
NOTES

CHAPTER 4. **Assessing Ecosystem Services at Different Scales in the Portugal Millennium Ecosystem Assessment**

1. We define *intensification* as the increase in the level of production per unit of land; *extensification*, as the decrease in the same.

CHAPTER 7. **What Counts as Local Knowledge in Global Environmental Assessments and Conventions?**

1. In making a distinction between these two kinds of actors, I should note that a significant amount of work is being done on the issue of representation by scholars interested in theories of deliberative democracy. See Benhabib 1996, Dryzek 1990, and O'Neill 2001.
2. Particularly influential in this respect have been Eric Wolf (1982), Sidney Mintz (1985), William Roseberry (1989), and Immanuel Wallerstein (1974). See also Schneider and Rapp 1995 and Dirks, Eley, and Ortner 1993.

CHAPTER 8. **Bridging the Gap or Crossing a Bridge?**

1. For a discussion on the contingent nature of scientific knowledge, also see Turnbull (2000).

CHAPTER 11. **Cosmovisions and Environmental Governance**

1. These CBOs are small institutional setups founded formally as nongovernmental organizations by graduates of the Course on Andean Campesino Agriculture that PRATEC offered from 1990 to 1999 in agreement with the state universities of Ayacucho and Cajamarca. They are autonomous from the

administrative and financial points of view.

2. GEF introduced a new project category in the development vocabulary: incremental-costs projects. The idea is that GEF provides additional funds to make projects that have been chosen for implementation by national governments environment-friendly. However, the understanding of incrementality adopted here is much more encompassing.
3. The *ayllu* is the extended family inhabiting a *pacha*, which comprises not only humans but the deities and natural entities as well.
4. Applying the term *organicity* to Andean communities refers to an attribute pertaining to a living organism. This term contrasts with the “organization” brought by external, state institutions for implementing development projects.
5. One such ritual pilgrimage takes place in June a few days before the winter solstice in the region of Apu Ausangate, a sacred mountain in the Cusco area, under whose protection large numbers of pilgrims congregate in a regional festival with the name of Qoyllor Riti.
6. However, “sameness” has to be appreciated as belonging to the particular Andean cosmovision while taking into account that translation may distort the meaning.
7. According to its Latin etymology, “to accompany” means to share bread together.
8. An activity now abandoned is the promotion of seed festivals because they were found to be alien to seed regeneration as practiced by the campesinos.
9. PRATEC conducted an annual course on Andean peasant agriculture from 1990 to 1999 and currently offers a master’s program on biodiversity and Andean Amazonian campesino agriculture in agreement with a national university.
10. Bruno Latour (1999b) proposes building good common worlds.

CHAPTER 14. **Barriers to Local-level Ecosystem Assessment and Participatory Management in Brazil**

1. State extractive reserves existed since 1988 in the state of Acre. Both state and federal extractive reserves are a consequence of the rubber-tappers’ grassroots movement, supported by environmental groups, which lobbied the government to create a new form of conservation unit in Brazil (Fearnside 1989; Allegretti 1990). This movement started during the 1970s in response to rubber-tappers’ displacement from the forest areas due to unregulated increase of the agricultural frontier (Brown and Rosendo 2000).
2. In formal arrangements local people have legal right to participate in decision-making (i.e., extractive reserves), whereas in informal arrangements,

- local peoples' participation in decision making depends on a government agent's willingness to accept such participation.
3. In September 2005, there were in Brazil forty-two federal extractive reserves (thirty-one inland and eleven marine) and many others were being created; one federal sustainable development reserve (another category of formal co-management arrangement); and several less formal participatory initiatives of resource management (e.g., the "fishing accords" in the lower Amazon river [Castro 2000, Castro and McGrath 2003]).
 4. This project follows the MA methodological approach and started as a potential pilot project for the Millennium Local-level Ecosystem Assessment after the workshop "Linking Local and Regional Assessments to International Ecosystems Assessments," World Resource Institute, Winnipeg, Manitoba, Canada, September 20–21, 1999.
 5. SUDEPE: Superintência para o Desenvolvimento da Pesca; IBAMA: Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis.
 6. This has been a result of key government agents' willingness to listen to fishers' concerns, demands, and ecological knowledge—an exception during the 1980s.
 7. The local elite often encompasses fishers who became intermediaries and who now fish rarely, fishers who are more capitalized and usually hire others to fish for them, and fishers with higher education (and other sources of income) who are able to take advantage of their formal knowledge.
 8. The breakdown of traditional fisheries management systems because of outside socioeconomic influences seems a trend in many coastal fishing communities in Brazil (Diegues 1983; Cordell and McKean 1992; Begossi 1998; Seixas and Berkes 2003; Kalikoski and Vasconcellos 2005).

CHAPTER 16. **The Politics of Bridging Scales and Epistemologies**

1. For example, the U.S. Environmental Protection Agency must publish the scientific reasoning it uses in setting regulatory standards in the *Federal Register*.
2. Regulatory standard setting in the United States provides numerous opportunities, for example, for public comment periods and adversarial administrative hearings in which diverse views can be expressed.
3. Letter from Kamal Nath, Indian environment minister and head of Indian delegation to the UN Framework Convention on Climate Change Conference of Parties, to Heads of Delegation, March 24, 1995.
4. See, e.g., T. Wakeford et al., letter to the editor, *Nature*, December 12, 1995.
5. Considerably greater detail about the regional components of recent global environmental assessments can be found on the Internet. For example,

IPCC: <http://www.ipcc.ch>; GIWA: <http://www.giwa.net>; MA: <http://www.millenniumassessment.org>; and ACIA: <http://www.acia.uaf.edu>.

6. Information per author interviews and e-mail surveys of participants in MA subglobal assessments. Additional discussions of the MA subglobal assessments can be found on the MA Web site at <http://www.millenniumassessment.org/en/subglobal.overview.aspx>.
7. Author interview with Nicholas Lucas, 2003; information about the MA's user engagement strategies can be found on the MA Web site at <http://www.millenniumassessment.org/en/partners.aspx>.
8. Some readers may object that epistemic pluralism is achieved at the expense of methodological consistency across regions that can inform our understanding of global environmental change in different parts of the world. Part of the point of this chapter, however, is that epistemic differences are not just in the biophysical aspects of environmental risk but also in how environmental risks are understood and valued, and that standardization, however justified in the name of methodological consistency, operates to exclude voices and perspectives from global debate unless it is achieved through open, deliberative processes. In other words, if the objective of global environmental assessments is to build a legitimate empirical basis on which to make global policies, it is important that the epistemic frameworks used to formulate these claims not be prematurely closed.
9. Author interviews with and e-mail surveys of MA Sub-Global Working Group leaders and participants.

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