
Private Property and Rainforest Conservation

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In a recent article Balick and Mendelsohn (1992) reported their finding that the collection of nontimber forest products (NTFPs), in this case traditional medicines, has a higher net present value than alternative land uses in selected sites in Belize. This is one of several recent studies (Peters et al. 1989; Grimes et al. 1994) that show that the collection of NTFPs in tropical forests yields higher private returns than alternative land uses such as grazing and agriculture. These studies suggest that there is a financial incentive for decentralized forest users to keep the forest intact. If this result is universal, it will prove to be a powerful and sustainable reason to conserve large tracts of tropical forests.

Hodson et al. (this issue), in response to Balick and Mendelsohn (1992), make two interesting points. They note that with periodic investments such as traditional timber and in this case medicines, the value of a site will fall after harvest. They also note that the actual return may depend upon the system of property rights in place. Both observations are correct, but we disagree with the conclusions drawn by the authors.

With periodic investments, the value of the land will be highest just before harvest. In contrast, immediately after harvest, the value of the land will fall because it will be a long time before the land provides another financial return. Hodson et al. correctly note that immediately after harvest the cleared land would be worth only \$162, compared to the value of \$726 just before harvest. They then compare this bare-land value (\$162) with the present value of milpa (\$288) and note that with cleared land the milpa is worth more. They conclude from this observation that no owner would ever use the land for medicinal plants once it has been cleared.

In fact, the same periodic returns that apply to medicinal plants from secondary forests also apply to milpa. In this region, the land loses its fertility after two years of milpa harvest and so must be left fallow. The traditional fallow is to permit secondary forests to reclaim the land for 10–15 years (Padoch et al. 1985). Hodson et al. are

correct that owners may want to plant milpa immediately after harvesting the medicinal plants, but after two years of milpa they should turn to a long period of fallows using medicinal plants. This combination of sequential agriculture and managed forest fallows can be both sustainable and economically viable (Montagnini & Mendelsohn 1995).

Hodson et al. also observe that actual returns to forest activities may depend on the system of property rights in place. In particular, the authors extol the well-known virtues of private (fee-simple) ownership. In their enthusiasm for private property rights, however, the authors go too far and argue that private property rights are necessary for conservation. They argue that “under common ownership, there is little reason to expect a commercial incentive to preserve the use of the land as rain forest” and that “no conservation strategy is likely to succeed without recognition of properly defined property rights”—that is, private property rights. Although we agree that a system of well-defined private property rights would facilitate maximization of the private net value of the land, we believe that Hodson et al. press their argument too far. The key to managing any long-term asset such as a forest is stable ownership. Whether the land is under private or common ownership, if there is a high probability of the land being seized, the owner will not invest in long-lived assets such as forests (Mendelsohn 1994). Secure ownership, not necessarily private ownership, is essential for forest conservation. Also, common property can lead to conservation. The extensive collection of nontimber forest products from tropical forests has been going on for centuries under common property ownership. The standing natural forest, which we are trying to save, is the product of centuries of common property ownership with NTFP collection. To argue that there is no conservation value in common property ownership is to deny the obvious.

Why do economists believe that common property ownership would destroy forest resources? Because they think common property ownership does not by itself give individuals any long-term incentive to take care of the forest. If this is true, why haven't native peoples

Paper submitted May 8, 1995; accepted May 9, 1995.

destroyed all the tropical forests already? Common property ownership has not led to the complete destruction of tropical forests because traditional communities have other social controls on forest use. It is only in places where traditional communities have collapsed that the predictions of economists come to pass. In traditional communities, social customs and taboos limit what individuals can do with common land. For example, Pinedo-Vasquez et al. (1990) report that villages place restrictions on what families can harvest in communal tropical forest areas. Peluso (1992) finds that harvest rights in Indonesia are given to individuals who plant valuable trees in a common forest. Beliefs in forest gods and supernatural forces and concerns for future generations limit excess harvesting by some tribes. Excess harvests sometimes have to be shared with others. These social customs, not the form of ownership per se, effectively check individual incentives to overharvest. Thus, it is distinctly possible to conserve resources under common property systems.

If the social goal is conservation, one must be cautious in extolling the virtues of private property. The extensive deforestation of privately owned tropical forests is an empirical reminder that keeping ecosystems as they are is not a goal or an automatic outcome of private-property ownership. If there is a higher demand for the private returns from alternative uses of land than for those of forestry, private property will result in rapid deforestation, not conservation. This is precisely why it is so important to conduct comparative analyses of the present value of different land uses. Private property rights will be consistent with conservation only if forest uses such as NTFP collection yield higher net private returns than alternative land uses. The usefulness of private property rights as a tool for conservation hinges upon whether or not the results of Peters et al. (1989), Mendelsohn and Balick (1992), and Grimes et al. (1994) can be applied universally.

Even though the collection of NTFPs offers an important incentive for conservation, no one claims it to be a complete conservation strategy by itself. Collection of NTFPs may keep a vast tract of land in forest cover, but it may not be consistent with protecting sensitive plant and wildlife resources residing in tropical forests. Collection of NTFPs will continue to place pressure on game species and other plants and animals of market value. In order to protect key species and ecosystems, special

conservation zones may also have to be established in which consumptive activities are kept to a minimum. These special conservation zones would have to be supported with public funds because by definition they would have limited ability to generate market revenue and thus to be self-supporting. Given that these lands would be supported by public funds, the special conservation zones should probably be publicly owned. Private ownership has no obvious role to play in special conservation zones.

Finally, it is important to stress that private property rights give no incentive to manage land-use impacts that may affect others. Issues of pollution, watershed management, biodiversity, and global warming are not addressed by traditional private property rights. Government action is required to provide incentives for decision makers to take these factors into account. This means that public legislation and enforcement are additional social tools necessary for sustainable development. Although private ownership is likely to contribute to desirable economic growth, it is by no means the only social institution needed for conservation.

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