

BOLIVIA

Paying for ecosystem services

Local water users often fail to manage water resources in an optimal manner because they lack the information, institutional mechanisms and incentives to do so. A scheme of payments for ecosystem services (PES) in the Los Negros valley in Bolivia is trying to address these issues by introducing an incentive-based transparent system of watershed management. The scheme includes 46 farmers bordering the Amborò National Park who are given incentives to protect 2,774 ha of watershed containing the threatened cloud-forest habitat of 11 species of migratory birds.

The scheme is unusual in that it is financed by two ecosystem service buyers: the US Fish and Wildlife Service, which is interested in biodiversity conservation, and the municipality representing downstream irrigators who benefit from stabilised dry season water flows. The Municipality of Pampagrande paid for upstream watershed management: US\$2000 in 2004 and US\$2,500 in 2007 to purchase bee boxes on behalf of downstream irrigators. In addition, a small group of irrigators paid per diem and food for independent monitors, but other than this, water users and water user associations are not yet contributing directly to the scheme.

Payments are made in kind (bee hives, apiculture training and barbed wire). The use of non-cash compensation was requested by local environment committees during the negotiation stage. Apparently participants feared cash payments might end up being spent unproductively. Moreover, it seems that payment via beehives rather than cash minimised local concerns about land expropriation.

All upper watershed landowners have been invited to participate in the scheme. Participants are not allowed to cut trees, hunt or clear forest on enrolled land. Monitoring takes place on an annual basis and payments are denied in cases of non-compliance. Landowners are able to select which plots to enrol and the duration of the contract, ranging from 1-10 years. Payments are made annually. Total payments are roughly US\$5,000 per year.

An unexpected consequence has been reduced colonisation by landless people; the formal contracts with maps and demarcation required for the scheme have helped institutionalise de facto land-tenure security and raised local ability to resist invasions. Of the fifteen new participants to the scheme in 2005, 14 chose payment in the form of barbed wire rather than bee hives due to the value of wire in strengthening land tenure claims.

Impact on biodiversity

Compliance in the scheme has been good –only a single landholder has been denied payments for allowing the construction of a road on enrolled land. The precise impact on biodiversity is difficult to measure as the scheme has not addressed additionality or leakage issues. Overall, the threat level after the implementation of the PES programme was much reduced with positive conservation effects in some cases and negligible conservation effects in others.

Replicability

The local NGO which has supported the development of this PES scheme is replicating the Los Negros scheme in the nearby Comarapa and Quirusillas watersheds which have been identified as highly suitable areas for the development of PES systems. Both areas are made up of cloud forests at high risk of deforestation from the local expansion of cattle ranching. Downstream,

large areas of irrigated agriculture farmed by relatively well-off farmers rely heavily on dry season water flows.

Lessons learned

Marketing a number of ecosystem services from the same area is a successful strategy to attract additional financial resources by making conservation a more competitive land use relative to alternative uses for threatened ecosystems. In this case, the international biodiversity buyer provided large up-front payments to cover start-up and transactions costs. Local water user services were less willing to fund set-up and transactions costs, but may be more likely to produce a sustainable stream of revenue in the future. Given that forests provide a number of ecosystem services which can be “used” individually without compromising the supply of other services, exploring mechanisms to sell individual services to different buyers may, in some cases, provide additional financial resources.

It can be very difficult to build trust between service buyers and providers which takes times and investment, but it is critical to do so for a successful user financed PES scheme. Demonstration activities can also overcome such constraints, i.e. a three year pilot scheme to be assessed on the basis of upstream forest maintained in its natural state and delivery of promised environmental services

Successful implementation of watershed PES scheme is promoted by the existence of a credible downstream institution to ensure service buyers will contribute to the scheme.

In some cases, payments in kind are more acceptable than cash payments as the perception of a sale of a good or service is avoided. A continued presence in the community, working with farmers, and communicating the positive experiences of participating farmers, is useful to gain acceptance of the scheme.

PES are not a poverty alleviation tool and synergy with overarching social objectives will not result automatically. Clear and secure land tenure is important for successful implementation of PES. Poverty alleviation needs to be tackled as a separate issue and will in many cases generate additional benefits for biodiversity conservation and sustainable use, for instance by encouraging more productive investment in the productive capacity of not enrolled land in order to reduce pressure on enrolled land.

While a number of PES observers advocate intensive data collection prior to PES implementation, the Los Negros scheme attempted to win local goodwill by introducing biodiversity payments before baseline data were available. The idea was to learn by doing and use adaptive management to be able to get started and to change the structure of the scheme as and when required. This strategy has been relatively successful in that the significant changes as the initiative has developed have not overly disruptive. Even reducing per hectare payments in a switch to a more differentiated system was not resisted by landowners. This learning by doing approach allows PES schemes to get off the ground quickly; lessons can be integrated while payments are being made and schemes can avoid delay in trying to design all important features in advance. The national PES scheme in Mexico has also initiated payments before all necessary data had been collected.

Source: Asquith et al. (2008).

