

# Project brief

Thünen Institute of International Forestry and Forest Economics

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## Deforestation and forest conservation: effects on farm income in Ecuador

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- Along the Northwest Coast of Ecuador deforestation is high, timber markets dominate the economy and provide short term income for local farmers.
- In such a context, forest conservation areas reduce forest income.
- Lessons can be learned for the Central Amazon where forests are still abundant and conservation hardly affects farm income.

### Background and aims

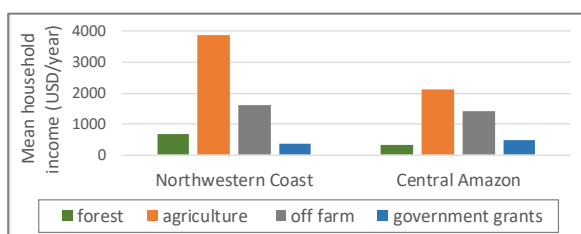
Ecuador has lost 8% of its native forest since the year 2000 and has at the same time invested in forest conservation areas, supported by international donors. The country is a good example to study effects of both, deforestation and conservation strategies on rural livelihoods. 1157 household surveys were carried out at the deforestation frontier in lowland rainforests. Conservation strategies comprised the incentive-based *Socio Bosque* program - more prominent in the Central Amazon, and protected areas at the Northwestern Coast. Both strategies depend on land-use restrictions.

### Results

- Deforestation along the Northwestern Coast significantly increased short term forest income. This can hardly be compensated by conservation incentives.
- Farmers close to protected areas generated less forest revenues but higher agricultural income. Indigenous farmers continued producing high forest income on private forest remnants, but not necessarily in a sustainable way.
- Agriculture in general was the main income source with households at the Coast deriving higher income than those in the Amazon. This was due to better market integration and higher commercialization rates.



Economic dependencies are as complex as the land use mosaics at the deforestation frontier in Ecuador. (Fischer, 2017)



Contribution of different sources to household income. Better market access increased agricultural income at the Coast. Off farm income was more important than forest income. Forest income was double as high along the Coast.

- In the Central Amazon, deforestation is lower and forests are still abundant. Neither conservation nor deforestation had an economic effect on livelihoods.
- Indigenous farmers close to *Socio Bosque* had higher agricultural income, suggesting that such conservation areas can promote agricultural intensification.
- Despite having larger areas at their disposal, farmers from the Central Amazon generated less income than those at the Northwestern Coast. This raises the question how these farmers might increase their welfare without reaching high deforestation levels.

### Conclusions

With native forests at the Ecuadorian Northwestern Coast being largely depleted, the pressure on forest resources in the Amazon is expected to increase in the near future. Lessons learned from the Coast show that conservation areas have to be installed in time and income alternatives are needed. These include sustainable agricultural techniques and market access for agricultural products. Land use planning can help to avoid land clearing triggered by increased agricultural productivity. The potential of off farm income reducing pressure on forests should be kept in mind.

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### Publication

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