

Paying to protect and restore the environment

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As natural habitats continue to shrink, the environmental services they traditionally provide free of charge become scarcer. In the past, we have taken services such as clean water and biodiversity for granted. Now, increasing scarcity gives them greater value and creates opportunities for schemes that pay landowners to conserve or restore them.

In an essay published in the prestigious journal *Conservation Biology*, CIFOR scientist Sven Wunder provides an overview of our current knowledge about Payments for Environmental Services (PES) schemes, based on CIFOR research in half a dozen countries and a review of the existing literature. Another synthesis paper, accepted in *Environment and Development Economics*, looks at the impacts of PES on the poor.

Wunder defines a PES scheme as a voluntary, conditional agreement between at least one seller and one buyer of an environmental service, or land use that provides a particular environmental service. Existing schemes focus on four services: watershed protection, carbon sequestration, biodiversity protection and landscape conservation. They vary in size from privately funded schemes covering relatively small areas of land to national programmes – such as the agro-environmental

schemes in the European Union or the Chinese Sloping Land Conversion Programme – covering millions of hectares.

According to Wunder, the bulk of schemes in the tropics are incipient initiatives. Most fulfil some, though not all, of the conditions of his definition. Conditionality can be particularly hard to fulfil, and even the environmental service itself is not always well-defined. “If you go to the market to buy fish, you know exactly what you’re getting,” says Wunder. “But with an environmental service, it’s much less obvious.” Like most conservation activities, many PES programmes in the tropics often lack clear frameworks for monitoring and evaluating their success.

One might think that PES schemes should primarily reward the poor for good environmental stewardship. Wunder confirms that poor people generally benefit from PES, but warns about the hard trade-offs that need to be made between conservation efficiency and fairness: putting too much focus on poverty goals may jeopardise the ability of PES schemes to deliver environmental services. He illustrates this with an example related to deforestation in Brazil.

Let’s say a global biodiversity fund set aside US\$100,000 for a pilot PES scheme. It receives three applications. One comes from a large landowner who is clearing forest to grow highly profitable soybean. He wants to be compensated for halting his forest clearance. Another comes from an indigenous community living in a remote area in the Amazon in harmony with the forest. The third application comes from a group of smallholders who are slowly enlarging their farms by clearing forest to make way for cattle pasture.

“As far as the remote indigenous community is concerned, their forest may simply not be sufficiently threatened, and it will survive without outsiders making any payments,” explains Wunder. “At the other end of the spectrum is the large landowner clearing forest for soybeans. In his case, his profits may be so great that if he were to be compensated, the money available would cover



Downstream water users often rely on good environmental practice upstream. Fishing in Bolivia. (Jennifer Kleeb)



Payments for environmental services can encourage local communities to protect the environment and at the same time provide an income. Small-scale farmers in San Jose de Uchupiamonas, Santa Cruz, Bolivia, and Shinyanga District, Tanzania. (Sven Wunder)

a relatively small area.” The third application, in contrast, could provide the largest conservation ‘bang for the buck,’ as the area that would be conserved by paying smallholders not to clear forests for ranching would be considerable.

Frances Seymour, CIFOR’s Director General, pointed out a possible dilemma in a POLEX message. “The ideal PES recipient,” she wrote, “is not the environmentally benign community too poor to do much harm to the forest, but rather the guy who has enough capital to buy a chainsaw, and is on the verge of putting it to work. Does that sound fair to you?”

“Well, perhaps it is fair,” reflects Wunder, “because, unlike the remote indigenous community applying for a reward, the chainsaw guy stands to lose out financially from changing his business plan and doing conservation.”

Wunder believes there is enough evidence to show that PES schemes have considerable potential. “I’m excited by the way these schemes are mushrooming, especially in Latin America,” he says. “PES schemes won’t fully replace other conservation strategies, but they will be a valuable new tool in the toolbox.”

Arguably the greatest successes to date have been with watershed schemes. However, there have also been many carbon PES schemes, and Wunder believes they could play an important role when it comes to tackling climate change. This would include schemes paying for ‘avoided deforestation.’ Approximately one-fifth of all greenhouse gas emissions come from deforestation. Payment schemes that encourage developing countries to

conserve, rather than convert their forests, have a large potential to mitigate climate change.

However, if payment schemes are to work effectively, they will need to address what Wunder calls the additionality question. “Buyers – whether private or public – will need to be convinced that schemes really do make a difference. It makes no sense for buyers to pay landowners not to cut down trees if they weren’t going to do so anyway.” Indeed, this has been one of the weaknesses of major public PES programmes, such as those in Costa Rica or Mexico: many payments have been made to landowners in areas with a low risk of deforestation.

“It is essential for CIFOR to be involved in applied PES work on the ground, but we also have to plough back the lessons to the global arena,” says Wunder. A special issue of the journal *Ecological Economics*, devoted to PES design in developed and developing countries, was based on a workshop organised by CIFOR and the University of Bonn in Titisee, Germany, in 2005. Another workshop, held in Bellagio, Italy, in March 2007, focused on payments for watershed services. Over 20 experts attended the event, which was organised by Fundación Natura Bolivia, CIFOR, the International Institute for Environment and Development and EcoFund Ecuador.