

EVALUATION OF FOUR PAYMENTS FOR ECOSYSTEM SERVICES (PES) SCHEMES FOR LANDSCAPE CONNECTIVITY IN THE MESOAMERICAN BIOLOGICAL CORRIDOR

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The payment for ecosystem services (PES), a popular policy to increase tree cover in biological corridors in Central America, confronts the problem of estimating a cost-efficient monetary payment that assures the provision of the environmental service. The design of monetary payments has been commonly done on tree plantation cost or based on the cost of the agroforestry/forest management cost. These simple approaches cannot guarantee that the policy will succeed in providing environmental services. By using a non-linear bioeconomic model, this paper analyzes the economics of four PES payment schemes for landscape connectivity in Central America. Results show that the PES scheme that yields the lowest financial budget is paying for changes in net basal area. Contrary, the PES for planting trees yields the lowest canopy levels with similar budgets. These results imply that initial assumptions are important when designing a PES. If the cause of low tree cover is that producers are not compensated for the service they provide, then focus should be given on internalizing positive externalities. Contrary, if the cause of low tree cover is that producers do not have incentives for planting trees (e.g. high discount rates), then paying for planting trees may be an option. In Costa Rica, however, it appears that low tree cover in cattle farms is due to low direct compensation from standing trees.

Key words: Conservation policies, natural resource economics, non-linear bioeconomic model, agroforestry systems.