



## POLICY BRIEF No. 82

# Toward a deforestation-free cocoa supply chain in Colombia

This policy brief sheds light on the incentives that can promote deforestation-free cocoa production in Colombia. It proposes steps that decision-makers can take to support Colombia's vision of a zero-deforestation cocoa supply chain.



Map of Colombia. Photo: Google maps.

## HIGHLIGHTS



In Colombia, incentives that support profitable deforestation-free agricultural production exist. Considering the context of cocoa producers, some incentives suit these farmers more than others. The lack of clear land tenure would bar farmers from gaining access to *Incentivo a la Capitalización Rural* (Rural Capitalization Incentive) and *Certificado de Incentivo Forestal* (Certificate of Forestry Incentive) but would not pose a problem when seeking financing under payments for ecosystem services schemes and *obras por impuestos* (works for taxes).



Conservation agreements can be stepping stones toward projects that can receive payments for ecosystem services and be financed through *obras por impuestos*. The key is for cocoa producers to have the capacity to implement sustainable land uses that diminish pressure on forests.



Enabling farmers to have access to incentives that can make production profitable will help guarantee that cocoa production in Colombia is deforestation-free. This will support the vision of the country to have a zero-deforestation cocoa supply chain and be a more active player in the international chocolate market, such as that of the European Union.

# Cocoa production in Colombia

Colombia ranks among the top ten countries producing cocoa. Most producers are smallholders and establish cocoa plantations under an agroforestry system. Blending agriculture and forestry, agroforestry is considered a sustainable production system because it enables farmers to have diverse sources of income and food as well as offers multiple environmental services, including carbon storage, improved soil health, enhanced water infiltration, and less nutrient runoff.

In the context of Colombia, a cocoa agroforestry system would involve cultivating cocoa trees alongside other productive crops. In some cases, this would include raising livestock. Academics, government agencies, private companies, and other actors involved in the Colombian cocoa sector have historically endorsed planting cocoa under an agroforestry system because it fits the tradition of farming cocoa in the country, would require fewer inputs, and is deemed beneficial to the natural environment relative to other production systems.

Unlike in other major cocoa-growing countries, cocoa farming does not drive deforestation significantly in Colombia. The Food and Agriculture Organization of the United Nations (FAO) defines deforestation as “the conversion of forests to other land uses, such as agriculture and infrastructure” (FAO, 2020), which includes pasture, water reservoirs, mining, and urban areas. Colombia has committed to achieving net zero deforestation by 2030. The Colombian government indicates that “net zero deforestation occurs by neutralizing the loss of forest from deforestation with the gain from reforestation/restoration, or other processes” (<https://bit.ly/3WqNfjL>). The joint framework for action of the Cocoa, Forests, and Peace Initiative in Colombia, which the government and other cocoa supply chain stakeholders signed, defines deforestation as the “direct and/or induced conversion of natural forest cover to another type of cover over a given period of time” and notes that “areas with cocoa plantations will be considered to have led to deforestation if the change in forest to non-forest cover occurred after 1 January 2011.” (<https://bit.ly/3q7U0rI>).

Cocoa plantations in Colombia measure less than three hectares on average. They represent only a fraction

of the farms that these producers manage, and these farms typically include natural forest areas. Cocoa as a commodity has served as a political and economic tool to meet objectives of the government and its development partners to decrease deforestation, encourage reforestation, and build peace. Since the 1980s, the government has endorsed the production of cocoa as a substitute for the cultivation of illicit crops, especially coca, which has been tied to both deforestation and conflict in Colombia.

## Importance of a deforestation-free cocoa supply chain

Although cocoa production is not considered a major contributor to deforestation in Colombia, new evidence suggests that some cocoa producers do cut some trees in natural forest areas. Farmers do this, for instance, to decrease excessive shade that might attract pests and diseases and thus affect the health of crops in the plantations and in turn diminish yield and revenue. This practice, however, is not widespread.

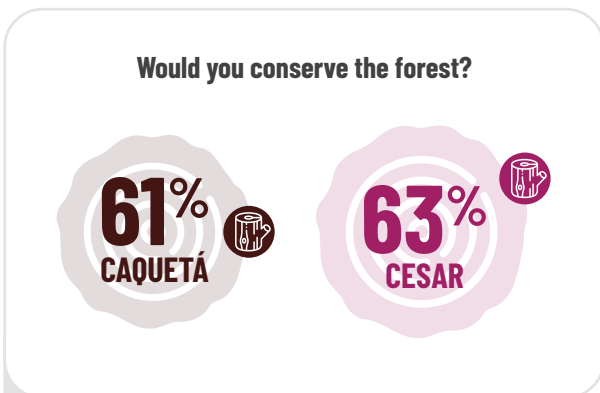
The goal for Colombia is to ensure that the production of cocoa in the country is indeed without deforestation. Apart from fulfilling its commitment to make the cocoa supply chain deforestation-free, Colombia could achieve its vision of being a more active player in the international cocoa market, especially in the fine or flavor segment, while also meeting the strong national demand for cocoa. By producing cocoa without deforestation, Colombia would have the potential to access a major chocolate market – that of the European Union. The EU has recently passed legislation (<https://bit.ly/3q2h2mW>) that mandates the circulation of certain commodities, including cocoa, in its market only if they were produced without deforestation and forest degradation. This legislation prescribes that operators provide a statement of due diligence that includes details on the country of production and all plots of production. It does allow the use of certification to support the due diligence process but does not require it.

Any potential deforestation occurs in the production stage of an agricultural supply chain. In the case of the cocoa supply chain, farmers, being the main actors in the production stage, are critical to ensuring that the chain is

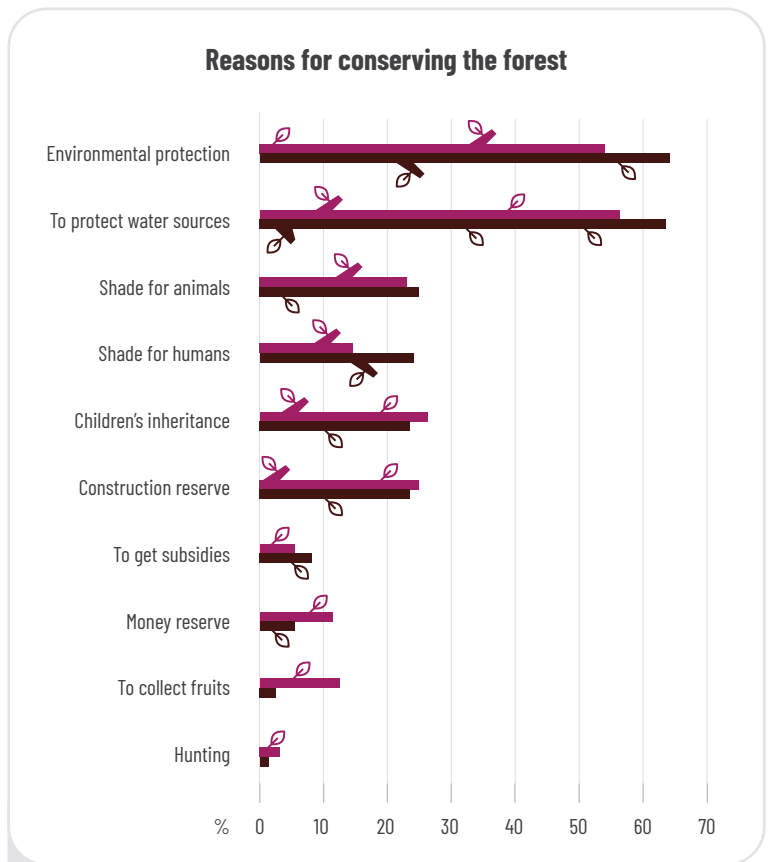


A cocoa agroforest in Caquetá. © E. Villarino/CIAT (IKI-SLUS Project).

deforestation-free. Results of a survey involving 930 cocoa producers in the departments of Caquetá and Cesar suggest that such an outcome is a possibility for Colombia. The survey shows that the majority of respondents would conserve the forest (Figure 1), with protecting the environment and water sources topping the list of reasons for that willingness (Figure 2). That outcome, however, would be possible if deforestation-free production would bring sufficient economic returns, ergo profits, for farmers.



**Figure 1** Willingness of surveyed cocoa farmers to conserve the forest.



**Figure 2** List of reasons for conserving forest per the survey of cocoa producers in Caquetá and Cesar.



Cocoa beans being dried at a farm in Caquetá. © E. Villarino/CIAT (IKI-SLUS Project).

## Profitability of cocoa production in Colombia

The cocoa tree starts to bear fruit, which contains the beans that are eventually processed and traded, three years after sowing. As such, a farmer cannot expect to earn anything during those years from the plant itself. That does not mean that farmers get to profit from their plantations in the fourth year. According to a cost-benefit analysis by Lugo Escobar and Pérez Marulanda (2022), if a producer shoulders all the costs of production – that is, without credit and including the cost of land – in establishing a cocoa agroforest on one hectare of land and manages it using chemical instead of organic fertilizer or without irrigation, then the producer will incur high costs during the first eight years of the plantation and will begin to experience profits only in the 14th year.

To enhance the profitability of cocoa production in Colombia, it is important to enable producers to have access to low interest rates on credit and to so-called green financial instruments. These instruments represent what is known as incentives.

## Incentives for profitable deforestation-free cocoa production

Incentives are public and market-based instruments aimed at motivating farmers to preserve or improve ecosystem services that benefit them and others while also enhancing their productivity and profitability. They could be economic or monetary, for instance, credits or premiums from certified operations, or non-economic, such as in the form of technical assistance.

In Colombia, an array of incentives exists. Given the context of the cocoa sector, some suit the situation of farmers more than others. For instance, it is common for cocoa farmers, especially in areas affected by armed conflict, not to own land titles. These farmers as such would not be able to access the special line of credit known as *Incentivo a la Capitalización Rural* of Finagro, the financing arm of the Colombian Ministry of Agriculture and Rural Development. This special line of credit is for projects that can improve the competitiveness and sustainability of agricultural production. Farmers without

clear land tenure would also not qualify as grantees of a *Certificado de Incentivo Forestal*, a form of recognition from the Colombian Ministry of Agriculture and Rural Development for the positive impacts of restoring forest areas. This recognition comes with an incentive that amounts to up to 50% of the cost of establishing a hectare of new forest plantation for commercial purposes and up to 50% of the cost of maintaining the plantation from years two to five.

Pursuing certification might be worthwhile for some farmers. According to the analysis by Lugo Escobar and Pérez Marulanda (2022), an advanced cocoa agroforestry farm with organic certification, adequate postharvest facilities, and a potential to sell credits to carbon markets **offers a much higher internal rate of return** compared with the common form of cocoa agroforestry as described in the previous section. Premiums for certified organic cocoa that meets standards can range from 10% to 20% above domestic prices. That said, organic certification comes with an extra expense that might amount to “a few hundred to several thousand dollars,” according to the U.S. Department of Agriculture, whose organic seal is among the commonly sought-after ones by cocoa producers and companies. In the case of the EU organic seal, spending for the process of acquiring it is estimated to be USD3,000. Moreover, the market for certified cocoa is relatively small: only 22% of the global cocoa trade, according to estimates of the World Cocoa Foundation. Certified Colombian cocoa is mainly destined for the international market, while the demand for Colombian cocoa in its biggest market, which is domestic, is negligible. Per Abbott et al. (2018), locals consume cocoa products, such as mass-market chocolate bars and drinking chocolate (*chocolate de mesa*), because they form part of their basic diet.

A suitable option for cocoa producers in Colombia would be incentives that could embolden their apparent tendencies not to undertake deforestation and to restore forests and at the same time consider their land tenure challenges. Incentives that meet these conditions would be payment for ecosystem services and *obras por impuestos*.

The program on payment for ecosystem services rewards grantees with cash, goods, or services if the ecosystems they use or manage generate benefits. Land use, instead of practice, represents the basis for the payments, and the commitment by parties to preserve such land use embodies the criterion for compliance. Under the program, applicants can be owners or occupants of the

properties within areas registered in the Single Registry of Ecosystems and Environmental Areas (REAA, the acronym in Spanish) or the Single National Registry of Protected Areas (RUNAP, the acronym in Spanish). They sign an agreement and can seek funding from local and national environmental authorities.

*Obras por impuestos* is a mechanism through which Colombian companies that had a gross income equivalent to 33,610 UVT in the previous year have the option to use 50% of their income and complementary taxes as investment in projects in areas affected by conflict or poverty. Based on the value of the UVT set by the Colombian tax authority DIAN, this sum would be equivalent to 1.4 billion Colombian pesos or USD321,000 in 2023. The government indicates that *obras por impuestos* can finance payment for ecosystem services schemes. Activities that seek to conserve and restore ecosystems in territories targeted by *Programas de Desarrollo con Enfoque Territorial*, a program implementing the provisions of the rural reform law and the peace agreement of 2016, can comprise such a scheme. The key is to structure such as a scheme into a project that can be registered with the *Agencia de Renovación del Territorio*, the Colombian government agency overseeing *obras por impuestos*.

Although incentives might enhance the profitability of cocoa production, the precise magnitude of such potential has yet to be investigated thoroughly. Similarly, it is worth exploring how different types of cocoa production systems with different agricultural practices and levels of profitability could benefit, and in what ways, from available incentives.



Unripe cocoa fruits. © E. Villarino/CIAT (IKI-SLUS Project).



A cocoa plantation in the Amazon rainforest, Colombia. 📷 E. Villarino/CIAT (IKI-SLUS Project).

## A role for conservation agreements

A conservation agreement is a transaction negotiated among a group of people, communities, or producers' organizations to conserve natural resources. While agreements within payment for ecosystem services schemes focus on land use, conservation agreements focus on actions toward conservation. In addition, payment for ecosystem services schemes involve a form of remuneration, whereas conservation agreements do not necessarily involve payments. A conservation agreement can be a starting point for developing payment for ecosystem schemes and possibly projects that *obras por impuestos* can finance.

The accord among the *Asociación de Productores Agroforestales Alternativos de Belén de los Andaquíes*, otherwise known as ASPROABELÉN; the Alto Fragua Indi Wasi National Natural Park; and non-profits WWF Colombia, *Corporación para el Desarrollo Sustentable del Piedemonte Andino-Amazonico*, and *Proyecto de Conservación de Aguas y Tierras* provides an example of a conservation agreement that can serve as a foundation

for establishing projects that qualify to benefit from incentives. Indeed, ASPROABELÉN commits under the agreement to “seek more incentives that promote conservation in families linked to the association, through the management of projects.” The non-profits, meanwhile, commit to providing the producer association with support in enhancing its organic business operations, implementing actions to conserve the natural park and restore degraded areas in farms of affiliates, and monitoring compliance with the agreement.

## Next steps

Parties interested in supporting the vision of Colombia of a deforestation-free cocoa supply chain should capitalize on the willingness of cocoa producers to conserve forests and their low tendency to undertake deforestation. They can support farmers in entering into conservation agreements, whose stipulations can form the basis for developing projects that will enable them to have access to sustainable financial instruments, such as payments for ecosystem services and *obras por impuestos*. Interested parties can then support the farmers in structuring such projects, whether that be by providing



A biofábrica, which is a structure to make organic fertilizer, in a cocoa agroforest in Caquetá. © E. Villarino/CIAT (IKI-SLUS Project).

them directly with knowledge and training or financing efforts to scale interventions that build their project development capacity.

When deciding the types of incentives that can advance deforestation-free production and thus be promoted among producers, we propose undertaking the following measures: (a) identify whether or not incentives already exist toward zero-deforestation production and review the requirements for access, (b) understand the attitudes of farmers toward conservation and their challenges for gaining access to incentives, and (c) determine which incentives suit the context of farmers.



# References and further reading

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