream scientific mindset that U.S. researchers might carry. (Note that this is not just an international issue — Native American peoples can also have different values that guide human-nature interactions within their sovereign nations). More in-depth consideration of these topics can be found by OEC readers in journals such as *Environmental Ethics*; [Culture Matters](#), a report by a National Academies group, also touches on the importance of many facets of culture in arranging fair, equitable and successful international research partnerships, including in environmental fields.

The case study refers to a potential ethical conflict posed by choosing between a forest's spiritual/intrinsic value and the economic value it might yield for humans via the ecosystem services it provides. OEC readers can examine this potential conflict more deeply by tapping into the worldwide IPBES community that is forging consensus on the valuation and conservation of ecosystem services. IPBES, the [Intergovernmental Platform on Biodiversity and Ecosystem Services](#), is an international agreement established in 2012 and signed by 126 countries, including the United States. (I was honored to be part of the U.S. delegation to the First IPBES Plenary in 2013). OEC readers will find that a recent paper by the IPBES Expert Group on Ecosystem Values, with 48 authors from 31 countries, brings a wide range of international, cultural and scientific perspectives to the valuation of ecosystem services and most importantly, expands the discussion from an intrinsic vs. human

economic valuation to a pluralistic approach that incorporates diverse values: ["Valuing nature's contributions to people: the IPBES approach"](#).

And finally, the case study addresses how scientists can better explain environmental uncertainty. OEC readers might find it valuable to peruse relevant publications by the National Academies of Science (e.g., [Environmental Decisions in the Face of Uncertainty](#), 2013), or a report from the U.S. Global Change Research Program, ["Best Practice Approaches for Characterizing, Communicating and Incorporating Scientific Uncertainty in Climate Decision Making,"](#) which has very good sections on how to understand environmental uncertainty and explain it to the public.