

# Project *brief*

Thünen Institute of International Forestry and Forest Economics

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## Household deforestation decisions in the Ecuadorian tropical lowland rainforests

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- **Households close to forests under incentive-based conservation in the Central Amazon are less likely to deforest, evidencing a positive side-effect and promising signal for incentive programs.**
- **In the Northern Coast households in the buffer zone of the protected area are more likely to deforest, evidencing a higher pressure on remnant forests which calls for more policy enforcement in highly populated areas.**
- **Land titling significantly influences deforestation decisions in the Northern Coast, where a considerable number of households are living on untitled lands.**

### Background, aims and methods

Deforestation in the tropics continues at alarming rates and Ecuador is part of this reality. Ecuadorian forests comprise 14.6 M ha, from which the lowland forests are highly threatened by deforestation. In the Ecuadorian forest frontiers, households are the most important decision-makers and agents of land-use change. Understanding the drivers of household deforestation decisions is crucial for conservation policies, nonetheless, research on this topic is still insufficient. Moreover, few studies evaluate the influence of the institutional environment and the quality of forest resources. We explored whether household deforestation decisions are influenced by conservation strategies, land titling and governmental grants for poverty alleviation (institutional environment), and the timber volume potential (quality of forest resources). We selected twelve landscapes of 10×10 km located in the lowland rainforests. Eight landscapes are in the Central Amazon (four with the presence of the incentive-based conservation program Socio Bosque–SBP) and four in the Northern Coast (two with the presence of a protected area–PA).

### Key findings

In the Central Amazon, households living close to areas under SBP have lower odds to deforest, which can be attributed to the presence of more control mechanisms that increase the probability to be caught in illegal activities. In the Northern Coast, households living close to a PA are exerting high pressures on remnant forests. Land titling is associated with lower odds to deforest in the Northern Coast, where a considerable number of households still have no legal title over their land. Governmental grants for poverty alleviation showed

positive signs in the deforestation fight, revealing that such kind of policies can generate positive environmental outcomes. In the Central Amazon, households living in areas with more timber volume potential are more likely to deforest, conversely, on the Northern Coast results showed an opposite relation.

### Conclusions



The incentive-based forest conservation program has a positive influence on the household behavior. In contexts of high deforestation pressures, such as the Northern Coast,

this program can be an alternative to strict protection i.e., PAs, and could contribute to law enforcement.

In the Northern Coast, households with untitled lands are more likely to deforest, calling for urgent actions to norm land tenure in order to avoid more deforestation in a region that hosts the last remnants of the Chocó-Darién on the Ecuadorian side.

When farmers depend more on agricultural production (Central Amazon), timber abundance might create an additional incentive for forest clearing, since timber commercialization can finance agricultural expansion. When timber markets dominate the economy (Northern Coast), continuous timber harvesting leads to forest clearing once valuable timber species are depleted; however, this effect is not captured in cross-sectional studies. (Photo © Tatiana Ojeda Luna)

### Further Information

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