

## Payments for environmental services do not have negative social effects on poverty in Costa Rica

The effects on poverty vary according to local conditions but the magnitudes of changes in poverty are very low.

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Programs of payments for ecosystem services are policy instruments that compensate those who provide those services for the costs they incur. One of the most attractive characteristics of this type of programs is that they can increase the generation of ecosystem services while simultaneously reducing the negative economic and social costs that local people might face from land use restrictions.

Authorities are frequently tempted with the dual promise of improving environmental conditions while reducing poverty with one single policy instrument. However, there is little evidence about the impact of these programs on economic and social outcomes. We estimate the impact of the Costa Rican Payments for Environmental Services (PES) Program on selected indicators of poverty.

Estimating the effects of PES on social outcomes is challenging because payments are endogenously located given the application process by landowners and selection process by the implementing agency. This implies that localities with an important presence of the program and localities with the absence of program will vary in different dimensions that might in turn act as confounders and hence need to be controlled for. Using the national household survey data allowed controlling for important individual and locality characteristics that affect location decisions and, therefore, impact.

The effect of PES on poverty outcomes at a national level seems to be null: the effect is not statically significant and/or the magnitude is low. The fact that effects on poverty are null could reflect a combination of two countervailing effects. PES might increase poverty in some places but decrease in others. When we split the sample according to slope, we find that as PES coverage increases, poverty decreases in high-slope places. In flatter places PES coverage is associated with higher poverty.

These results are robust when we analyzed men and women and young and older individuals.

### Key Points

- In average, the effects of PES on poverty are null.
- However, in high deforestation threat areas PES increase poverty and in low deforestation threat areas PES decrease poverty.
- The impacts on poverty, even when they become statistically significant are very low in magnitudes.
- PES have not significantly increase poverty levels in Costa Rica

## RESEARCH BRIEF

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However, despite their statistical significance, the magnitudes of these effects are low. These results are consistent with other results found when analyzing the effects of protected areas. Poverty reduction generated from those programs will increase in places where land use decisions are less affected (forest would have been forest in the absence of the policy), while in places where protection affects more land use decisions (forest would have been deforested in the absence of the policy), poverty will increase. This suggests that the increase in poverty reduction will have to be at the expense of environmental impact and viceversa.

## Conclusions

The program, Payments for environmental services in Costa Rica has not increased poverty despite the magnitude s of coverage. As one would expect, the effects vary according to the local conditions. PES coverage increases poverty in low-slope places and decreases poverty in high slope places. It has been shown that high slopes are highly associated with low opportunity costs, low deforestation threat and, therefore, low deforestation impact and, low slopes are highly associated with high opportunity costs, high deforestation threat and, therefore, high deforestation impact (Pfaff et al. 2009). Therefore, we conclude that efforts to increase the program effectiveness in reducing poverty will provoke a reduction of its environmental impact.

## ABOUT THIS BRIEF

This brief is based on Robalino, J., Sandoval, C., Villalobos, L. & Alpizar, F. (2013) Local Effects of Payments for Environmental Services on Poverty. CATIE

## FURTHER READING

Ferraro, P. J., Hanauer, M. M., & Sims, K. R. E. (2011). Conditions associated with protected area success in conservation and poverty reduction. *Proceedings of the National Academy of Sciences*, 108(34), 13913-13918. doi: 10.1073/pnas.1011529108

Porrás, I. (2010). *¿Justo y Verde? Impactos sociales de los pagos por servicios ambientales en Costa Rica*. London: International Institute for Environment and Development

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