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“Filling gaps and removing traps
for sustainable resource management”

Influence of Conservation Policies and Deforestation on Forest and Agricultural Income in Ecuadorian Tropical Forests

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Abstract

Natural resources contribute with more than 50% to rural incomes at the Ecuadorian tropical forest frontiers. Due to high deforestation Ecuador implemented two major conservation policies: (i) Protected areas (PAs), a command-control policy; and, (ii) Socio Bosque programme (PSB), an incentive-based mechanism. PAs and PSB protect forest lands by restringing the access for a long-term perspective. Given the dependency of rural farmers to natural resources, they might be influenced by processes that limit the access or availability of these resources. Studies on household income in Ecuador are still scarce and do not include conservation policies and deforestation into the analysis. Our research incorporates two regions located in the tropical lowland forest frontiers: (i) the Central Amazon (CEA), with low deforestation and high forest cover, where PAs were implemented; and, (ii) the Northwestern Coast (NOC), with high deforestation and few forest remnants, where PSB was established. Based on socio-economic data from 1300 household surveys applied from August 2016 to August 2017, we performed econometric analysis to determine how conservation policies and deforestation influence forest and agricultural income; we included households' characteristics, natural assets and access to markets as control variables. In the NOC our results showed that deforestation has a positive relation with forest income; while PAs limit forest income and facilitate agricultural income. When analysing the effect of PAs on indigenous landholders, we observed that indigenous can still have a high forest income even under the presence of a PAs; this is due to the big forest lands owned by them. In the CEA, PSB did not show significant effect, but deforestation showed a positive influence on both income sources. Forest loss can bring immediate cash revenues; but, in a long term perspective deforestation leads to resources depletion which might affect rural income. Our results allow identifying households that can be impacted by conservation strategies and deforestation, which is useful for policy decisions and for the success of in-situ conservation.

Keywords: Incentive-based conservation, livelihood strategies, protected areas, rural income, socio Bosque