

'THE COMMONS' IN AN AMAZONIAN CONTEXT

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The tropical rainforest houses a wealth of both ecological and cultural diversity, and the species richness, ecosystem services, genetic wealth, and repository of indigenous and local environmental knowledge stored in this endangered region represent a global commons at risk. As articulated by Donald Nonini in the introduction to this forum, 'the commons' refers to those assemblages and ensembles of resources that human beings hold in common or in trust on behalf of themselves, other living human beings, and past and future generations of human beings, and that are essential to their biological, cultural, and social reproduction. In the Amazon, many ecological resources lend themselves to being held in a commons because of practical reasons, such as the difficulty of dividing it into smaller pieces (e.g., due to resource unpredictability, mobility, or the loss of ecological functioning if broken into pieces), and/or the costliness of excluding potential users. But social reasons and values foster the communal management of resources as well: various commons exemplify shared identity, provide economic buffering, mitigate subsistence risk, foster cooperation and conflict resolution, and serve as a pillar in the edifice of societies supporting socialization and social reproduction.

In this essay, I seek to highlight various roles and conceptions of 'the commons' with regard to Native Amazonian groups, specifically the populations with whom I have worked in northeastern Ecuador. Theories about the creation, maintenance, and management of communal resources offer insights into human/environment dynamics, and also provide a lens through which to scrutinize the current political-economic context, specifically biodiversity conservation policy.

The Commons as Culturally Embedded

In an earlier article, I describe the common property regime of the Huaorani Indians of Amazonian Ecuador (Lu 2001). Resources held communally within a



kin group or *nanicabo* include faunal populations, arable land, and non-timber forest products such as edible fruit or river clay used for ceramics. How Huaorani individuals relate to each other vis-à-vis these resources is through the common property management regime, a structured ownership arrangement. In this regime, the resource unit and its members are well delineated, management rules are developed, incentives exist for co-owners to follow accepted institutional arrangements, and sanctions work to ensure compliance.

The characteristics of the Huaorani common property management regime make sense in light of the context in which it was developed: a situation of plentiful resources, low human population density, clear group membership, and effective social control through respect for kin and desire for good standing. What is remarkable about the regime is the subtlety with which rules are instituted. As part of the socialization process, young Huaorani learn about cultural boundaries, including the demarcation of social space between individuals and the types of items and resources one can take freely versus those for which permission must be asked. As these conventions and norms are embedded within the process of becoming Huaorani, they are not explicitly named rules but rather implicit understandings. For instance, resources held communally are ‘reduced’ to private property through creation, discovery, or capture. The faunal populations of the forest belong to an entire Huaorani village or user group, but if Namo kills an agouti, that rodent belongs to him. All arable land is held in common, but if Tipa clears a field and plants peach palm trees and manioc, these food sources are hers. Namo is likely to share the meat within the village, and Tipa will almost certainly agree to accompany anyone to harvest palm fruit or manioc tubers. The maintenance of good social relationships, the minimization of conflict, and the fostering of reciprocity—values central to Huaorani society—are reinforced through the property regime. The Huaorani example underscores one important characteristic of the commons: they are expressions of sociality. By holding resources in common, people establish duties and responsibilities to each other through conventions that are inextricably intertwined with cultural practices and beliefs. In this case study, implicit cultural understandings about spatial and social boundaries constitute the foundations for the common property regime.

Cross-Cultural Common Property

The Huaorani example is just one of a diversity of forms of common property management regimes in Amazonia. Drawing from a cross-cultural study in northeastern Ecuador, Bremner and Lu (in press) describe the social organization of property among 36 communities belonging to the Shuar, Secoya, Quichua, Cofán, and Huaorani ethnic groups. Our data indicate that indigenous property regimes are far from the open-access situations that Garrett Hardin (1968) considered prone to the “tragedy of the commons.” Instead, there are clear ideas among the indigenous groups studied as to their vision of property rights. No individuals in the study reported legal individual title; all land title was held communally.

Although land is uniformly held as a commons in these indigenous groups, there exists significant cultural and community variation. People's conceptions of property varied inter- and intra-ethnically. The Huaorani conceive of their agricultural land as held in common, but both Secoya and Shuar have clear notions of possessing their own land despite communal land title. For the Secoya and Cofán, there is intra-ethnic variation in terms of conceptions of property rights as common or individual, but inter-community consistency, such that although people within the ethnicity vary, those within the same community generally share the same understanding. Out of the 36 communities in which surveys were collected, only a single Quichua community showed major discrepancies in how individual households conceive of land ownership. For the Huaorani, Secoya, and Shuar, the set of understandings about individual and communal use rights is shared at the level of ethnicity, whereas for the Secoya and Cofán, these shared understandings are at the level of the community. These different common property regimes suggest that within communities there are formal rules or informal norms that influence how households conceptualize use rights.

As described above, the Huaorani report no formal rules related to the management of common-pool resources, although I describe informal norms that dictate management (Lu 2001). This is not the case with the other indigenous groups. The Secoya appear to have formalized rules with regard to agricultural lands, hunting, and fishing. This group divides the community into personal plots and a single large communal area. Hunting is permitted only in communal areas and in personal lands, or may be permitted on someone else's land with permission. Fishing regulations include the banning of *barbasco* (plant-derived fish poison), chemicals, and dynamite. The Shuar, in contrast, appear to have few regulations related to communally held resources. Hunting is permitted throughout the community and can be practiced on anyone's land. The sole fishing regulation is the banning of *barbasco*. In some cases, the common property regime establishes formal access and exclusion rights yet relies upon informal understandings for management, while other communities have formal regulations that establish management rights. Additionally, as these examples illustrate, common property regimes differ greatly depending on the resource.

People have clear ideas about the resource regimes to which they belong and the rights conferred by those institutions. They interface with specific resources and other resource users in diverse ways that likely reflect histories of settlement and contact, cultural values, interactions with the larger society, demographic pressures, and economic patterns. Thus, the commons are not romanticized relics of the past but rather dynamic contemporary institutions that act and react to current challenges and opportunities.

Conservation and the Commons

The notion of the commons is also important in the Native Amazonian context because it emphasizes that conservation is fundamentally a social process. Scholars working in the realm of common property theory have made substantial

strides in understanding the factors that can foster or undermine the emergence and viability of social arrangements for maintaining the commons (see review in Agrawal 2002). They have studied conservation as a form of collective action in which a clearly defined group of resource users coordinate and regulate their resource use. Without social guarantees and sanctions that deter cheating and ‘free riding’, the restraint and investment required for stewardship would not be viable. In other words, conservation is a set of social understandings and behavioral patterns that can emerge when there is an agreement by a group of people to temper their resource use in the expectation that others will do the same (Holt 2005).

A common property theory lens can illuminate human/environment dynamics. For example, going back to the Huaorani case study earlier, one can ask whether the common property regime of the Huaorani fosters conservation. I argue that besides “epiphenomenal conservation” (Alvard 1993, 1995), it does not. And the reason is because it does not have to. The Huaorani common property regime is an elegant and simple system for the task at hand, which is to minimize social conflict and maintain social harmony. People are not going to devise regimes that are more complicated than necessary, because developing these social arrangements involves effort and energy to reach consensus among members about needed actions, to monitor resource conditions, and to identify and punish cheaters, among other such tasks. Thus, the implementation and maintenance procedures of a functioning common property regime that will regulate resource use and promote conservation have to be deemed worthwhile. At a minimum, people need to recognize that a resource is becoming scarce, that their exploitation of the resource is having deleterious consequences, that the resource is of importance to their survival and well-being, and that they have the capability to regulate their use so that the overexploitation can be remedied. Historically, the Huaorani have had such low population densities and have defended such a large territory that they have not yet encountered resource scarcity. Instead, they have a perception of “natural abundance”—a belief that the forest that has always provided for them will always continue to do so (Rival 1992).

However, the Huaorani’s perception of natural plenty is increasingly being challenged by the ecological destruction resulting from colonization, agri-businesses, and multi-national corporate petroleum extraction, and by the land circumscription and limits to resource use patterns that are being imposed on indigenous communities in the name of national parks and conservation. Here I will specifically address biodiversity conservation; in other articles I refer to logging (Lu 2001) and petroleum extraction (Lu and Carse n.d.). One threat to the Huaorani commons is posed by Western scientists who advocate conservation through top-down, exclusionary methods of extracting humans from nature. Wilshusen et al. (2002) have described a “resurgent protectionist” stance among conservation biologists and ecologists (e.g., John Terborgh, John Oates, Randall Kramer, Katrina Brandon, and Kent Redford, among others) who, in response to failures of earlier people-oriented approaches to conservation, argue for a return to strict protection of ecological areas through a focus on protected areas and authoritarian enforcement practices.

One of the main tenets of resurgent protectionism is that “harmonious, ecologically friendly local communities are myths” (Wilshusen et al. 2002: 21). This view is articulated by Kramer and van Schaik (1997: 6–7):

[I]t is often claimed that forest resources would be well managed if only the traditional users were allowed to maintain control. It is, indeed, widely believed that traditional communities use their resources in a sustainable manner. This belief is based on the fact that traditional communities lived at low densities, had limited technology, and practiced subsistence rather than commercial utilization. Unfortunately, given growing population pressure, increased access to modern technology, increasing market orientation, and steady erosion of traditional cultures, there no longer are guarantees that biodiversity objectives will be any more likely to be achieved if resource control is placed in the hands of indigenous peoples.

This rhetoric ascribes conservationist ethics to people in a state of limited technology, subsistence production, and low population pressure, and conversely views people as disinclined toward conservation when they have modern technologies, market involvement, and higher population densities. Resurgent protectionists argue that because so few ecologically innocuous populations remain, we cannot rely on human populations to be benign to nature; thus, bureaucratic conservation measures are required to keep people out. Terborgh (1999) is straightforward about the policy implications of this notion that local communities cannot be trusted with nature conservancy. He calls for the “political courage” to establish “a carefully constructed and voluntary relocation program” for “contacted indigenous groups” (ibid.: 56), so that these people can acquire goods, educate their children, and participate in the market economy.

Not only is this position morally problematic, socially unjust, and logistically infeasible, it also contradicts what we know from common property theory about the emergence of conservation. As discussed above, conservation develops as a result of experiences and learning, sparked by negative changes in resource characteristics that are accompanied by a belief in the efficacy to remedy these changes and the social and political institutions to do so. When pressure on a resource is low due to a small number of users, limited procurement technologies, and subsistence production, there is little incentive for the development of the coordinated resource use behaviors and restraint that characterize conservation. In other words, the conditions under which people are seen as ecologically friendly in the protectionists’ viewpoint are the same conditions under which we would not expect conservation to develop. But when people are faced with a situation that may promote resource stewardship (such as increased population pressure or resource exploitation for market), the protectionists then perceive these indigenous groups as obstacles to conservation. This contradiction is what I have termed the “conservation Catch-22.” As I state in a recent article (Holt 2005: 209):

At this critical juncture, where conservation biologists and ecologists have a marvelous potential for collaborating with local communities facing changing

resource availabilities and ecological threats, the resurgent protectionist rhetoric says that instead of working to develop management plans, we should build fortified fences; instead of incorporating locals as parabiologists with much ecological knowledge, we should relocate them from sensitive ecological areas. Thus, through exclusionary practices advocated by resurgent protectionists, people like the Huaorani are denied much more than the assistance that influential and knowledgeable biologists could bring: *they lose the opportunity to adapt their resource use institutions to reflect current challenges*. Locals are caught in a conservation Catch-22, and as they broaden their economic activities and technologies for survival in changing circumstances, this is taken as evidence they have lost their “natural conservationist” tendencies.

As a case in point, Vickers (1994) discusses the transition from “opportunism to nascent conservation” among the Siona and Secoya of the Ecuadorian Amazon. Vickers shows that Siona and Secoya hunting reflects a pattern of exploitation predicted by optimal foraging theory in which hunters are attempting to maximize short-term yields rather than trying to conserve. The sustainability of indigenous hunting in this case was epiphenomenal, a result of low human population density, dispersed human settlements within large hunting territories, human mobility, and limited hunting technology. However, beginning in the late 1970s and early 1980s, Siona and Secoya territory became increasingly circumscribed by colonization, petroleum exploitation, protected area establishment, and African palm plantations. Because of the reduction in foraging territory and increasing human population density, Siona and Secoya households became more involved in new economic strategies, such as wage labor, cash cropping, livestock raising, and logging. In light of these changes, a resurgent protectionist approach would view these indigenous people as threats to biodiversity conservation, whereas Vickers shows that the Siona and Secoya responded to these incursions into their territory by becoming more interested and active in environmental protection. They organized themselves into an indigenous federation, worked with government agencies and non-governmental organizations to seek legal recognition of their land rights, exposed the chemical runoff generated from an African palm plantation, and joined a class-action lawsuit against Texaco for decades of contamination from oil activities in eastern Ecuador. Vickers reminds us that conservation “is not a state of being. It is a response to people’s perceptions about the state of their environment and its resources, and a willingness to modify their behaviors to adjust to new realities” (ibid.: 331).

To summarize, then, the idea of the commons in Native Amazonian studies warrants further attention, as communally held resources are critical to indigenous subsistence, and common property regimes can represent important expressions of sociality and cultural values. Without an understanding of the processes by which people develop communal management of ecological resources, we have an incomplete picture of the human/environment interrelationship, and such gaps in our knowledge can result in ineffective policies for conservation.

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References

- Agrawal, Arun. 2002. "Common Resources and Institutional Stability." Pp. 41–85 in *The Drama of the Commons*, ed. Elinor Ostrom, Thomas Dietz, Nives Dolšak, Paul C. Stern, Susan Stonich, and Elke U. Weber. Washington DC: National Academy Press.
- Alvard, Michael. 1993. "Testing the 'Ecologically Noble Savage' Hypothesis." *Human Ecology* 21: 355–387.
- _____. 1995. "Intraspecific Prey Choice by Amazonian Hunters." *Current Anthropology* 36: 789–818.
- Bremner, Jason, and Flora Lu. In press. "Common Property among Indigenous Peoples of the Ecuadorian Amazon." *Conservation and Society*.
- Hardin, Garrett. 1968. "The Tragedy of the Commons." *Science* 162: 1243–1248.
- Holt, Flora L. 2005. "The Catch-22 of Conservation: Indigenous Peoples, Biologists and Culture Change." *Human Ecology* 33: 199–215.
- Kramer, Randall A., and Carl P. van Schaik. 1997. "Preservation Paradigms and Tropical Rain Forests." Pp. 3–14 in *Last Stand: Protected Areas and the Defense of Tropical Biodiversity*, ed. Randall A. Kramer, Carl P. van Schaik, and Julie Johnson. New York: Oxford University Press.
- Lu, Flora E. 2001. "The Common Property Regime of the Huaorani Indians of Ecuador: Implications and Challenges to Conservation." *Human Ecology* 29: 425–447.
- Lu, Flora, and Ashley Carse. n.d. "The Impact of Petroleum Development on Food Sharing and Sociality." Forthcoming.

- Rival, Laura M. 1992. "Social Transformations and the Impact of Formal Schooling on the Huaorani of Amazonian Ecuador." PhD diss., University of London.
- Terborgh, John. 1999. *Requiem for Nature*. Washington, DC: Island Press/Shearwater Books.
- Vickers, William T. 1994. "From Opportunism to Nascent Conservation." *Human Nature* 5: 307–337.
- Wilshusen, Peter R., Steven R. Brechin, Crystal L. Fortwangler, and Patrick C. West. 2002. "Reinventing a Square Wheel: Critique of a Resurgent 'Protection Paradigm' in International Biodiversity Conservation." *Society and Natural Resources* 15: 17–40.