

Carbon emissions: the poorest forest dwellers could suffer

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Debate on the carbon-credit system known as REDD ('reducing emissions from deforestation and forest degradation') has focused on technical and methodological obstacles and on sourcing carbon finance. The impact of the system on the world's 350 million tropical forest dwellers calls for closer scrutiny.

Without careful planning, REDD stands to create large numbers of 'carbon refugees' as governments curb financially unrewarding deforesting activities such as those of small-scale agriculturalists and fuel-wood harvesters, who mostly pay no taxes on what they produce. Forest dwellers could become excluded from their means of subsistence to preserve carbon. A similar situation has occurred during previous attempts to conserve tropical forests. Last year I worked in Liberia's forests bordering Ivory Coast, and heard of park guards in the Tai National Forest, a well-protected Ivorian biodiversity conservation area, shooting local hunters dead. I met Ivorian subsistence hunters, excluded from their ancestral lands, relocating to Liberia to maintain their livelihoods. The journal *Conservation & Society* is investigating the possible displacement of thousands of people in Africa by biodiversity conservation projects.

The Centre for International Forestry Research has shown that forest-based sources of income generated by local communities are often rendered illegal by forest law. Crackdowns tend to target the poor, rather than the criminal networks behind the estimated 50% of global tropical timber exports that are illegal. A REDD-inspired redoubling of current efforts at law enforcement would further victimize forest dependent peoples.

Forest dwellers should be seen as an important part of the solution to deforestation. Evidence from 80 forest commons in 10 countries shows that community ownership, larger forest areas and a high degree of community autonomy in decision-making are all associated with both high carbon storage and livelihood benefits. Conversely, local users with insecure property rights extract resources at unsustainable rates (A. Chhatre and A. Agrawal *Proc. Natl Acad. Sci. USA* 106, 17667–17670; 2009). Extending legal collective property rights to forest users over large areas, combined with forest-encroachment monitoring by independent scientists and local agencies, could reduce deforestation without human rights violations. This plan may substantially reduce deforestation by cutting off the supply of 'empty' land for outsiders to deforest.

There is good will on the ground for REDD to work, with safeguards. With transfers of US\$10 billion a year under discussion, the REDD agreement should ensure that at least 50% of carbon payments go directly to forest dwellers, and that their property rights are assured. Otherwise, some of the world's most marginalized people will end up paying a high price for reducing carbon emissions.

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