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Abstract

Agricultural landscapes can provide many valuable ecosystem services, but many are externalities from the perspective of farmers and so tend to be under-produced. This paper examines an effort to make direct payments for ecosystem services (PES) in an agricultural landscape. The Regional Integrated Silvopastoral Ecosystem Management Project is piloting the use of PES to induce adoption of silvopastoral practices in the Matiguás–Río Blanco area in Nicaragua. Silvopastoral practices could substantially improve service provision while retaining agricultural production, but they have found only limited acceptance among farmers. The Silvopastoral Project seeks to increase their adoption by paying farmers for the expected increase in biodiversity conservation and carbon sequestration services that these practices would provide. The Project developed an 'environmental services index' (ESI) and pays participants for net increases in ESI points. Although the Silvopastoral Project is still underway, it already appears to have succeeded in inducing farmers to increase substantially the use of practices that generate higher levels of ecosystem services. In the project's first two years, over 24% of the total area experienced some form of land use change. The area of degraded pasture fell by two thirds, while pastures with high tree density increased substantially, as did fodder banks and live fences. On-going monitoring indicates that these land use changes are in fact generating the desired services. Questions remain about the long-term sustainability of the approach, however. To ensure sustainability, long-term payments are likely to be needed, raising the question of how they will be financed. Payments by water users and by carbon buyers provide a partial answer to this challenge, but still leave many gaps.

Keywords

Payments for environmental services; Silvopastoral practices; Nicaragua